March 01, 2018

Data Layer Specifications for:

Archaeological Site

United States Air Force

Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	ArchaeologicalSite_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
10/4/2016	ArchaeologicalSite_20161004	• Updated feature class codes used for creating Resource ID when MCRAD data is not present.
6/23/2016	ArchaeologicalSite_20160623	• Added ArchaeologicalSite_P representation under "Data Layer Details" section. • Updated "Positional Accuracy" section.
3/10/2017	ArchaeologicalSite_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection. • Updated the "Representation" subsection of the "Data Layer Details" section. • Updated the "Point Features" subsection of the "Geometry/Topology" section.
6/8/2017	ArchaeologicalSite_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
03/01/2018	ArchaeologicalSite_20180301	• Updated the "Definition", "Geometry/Topology", "Positional Accuracy", "Attributes", "Business Tables," and "Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables" sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the ArchaeologicalSite_A, ArchaeologicalSite_L, and ArchaeologicalSite_P data layers implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

The location of a recorded archaeological site.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	ArchaeologicalSite_A ArchaeologicalSite_L ArchaeologicalSite_P
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalCulturalResources
Previous Layer Names:	marine_archeological_area milling_area rockart_area terrest_archeological_area archeological_artifact_point cliff_dwelling_point marine_archeological_point milling_point rockart_point terrest_archeological_point ArchaeologicalSite
Geometry Type:	Polygon, Line, Point
Data Steward Organization (Program Area):	Program Area: Cultural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Cultural Resources Program SME
Representation:	• All archaeological site locations shall represent the latitude, longitude location of an identified site. • Archaeological site areas are represented as closed polygons depicting the outermost extent of the area. • Each individual archaeological site area is represented by a single area feature. • Archaeological sites will be represented as a continuous unbroken line. • All points developed from areas shall represent the centroid of archaeological site area.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • Archeological Resources Protection Act (ARPA), 1979

Geometry/Topology

Polygon Features:
Polygons must not overlap.
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).
Line Features:
Lines must not self-overlap.
Lines must not self-intersect.
Lines must be single part features.
Lines must be larger than cluster tolerance (.001 meter).
Point Features:
Points must be disjoint.
If a point represents a polygon feature, then the point must fall properly inside of the coinciding polygon.

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual

(every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Military Cultural Resources Analysis Database (MCRAD) is a relational data model that uses the functionality of Microsoft Access. It was created by Dr. Paul Green in collaboration with Dr. Brian Crane to resolve the issues that arise due to idiosyncratic formats of cultural resource data. MCRAD has been refined to support cultural resource business practices with DoD-wide input and has been adopted by the Deputy Under Secretary of Defense for Installations and Environment as a cultural resources geodata standard. MCRAD, if being used, should only be used to populate the business tables.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west-most spatial extents of the ArchaeologicalSite_A, ArchaeologicalSite_L, and ArchaeologicalSite_P layers will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the ArchaeologicalSite_A, ArchaeologicalSite_L, and ArchaeologicalSite_P data layers.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	archaeologicalSiteIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Archaeological Site.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Archaeological Site that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize (*Polygon geometry*)	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM (*Polygon geometry*)	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize (*Polygon geometry*)	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM (*Polygon geometry*)	The perimeter unit of measure.	foot	String (25)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	latitude (*Polygon geometry*)	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude (*Polygon geometry*)	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid (*Polygon Feature*)	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	lengthSize (*Line geometry*)	The value of the measured length.	Recorded to the 1/1000 of a foot.	Double	AF
D	lengthSizeUOM (*Line geometry*)	The unit of measure for the calculated length.	foot	String (25)	AF
	latitudeFrom (*Line geometry*)	The latitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	latitudeTo (*Line geometry*)	The latitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	longitudeFrom (*Line geometry*)	The longitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	longitudeTo (*Line geometry*)	The longitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	elevationFrom (*Line geometry*)	The elevation component of the beginning (upstream/upgradient) coordinate point in feet.		Double	AF
	elevationTo (*Line geometry*)	The elevation component of the ending (downstream/ downgradient) coordinate point in feet.		Double	AF
D	elevationUOM (*Line geometry*)	The unit of measure for elevation dimension.	foot	String (25)	AF
	latitude (*Point geometry*)	The latitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	longitude (*Point geometry*)	The longitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	MGRS (*Point Feature*)	Military Grid Reference System for the coordinate point. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	elevation (*Point geometry*)	The elevation of the subject item in relation to a datum.		Double	AF
D	elevationUOM (*Point geometry*)	The unit of measure for elevation dimension.	foot	String (25)	AF
	resourceID	Represents the Primary Key (ResourceID) for the feature in the MCRAD database. If the Resource_ID does not currently exist in MCRAD, use a concatenation of the installation siteID, the FDS code (CR), and the feature class code (YYYY) followed by a unique sequential six digit number (example: XXXX0001CRYYYY000001) to develop a unique identifier. This value is used to link to the feature class business table. See feature class Data Layer Specifications for applicable feature class code.	Feature Class Codes for Archaeological Site: Area – “ARCA” Line – “ARCL” Point – “ARCP”.	String (50)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	nationalRegisterStatus	Specifies the historic status of a cultural resource feature with respect to placement on the National Register of Historic Places. Categorizes the feature as one of the Real Property Asset (RPA) Historic Status Code values as defined by the DUSD IandE RPIR.	**For a list of domain values, see HistoricStatusCode in Appendix 1**.	String (5)	SDSFIE
	otherRegisterStatus	Specifies placement on the World Heritage List, or a cultural property inventory/registry of the host nation.	Status of site on any additional inventory, registry or list.	String (150)	SDSFIE
	siteFunction	A description of the function(s) of the site.		String (255)	AF
	lastInspectionDate	The date of the last inspection of the feature. Format for date is YYYYMMDD (i.e. September 15, 1994 = 19940915). MCRAD Register table.		Integer (Long)	AF
	inspectionNotes	Any notes regarding the last inspection.		String (255)	AF
	gisDataSource	The data source of the feature.		String (255)	AF
	gisDataReliability	The reliability of the GIS data.		String (255)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary**.	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary**.	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business tables will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. The business tables for ArchaeologicalSite_A, ArchaeologicalSite_L, and ArchaeologicalSite_P are:

Table Name	Identifier	Source
cr_ArchaeologicalSite_A	ResourceID	MCRAD database
cr_ArchaeologicalSite_L	ResourceID	MCRAD database
cr_ArchaeologicalSite_P	ResourceID	MCRAD database

Business Table Attributes for cr_ArchaeologicalSite_A, cr_ArchaeologicalSite_L, and cr_ArchaeologicalSite_P

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	ResourceID	Primary Key in MCRAD Resources table. Used to link this business table to the appropriate feature class.	MCRAD Resources table	String (50)
	Res_Num	Smithsonian trinomial or equivalent. MCRAD Resources table.	MCRAD Resources table	String (50)
	Res_Name	Site name recognized by agency. MCRAD Resources table.	MCRAD Resources table	String (100)
	Res_Grp	Type of resource (single, district, route, other aggregate groupings, etc.). MCRAD Resources table.	MCRAD Resources table	String (50)
	Res_Type	Archaeological site, building, structure, object, etc. MCRAD Resources table.	MCRAD Resources table	String (155)
	Res_Desc	Short description of resource. MCRAD Resources table.	MCRAD Resources table	String (255)
	Condition	Overall condition, nature of disturbances, etc. MCRAD Resources table.	MCRAD Resources table	String (255)
D	Disturb	The percentage of the site that has been disturbed. MCRAD Resources table.	MCRAD Resources table **For a list of domain values, see Disturbance in Appendix 1**.	String (10)
	Disturb_Source	Describes the source of the disturbance. MCRAD Resources table.	MCRAD Resources table	String (250)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
D	Threatened	Indicates whether resource is threatened. MCRAD Resources table.	MCRAD Resources table NA, no, TBD, yes	String (3)
	Threats	Describes the nature of threats to resource. MCRAD Resources table.	MCRAD Resources table	String (255)
D	Res_Status	Research status: Evaluated? Excavated? MCRAD Resources table.	MCRAD Resources table **For a list of domain values, see SiteStatus in Appendix 1**.	String (15)
	Drainage	River drainage where resource is located. MCRAD Resources table.	MCRAD Resources table	String (50)
	Physio_Prov	Name of physiographic province. MCRAD Resources table.	MCRAD Resources table	String (50)
	Size_Notes	Any notes regarding the size of the feature. MCRAD Resources table.	MCRAD Resources table	String (255)
	Occ_Start	The occupation start year. MCRAD Resources table.	MCRAD Resources table	Double
	Occ_End	The occupation end year. MCRAD Resources table.	MCRAD Resources table	Double
D	Date_Meth	Method used to determine date. MCRAD Resources table.	MCRAD Resources table **For a list of domain values, see DateMethod in Appendix 1.**	String (20)
	Fac_Num	Air Force building or facility number (for historic buildings/structures on base property). MCRAD Resources table.	MCRAD Resources table	String (50)
	Deposition	Deposition: such as Buri, Surf, or both. MCRAD Resources table.	MCRAD Resources table	String (50)
D	Artifact_Density	Density of artifacts within the area. MCRAD Resources table.	MCRAD Resources table **For a list of domain values, see ArtifactDensity in Appendix 1**.	String (25)
	Rec_Date	Date resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	Rec_Month	Month resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)
	Rec_Day	Day resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)
	Rec_Year	Year resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)
	Register_Name	Identifies the name of the register (e.g. World Heritage, Host Nation Register). MCRAD Register table.	MCRAD Register table	String (50)
	Op_Source	Source of opinion (Consultant, Agency). MCRAD Register table.	MCRAD Register table	String (50)
	Signif_Level	Significance level: International, National, Provincial, Local. MCRAD Register table.	MCRAD Register table / International, National, Provincial, Local	String (50)
	A	NRHP Criterion A. MCRAD Register table.	MCRAD Register table	String (3)
	B	NRHP Criterion B. MCRAD Register table.	MCRAD Register table	String (3)
	C	NRHP Criterion C. MCRAD Register table.	MCRAD Register table	String (3)
	D	NRHP Criterion D. MCRAD Register table.	MCRAD Register table	String (3)
	CritConsid	Describes the NRHP criteria considerations (Less than 50 years of age, Church, Relocated, etc). MCRAD Register table.	MCRAD Register table	String (255)
	I1	Integrity of location. MRCAD Register table.	MCRAD Register table	String (50)
	I2	Integrity of design. MRCAD Register table.	MCRAD Register table	String (50)
	I3	Integrity of setting. MRCAD Register table.	MCRAD Register table	String (50)
	I4	Integrity of materials. MRCAD Register table.	MCRAD Register table	String (50)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	I5	Integrity of workmanship. MRCAD Register table.	MCRAD Register table	String (50)
	I6	Integrity of feeling. MRCAD Register table.	MCRAD Register table	String (50)
	I7	Integrity of association. MRCAD Register table.	MCRAD Register table	String (50)
	Sig_Per	The period of significance. MCRAD Register table.	MCRAD Register table	String (50)
	Themes	Applicable National Register themes. MCRAD Register table.	MCRAD Register table	String (255)
	Sensitivity	The potential effects (i.e. Sensitive to visual effects, Excavation, etc). MCRAD Register table.	MCRAD Register table	String (50)
	Date_Notes	Notes on the date for the NR opinion. MCRAD Register table.	MCRAD Register table	String (255)
	Recon_Year	The year the opinion needs to be reconsidered, such as when a property reaches 50 years of age. MCRAD Register table.	MCRAD Register table	Integer (Long)
	Opinion_Status	The status of the opinion, such as Official-Current, Official-Not Current, Unofficial, Advisory. MCRAD Register table.	MCRAD Register table / Official-Current, Official-Not Current, Unofficial, Advisory	String (50)
	Opinion_Date	The date in which NRHP status opinion was rendered. Format for date is YYYYMMDD (i.e. September 15, 1994 = 19940915). MCRAD Register table.	MCRAD Register table	Integer (Long)
	Notes	Notes. MCRAD Resources and Register tables.	MCRAD Register table	String (255)
	Artifact_Desc	A description of the artifacts. MCRAD Diagnostics table.	MCRAD Diagnostics table	String (255)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	Human_Remains	Indicates the presence of human remains in the collection. MCRAD Diagnostics table.	MCRAD Diagnostics table	String (50)
	Unass_Fun_Rem	Indicates the presence of unassociated funerary remains.		String (50)
	Assoc_Fun_Rem	Indicates the presence of associated funerary remains.		String (50)

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Cultural Resources, Archaeological Site

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: ArtifactDensity	
ATTRIBUTE NAME: Artifact_Density	
CODED DOMAIN	DEFINITION
none	There were not any artifacts found at this site.
low1	Artifact density is low at 1. Based on a density range between 1-10.
moderate2-5	Artifact density range is moderate between 2-5. Based on a density range between 1-10.
high6-10	Artifact density range is high between 6-10. Based on a density range between 1-10.
veryHigh10	Artifact density is very high at greater than 10. Based on a density range between 1-10.
veryLow10	Artifact density is very low at 1 - 10. Based on a density range between 1-1000.
low11-24	Artifact density range is low between 11-24. Based on a density range between 1-1000.
moderate25-100	Artifact density range is moderate between 25-100. Based on a density range between 1-1000.
high101-1000	Artifact density range is high between 101-1000. Based on a density range between 1-1000.
veryHigh1000	Artifact density is very high at greater than 1000. Based on a density range between 1-1000.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.
unknown	The artifact density of this location is unknown.

DOMAIN TABLE NAME: DateMethod	
ATTRIBUTE NAME: Date_Meth	
CODED DOMAIN	DEFINITION
archaeomagnetic	Date method type is archaeomagnetic.
bioluminescence	Date method type is bioluminescence.
biosilicates	Date method type is biosilicates.
c14	Date method type is C-14 radioactive.
ceramicDating	Date method type is ceramic dating.
chronometric	Date method type is absolute/chronometric.
NA	Not Applicable: No value exists.
none	A date method type was not used.
other	Other. Must be described in the sdsFeatureDescription attribute.
projectilePt	The date method type is projectile point technique inference.
relative	The data method type is relative.
researchExp	The date method type is research/experience.
seriation	The date method type is seriation.
TBD	To Be Determined: A value is required but the value has yet to be determined.
thermolumin	The date method type is thermoluminescence.
treeRing	The date method type is tree ring.

DOMAIN TABLE NAME: Disturbance	
ATTRIBUTE NAME: Disturb	
CODED DOMAIN	DEFINITION
destroyed	The feature has been destroyed.
majorImp	The feature has experienced major impact with 51-99% disturbed.
minorImp	The feature has experienced minor impact with 1-25% disturbed.

DOMAIN TABLE NAME: Disturbance	
ATTRIBUTE NAME: Disturb	
modImp	The feature has experienced moderate impact with 26-50% disturbed.
NA	Not Applicable: No value exists.
none	No disturbance has impacted the feature.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.
unknown	The disturbance level of the feature is unknown.

DOMAIN TABLE NAME: HistoricStatusCode	
ATTRIBUTE NAME: nationalRegisterStatus	
CODED DOMAIN	DEFINITION
DNE	Determined Not Eligible for Listing: An asset that has been evaluated using the National Register of Historic Places (NRHP) criteria and is determined not to meet the criteria of eligibility.
DNR	Designation Rescinded for NHLI/NHLC/NREI/NREC National Register Property: Determined by the Keeper of the National Register of Historic Places (NRHP) to no longer meet the criteria for listing in the NRHP.
ELPA	Eligible for the Purposes of a Program Alternative: An asset that is included within the scope of a program alternative developed and implemented pursuant to 36 CFR 800.14, Protection of Historic Properties.
NA	Not Applicable: No value exists.
NAR	Not Assessed Routinely: An asset that is not routinely planned to be evaluated for National Register of Historic Places (NRHP) eligibility.
NCE	Non-Contributing Element of NHL/NRL/NRE District: Assets within the designated boundaries of a National Historic Landmark (NHL) or National Register of Historic Places (NRHP) listed or eligible property that have been evaluated and determined not to contribute to the historic significance of the property.
NEV	Not Yet Evaluated: An asset that has not been evaluated for National Register of Historic Places (NRHP) eligibility.
NHLC	Contributing Element of a NHL District: An asset that is identified as a contributing element of a larger property listed in the National Register of Historic Places (NRHP) and also designated a National Historic Landmark (NHL) by the Secretary of Interior.
NHLI	Individual National Historic Landmark: An asset that is individually listed in the National Register of Historic Places (NRHP) and also designated as a National Historic Landmark (NHL) by the Secretary of Interior.
NREC	Contributing Element of NRE District: An asset that is identified as a contributing element of a larger property or district determined eligible for inclusion in the National Register of Historic Places (NRHP).
NREI	Individual National Register Eligible: An individual asset that is determined to meet the National Register of Historic Places (NRHP) criteria of eligibility.
NRLC	Contributing Element of NRL District: An asset that is identified as a contributing element of a historic property listed in the National Register of Historic Places (NRHP).
NRLI	Individual National Register Listed: An individual asset that has been listed in the National Register of Historic Places (NRHP).
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: SiteStatus	
ATTRIBUTE NAME: Res_Status	
CODED DOMAIN	DEFINITION
collection	Items have been collected from the site.
evaluated	The site has been evaluated.
excavated	The site has been excavated.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
partMitigate	The site is in partial mitigation.
TBD	To Be Determined: A value is required but the value has yet to be determined.
tested	The site has been tested.
undisturbed	The site is undisturbed (Surveyed - No Collections).
unknown	The site status is unknown.

March 01, 2018

Data Layer Specifications for:

Cemetery or Burial Site

United States Air Force

Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	CemeteryOrBurialSite _20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
10/4/2016	CemeteryOrBurialSite _20161004	• Updated feature class codes used for creating Resource ID when MCRAD data is not present.
6/23/2016	CemeteryOrBurialSite _20160623	• Updated CemeteryOrBurialSite_P representation under "Data Layer Details" section. • Updated "Positional Accuracy" section.
3/10/2017	CemeteryOrBurialSite _20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection. • Updated the "Representation" subsection of the "Data Layer Details" section. • Updated the "Point Features" subsection of the "Geometry/Topology" section.
6/8/2017	CemeteryOrBurialSite _20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
03/01/2018	CemeteryOrBurialSite _20180301	• Updated the "Definition", "Geometry/Topology", "Positional Accuracy", "Attributes", "Business Tables," and "Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables" sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the CemeteryOrBurialSite_A and CemeteryOrBurialSite_P data layers implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

A place or ground set apart for human burial. Can contain an area representing a graveyard, or a point feature containing one or more graves.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	CemeteryOrBurialSite_A CemeteryOrBurialSite_P
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalCulturalResources
Previous Layer Names:	animal_graveyard_area cemetery_area grave_point animal_graveyard_point cemetery_point CemeteryOrBurialSite
Geometry Type:	Polygon, Point
Data Steward Organization (Program Area):	Program Area: Cultural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Cultural Resources Program SME
Representation:	• Cemetery or burial areas are represented as closed polygons depicting the outermost extent of a known burial site, graveyard or cemetery. • Each individual cemetery or burial area is represented by a single area feature. • A cemetery or burial point developed from an area will represent the centroid of a known burial site, grave, graveyard or cemetery.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI34-242, Mortuary Affairs Program, 2 April 2008

Implementing Program(s):	Driver(s):
	• AFPAM 34-505, Mortuary Services Benefits for Retired Air Force Members, 15 April 2011 • AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • 43 CFR 10.2 (d) (2) Burial Site

Geometry/Topology

Polygon Features:
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).
Point Features:
If a point represents a polygon feature, then the point must fall properly inside of the coinciding polygon.

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Military Cultural Resources Analysis Database (MCRAD) is a relational data model that uses the functionality of Microsoft Access. It was created by Dr. Paul Green in collaboration with Dr. Brian Crane to resolve the issues that arise due to idiosyncratic formats of cultural resource data. MCRAD has been refined to support cultural resource business practices with DoD-wide input and has been adopted by the Deputy Under Secretary of Defense for Installations and Environment as a cultural

resources geodata standard. MCRAD, if being used, should only be used to populate the business tables.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the CemeteryOrBurialSite_A and CemeteryOrBurialSite_P layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), the vertical datum shall be Mean Sea Level (MSL, Height), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the CemeteryOrBurialSite_A and CemeteryOrBurialSite_P data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	cemeteryOrBurialSiteIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Cemetery or Burial Site.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Cemetery or Burial Site that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize *(Polygon geometry)*		Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM *(Polygon geometry)*	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize *(Polygon geometry)*	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM *(Polygon geometry)*	The perimeter unit of measure.	foot	String (25)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	latitude *(Polygon geometry)*	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude *(Polygon geometry)*	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid *(Polygon geometry)*	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	
	latitude *(Point geometry)*	The latitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	longitude *(Point geometry)*	The longitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	MGRS *(Point geometry)*	Military Grid Reference System for the coordinate point. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	elevation *(Point geometry)*	The elevation of the subject item in relation to a datum.		Double	AF
D	elevationUOM *(Point geometry)*	The unit of measure for elevation dimension.	foot	String (25)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	resourceID	Represents the Primary Key (ResourceID) for the feature in the MCRAD database. If the Resource_ID does not currently exist in MCRAD, use a concatenation of the installation siteID, the FDS code (CR), and the feature class code (YYYY) followed by a unique sequential six digit number (example: XXXX0001CRYYYY000001) to develop a unique identifier. This value is used to link to the feature class business table. See feature class Data Layer Specifications for applicable feature class code.	Feature Class Codes for Cemetery or Burial Site: Area – "CBSA" Point – "CBSP".	String (50)	AF
D	nationalRegisterStatus	Specifies the historic status of a cultural resource feature with respect to placement on the National Register of Historic Places. Categorizes the feature as one of the Real Property Asset (RPA) Historic Status Code values as defined by the DUSD IandE RPIR.	**For a list of domain values, see HistoricStatusCode in Appendix 1**.	String (5)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	otherRegisterStatus	Specifies placement on the World Heritage List, or a cultural property inventory/registry of the host nation.	Status of site on any additional inventory, registry or list.	String (150)	SDSFIE
D	isActive	Indicates whether cemetery or burial site is actively used or maintained.	NA, no, TBD, yes	String (3)	AF
	lastInspectionDate	The date of the last inspection of the feature. Format for date is YYYYMMDD (i.e. September 15, 1994 = 19940915). MCRAD Register table.		Integer (Long)	AF
	inspectionNotes	Any notes regarding the last inspection.		String (255)	AF
	gisDataSource	The data source of the feature.		String (255)	AF
	gisDataReliability	The reliability of the GIS data.		String (255)	AF
	realPropertyUniqueIdentifier	The real property unique identifier (RPUID) is a non-intelligent code used to permanently and uniquely identify a real property asset. Source: RPIM 4.0a, November 4, 2010.		String (18)	SDSFIE
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary**.	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.		0	ESRI
	SHAPE_Area	ESRI-generated field.		0	ESRI

Business Tables

The business tables will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. The business tables for CemeteryOrBurialSite_A and CemeteryOrBurialSite_P are:

Table Name	Identifier	Source
cr_CemeteryOrBurialSite_A	ResourceID	MCRAD database
cr_CemeteryOrBurialSite_P	ResourceID	MCRAD database

Business Table Attributes for cr_CemeteryOrBurialSite_A and cr_CemeteryOr BurialSite_P

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	ResourceID	Primary Key in MCRAD Resources table. Used to link this business table to the appropriate feature class.	MCRAD Resources table	String (50)
	Res_Num	Smithsonian trinomial or equivalent. MCRAD Resources table.	MCRAD Resources table	String (50)
	Res_Name	Site name recognized by agency. MCRAD Resources table.	MCRAD Resources table	String (100)
	Res_Grp	Type of resource (single, district, route, other aggregate groupings, etc.). MCRAD Resources table.	MCRAD Resources table	String (50)
	Res_Desc	Short description of resource. MCRAD Resources table.	MCRAD Resources table	String (255)
	Condition	Overall condition, nature of disturbances, etc. MCRAD Resources table.	MCRAD Resources table	String (255)
D	Disturb	The percentage of the site that has been disturbed. MCRAD Resources table.	MCRAD Resources table **For a list of domain values, see Disturbance in Appendix 1**.	String (10)
	Disturb_Source	Describes the source of the disturbance. MCRAD Resources table.	MCRAD Resources table	String (250)
D	Threatened	Indicates whether resource is threatened. MCRAD Resources table.	MCRAD Resources table NA, no, TBD, yes	String (3)
	Threats	Describes the nature of threats to resource. MCRAD Resources table.	MCRAD Resources table	String (255)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
D	Res_Status	Research status: Evaluated? Excavated? MCRAD Resources table.	MCRAD Resources table **For a list of domain values, see SiteStatus in Appendix 1.**	String (15)
	Drainage	River drainage where resource is located. MCRAD Resources table.	MCRAD Resources table	String (50)
	Physio_Prov	Name of physiographic province. MCRAD Resources table.	MCRAD Resources table	String (50)
	Size_Notes	Any notes regarding the size of the feature. MCRAD Resources table.	MCRAD Resources table	String (255)
	Occ_Start	The occupation start year. MCRAD Resources table.	MCRAD Resources table	Double
	Occ_End	The occupation end year. MCRAD Resources table.	MCRAD Resources table	Double
D	Date_Meth	Method used to determine date. MCRAD Resources table.	MCRAD Resources table **For a list of domain values, see DateMethod in Appendix 1**.	String (20)
	Fac_Num	Air Force building or facility number (for historic buildings/structures on base property). MCRAD Resources table.	MCRAD Resources table	String (50)
	Deposition	Deposition: such as Buri, Surf, or both. MCRAD Resources table.	MCRAD Resources table	String (50)
D	Artifact_Density	Density of artifacts within the area. MCRAD Resources table.	MCRAD Resources table **For a list of domain values, see ArtifactDensity in Appendix 1.**	String (25)
	Rec_Date	Date resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)
	Rec_Month	Month resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)
	Rec_Day	Day resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	Rec_Year	Year resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)
	Register_Name	Identifies the name of the register (e.g. World Heritage, Host Nation Register). MCRAD Register table.	MCRAD Register table	String (50)
	Op_Source	Source of opinion (Consultant, Agency). MCRAD Register table.	MCRAD Register table	String (50)
	Signif_Level	Significance level: International, National, Provincial, Local. MCRAD Register table.	MCRAD Register table / International, National, Provincial, Local	String (50)
	A	NRHP Criterion A. MCRAD Register table.	MCRAD Register table	String (3)
	B	NRHP Criterion B. MCRAD Register table.	MCRAD Register table	String (3)
	C	NRHP Criterion C. MCRAD Register table.	MCRAD Register table	String (3)
	D	NRHP Criterion D. MCRAD Register table.	MCRAD Register table	String (3)
	CritConsid	Describes the NRHP criteria considerations (Less than 50 years of age, Church, Relocated, etc). MCRAD Register table.	MCRAD Register table	String (255)
	I1	Integrity of location. MRCAD Register table.	MCRAD Register table	String (50)
	I2	Integrity of design. MRCAD Register table.	MCRAD Register table	String (50)
	I3	Integrity of setting. MRCAD Register table.	MCRAD Register table	String (50)
	I4	Integrity of materials. MRCAD Register table.	MCRAD Register table	String (50)
	I5	Integrity of workmanship. MRCAD Register table.	MCRAD Register table	String (50)
	I6	Integrity of feeling. MRCAD Register table.	MCRAD Register table	String (50)
	I7	Integrity of association. MRCAD Register table.	MCRAD Register table	String (50)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	Sig_Per	The period of significance. MCRAD Register table.	MCRAD Register table	String (50)
	Themes	Applicable National Register themes. MCRAD Register table.	MCRAD Register table	String (255)
	Sensitivity	The potential effects (i.e. Sensitive to visual effects, Excavation, etc). MCRAD Register table.	MCRAD Register table	String (50)
	Date_Notes	Notes on the date for the NR opinion. MCRAD Register table.	MCRAD Register table	String (255)
	Recon_Year	The year the opinion needs to be reconsidered, such as when a property reaches 50 years of age. MCRAD Register table.	MCRAD Register table	Integer (Long)
	Opinion_Status	The status of the opinion, such as Official-Current, Official-Not Current, Unofficial, Advisory. MCRAD Register table.	MCRAD Register table / Official-Current, Official-Not Current, Unofficial, Advisory	String (50)
	Opinion_Date	The date in which NRHP status opinion was rendered. Format for date is YYYYMMDD (i.e. September 15, 1994 = 19940915). MCRAD Register table.	MCRAD Register table	Integer (Long)
	Notes	Notes. MCRAD Resources and Register tables.	MCRAD Resources and Register table	String (255)

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Cultural Resources, Cemetery or Burial Site

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: ArtifactDensity	
ATTRIBUTE NAME: Artifact_Density	
CODED DOMAIN	DEFINITION
none	There were not any artifacts found at this site.
low1	Artifact density is low at 1. Based on a density range between 1-10.
moderate2-5	Artifact density range is moderate between 2-5. Based on a density range between 1-10.
high6-10	Artifact density range is high between 6-10. Based on a density range between 1-10.
veryHigh10	Artifact density is very high at greater than 10. Based on a density range between 1-10.
veryLow10	Artifact density is very low at 1 - 10. Based on a density range between 1-1000.
low11-24	Artifact density range is low between 11-24. Based on a density range between 1-1000.
moderate25-100	Artifact density range is moderate between 25-100. Based on a density range between 1-1000.
high101-1000	Artifact density range is high between 101-1000. Based on a density range between 1-1000.
veryHigh1000	Artifact density is very high at greater than 1000. Based on a density range between 1-1000.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.
unknown	The artifact density of this location is unknown.

DOMAIN TABLE NAME: DateMethod	
ATTRIBUTE NAME: Date_Meth	
CODED DOMAIN	DEFINITION
archaeomagnetic	Date method type is archaeomagnetic.
bioluminescence	Date method type is bioluminescence.
biosilicates	Date method type is biosilicates.
c14	Date method type is C-14 radioactive.
ceramicDating	Date method type is ceramic dating.
chronometric	Date method type is absolute/chronometric.
NA	Not Applicable: No value exists.
none	A date method type was not used.
other	Other. Must be described in the sdsFeatureDescription attribute.
projectilePt	The date method type is projectile point technique inference.
relative	The data method type is relative.
researchExp	The date method type is research/experience.
seriation	The date method type is seriation.
TBD	To Be Determined: A value is required but the value has yet to be determined.
thermolumin	The date method type is thermoluminescence.
treeRing	The date method type is tree ring.

DOMAIN TABLE NAME: Disturbance	
ATTRIBUTE NAME: Disturb	
CODED DOMAIN	DEFINITION
destroyed	The feature has been destroyed.
majorImp	The feature has experienced major impact with 51-99% disturbed.
minorImp	The feature has experienced minor impact with 1-25% disturbed.
modImp	The feature has experienced moderate impact with 26-50% disturbed.
NA	Not Applicable: No value exists.
none	No disturbance has impacted the feature.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.
unknown	The disturbance level of the feature is unknown.

DOMAIN TABLE NAME: HistoricStatusCode	
ATTRIBUTE NAME: nationalRegisterStatus	
CODED DOMAIN	DEFINITION
DNE	Determined Not Eligible for Listing: An asset that has been evaluated using the National Register of Historic Places (NRHP) criteria and is determined not to meet the criteria of eligibility.
DNR	Designation Rescinded for NHLI/NHLC/NREI/NREC National Register Property: Determined by the Keeper of the National Register of Historic Places (NRHP) to no longer meet the criteria for listing in the NRHP.
ELPA	Eligible for the Purposes of a Program Alternative: An asset that is included within the scope of a program alternative developed and implemented pursuant to 36 CFR 800.14, Protection of Historic Properties.
NA	Not Applicable: No value exists.
NAR	Not Assessed Routinely: An asset that is not routinely planned to be evaluated for National Register of Historic Places (NRHP) eligibility.
NCE	Non-Contributing Element of NHL/NRL/NRE District: Assets within the designated boundaries of a National Historic Landmark (NHL) or National Register of Historic Places (NRHP) listed or eligible property that have been evaluated and determined not to contribute to the historic significance of the property.
NEV	Not Yet Evaluated: An asset that has not been evaluated for National Register of Historic Places (NRHP) eligibility.
NHLC	Contributing Element of a NHL District: An asset that is identified as a contributing element of a larger property listed in the National Register of Historic Places (NRHP) and also designated a National Historic Landmark (NHL) by the Secretary of Interior.
NHLI	Individual National Historic Landmark: An asset that is individually listed in the National Register of Historic Places (NRHP) and also designated as a National Historic Landmark (NHL) by the Secretary of Interior.
NREC	Contributing Element of NRE District: An asset that is identified as a contributing element of a larger property or district determined eligible for inclusion in the National Register of Historic Places (NRHP).
NREI	Individual National Register Eligible: An individual asset that is determined to meet the National Register of Historic Places (NRHP) criteria of eligibility.
NRLC	Contributing Element of NRL District: An asset that is identified as a contributing element of a historic property listed in the National Register of Historic Places (NRHP).
NRLI	Individual National Register Listed: An individual asset that has been listed in the National Register of Historic Places (NRHP).
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: SiteStatus	
ATTRIBUTE NAME: Res_Status	
CODED DOMAIN	DEFINITION
collection	Items have been collected from the site.
evaluated	The site has been evaluated.
excavated	The site has been excavated.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
partMitigate	The site is in partial mitigation.
TBD	To Be Determined: A value is required but the value has yet to be determined.
tested	The site has been tested.
undisturbed	The site is undisturbed (Surveyed - No Collections).
unknown	The site status is unknown.

March 01, 2018

Data Layer Specifications for:

Cultural Resource Potential Area

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	CulturalResourcePotentialArea_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	CulturalResourcePotentialArea_20160623	• Updated "Positional Accuracy" section.
3/10/2017	CulturalResourcePotentialArea_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	CulturalResourcePotentialArea_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
03/01/2018	CulturalResourcePotentialArea_20180301	• Updated the "Definition", "Geometry/Topology", "Positional Accuracy", "Attributes", "Business Tables," and "Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Domain Tables" sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the CulResPotentialArea_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

An area with an associated level of confidence, however determined, relating to the occurrence of cultural resources that has not been verified by intensive field study.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	CulResPotentialArea_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	CulturalResources
Previous Layer Names:	cult_probable_sensitive_area CulturalResourcePotentialArea
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Cultural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Cultural Resources Program SME
Representation:	• Cultural resource potential areas are represented as closed polygons depicting the outermost extent of the area. • Each individual cultural resource potential area is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996

Implementing Program(s):	Driver(s):
	• Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • Executive Order (EO) 13287, Preserve America

Geometry/Topology

Polygon Features:
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Military Cultural Resources Analysis Database (MCRAD) is a relational data model that uses the functionality of Microsoft Access. It was created by Dr. Paul Green in collaboration with Dr. Brian Crane to resolve the issues that arise due to idiosyncratic formats of cultural resource data. MCRAD has been refined to support cultural resource business practices with DoD-wide input and has been adopted by the Deputy Under Secretary of Defense for Installations and Environment as a cultural resources geodata standard. MCRAD, if being used, should only be used to populate the business tables.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **12 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that

95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the CulResPotentialArea_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the CulResPotentialArea_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	culResPotentialAreaID PK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Cultural Resource Potential Area.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Cultural Resource Potential Area that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	zoneID	Represents the Primary Key (ZoneID) for the feature in the MCRAD database. If the Zone_ID does not currently exist in MCRAD, use a concatenation of the installation siteID, the FDS code (CR), and the feature class code (YYYY) followed by a unique sequential six digit number (example: XXXX0001CRYYYY000001) to develop a unique identifier. This value is used to link to the feature class business table. See feature class Data Layer Specifications for applicable feature class code.	Feature Class Code for Cultural Resource Potential Area is "CRPA".	String (50)	AF
	reason	Description of the reason for the probable/sensitive area.		String (100)	AF
	gisDataSource	The data source of the feature.		String (255)	AF
	gisDataReliability	The reliability of the GIS data.		String (255)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary**.	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. The business table for CulResPotentialArea_A is:

Table Name	Identifier	Source
cr_CulResPotentialArea_A	ZoneID	MCRAD database

Business Table Attributes for cr_CulResPotentialArea_A

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	ZoneID	Primary Key in MCRAD Probability_Zones table. Relates back to CulResPotentialArea_A data layer attribute table.	MCRAD Probability_Zones table	String (50)
	Status	The status of the zone. MCRAD Probability_Zones table.	MCRAD Probability_Zones table	String (50)
D	Probability	The level of potential for the existence of cultural resources within the area: High, Medium, Low, etc. MCRAD Probability_Zones table.	MCRAD Probability_Zones table **For a list of domain values, see Probability in Appendix 1.**	String (15)
	Surv_Cost	The estimated average per acre survey cost. MCRAD Probability table.	MCRAD Probability_Zones table	Double
	Zone_Date	The date the probability zone was established. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915). MCRAD Probability_Zones table.	MCRAD Probability_Zones table	Integer (Long)
	Prob_Zone_Date_Notes	Notes on the date the probability zone was created. MCRAD Probability_Zones table.	MCRAD Probability_Zones table	String (255)
	Prob_Zone_Notes	Notes. MCRAD Probability_Zones table.	MCRAD Probability_Zones table	String (255)

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Cultural Resources, Cultural Resource Potential Area

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: Probability	
ATTRIBUTE NAME: Probability	
CODED DOMAIN	DEFINITION
low	A low level of potential for the existence of cultural resources within the feature.
moderate	A moderate level of potential for the existence of cultural resources within the feature.
high	A high level of potential for the existence of cultural resources within the feature.
noPotential	No potential for the existence of cultural resources within the feature.
notModeled	The area has not been modeled for determination of the level of potential for the existence of cultural resources within the feature.
unsurveyable	Unsurveyable due to inaccessibility stemming from natural or artificial (man-made) factors.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.

March 01, 2018

Data Layer Specifications for:

Cultural Restricted Access

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	CulturalRestrictedAccess _20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
10/4/2016	CulturalRestrictedAccess _20161004	• Updated feature class code used for creating Resource ID when MCRAD data is not present.
6/23/2016	CulturalRestrictedAccess _20160623	• Updated "Positional Accuracy" section.
3/10/2017	CulturalRestrictedAccess _20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	CulturalRestrictedAccess _20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
03/01/2018	CulturalRestrictedAccess _20180301	• Updated the "Definition", "Geometry/Topology", "Positional Accuracy", "Attributes", "Business Tables," and "Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables" sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the CulRestrictedAccess_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

An area that has restricted access due to cultural concerns.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	CulRestrictedAccess_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalCulturalResources
Previous Layer Names:	cultural_restricted_area CulturalRestrictedAccess
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Cultural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Cultural Resources Program SME
Representation:	• Cultural restricted access areas are represented as closed polygons depicting the outermost extent of the area. • Each individual cultural restricted access area is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• 36 CFR 60.4, Criteria for evaluation, 1 July 2012 • 36 CFR 63.2, Determination of eligibility process, 1 July 2012 • 36 CFR 800, Protection of Historic Properties, 1 July 2012 • Historic Sites Act of 1935 • National Historic Preservation Act of 1966 • AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014

Implementing Program(s):	Driver(s):
	• AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009

Geometry/Topology

Polygon Features:
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Military Cultural Resources Analysis Database (MCRAD) is a relational data model that uses the functionality of Microsoft Access. It was created by Dr. Paul Green in collaboration with Dr. Brian Crane to resolve the issues that arise due to idiosyncratic formats of cultural resource data. MCRAD has been refined to support cultural resource business practices with DoD-wide input and has been adopted by the Deputy Under Secretary of Defense for Installations and Environment as a cultural resources geodata standard. MCRAD, if being used, should only be used to populate the business tables.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer is meant to hide the true location of culturally sensitive areas, thus horizontal positional accuracy is not applicable.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the CulRestrictedAccess_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the CulRestrictedAccess_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	culRestrictedAccessIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Cultural Restricted Access area.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Cultural Restricted Access area that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	manAreID	Represents the Primary Key (ManAreID) for the feature in the MCRAD database. If the Man_Are_ID does not currently exist in MCRAD, use a concatenation of the installation siteID, the FDS code (CR), and the feature class code (YYYY) followed by a unique sequential six digit number (example: XXXX0001CRYYYY000001) to develop a unique identifier. This value is used to link to the feature class business table. See feature class Data Layer Specifications for applicable feature class code.	Feature Class Code for Cultural Restricted Access is "CRAA".	String (50)	AF
	gisDataSource	The data source of the feature.		String (255)	AF
	gisDataReliability	The reliability of the GIS data.		String (255)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. The business table for CulRestrictedAccess_A is:

Table Name	Identifier	Source
cr_CulRestrictedAccess_A	ManAreID	MCRAD database

Business Table Attributes for cr_CulRestrictedAccess_A

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	ManAreID	Primary Key in MCRAD Management_Area table. Relates back to CulRestrictedAccess_A data layer attribute table.	MCRAD Management_Area table	String (50)
	Area_Name	Name of the management area. MCRAD Management_Area table.	MCRAD Management_Area table	String (250)
	Area_Stt_D	The status of the area. MCRAD Management_Area table.	MCRAD Management_Area table	String (16)
	Reason	The reason for the restriction or particular procedure. MCRAD Management_Area table.	MCRAD Management_Area table	String (240)
	Mgt_Area_Description	Description of the management area. MCRAD Management_Area table.	MCRAD Management_Area table	String (255)
	Mgt_Area_Start_Date	Beginning date of the management area designation. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915). MCRAD Management_Area table.	MCRAD Management_Area table	Integer (Long)
	Mgt_Area_End_Date	End date of the management area designation. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915). MCRAD Management_Area table.	MCRAD Management_Area table	Integer (Long)
	Mgt_Area_Notes	Notes. MCRAD Management_Area table.	MCRAD Management_Area table	String (255)

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Cultural Resources, Cultural Restricted Access

March 01, 2018

Data Layer Specifications for:

Cultural Survey Area

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	CulturalSurveyArea_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
10/4/2016	CulturalSurveyArea_20161004	• Updated feature class code used for creating Resource ID when MCRAD data is not present.
6/23/2016	CulturalSurveyArea_20160623	• Updated "Positional Accuracy" section.
3/10/2017	CulturalSurveyArea_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	CulturalSurveyArea_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
03/01/2018	CulturalSurveyArea_20180301	• Updated the "Definition", "Geometry/Topology", "Positional Accuracy", "Attributes", "Business Tables," and "Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables" sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the CulSurveyArea_A and CulSurveyArea_P data layers implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

The area in which a cultural resource inventory has been conducted.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	CulSurveyArea_A CulSurveyArea_P
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalCulturalResources
Previous Layer Names:	cultural_cleared_area cultural_survey_area CulturalSurveyArea
Geometry Type:	Polygon, Point
Data Steward Organization (Program Area):	Program Area: Cultural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Cultural Resources Program SME
Representation:	• A cultural survey area will represent the outermost limit of a known cultural survey. • Each individual survey area is represented by a single area feature. • All points developed from an area shall represent the centroid of the cultural survey area.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-7064, Integrated Natural Resources Management, 17 September 2004 • AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7001, Environmental Management, 4 November 2011 • AFI32-7045, Environmental Compliance Assessment and Management Program (ECAMP), 1 July 1998 • AFI32-7062, Comprehensive Planning, 27 June 2013

Implementing Program(s):	Driver(s):
	• AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • Executive Order (EO) 13287, Preserve America

Geometry/Topology

Polygon Features:
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).
Point Features:
If a point represents a polygon feature, then the point must fall properly inside of the coinciding polygon.

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Military Cultural Resources Analysis Database (MCRAD) is a relational data model that uses the functionality of Microsoft Access. It was created by Dr. Paul Green in collaboration with Dr. Brian Crane to resolve the issues that arise due to idiosyncratic formats of cultural resource data. MCRAD has been refined to support cultural resource business practices with DoD-wide input and has been adopted by the Deputy Under Secretary of Defense for Installations and Environment as a cultural resources geodata standard. MCRAD, if being used, should only be used to populate the business tables.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the CulSurveyArea_A and CulSurveyArea_P layers will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the CulSurveyArea_A and CulSurveyArea_P data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	culSurveyAreaIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Cultural Survey Area.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Cultural Survey Area that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize (*Polygon geometry*)	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM (*Polygon geometry*)	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize (*Polygon geometry*)	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM (*Polygon geometry*)	The perimeter unit of measure.	foot	String (25)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	latitude (*Polygon geometry*)	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude (*Polygon geometry*)	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid (*Polygon geometry*)	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	latitude (*Point geometry*)	The latitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	longitude (*Point geometry*)	The longitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	MGRS (*Point geometry*)	Military Grid Reference System for the coordinate point. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	elevation (*Point geometry*)	The elevation of the subject item in relation to a datum.		Double	AF
D	elevationUOM (*Point geometry*)	The unit of measure for elevation dimension.	foot	String (25)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	eventID	Represents the Primary Key (EventID) for the feature in the MCRAD database. If the Event_ID does not currently exist in MCRAD, use a concatenation of the installation siteID, the FDS code (CR), and the feature class code (YYYY) followed by a unique sequential six digit number (example: XXXX0001CRYYYY000001) to develop a unique identifier. This value is used to link to the feature class business table. See feature class Data Layer Specifications for applicable feature class code.	Feature Class Codes for Cultural Survey Area: Area – "CSAA" Point – "CSAP".	String (50)	AF
	gisDataSource	The data source of the feature.		String (255)	AF
	gisDataReliability	The reliability of the GIS data.		String (255)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business tables will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. The business tables for CulSurveyArea_A and CulSurvyArea_P are:

Table Name	Identifier	Source
cr_CulSurveyArea_A	EventID	MCRAD Events table
cr_CulturalSurveyMethods	EventID	MCRAD Surv_Meth_Areas table
cr_CulturalSurveyTests	EventID	MCRAD Survey_Tests table

Business Table Attributes for cr_CulSurveyArea_A and cr_CulSurveyArea_P

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	EventID	Primary Key in MCRAD Events table. Used to link this business table to the appropriate feature class.	MCRAD Events table	String (50)
	Event_Type	Describes the type of event: Literature Search, Eval, Data Recovery, Accidental Discovery, Vandalism, Unanticipated Effect, etc. MCRAD Events table.	MCRAD Events table / Literature Search, Eval, Data Recovery, Accidental Discovery, Vandalism, Unanticipated Effect, etc.	String (50)
	Event_Desc	Description of event. MCRAD Events table.	MCRAD Events table	String (255)
	Law	Preservation law followed or violated. MCRAD Events table.	MCRAD Events table	String (50)
	Agency_Num	Agency assigned project identifier. MCRAD Events table.	MCRAD Events table	String (20)
	Project_Name	The name of the project. MRCRAD Events table.	MCRAD Events table	String (255)
	Recorder	Individual/Group recording event. MCRAD Events table.	MCRAD Events table	String (100)
	Lead_Agency	Lead agency for Section 106 purposes. MCRAD Events table.	MCRAD Events table	String (50)
	Hours	Personnel/Hours spent on site. MCRAD Events table.	MCRAD Events table	Double
	Permit_Agency	Agency that gave ARPA Permit. MCRAD Events table.	MCRAD Events table	String (50)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	Permit_No	Number of permit. MCRAD Events table.	MCRAD Events table	String (50)
	App_Date	Date of permit application. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915). MCRAD Events table.	MCRAD Events table	Integer (Long)
	Appr_Date	Date of permit approval. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915). MCRAD Events table.	MCRAD Events table	Integer (Long)
	Exp_Date	Date of permit expires. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915). MCRAD Events table.	MCRAD Events table	Integer (Long)
	Permit_Stat	The status of the permit: Approved, Pending, Terminated. MCRAD Events table.	MCRAD Events table / Approved, Pending, Terminated	String (50)
	Tribes	Tribes notified per 32 CFR 229.7 or ARPA. MCRAD Events table.	MCRAD Events table	String (250)
	Value_Rec	Value received in awards, property/artifacts siezed. MCRAD Events table.	MCRAD Events table	Double
	Value_Note	Source of value received (Grant, Confiscation of stolen material, etc.). MCRAD Events table.	MCRAD Events table / Grant, Confiscation of stolen material, etc.	String (50)
	Survey_Cost	Cost of event. MCRAD Events table.	MCRAD Events table	Double
	Cost_Note	Source of cost (Contractor for consultant, Damage lost, Cost for law enforcement). MCRAD Events table.	MCRAD Events table / Contractor for consultant, Damage lost, Cost for law enforcement	String (50)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	Begin_Date_Survey	Beginning date of event. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915). MCRAD Events table.	MCRAD Events table	Integer (Long)
	End_Date_Survey	End date of event. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915). MCRAD Events table.	MCRAD Events table	Integer (Long)

Business Table Attributes for cr_CulturalSurveyMethods_A and cr_CulturalSurveyMethods_P

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	EventIDFK	Used to link this business table to the appropriate feature class.	MCRAD Surv_Meth_Areas table	String (50)
	Meth_Area_ID	Primary Key in Surv_Meth_Areas table in MCRAD.	MCRAD Surv_Meth_Areas table	String (50)
D	Method	Survey method used in survey subarea. MCRAD Surv_Meth_Areas table.	MCRAD Surv_Meth_Areas table **For a list of domain values, see SurveyMethod in Appendix 1.**	String (20)
	Begin_Date_Methods	Beginning date of survey in subarea. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915). MCRAD Surv_Meth_Areas table.	MCRAD Surv_Meth_Areas table	Integer (Long)
	End_Date_Methods	End date of survey in subarea. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915). MCRAD Surv_Meth_Areas table.	MCRAD Surv_Meth_Areas table	Integer (Long)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	Survey_Int	Survey intensity: Records search, Prelim field, Intens field, % Surveyed. MCRAD Surv_Meth_Areas table.	MCRAD Surv_Meth_Areas table	String (50)
	Survey_Config	Survey configuration: Block, Transect. MCRAD Surv_Meth_Areas table.	MCRAD Surv_Meth_Areas table / Block, Transect	String (50)
	Bias	Particular survey bias: i.e. Only looking for particular resource types. MCRAD Surv_Meth_Areas table.	MCRAD Surv_Meth_Areas table	String (50)
	Pedestrian	Type of pedestrian survey. MCRAD Surv_Meth_Areas table.	MCRAD Surv_Meth_Areas table	String (50)
	Ped_Coll	Surface collection methods (All, Diagnostic only, etc). MCRAD Surv_Meth_Areas table.	MCRAD Surv_Meth_Areas table	String (50)
	Shovel_Tests	Shovel tests used. MCRAD Surv_Meth_Areas table.	MCRAD Surv_Meth_Areas table	Double
	Excav_Units	Excavation units. MCRAD Surv_Meth_Areas table.	MCRAD Surv_Meth_Areas table	Double
	Pedest_Int	Pedestrian interval. MCRAD Surv_Meth_Areas table.	MCRAD Surv_Meth_Areas table	String (50)
	Trans_Num	Number of transects. MCRAD Surv_Meth_Areas table.	MCRAD Surv_Meth_Areas table	String (50)
	STP_Interval	STP Interval. MCRAD Surv_Meth_Areas table.	MCRAD Surv_Meth_Areas table	String (50)
	Unit_Size	Size of excavation units. MCRAD Surv_Meth_Areas table.	MCRAD Surv_Meth_Areas table	String (50)
	Unit_Interval	Excavation unit interval. MCRAD Surv_Meth_Areas table.	MCRAD Surv_Meth_Areas table	String (50)
	Unit_Number	Number of excavation units. MCRAD Surv_Meth_Areas table.	MCRAD Surv_Meth_Areas table	String (50)
	Field_Cond	Description of field conditions. MCRAD Surv_Meth_Areas table.	MCRAD Surv_Meth_Areas table	String (50)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	Perc_Grnd_Visib	% Ground Visibility. MCRAD Surv_Meth_Areas table.	MCRAD Surv_Meth_Areas table	String (50)
	Method_Notes	Notes. MCRAD Surv_Meth_Areas table.	MCRAD Surv_Meth_Areas table	String (255)

Business Table Attributes for cr_CulturalSurveyTests_A and cr_CulturalSurveyTests_P

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	EventIDFK	Used to link this business table to the appropriate feature class.	MCRAD Survey_Tests table	String (50)
	Test_ID	Primary Key in Survey_Tests table in MCRAD.	MCRAD Survey_Tests table	String (50)
	Test_Name	Test field ID. MCRAD Survey_Tests table.	MCRAD Survey_Tests table	String (50)
	Excavator	Excavator's name. MCRAD Survey_Tests table.	MCRAD Survey_Tests table	String (30)
	StratSum	Stratigraphy summary. MCRAD Survey_Tests table.	MCRAD Survey_Tests table	String (60)
	ArtSum	Artifact summary. MCRAD Survey_Tests table.	MCRAD Survey_Tests table	String (240)
	Ext_Typ_D	Test type (STP, Unit, etc). MCRAD Survey_Tests table.	MCRAD Survey_Tests table	String (16)
	Depth	Depth of excavatoin. MCRAD Survey_Tests table.	MCRAD Survey_Tests table	Double
	Depth_U_D	Depth units. MCRAD Survey_Tests table.	MCRAD Survey_Tests table	String (16)
	Test_Notes	Notes. MCRAD Survey_Tests table.	MCRAD Survey_Tests table	String (255)

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Cultural Resources, Cultural Survey Area

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: SurveyMethod	
ATTRIBUTE NAME: Method	
CODED DOMAIN	DEFINITION
aerial100	Aerial Survey - 100%
aerialJudg	Aerial Survey - Judgmental
aerialSample	Aerial Survey - Sample
aerialUnk	Aerial Survey - Methodology Unknown
amateurReport	Amateur Report
auger100	Auger Test Survey - 100%
augerJudg	Auger Test Survey - Judgmental
augerSample	Auger Test Survey - Sample
augerUnk	Auger Test Survey - Methodology Unknown
automobile	Automobile Survey
bankline100	Bankline Survey - 100%
banklineJudg	Bankline Survey - Judgmental
banklineSample	Bankline Survey - Sample
banklineUnk	Bankline Survey - Methodology Unknown
collected	Collected/Collections
eqpExcavation	Heavy Equipment Excavation
excavated	Excavated
informAmateur	Informed Amateur
lit100	Literature Survey - 100%
litJudg	Literature Survey - Judgmental
litSample	Literature Survey - Sample
litUnk	Literature Survey - Methodology Unknown
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
remote100	Remote Sensing Survey - 100%
remoteJudg	Remote Sensing Survey - Judgmental
remoteSample	Remote Sensing Survey - Sample
remoteUnk	Remote Sensing Survey - Methodology Unknown
serendipity	Serendipity
shovel100	Shovel Test Survey - 100%
shovelJudg	Shovel Test Survey - Judgmental
shovelSample	Shovel Test Survey - Sample
shovelUnk	Shovel Test Survey - Methodology Unknown
surface100	Surface Survey - 100%
surfaceJudg	Surface Survey - Judgmental
surfaceSample	Surface Survey - Sample
surfaceUnk	Surface Survey - Methodology Unknown
TBD	To Be Determined: A value is required but the value has yet to be determined.
tested	Tested
underwtr100	Underwater Survey - 100%
underwtrJudg	Underwater Survey - Judgmental
underwtrSample	Underwater Survey - Sample
underwtrUnk	Underwater Survey - Methodology Unknown
undisturbed	Undisturbed (Surveyed, No Collections)
unknown	The survey methodology is unknown.

March 01, 2018

Data Layer Specifications for:

Historic Building

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	HistoricBuilding_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
10/4/2016	HistoricBuilding_20161004	• Updated feature class codes used for creating Resource ID when MCRAD data is not present.
6/23/2016	HistoricBuilding_20160623	• Updated HistoricBuilding_P representation under "Data Layer Details" section. • Updated "Positional Accuracy" section.
3/10/2017	HistoricBuilding_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection. • Updated the "Representation" subsection of the "Data Layer Details" section. • Updated the "Point Features" subsection of the "Geometry/Topology" section.
6/8/2017	HistoricBuilding_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
03/01/2018	HistoricBuilding_20180301	• Updated the "Definition", "Geometry/Topology", "Positional Accuracy", "Attributes", "Business Tables," and "Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables" sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the HistoricBuilding_A and HistoricBuilding_P data layers implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

A building or structure that has cultural significance due to its historic background, association with a famous person, or its architectural features.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	HistoricBuilding_A HistoricBuilding_P
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalCulturalResources
Previous Layer Names:	historic_structure_area historic_structure_point HistoricObject HistoricObject_P
Geometry Type:	Polygon, Point
Data Steward Organization (Program Area):	Program Area: Cultural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Cultural Resources Program SME
Representation:	• Historic building areas are represented as closed polygons depicting the outermost footprint of the building. • Each individual historic building is represented by a single area feature. • All points developed from areas shall represent the centroid of the historic building area.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• 36 CFR 60.4, Criteria for evaluation, 1 July 2012 • 36 CFR 63.2, Determination of eligibility process, 1 July 2012 • 36 CFR 800, Protection of Historic Properties, 1 July 2012 • Historic Sites Act of 1935 • National Historic Preservation Act of 1966

Implementing Program(s):	Driver(s):
	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009

Geometry/Topology

Polygon Features:
Polygons must not overlap.
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).
Point Features:
Points must be disjoint.
If a point represents a polygon feature, then the point must fall properly inside of the coinciding polygon.

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Military Cultural Resources Analysis Database (MCRAD) is a relational data model that uses the functionality of Microsoft Access. It was created by Dr. Paul Green in collaboration with Dr. Brian Crane to resolve the issues that arise due to idiosyncratic formats of cultural resource data. MCRAD has been refined to support cultural resource business practices with DoD-wide input and has been

adopted by the Deputy Under Secretary of Defense for Installations and Environment as a cultural resources geodata standard. MCRAD, if being used, should only be used to populate the business tables.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the HistoricBuilding_A and HistoricBuilding_P layers will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the HistoricBuilding_A and HistoricBuilding_P data layers.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	historicBuildingIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Historic Building.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Historic Building that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize *(Polygon geometry)*	The value of the measured area.	Recorded to the 1/1000 of a square foot.	Double	AF
D	areaSizeUOM *(Polygon geometry)*	The unit of measure for the area of the calculated area.	squareFeet	String (20)	AF
	perimeterSize *(Polygon geometry)*	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM *(Polygon geometry)*	The perimeter unit of measure.	foot	String (25)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	latitude *(Polygon geometry)*	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude *(Polygon geometry)*	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid *(Polygon geometry)*	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	
	latitude *(Point geometry)*	The latitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	longitude *(Point geometry)*	The longitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	MGRS *(Point geometry)*	Military Grid Reference System for the coordinate point. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	elevation *(Point geometry)*	The elevation of the subject item in relation to a datum.	feet	Double	AF
D	elevationUOM *(Point geometry)*	The unit of measure for elevation dimension.	foot	String (25)	AF
	resourceID	Represents the Primary Key (ResourceID) for the feature in the MCRAD database. If the Resource_ID does not currently exist in MCRAD, use a concatenation of the installation siteID, the FDS code (CR), and the feature class code (YYYY) followed by a unique sequential six digit number (example: XXXX0001CRYYYY000001) to develop a unique identifier. This value is used to link to the feature class business table. See feature class Data Layer Specifications for applicable feature class code.	Feature Class Codes for Historic Building: Area – "HBGA" Point – "HBGP".	String (50)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	nationalRegisterStatus	Specifies the historic status of a cultural resource feature with respect to placement on the National Register of Historic Places. Categorizes the feature as one of the Real Property Asset (RPA) Historic Status Code values as defined by the DUSD IandE RPIR.	**For a list of domain values, see HistoricStatusCode in Appendix 1**.	String (5)	SDSFIE
	otherRegisterStatus	Specifies placement on the World Heritage List, or a cultural property inventory/registry of the host nation.	Status of site on any additional inventory, registry or list.	String (150)	SDSFIE
	lastInspectionDate	The date of the last inspection of the feature. Format for date is YYYYMMDD (i.e. September 15, 1994 = 19940915). MCRAD Register table.		Integer (Long)	AF
	inspectionNotes	Any notes regarding the last inspection.		String (255)	AF
	gisDataSource	The data source of the feature.		String (255)	AF
	gisDataReliability	The reliability of the GIS data.		String (255)	AF
	realPropertyUnique Identifier	The real property unique identifier (RPUID) is a non-intelligent code used to permanently and uniquely identify a real property asset. Source: RPIM 4.0a, November 4, 2010.		String (18)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary**.	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary**.	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business tables will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. The business tables for HistoricBuilding_A and HistoricBuilding_P are:

Table Name	Identifier	Source
cr_HistoricBuilding_A	ResourceID	MCRAD database
cr_HistoricBuilding_P	ResourceID	MCRAD database

Business Table Attributes for cr_HistoricBuilding_A and cr_HistoricBuilding_P

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	ResourceID	Primary Key in MCRAD Resources table. Used to link this business table to the appropriate feature class.	MCRAD Resources table	String (50)
	Res_Num	Smithsonian trinomial or equivalent. MCRAD Resources table.	MCRAD Resources table	String (50)
	Res_Name	Site name recognized by agency. MCRAD Resources table.	MCRAD Resources table	String (100)
	Res_Desc	Short description of resource. MCRAD Resources table.	MCRAD Resources table	String (255)
	Condition	Overall condition, nature of disturbances, etc. MCRAD Resources table.	MCRAD Resources table	String (255)
D	Disturb	The percentage of the site that has been disturbed. MCRAD Resources table.	MCRAD Resources table **For a list of domain values, see Disturbance in Appendix 1**.	String (10)
	Disturb_Source	Describes the source of the disturbance. MCRAD Resources table.	MCRAD Resources table	String (250)
D	Threatened	Indicates whether resource is threatened. MCRAD Resources table.	MCRAD Resources table NA, no, TBD, yes	String (3)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	Threats	Describes the nature of threats to resource. MCRAD Resources table.	MCRAD Resources table	String (255)
	Fac_Num	Air Force building or facility number (for historic buildings/structures on base property). MCRAD Resources table.	MCRAD Resources table	String (50)
	Rec_Date	Date resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)
	Rec_Month	Month resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)
	Rec_Day	Day resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)
	Rec_Year	Year resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)
	Building_Type	A description of the feature type. MCRAD Buildings_Structures table.	MCRAD Buildings_Structures table	String (150)
	Architect	Name of the architect. MCRAD Buildings_Structures table.	MCRAD Buildings_Structures table	String (100)
	Builder	Name of the builder. MCRAD Buildings_Structures table.	MCRAD Buildings_Structures table	String (50)
	Development	Development description. MCRAD Buildings_Structures table.	MCRAD Buildings_Structures table	String (255)
	Stories	The number of stories within the building. MCRAD Buildings_Structures table.	MCRAD Buildings_Structures table	String (20)
	buildingLength	The length of the building. MCRAD Buildings_Structures table.	MCRAD Buildings_Structures table	Double
	buildingWidth	The width of the building. MCRAD Buildings_Structures table.	MCRAD Buildings_Structures table	Double

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	Influence_Style	The influence style codes. MCRAD Buildings_Structures table.	MCRAD Buildings_Structures table	String (150)
	Constr_Date	Date of construction/deposition. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915). MCRAD Buildings_Structures table.	MCRAD Buildings_Structures table	String (20)
	Building_Date_Meth	The source or method used to determine the date. MCRAD Buildings_Structures table.	MCRAD Buildings_Structures table	String (50)
	Primary_Style	The primary style codes. MCRAD Buildings_Structures table.	MCRAD Buildings_Structures table	String (150)
	ExtPlan	The exterior plan of the building. MCRAD Buildings_Structures table.	MCRAD Buildings_Structures table	String (50)
	IntPlan	The interior plan of the building. MCRAD Buildings_Structures table.	MCRAD Buildings_Structures table	String (50)
D	isContrib	Indicates whether feature contributes to NR status of resource. MCRAD Buildings_Structures table.	MCRAD Buildings_Structures table NA, no, TBD, yes	String (3)
D	isHousing	Indicates whether building is used for housing. MCRAD Buildings_Structures table.	MCRAD Buildings_Structures table NA, no, TBD, yes	String (3)
	Housing_Typ	Describes the type of housing, e.g. GOQ, Family Housing, etc. MCRAD Buildings_Structures table.	MCRAD Buildings_Structures table	String (250)
	Element	Doors, windows, chimneys, etc. MCRAD Building_Elements table.	MCRAD Building_Elements table	String (50)
	Element_Type	Hipped, frame, etc. MCRAD Building_Elements table.	MCRAD Building_Elements table	String (150)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	Material	Describes the building material. MCRAD Building_Elements table.	MCRAD Building_Elements table	String (150)
	Treatment	Describes the treatment, e.g. Common Bond, Shingle, 4/4, etc. MCRAD Building_Elements table.	MCRAD Building_Elements table	String (50)
	Contributing	Describes the contributing element. MCRAD Building_Elements table.	MCRAD Building_Elements table	String (50)

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Cultural Resources, Historic Building

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: Disturbance	
ATTRIBUTE NAME: Disturb	
CODED DOMAIN	DEFINITION
destroyed	The feature has been destroyed.
majorImp	The feature has experienced major impact with 51-99% disturbed.
minorImp	The feature has experienced minor impact with 1-25% disturbed.
modImp	The feature has experienced moderate impact with 26-50% disturbed.
NA	Not Applicable: No value exists.
none	No disturbance has impacted the feature.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.
unknown	The disturbance level of the feature is unknown.

DOMAIN TABLE NAME: HistoricStatusCode	
ATTRIBUTE NAME: nationalRegisterStatus	
CODED DOMAIN	DEFINITION
DNE	Determined Not Eligible for Listing: An asset that has been evaluated using the National Register of Historic Places (NRHP) criteria and is determined not to meet the criteria of eligibility.
DNR	Designation Rescinded for NHLI/NHLC/NREI/NREC National Register Property: Determined by the Keeper of the National Register of Historic Places (NRHP) to no longer meet the criteria for listing in the NRHP.
ELPA	Eligible for the Purposes of a Program Alternative: An asset that is included within the scope of a program alternative developed and implemented pursuant to 36 CFR 800.14, Protection of Historic Properties.
NA	Not Applicable: No value exists.
NAR	Not Assessed Routinely: An asset that is not routinely planned to be evaluated for National Register of Historic Places (NRHP) eligibility.
NCE	Non-Contributing Element of NHL/NRL/NRE District: Assets within the designated boundaries of a National Historic Landmark (NHL) or National Register of Historic Places (NRHP) listed or eligible property that have been evaluated and determined not to contribute to the historic significance of the property.
NEV	Not Yet Evaluated: An asset that has not been evaluated for National Register of Historic Places (NRHP) eligibility.
NHLC	Contributing Element of a NHL District: An asset that is identified as a contributing element of a larger property listed in the National Register of Historic Places (NRHP) and also designated a National Historic Landmark (NHL) by the Secretary of Interior.
NHLI	Individual National Historic Landmark: An asset that is individually listed in the National Register of Historic Places (NRHP) and also designated as a National Historic Landmark (NHL) by the Secretary of Interior.
NREC	Contributing Element of NRE District: An asset that is identified as a contributing element of a larger property or district determined eligible for inclusion in the National Register of Historic Places (NRHP).
NREI	Individual National Register Eligible: An individual asset that is determined to meet the National Register of Historic Places (NRHP) criteria of eligibility.
NRLC	Contributing Element of NRL District: An asset that is identified as a contributing element of a historic property listed in the National Register of Historic Places (NRHP).

DOMAIN TABLE NAME: HistoricStatusCode	
ATTRIBUTE NAME: nationalRegisterStatus	
CODED DOMAIN	DEFINITION
NRLI	Individual National Register Listed: An individual asset that has been listed in the National Register of Historic Places (NRHP).
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.

March 01, 2018

Data Layer Specifications for:

Historic District

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	HistoricDistrict _20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
10/4/2016	HistoricDistrict _20161004	• Updated feature class code used for creating Resource ID when MCRAD data is not present.
6/23/2016	HistoricDistrict _20160623	• Updated "Positional Accuracy" section.
3/10/2017	HistoricDistrict _20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	HistoricDistrict _20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
03/01/2018	HistoricDistrict _20180301	• Updated the "Definition", "Geometry/Topology", "Positional Accuracy", "Attributes", "Business Tables," and "Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables" sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the HistoricDistrict_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

A geographically definable area, urban or rural, possessing a significant concentration, linkage, or continuity of sites, landscapes, structures, or objects, united by past events or aesthetically by plan or physical developments. A district may also be composed of individual elements separated geographically but linked by association or history.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	HistoricDistrict_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	EnvironmentalCulturalResources
Previous Layer Names:	historic_district_area HistoricDistrict
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Cultural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Cultural Resources Program SME
Representation:	• Historic district areas are represented as closed polygons depicting the outermost extent of the area. • Each individual historic district area is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• 36 CFR 60.4, Criteria for evaluation, 1 July 2012 • 36 CFR 63.2, Determination of eligibility process, 1 July 2012 • 36 CFR 800, Protection of Historic Properties, 1 July 2012 • Historic Sites Act of 1935 • National Historic Preservation Act of 1966 • AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007

Implementing Program(s):	Driver(s):
	• AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009

Geometry/Topology

Polygon Features:
Polygons must not overlap.
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Military Cultural Resources Analysis Database (MCRAD) is a relational data model that uses the functionality of Microsoft Access. It was created by Dr. Paul Green in collaboration with Dr. Brian Crane to resolve the issues that arise due to idiosyncratic formats of cultural resource data. MCRAD has been refined to support cultural resource business practices with DoD-wide input and has been adopted by the Deputy Under Secretary of Defense for Installations and Environment as a cultural resources geodata standard. MCRAD, if being used, should only be used to populate the business tables.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the HistoricDistrict_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the HistoricDistrict_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	historicDistrictIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Historical District.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Historical District that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	resourceID	Represents the Primary Key (ResourceID) for the feature in the MCRAD database. If the Resource_ID does not currently exist in MCRAD, use a concatenation of the installation siteID, the FDS code (CR), and the feature class code (YYYY) followed by a unique sequential six digit number (example: XXXX0001CRYYYY000001) to develop a unique identifier. This value is used to link to the feature class business table. See feature class Data Layer Specifications for applicable feature class code.	Feature Class Code for Historic District is “HDTA”.	String (50)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	nationalRegisterStatus	Specifies the historic status of a cultural resource feature with respect to placement on the National Register of Historic Places. Categorizes the feature as one of the Real Property Asset (RPA) Historic Status Code values as defined by the DUSD IandE RPIR.	**For a list of domain values, see HistoricStatusCode in Appendix 1.**	String (5)	SDSFIE
	otherRegisterStatus	Specifies placement on the World Heritage List, or a cultural property inventory/registry of the host nation.	Status of site on any additional inventory, registry or list.	String (150)	SDSFIE
	lastInspectionDate	The date of the last inspection of the feature. Format for date is YYYYMMDD (i.e. September 15, 1994 = 19940915). MCRAD Register table.		Integer (Long)	AF
	inspectionNotes	Any notes regarding the last inspection.		String (255)	AF
	gisDataSource	The data source of the feature.		String (255)	AF
	gisDataReliability	The reliability of the GIS data.		String (255)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. The business table for HistoricDistrict_A is:

Table Name	Identifier	Source
cr_HistoricDistrict_A	ResourceID	MCRAD database

Business Table Attributes for cr_HistoricDistrict

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	ResourceID	Primary Key in MCRAD Resources table. Used to link this business table to the appropriate feature class.	MCRAD Resources table	String (50)
	Res_Num	Smithsonian trinomial or equivalent. MCRAD Resources table.	MCRAD Resources table	String (50)
	Res_Name	Site name recognized by agency. MCRAD Resources table.	MCRAD Resources table	String (100)
	Res_Grp	Type of resource (single, district, route, other aggregate groupings, etc.). MCRAD Resources table.	MCRAD Resources table	String (50)
	Res_Desc	Short description of resource. MCRAD Resources table.	MCRAD Resources table	String (255)
	Condition	Overall condition, nature of disturbances, etc. MCRAD Resources table.	MCRAD Resources table	String (255)
D	Disturb	The percentage of the site that has been disturbed. MCRAD Resources table.	MCRAD Resources table **For a list of domain values, see Disturbance in Appendix 1.**	String (10)
	Disturb_Source	Describes the source of the disturbance. MCRAD Resources table.	MCRAD Resources table	String (250)
D	Threatened	Indicates whether resource is threatened. MCRAD Resources table.	MCRAD Resources table NA, no, TBD, yes	String (3)
	Threats	Describes the nature of threats to resource. MCRAD Resources table.	MCRAD Resources table	String (255)
D	Res_Status	Research status: Evaluated? Excavated? MCRAD Resources table.	MCRAD Resources table **For a list of domain values, see SiteStatus in Appendix 1.**	String (15)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	Drainage	River drainage where resource is located. MCRAD Resources table.	MCRAD Resources table	String (50)
	Physio_Prov	Name of physiographic province. MCRAD Resources table.	MCRAD Resources table	String (50)
	Size_Notes	Any notes regarding the size of the feature. MCRAD Resources table.	MCRAD Resources table	String (255)
	Occ_Start	The occupation start year. MCRAD Resources table.	MCRAD Resources table	Double
	Occ_End	The occupation end year. MCRAD Resources table.	MCRAD Resources table	Double
D	Date_Meth	Method used to determine date. MCRAD Resources table.	MCRAD Resources table **For a list of domain values, see DateMethod in Appendix 1.**	String (20)
	Fac_Num	Air Force building or facility number (for historic buildings/structures on base property). MCRAD Resources table.	MCRAD Resources table	String (50)
D	Artifact_Density	Density of artifacts within the area. MCRAD Resources table.	MCRAD Resources table / **For a list of domain values, see ArtifactDensity in Appendix 1.**	String (25)
	Rec_Date	Date resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)
	Rec_Month	Month resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)
	Rec_Day	Day resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)
	Rec_Year	Year resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	Register_Name	Identifies the name of the register (e.g. World Heritage, Host Nation Register). MCRAD Register table.	MCRAD Register table	String (50)
	Op_Source	Source of opinion (Consultant, Agency). MCRAD Register table.	MCRAD Register table	String (50)
	Signif_Level	Significance level: International, National, Provincial, Local. MCRAD Register table.	MCRAD Register table / International, National, Provincial, Local	String (50)
	A	NRHP Criterion A. MCRAD Register table.	MCRAD Register table	String (3)
	B	NRHP Criterion B. MCRAD Register table.	MCRAD Register table	String (3)
	C	NRHP Criterion C. MCRAD Register table.	MCRAD Register table	String (3)
	D	NRHP Criterion D. MCRAD Register table.	MCRAD Register table	String (3)
	CritConsid	Describes the NRHP criteria considerations (Less than 50 years of age, Church, Relocated, etc). MCRAD Register table.	MCRAD Register table	String (255)
	I1	Integrity of location. MRCAD Register table.	MCRAD Register table	String (50)
	I2	Integrity of design. MRCAD Register table.	MCRAD Register table	String (50)
	I3	Integrity of setting. MRCAD Register table.	MCRAD Register table	String (50)
	I4	Integrity of materials. MRCAD Register table.	MCRAD Register table	String (50)
	I5	Integrity of workmanship. MRCAD Register table.	MCRAD Register table	String (50)
	I6	Integrity of feeling. MRCAD Register table.	MCRAD Register table	String (50)
	I7	Integrity of association. MRCAD Register table.	MCRAD Register table	String (50)
	Sig_Per	The period of significance. MCRAD Register table.	MCRAD Register table	String (50)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	Themes	Applicable National Register themes. MCRAD Register table.	MCRAD Register table	String (255)
	Sensitivity	The potential effects (i.e. Sensitive to visual effects, Excavation, etc). MCRAD Register table.	MCRAD Register table	String (50)
	Date_Notes	Notes on the date for the NR opinion. MCRAD Register table.	MCRAD Register table	String (255)
	Recon_Year	The year the opinion needs to be reconsidered, such as when a property reaches 50 years of age. MCRAD Register table.	MCRAD Register table	Integer (Long)
	Opinion_Status	The status of the opinion, such as Official-Current, Official-Not Current, Unofficial, Advisory. MCRAD Register table.	MCRAD Register table / Official-Current, Official-Not Current, Unofficial, Advisory	String (50)
	Opinion_Date	The date in which NRHP status opinion was rendered. Format for date is YYYYMMDD (i.e. September 15, 1994 = 19940915). MCRAD Register table.	MCRAD Register table	Integer (Long)
	Notes	Notes. MCRAD Resources and Register tables.	MCRAD Resources and Register table	String (255)

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Cultural Resources, Historic District

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: ArtifactDensity	
ATTRIBUTE NAME: Artifact_Density	
CODED DOMAIN	DEFINITION
none	There were not any artifacts found at this site.
low1	Artifact density is low at 1. Based on a density range between 1-10.
moderate2-5	Artifact density range is moderate between 2-5. Based on a density range between 1-10.
high6-10	Artifact density range is high between 6-10. Based on a density range between 1-10.
veryHigh10	Artifact density is very high at greater than 10. Based on a density range between 1-10.
veryLow10	Artifact density is very low at 1 - 10. Based on a density range between 1-1000.
low11-24	Artifact density range is low between 11-24. Based on a density range between 1-1000.
moderate25-100	Artifact density range is moderate between 25-100. Based on a density range between 1-1000.
high101-1000	Artifact density range is high between 101-1000. Based on a density range between 1-1000.
veryHigh1000	Artifact density is very high at greater than 1000. Based on a density range between 1-1000.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.
unknown	The artifact density of this location is unknown.

DOMAIN TABLE NAME: DateMethod	
ATTRIBUTE NAME: Date_Meth	
CODED DOMAIN	DEFINITION
archaeomagnetic	Date method type is archaeomagnetic.
bioluminescence	Date method type is bioluminescence.
biosilicates	Date method type is biosilicates.
c14	Date method type is C-14 radioactive.
ceramicDating	Date method type is ceramic dating.
chronometric	Date method type is absolute/chronometric.
NA	Not Applicable: No value exists.
none	A date method type was not used.
other	Other. Must be described in the sdsFeatureDescription attribute.
projectilePt	The date method type is projectile point technique inference.
relative	The data method type is relative.
researchExp	The date method type is research/experience.
seriation	The date method type is seriation.
TBD	To Be Determined: A value is required but the value has yet to be determined.
thermolumin	The date method type is thermoluminescence.
treeRing	The date method type is tree ring.

DOMAIN TABLE NAME: Disturbance	
ATTRIBUTE NAME: Disturb	
CODED DOMAIN	DEFINITION
destroyed	The feature has been destroyed.

DOMAIN TABLE NAME: Disturbance	
ATTRIBUTE NAME: Disturb	
majorImp	The feature has experienced major impact with 51-99% disturbed.
minorImp	The feature has experienced minor impact with 1-25% disturbed.
modImp	The feature has experienced moderate impact with 26-50% disturbed.
NA	Not Applicable: No value exists.
none	No disturbance has impacted the feature.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.
unknown	The disturbance level of the feature is unknown.

DOMAIN TABLE NAME: HistoricStatusCode	
ATTRIBUTE NAME: nationalRegisterStatus	
CODED DOMAIN	DEFINITION
DNE	Determined Not Eligible for Listing: An asset that has been evaluated using the National Register of Historic Places (NRHP) criteria and is determined not to meet the criteria of eligibility.
DNR	Designation Rescinded for NHLI/NHLC/NREI/NREC National Register Property: Determined by the Keeper of the National Register of Historic Places (NRHP) to no longer meet the criteria for listing in the NRHP.
ELPA	Eligible for the Purposes of a Program Alternative: An asset that is included within the scope of a program alternative developed and implemented pursuant to 36 CFR 800.14, Protection of Historic Properties.
NA	Not Applicable: No value exists.
NAR	Not Assessed Routinely: An asset that is not routinely planned to be evaluated for National Register of Historic Places (NRHP) eligibility.
NCE	Non-Contributing Element of NHL/NRL/NRE District: Assets within the designated boundaries of a National Historic Landmark (NHL) or National Register of Historic Places (NRHP) listed or eligible property that have been evaluated and determined not to contribute to the historic significance of the property.
NEV	Not Yet Evaluated: An asset that has not been evaluated for National Register of Historic Places (NRHP) eligibility.
NHLC	Contributing Element of a NHL District: An asset that is identified as a contributing element of a larger property listed in the National Register of Historic Places (NRHP) and also designated a National Historic Landmark (NHL) by the Secretary of Interior.
NHLI	Individual National Historic Landmark: An asset that is individually listed in the National Register of Historic Places (NRHP) and also designated as a National Historic Landmark (NHL) by the Secretary of Interior.
NREC	Contributing Element of NRE District: An asset that is identified as a contributing element of a larger property or district determined eligible for inclusion in the National Register of Historic Places (NRHP).
NREI	Individual National Register Eligible: An individual asset that is determined to meet the National Register of Historic Places (NRHP) criteria of eligibility.
NRLC	Contributing Element of NRL District: An asset that is identified as a contributing element of a historic property listed in the National Register of Historic Places (NRHP).
NRLI	Individual National Register Listed: An individual asset that has been listed in the National Register of Historic Places (NRHP).
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: SiteStatus	
ATTRIBUTE NAME: Res_Status	
CODED DOMAIN	DEFINITION
collection	Items have been collected from the site.
evaluated	The site has been evaluated.
excavated	The site has been excavated.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
partMitigate	The site is in partial mitigation.
TBD	To Be Determined: A value is required but the value has yet to be determined.
tested	The site has been tested.
undisturbed	The site is undisturbed (Surveyed - No Collections).
unknown	The site status is unknown.

March 01, 2018

Data Layer Specifications for:

Historic Landscape

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	HistoricLandscape_ 20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
10/4/2016	HistoricLandscape_ 20161004	• Updated feature class code used for creating Resource ID when MCRAD data is not present.
6/23/2016	HistoricLandscape_ 20160623	• Updated "Positional Accuracy" section.
3/10/2017	HistoricLandscape_ 20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	HistoricLandscape_ 20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
03/01/2018	HistoricLandscape_ 20180301	• Updated the "Definition", "Geometry/Topology", "Positional Accuracy", "Attributes", "Business Tables," and "Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables" sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the HistoricLandscape_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

A geographic area (including both cultural and natural resources and the wildlife or domestic animals therein) associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values. There are four general types of cultural landscapes, which are not mutually exclusive: historic sites, historic designed landscapes, historic vernacular landscapes, and ethnographic landscapes.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	HistoricLandscape_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalCulturalResources
Previous Layer Names:	HistoricLandscape
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Cultural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Cultural Resources Program SME
Representation:	• Historic landscape areas are represented as closed polygons depicting the outermost extent of the area. • Each individual historic landscape area is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014

Implementing Program(s):	Driver(s):
	• AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009

Geometry/Topology

Polygon Features:
Polygons must not overlap.
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Military Cultural Resources Analysis Database (MCRAD) is a relational data model that uses the functionality of Microsoft Access. It was created by Dr. Paul Green in collaboration with Dr. Brian Crane to resolve the issues that arise due to idiosyncratic formats of cultural resource data. MCRAD has been refined to support cultural resource business practices with DoD-wide input and has been adopted by the Deputy Under Secretary of Defense for Installations and Environment as a cultural resources geodata standard. MCRAD, if being used, should only be used to populate the business tables.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **6 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the HistoricLandscape_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the HistoricLandscape_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	historicLandscapeIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Historic Landscape.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Historic Landscape that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	SDSFIE
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	resourceID	Represents the Primary Key (ResourceID) for the feature in the MCRAD database. If the Resource_ID does not currently exist in MCRAD, use a concatenation of the installation siteID, the FDS code (CR), and the feature class code (YYYY) followed by a unique sequential six digit number (example: XXXX0001CRYYYY000001) to develop a unique identifier. This value is used to link to the feature class business table. See feature class Data Layer Specifications for applicable feature class code.	Feature Class Code for Historic Landscape is "HLSA".	String (50)	AF
D	landscapeType	Describes the type of landscape.	**For a list of domain values, see LandscapeType in Appendix 1**	String (17)	AF
	historicLandscapeID	Reference to identification assigned by any agency.		String (30)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	nationalRegisterStatus	Specifies the historic status of a cultural resource feature with respect to placement on the National Register of Historic Places. Categorizes the feature as one of the Real Property Asset (RPA) Historic Status Code values as defined by the DUSD IandE RPIR.	**For a list of domain values, see HistoricStatusCode in Appendix 1**.	String (5)	SDSFIE
	otherRegisterStatus	Specifies placement on the World Heritage List, or a cultural property inventory/registry of the host nation.	Status of site on any additional inventory, registry or list.	String (150)	SDSFIE
	lastInspectionDate	The date of the last inspection of the feature. Format for date is YYYYMMDD (i.e. September 15, 1994 = 19940915). MCRAD Register table.		Integer (Long)	AF
	inspectionNotes	Any notes regarding the last inspection.		String (255)	AF
	gisDataSource	The data source of the feature.		String (255)	AF
	gisDataReliability	The reliability of the GIS data.		String (255)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary**.	String (16)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary**.	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. The business table for HistoricLandscape_A is:

Table Name	Identifier	Source
cr_HistoricLandscape_A	ResourceID	MCRAD database

Business Table Attributes for cr_HistoricLandscape_A

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	ResourceID	Primary Key in MCRAD Resources table. Used to link this business table to the appropriate feature class.	MCRAD Resources table	String (50)
	Res_Num	Smithsonian trinomial or equivalent. MCRAD Resources table.	MCRAD Resources table	String (50)
	Res_Name	Site name recognized by agency. MCRAD Resources table.	MCRAD Resources table	String (100)
	Res_Grp	Type of resource (single, district, route, other aggregate groupings, etc.). MCRAD Resources table.	MCRAD Resources table	String (50)
	Res_Desc	Short description of resource. MCRAD Resources table.	MCRAD Resources table	String (255)
	Condition	Overall condition, nature of disturbances, etc. MCRAD Resources table.	MCRAD Resources table	String (255)
D	Disturb	The percentage of the site that has been disturbed. MCRAD Resources table.	MCRAD Resources table **For a list of domain values, see Disturbance in Appendix 1.**	String (10)
	Disturb_Source	Describes the source of the disturbance. MCRAD Resources table.	MCRAD Resources table	String (250)
D	Threatened	Indicates whether resource is threatened. MCRAD Resources table.	MCRAD Resources table NA, no, TBD, yes	String (3)
	Threats	Describes the nature of threats to resource. MCRAD Resources table.	MCRAD Resources table	String (255)
D	Res_Status	Research status: Evaluated? Excavated? MCRAD Resources table.	MCRAD Resources table **For a list of domain values, see SiteStatus in Appendix 1.**	String (15)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	Drainage	River drainage where resource is located. MCRAD Resources table.	MCRAD Resources table	String (50)
	Physio_Prov	Name of physiographic province. MCRAD Resources table.	MCRAD Resources table	String (50)
	Size_Notes	Any notes regarding the size of the feature. MCRAD Resources table.	MCRAD Resources table	String (255)
	Occ_Start	The occupation start year. MCRAD Resources table.	MCRAD Resources table	Double
	Occ_End	The occupation end year. MCRAD Resources table.	MCRAD Resources table	Double
D	Date_Meth	Method used to determine date. MCRAD Resources table.	MCRAD Resources table **For a list of domain values, see DateMethod in Appendix 1.**	String (20)
	Fac_Num	Air Force building or facility number (for historic buildings/structures on base property). MCRAD Resources table.	MCRAD Resources table	String (50)
D	Artifact_Density	Density of artifacts within the area. MCRAD Resources table.	MCRAD Resources table **For a list of domain values, see ArtifactDensity in Appendix 1.**	String (25)
	Rec_Date	Date resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)
	Rec_Month	Month resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)
	Rec_Day	Day resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)
	Rec_Year	Year resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	Register_Name	Identifies the name of the register (e.g. World Heritage, Host Nation Register). MCRAD Register table.	MCRAD Register table	String (50)
	Op_Source	Source of opinion (Consultant, Agency). MCRAD Register table.	MCRAD Register table	String (50)
	Signif_Level	Significance level: International, National, Provincial, Local. MCRAD Register table.	MCRAD Register table / International, National, Provincial, Local	String (50)
	A	NRHP Criterion A. MCRAD Register table.	MCRAD Register table	String (3)
	B	NRHP Criterion B. MCRAD Register table.	MCRAD Register table	String (3)
	C	NRHP Criterion C. MCRAD Register table.	MCRAD Register table	String (3)
	D	NRHP Criterion D. MCRAD Register table.	MCRAD Register table	String (3)
	CritConsid	Describes the NRHP criteria considerations (Less than 50 years of age, Church, Relocated, etc). MCRAD Register table.	MCRAD Register table	String (255)
	I1	Integrity of location. MRCAD Register table.	MCRAD Register table	String (50)
	I2	Integrity of design. MRCAD Register table.	MCRAD Register table	String (50)
	I3	Integrity of setting. MRCAD Register table.	MCRAD Register table	String (50)
	I4	Integrity of materials. MRCAD Register table.	MCRAD Register table	String (50)
	I5	Integrity of workmanship. MRCAD Register table.	MCRAD Register table	String (50)
	I6	Integrity of feeling. MRCAD Register table.	MCRAD Register table	String (50)
	I7	Integrity of association. MRCAD Register table.	MCRAD Register table	String (50)
	Sig_Per	The period of significance. MCRAD Register table.	MCRAD Register table	String (50)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	Themes	Applicable National Register themes. MCRAD Register table.	MCRAD Register table	String (255)
	Sensitivity	The potential effects (i.e. Sensitive to visual effects, Excavation, etc). MCRAD Register table.	MCRAD Register table	String (50)
	Date_Notes	Notes on the date for the NR opinion. MCRAD Register table.	MCRAD Register table	String (255)
	Recon_Year	The year the opinion needs to be reconsidered, such as when a property reaches 50 years of age. MCRAD Register table.	MCRAD Register table	Integer (Long)
	Opinion_Status	The status of the opinion, such as Official-Current, Official-Not Current, Unofficial, Advisory. MCRAD Register table.	MCRAD Register table / Official-Current, Official-Not Current, Unofficial, Advisory	String (50)
	Opinion_Date	The date in which NRHP status opinion was rendered. Format for date is YYYYMMDD (i.e. September 15, 1994 = 19940915). MCRAD Register table.	MCRAD Register table	Integer (Long)
	Notes	Notes. MCRAD Resources and Register tables.	MCRAD Resources and Register table	String (255)

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Cultural Resources, Historic Landscape

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: ArtifactDensity	
ATTRIBUTE NAME: Artifact_Density	
CODED DOMAIN	DEFINITION
none	There were not any artifacts found at this site.
low1	Artifact density is low at 1. Based on a density range between 1-10.
moderate2-5	Artifact density range is moderate between 2-5. Based on a density range between 1-10.
high6-10	Artifact density range is high between 6-10. Based on a density range between 1-10.
veryHigh10	Artifact density is very high at greater than 10. Based on a density range between 1-10.
veryLow10	Artifact density is very low at 1 - 10. Based on a density range between 1-1000.
low11-24	Artifact density range is low between 11-24. Based on a density range between 1-1000.
moderate25-100	Artifact density range is moderate between 25-100. Based on a density range between 1-1000.
high101-1000	Artifact density range is high between 101-1000. Based on a density range between 1-1000.
veryHigh1000	Artifact density is very high at greater than 1000. Based on a density range between 1-1000.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.
unknown	The artifact density of this location is unknown.

DOMAIN TABLE NAME: DateMethod	
ATTRIBUTE NAME: Date_Meth	
CODED DOMAIN	DEFINITION
archaeomagnetic	Date method type is archaeomagnetic.
bioluminescence	Date method type is bioluminescence.
biosilicates	Date method type is biosilicates.
c14	Date method type is C-14 radioactive.
ceramicDating	Date method type is ceramic dating.
chronometric	Date method type is absolute/chronometric.
NA	Not Applicable: No value exists.
none	A date method type was not used.
other	Other. Must be described in the sdsFeatureDescription attribute.
projectilePt	The date method type is projectile point technique inference.
relative	The data method type is relative.
researchExp	The date method type is research/experience.
seriation	The date method type is seriation.
TBD	To Be Determined: A value is required but the value has yet to be determined.
thermolumin	The date method type is thermoluminescence.
treeRing	The date method type is tree ring.

DOMAIN TABLE NAME: Disturbance	
ATTRIBUTE NAME: Disturb	
CODED DOMAIN	DEFINITION
destroyed	The feature has been destroyed.
majorImp	The feature has experienced major impact with 51-99% disturbed.
minorImp	The feature has experienced minor impact with 1-25% disturbed.

DOMAIN TABLE NAME: Disturbance	
ATTRIBUTE NAME: Disturb	
modImp	The feature has experienced moderate impact with 26-50% disturbed.
NA	Not Applicable: No value exists.
none	No disturbance has impacted the feature.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.
unknown	The disturbance level of the feature is unknown.

DOMAIN TABLE NAME: HistoricStatusCode	
ATTRIBUTE NAME: nationalRegisterStatus	
CODED DOMAIN	DEFINITION
DNE	Determined Not Eligible for Listing: An asset that has been evaluated using the National Register of Historic Places (NRHP) criteria and is determined not to meet the criteria of eligibility.
DNR	Designation Rescinded for NHLI/NHLC/NREI/NREC National Register Property: Determined by the Keeper of the National Register of Historic Places (NRHP) to no longer meet the criteria for listing in the NRHP.
ELPA	Eligible for the Purposes of a Program Alternative: An asset that is included within the scope of a program alternative developed and implemented pursuant to 36 CFR 800.14, Protection of Historic Properties.
NA	Not Applicable: No value exists.
NAR	Not Assessed Routinely: An asset that is not routinely planned to be evaluated for National Register of Historic Places (NRHP) eligibility.
NCE	Non-Contributing Element of NHL/NRL/NRE District: Assets within the designated boundaries of a National Historic Landmark (NHL) or National Register of Historic Places (NRHP) listed or eligible property that have been evaluated and determined not to contribute to the historic significance of the property.
NEV	Not Yet Evaluated: An asset that has not been evaluated for National Register of Historic Places (NRHP) eligibility.
NHLC	Contributing Element of a NHL District: An asset that is identified as a contributing element of a larger property listed in the National Register of Historic Places (NRHP) and also designated a National Historic Landmark (NHL) by the Secretary of Interior.
NHLI	Individual National Historic Landmark: An asset that is individually listed in the National Register of Historic Places (NRHP) and also designated as a National Historic Landmark (NHL) by the Secretary of Interior.
NREC	Contributing Element of NRE District: An asset that is identified as a contributing element of a larger property or district determined eligible for inclusion in the National Register of Historic Places (NRHP).
NREI	Individual National Register Eligible: An individual asset that is determined to meet the National Register of Historic Places (NRHP) criteria of eligibility.
NRLC	Contributing Element of NRL District: An asset that is identified as a contributing element of a historic property listed in the National Register of Historic Places (NRHP).
NRLI	Individual National Register Listed: An individual asset that has been listed in the National Register of Historic Places (NRHP).
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: LandscapeType	
ATTRIBUTE NAME: LandscapeType	
CODED DOMAIN	DEFINITION
histDesigned	Historic Designed Landscapes
histEthnographic	Historic Ethnographic Landscapes
histSites	Historic Sites
histVernacular	Historic Vernacular Landscapes
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: SiteStatus	
ATTRIBUTE NAME: Res_Status	
CODED DOMAIN	DEFINITION
collection	Items have been collected from the site.
evaluated	The site has been evaluated.
excavated	The site has been excavated.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
partMitigate	The site is in partial mitigation.
TBD	To Be Determined: A value is required but the value has yet to be determined.
tested	The site has been tested.
undisturbed	The site is undisturbed (Surveyed - No Collections).
unknown	The site status is unknown.

March 01, 2018

Data Layer Specifications for:

Historic Object

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	HistoricObject_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
10/4/2016	HistoricObject_20161004	• Updated feature class codes used for creating Resource ID when MCRAD data is not present.
6/23/2016	HistoricObject_20160623	• Added HistoricObject_L representation under "Data Layer Details" section. • Added HistoricObject_L topology under "Geometry/ Topology" section. • Added HistoricObject_L specific attribute fields under "Attributes" section. • Added HistoricObject_L business table under "Business Tables" section. • Updated HistoricObject_P representation under "Data Layer Details" section. • Added HistoricObject_P topology under "Geometry/ Topology" section. • Updated "Positional Accuracy" section.
3/13/2017	HistoricObject_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection. • Updated the "Representation" subsection of the "Data Layer Details" section. • Updated the "Point Features" subsection of the "Geometry/Topology" section.
6/8/2017	HistoricObject_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
03/01/2018	HistoricObject_20180301	• Updated the "Definition", "Geometry/Topology", "Positional Accuracy", "Attributes", "Business Tables," and "Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables" sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the HistoricObject_A, HistoricObject_L, and HistoricObject_P data layers implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

Historically or culturally significant points of interest. These include constructed landmarks, markers, mileposts, interpretive sites, or statues, which are primarily artistic in nature or relatively small in scale and simply constructed. NOTE: This feature type is not to be used for representing a historic Building or Structure as defined by the Real Property group and included in the RPI. This feature type will house features from the merged SDSFIE v2.6 feature classes named Historic Feature and Historic Structure, unless those features have a Real Property record and are Building or Structure feature types.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	HistoricObject_A HistoricObject_L HistoricObject_P
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalCulturalResources
Previous Layer Names:	historic_feature_area historic_structure_area historic_feature_point historic_structure_point HistoricObject
Geometry Type:	Polygon, Line, Point
Data Steward Organization (Program Area):	Program Area: Cultural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Cultural Resources Program SME
Representation:	• All historic object locations shall represent the latitude, longitude location of that feature. • Historic object areas are represented as closed polygons depicting the outermost extent of the area. • Each individual historic object area is represented by a single area feature. • Historic objects will be represented as a continuous unbroken line. • All points developed from areas shall represent the centroid of the historic object area.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• Historic Sites Act of 1935 • National Historic Preservation Act of 1966 • AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009

Geometry/Topology

Polygon Features:
Polygons must not overlap.
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).
Line Features:
Lines must not self-overlap.
Line must not self-intersect.
Lines must be single part features.
Lines must be larger than cluster tolerance (.001 meter).
Point Features:
Points must be disjoint.
If a point represents a polygon feature, then the point must fall properly inside of the coinciding polygon.

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be

performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Military Cultural Resources Analysis Database (MCRAD) is a relational data model that uses the functionality of Microsoft Access. It was created by Dr. Paul Green in collaboration with Dr. Brian Crane to resolve the issues that arise due to idiosyncratic formats of cultural resource data. MCRAD has been refined to support cultural resource business practices with DoD-wide input and has been adopted by the Deputy Under Secretary of Defense for Installations and Environment as a cultural resources geodata standard. MCRAD, if being used, should only be used to populate the business tables.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the HistoricObject_A, HistoricObject_L, and HistoricObject_P layers will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the HistoricObject_A, HistoricObject_L, and HistoricObject_P data layers.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	historicObjectIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Historic Object.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Historic Object that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize *(Polygon geometry)*	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM *(Polygon geometry)*	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize *(Polygon geometry)*	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM *(Polygon geometry)*	The perimeter unit of measure.	foot	String (25)	AF
	latitude *(Polygon geometry)*	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	longitude *(Polygon geometry)*	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid *(Polygon geometry)*	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	lengthSize *(Line geometry)*	The value of the measured length.	Recorded to the 1/1000 of a foot.	Double	AF
D	lengthSizeUOM *(Line geometry)*	The unit of measure for the calculated length.	foot	String (25)	AF
	latitudeFrom *(Line geometry)*	The latitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	latitudeTo *(Line geometry)*	The latitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	longitudeFrom *(Line geometry)*	The longitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	longitudeTo *(Line geometry)*	The longitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	elevationFrom *(Line geometry)*	The elevation component of the beginning (upstream/upgradient) coordinate point in feet.		Double	AF
	elevationTo *(Line geometry)*	The elevation component of the ending (downstream/downgr adient) coordinate point in feet.		Double	AF
D	elevationUOM *(Line geometry)*	The unit of measure for elevation dimension.	foot	String (25)	AF
	latitude *(Point geometry)*	The latitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	longitude *(Point geometry)*	The longitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	MGRS *(Point geometry)*	Military Grid Reference System for the coordinate point. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	elevation *(Point geometry)*	The elevation of the subject item in relation to a datum.		Double	AF
D	elevationUOM *(Point geometry)*	The unit of measure for elevation dimension.	foot	String (25)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	resourceID	Represents the Primary Key (ResourceID) for the feature in the MCRAD database. If the Resource_ID does not currently exist in MCRAD, use a concatenation of the installation siteID, the FDS code (CR), and the feature class code (YYYY) followed by a unique sequential six digit number (example: XXXX0001CRYYYY000001) to develop a unique identifier. This value is used to link to the feature class business table. See feature class Data Layer Specifications for applicable feature class code.	Feature Class Codes for Historic Object: Area – "HOBA" Line – "HOBL" Point – "HOBP".	String (50)	AF
D	nationalRegisterStatus	Specifies the historic status of a cultural resource feature with respect to placement on the National Register of Historic Places. Categorizes the feature as one of the Real Property Asset (RPA) Historic Status Code values as defined by the DUSD IandE RPIR.	**For a list of domain values, see HistoricStatusCode in Appendix 1.**	String (5)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	otherRegisterStatus	Specifies placement on the World Heritage List, or a cultural property inventory/registry of the host nation.	Status of site on any additional inventory, registry or list.	String (150)	SDSFIE
	lastInspectionDate	The date of the last inspection of the feature. Format for date is YYYYMMDD (i.e. September 15, 1994 = 19940915). MCRAD Register table.		Integer (Long)	AF
	inspectionNotes	Any notes regarding the last inspection.		String (255)	AF
	gisDataSource	The data source of the feature.		String (255)	AF
	gisDataReliability	The reliability of the GIS data.		String (255)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business tables will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. The business tables for HistoricObject_A, HistoricObject_L, and HistoricObject_P are:

Table Name	Identifier	Source
cr_HistoricObject_A	ResourceID	MCRAD database
cr_HistoricObject_L	ResourceID	MCRAD database
cr_HistoricObject_P	ResourceID	MCRAD database

Business Table Attributes for cr_HistoricObject_A, cr_HistoricObject_L and cr_HistoricObject_P

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	ResourceID	Primary Key in MCRAD Resources table. Used to link this business table to the appropriate feature class.	MCRAD Resources table	String (50)
	Res_Num	Smithsonian trinomial or equivalent. MCRAD Resources table.	MCRAD Resources table	String (50)
	Res_Name	Site name recognized by agency. MCRAD Resources table.	MCRAD Resources table	String (100)
	Res_Grp	Type of resource (single, district, route, other aggregate groupings, etc.). MCRAD Resources table.	MCRAD Resources table	String (50)
	Res_Type	Archaeological site, building, structure, object, etc. MCRAD Resources table.	MCRAD Resources table	String (155)
	Res_Desc	Short description of resource. MCRAD Resources table.	MCRAD Resources table	String (255)
	Condition	Overall condition, nature of disturbances, etc. MCRAD Resources table.	MCRAD Resources table	String (255)
D	Threatened	Indicates whether resource is threatened. MCRAD Resources table.	MCRAD Resources table NA, no, TBD, yes	String (3)
	Threats	Describes the nature of threats to resource. MCRAD Resources table.	MCRAD Resources table	String (255)
D	Res_Status	Research status: Evaluated? Excavated? MCRAD Resources table.	MCRAD Resources table **For a list of domain values, see SiteStatus in Appendix 1**.	String (15)
	Drainage	River drainage where resource is located. MCRAD Resources table.	MCRAD Resources table	String (50)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	Physio_Prov	Name of physiographic province. MCRAD Resources table.	MCRAD Resources table	String (50)
	Size_Notes	Any notes regarding the size of the feature. MCRAD Resources table.	MCRAD Resources table	String (255)
	Occ_Start	The occupation start year. MCRAD Resources table.	MCRAD Resources table	Double
	Occ_End	The occupation end year. MCRAD Resources table.	MCRAD Resources table	Double
D	Date_Meth	Method used to determine date. MCRAD Resources table.	MCRAD Resources table **For a list of domain values, see DateMethod in Appendix 1.**	String (20)
	Fac_Num	Air Force building or facility number (for historic buildings/structures on base property). MCRAD Resources table.	MCRAD Resources table	String (50)
	Rec_Date	Date resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)
	Rec_Month	Month resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)
	Rec_Day	Day resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)
	Rec_Year	Year resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)
	Register_Name	Identifies the name of the register (e.g. World Heritage, Host Nation Register). MCRAD Register table.	MCRAD Register table	String (50)
	Op_Source	Source of opinion (Consultant, Agency). MCRAD Register table.	MCRAD Register table	String (50)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	Signif_Level	Significance level: International, National, Provincial, Local. MCRAD Register table.	MCRAD Register table / International, National, Provincial, Local	String (50)
	A	NRHP Criterion A. MCRAD Register table.	MCRAD Register table	String (3)
	B	NRHP Criterion B. MCRAD Register table.	MCRAD Register table	String (3)
	C	NRHP Criterion C. MCRAD Register table.	MCRAD Register table	String (3)
	D	NRHP Criterion D. MCRAD Register table.	MCRAD Register table	String (3)
	CritConsid	Describes the NRHP criteria considerations (Less than 50 years of age, Church, Relocated, etc). MCRAD Register table.	MCRAD Register table	String (255)
	I1	Integrity of location. MRCAD Register table.	MCRAD Register table	String (50)
	I2	Integrity of design. MRCAD Register table.	MCRAD Register table	String (50)
	I3	Integrity of setting. MRCAD Register table.	MCRAD Register table	String (50)
	I4	Integrity of materials. MRCAD Register table.	MCRAD Register table	String (50)
	I5	Integrity of workmanship. MRCAD Register table.	MCRAD Register table	String (50)
	I6	Integrity of feeling. MRCAD Register table.	MCRAD Register table	String (50)
	I7	Integrity of association. MRCAD Register table.	MCRAD Register table	String (50)
	Sig_Per	The period of significance. MCRAD Register table.	MCRAD Register table	String (50)
	Themes	Applicable National Register themes. MCRAD Register table.	MCRAD Register table	String (255)
	Sensitivity	The potential effects (i.e. Sensitive to visual effects, Excavation, etc). MCRAD Register table.	MCRAD Register table	String (50)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	Date_Notes	Notes on the date for the NR opinion. MCRAD Register table.	MCRAD Register table	String (255)
	Recon_Year	The year the opinion needs to be reconsidered, such as when a property reaches 50 years of age. MCRAD Register table.	MCRAD Register table	Integer (Long)
	Opinion_Status	The status of the opinion, such as Official-Current, Official-Not Current, Unofficial, Advisory. MCRAD Register table.	MCRAD Register table / Official-Current, Official-Not Current, Unofficial, Advisory	String (50)
	Opinion_Date	The date in which NRHP status opinion was rendered. Format for date is YYYYMMDD (i.e. September 15, 1994 = 19940915). MCRAD Register table.	MCRAD Register table	Integer (Long)
	Notes	Notes. MCRAD Resources and Register tables.	MCRAD Resources and Register table	String (255)

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Cultural Resources, Historic Object

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: DateMethod	
ATTRIBUTE NAME: Date_Meth	
CODED DOMAIN	DEFINITION
archaeomagnetic	Date method type is archaeomagnetic.
bioluminescence	Date method type is bioluminescence.
biosilicates	Date method type is biosilicates.
c14	Date method type is C-14 radioactive.
ceramicDating	Date method type is ceramic dating.
chronometric	Date method type is absolute/chronometric.
NA	Not Applicable: No value exists.
none	A date method type was not used.
other	Other. Must be described in the sdsFeatureDescription attribute.
projectilePt	The date method type is projectile point technique inference.
relative	The data method type is relative.
researchExp	The date method type is research/experience.
seriation	The date method type is seriation.
TBD	To Be Determined: A value is required but the value has yet to be determined.
thermolumin	The date method type is thermoluminescence.
treeRing	The date method type is tree ring.

DOMAIN TABLE NAME: HistoricStatusCode	
ATTRIBUTE NAME: nationalRegisterStatus	
CODED DOMAIN	DEFINITION
DNE	Determined Not Eligible for Listing: An asset that has been evaluated using the National Register of Historic Places (NRHP) criteria and is determined not to meet the criteria of eligibility.
DNR	Designation Rescinded for NHLI/NHLC/NREI/NREC National Register Property: Determined by the Keeper of the National Register of Historic Places (NRHP) to no longer meet the criteria for listing in the NRHP.
ELPA	Eligible for the Purposes of a Program Alternative: An asset that is included within the scope of a program alternative developed and implemented pursuant to 36 CFR 800.14, Protection of Historic Properties.
NA	Not Applicable: No value exists.
NAR	Not Assessed Routinely: An asset that is not routinely planned to be evaluated for National Register of Historic Places (NRHP) eligibility.
NCE	Non-Contributing Element of NHL/NRL/NRE District: Assets within the designated boundaries of a National Historic Landmark (NHL) or National Register of Historic Places (NRHP) listed or eligible property that have been evaluated and determined not to contribute to the historic significance of the property.
NEV	Not Yet Evaluated: An asset that has not been evaluated for National Register of Historic Places (NRHP) eligibility.
NHLC	Contributing Element of a NHL District: An asset that is identified as a contributing element of a larger property listed in the National Register of Historic Places (NRHP) and also designated a National Historic Landmark (NHL) by the Secretary of Interior.
NHLI	Individual National Historic Landmark: An asset that is individually listed in the National Register of Historic Places (NRHP) and also designated as a National Historic Landmark (NHL) by the Secretary of Interior.

DOMAIN TABLE NAME: HistoricStatusCode	
ATTRIBUTE NAME: nationalRegisterStatus	
NREC	Contributing Element of NRE District: An asset that is identified as a contributing element of a larger property or district determined eligible for inclusion in the National Register of Historic Places (NRHP).
NREI	Individual National Register Eligible: An individual asset that is determined to meet the National Register of Historic Places (NRHP) criteria of eligibility.
NRLC	Contributing Element of NRL District: An asset that is identified as a contributing element of a historic property listed in the National Register of Historic Places (NRHP).
NRLI	Individual National Register Listed: An individual asset that has been listed in the National Register of Historic Places (NRHP).
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: SiteStatus	
ATTRIBUTE NAME: Res_Status	
CODED DOMAIN	DEFINITION
collection	Items have been collected from the site.
evaluated	The site has been evaluated.
excavated	The site has been excavated.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
partMitigate	The site is in partial mitigation.
TBD	To Be Determined: A value is required but the value has yet to be determined.
tested	The site has been tested.
undisturbed	The site is undisturbed (Surveyed - No Collections).
unknown	The site status is unknown.

March 01 2018

Data Layer Specifications for:

Native Affiliation

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	NativeAffiliation _20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
10/4/2016	NativeAffiliation _20161004	• Updated feature class code used for creating Resource ID when MCRAD data is not present.
6/23/2016	NativeAffiliation _20160623	• Updated "Positional Accuracy" section.
3/13/2017	NativeAffiliation _20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	NativeAffiliation _20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
03/01/2018	NativeAffiliation _20180301	• Updated the "Definition", "Geometry/Topology", "Positional Accuracy", "Attributes", "Business Tables," and "Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables" sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the NativeAffiliation_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

Locations of current or prior native use, occupation, or interest, to assist in consultation. This may include but is not limited to: reservations, treaty lands, trust lands, ceded lands, lands identified during consultation, and areas of customary and traditional use.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	NativeAffiliation_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalCulturalResources
Previous Layer Names:	NativeAffiliation
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Cultural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Cultural Resources Program SME
Representation:	• Native affiliation areas are represented as closed polygons depicting the outermost extent of the area. • Each individual native affiliation area is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996

Implementing Program(s):	Driver(s):
	• Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009

Geometry/Topology

Polygon Features:
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Military Cultural Resources Analysis Database (MCRAD) is a relational data model that uses the functionality of Microsoft Access. It was created by Dr. Paul Green in collaboration with Dr. Brian Crane to resolve the issues that arise due to idiosyncratic formats of cultural resource data. MCRAD has been refined to support cultural resource business practices with DoD-wide input and has been adopted by the Deputy Under Secretary of Defense for Installations and Environment as a cultural resources geodata standard. MCRAD, if being used, should only be used to populate the business tables.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **12 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the NativeAffiliation_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the NativeAffiliation_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	nativeAffiliationIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Native Affiliation.	String (80)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Native Affiliation that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	affiliationID	Represents the Primary Key (AffiliationID) for the feature in the MCRAD database. If the Affiliation_ID does not currently exist in MCRAD, use a concatenation of the installation siteID, the FDS code (CR), and the feature class code (YYYY) followed by a unique sequential six digit number (example: XXXX0001CRYYYY000001) to develop a unique identifier. This value is used to link to the feature class business table. See feature class Data Layer Specifications for applicable feature class code.	Feature Class Code for Native Affiliation is "NAFA".	String (50)	AF
	gisDataSource	The data source of the feature.		String (255)	AF
	gisDataReliability	The reliability of the GIS data.		String (255)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. The business table for NativeAffiliation_A is:

Table Name	Identifier	Source
cr_NativeAffiliation_A	AffiliationID	MCRAD database

Business Table Attributes for cr_NativeAffiliation_A

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	AffiliationID	Primary Key in MCRAD Affiliation and Native_Affiliation tables. Relates back to NativeAffiliation_A data layer attribute table.	MCRAD Native_Affiliation table	String (50)
	Cultural_Affiliation	Federally recognized tribe, Alaska Native Village, or Native Hawaiian organization. MCRAD Native_Affiliation table.	MCRAD Native_Affiliation table	String (50)
	Affiliation_Description	Description of the association. MCRAD Native_Affiliation table.	MCRAD Native_Affiliation table	String (50)
	Data_Source	Source of the information for the affiliation cited. MCRAD Native_Affiliation table.	MCRAD Native_Affiliation table	String (50)
	Notes	Notes. MCRAD Resources and Register tables.	MCRAD Native_Affiliation table	String (255)

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Cultural Resources, Native Affiliation

March 01, 2018

Data Layer Specifications for:

Sacred Site

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	SacredSite _20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
10/4/2016	SacredSite _20161004	• Updated feature class codes used for creating Resource ID when MCRAD data is not present.
6/23/2016	SacredSite _20160623	• Added SacredSite_P representation under "Data Layer Details" section. • Updated "Positional Accuracy" section.
3/13/2017	SacredSite _20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection. • Updated the "Representation" subsection of the "Data Layer Details" section. • Updated the "Point Features" subsection of the "Geometry/Topology" section.
6/8/2017	SacredSite _20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
03/01/2018	SacredSite _20180301	• Updated the "Definition", "Geometry/Topology", "Positional Accuracy", "Attributes", "Business Tables," and "Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables" sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the SacredSite_A, SacredSite_L, and SacredSite_P data layers implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

The location of a recorded sacred site, as defined in Executive Order 13007.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	SacredSite_A SacredSite_L SacredSite_P
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalCulturalResources
Previous Layer Names:	SacredSite
Geometry Type:	Polygon, Line, Point
Data Steward Organization (Program Area):	Program Area: Cultural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Cultural Resources Program SME
Representation:	• All sacred site locations shall represent the latitude, longitude location of an identified site. • Sacred site areas are represented as closed polygons depicting the outermost extent of the site. • Each individual sacred site location is represented by a single area feature. • Sacred sites will be represented as a continuous unbroken line. • All points developed from areas shall represent the centroid of the sacred site area.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014

Implementing Program(s):	Driver(s):
	• AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009

Geometry/Topology

Polygon Features:
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).
Line Features:
Lines must not self-overlap.
Lines must not self-intersect.
Lines must be single part features.
Lines must be larger than cluster tolerance (.001 meter).
Point Features:
If a point represents a polygon feature, then the point must fall properly inside of the coinciding polygon.

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Military Cultural Resources Analysis Database (MCRAD) is a relational data model that uses the functionality of Microsoft Access. It was created by Dr. Paul Green in collaboration with Dr. Brian Crane to resolve the issues that arise due to idiosyncratic formats of cultural resource data. MCRAD has been refined to support cultural resource business practices with DoD-wide input and has been adopted by the Deputy Under Secretary of Defense for Installations and Environment as a cultural resources geodata standard. MCRAD, if being used, should only be used to populate the business tables.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the SacredSite_A, SacredSite_L, and SacredSite_P layers will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the SacredSite_A, SacredSite_L, and SacredSite_P data layers.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	sacredSiteIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Sacred Site.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Sacred Site that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize *(Polygon geometry)*	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM *(Polygon geometry)*	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize *(Polygon geometry)*	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM *(Polygon geometry)*	The perimeter unit of measure.	foot	String (25)	AF
	latitude *(Polygon geometry)*	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	longitude *(Polygon geometry)*	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid *(Polygon geometry)*	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	lengthSize *(Line geometry)*	The value of the measured length.	Recorded to the 1/1000 of a foot.	Double	AF
D	lengthSizeUOM *(Line geometry)*	The unit of measure for the calculated length.	foot	String (25)	AF
	latitudeFrom *(Line geometry)*	The latitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	latitudeTo *(Line geometry)*	The latitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	longitudeFrom *(Line geometry)*	The longitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	longitudeTo *(Line geometry)*	The longitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	elevationFrom *(Line geometry)*	The elevation component of the beginning (upstream/upgradient) coordinate point in feet.		Double	AF
	elevationTo *(Line geometry)*	The elevation component of the ending (downstream/downgr adient) coordinate point in feet.		Double	AF
D	elevationUOM *(Line geometry)*	The unit of measure for elevation dimension.	foot	String (25)	AF
	latitude *(Point geometry)*	The latitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	longitude *(Point geometry)*	The longitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	MGRS *(Point geometry)*	Military Grid Reference System for the coordinate point. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	elevation *(Point geometry)*	The elevation of the subject item in relation to a datum.		Double	AF
D	elevationUOM *(Point geometry)*	The unit of measure for elevation dimension.	foot	String (25)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	resourceID	Represents the Primary Key (ResourceID) for the feature in the MCRAD database. If the Resource_ID does not currently exist in MCRAD, use a concatenation of the installation siteID, the FDS code (CR), and the feature class code (YYYY) followed by a unique sequential six digit number (example: XXXX0001CRYYYY000001) to develop a unique identifier. This value is used to link to the feature class business table. See feature class Data Layer Specifications for applicable feature class code.	Feature Class Codes for Sacred Site: Area – "SSTA" Line – "SSTL" Point – "SSTP".	String (50)	AF
	sacredSiteID	Reference to identification assigned by any agency.		String (30)	SDSFIE
D	nationalRegisterStatus	Specifies the historic status of a cultural resource feature with respect to placement on the National Register of Historic Places. Categorizes the feature as one of the Real Property Asset (RPA) Historic Status Code values as defined by the DUSD IandE RPIR.	**For a list of domain values, see HistoricStatusCode in Appendix 1**.	String (5)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	otherRegisterStatus	Specifies placement on the World Heritage List, or a cultural property inventory/registry of the host nation.	Status of site on any additional inventory, registry or list.	String (150)	SDSFIE
	lastInspectionDate	The date of the last inspection of the feature. Format for date is YYYYMMDD (i.e. September 15, 1994 = 19940915). MCRAD Register table.		Integer (Long)	AF
	inspectionNotes	Any notes regarding the last inspection.		String (255)	AF
	gisDataSource	The data source of the feature.		String (255)	AF
	gisDataReliability	The reliability of the GIS data.		String (255)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary**.	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary**.	String (36)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary**.	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary**.	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business tables will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. The business tables for SacredSite_A, SacredSite_L, and SacredSite_P are:

Table Name	Identifier	Source
cr_SacredSite_A	ResourceID	MCRAD database
cr_SacredSite_L	ResourceID	MCRAD database
cr_SacredSite_P	ResourceID	MCRAD database

Business Table Attributes for cr_SacredSite_A, cr_SacredSite_L and cr_SacredSite_P

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	ResourceID	Primary Key in MCRAD Resources table. Used to link this business table to the appropriate feature class.	MCRAD Resources table	String (50)
	Res_Num	Smithsonian trinomial or equivalent. MCRAD Resources table.	MCRAD Resources table	String (50)
	Res_Name	Site name recognized by agency. MCRAD Resources table.	MCRAD Resources table	String (100)
	Res_Grp	Type of resource (single, district, route, other aggregate groupings, etc.). MCRAD Resources table.	MCRAD Resources table	String (50)
	Res_Type	Archaeological site, building, structure, object, etc. MCRAD Resources table.	MCRAD Resources table	String (155)
	Res_Desc	Short description of resource. MCRAD Resources table.	MCRAD Resources table	String (255)
	Condition	Overall condition, nature of disturbances, etc. MCRAD Resources table.	MCRAD Resources table	String (255)
D	Disturb	The percentage of the site that has been disturbed. MCRAD Resources table.	MCRAD Resources table **For a list of domain values, see Disturbance in Appendix 1**.	String (10)
	Disturb_Source	Describes the source of the disturbance. MCRAD Resources table.	MCRAD Resources table	String (250)
D	Threatened	Indicates whether resource is threatened. MCRAD Resources table.	MCRAD Resources table NA, no, TBD, yes	String (3)
	Threats	Describes the nature of threats to resource. MCRAD Resources table.	MCRAD Resources table	String (255)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
D	Res_Status	Research status: Evaluated? Excavated? MCRAD Resources table.	MCRAD Resources table **For a list of domain values, see SiteStatus in Appendix 1.**	String (15)
	Drainage	River drainage where resource is located. MCRAD Resources table.	MCRAD Resources table	String (50)
	Physio_Prov	Name of physiographic province. MCRAD Resources table.	MCRAD Resources table	String (50)
	Size_Notes	Any notes regarding the size of the feature. MCRAD Resources table.	MCRAD Resources table	String (255)
	Occ_Start	The occupation start year. MCRAD Resources table.	MCRAD Resources table	Double
	Occ_End	The occupation end year. MCRAD Resources table.	MCRAD Resources table	Double
D	Date_Meth	Method used to determine date. MCRAD Resources table.	MCRAD Resources table **For a list of domain values, see DateMethod in Appendix 1**.	String (20)
	Fac_Num	Air Force building or facility number (for historic buildings/structures on base property). MCRAD Resources table.	MCRAD Resources table	String (50)
D	Artifact_Density	Density of artifacts within the area. MCRAD Resources table.	MCRAD Resources table **For a list of domain values, see ArtifactDensity in Appendix 1**.	String (25)
	Rec_Date	Date resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)
	Rec_Month	Month resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)
	Rec_Day	Day resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)
	Rec_Year	Year resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	Register_Name	Identifies the name of the register (e.g. World Heritage, Host Nation Register). MCRAD Register table.	MCRAD Register table	String (50)
	Op_Source	Source of opinion (Consultant, Agency). MCRAD Register table.	MCRAD Register table	String (50)
	Signif_Level	Significance level: International, National, Provincial, Local. MCRAD Register table.	MCRAD Register table / International, National, Provincial, Local	String (50)
	A	NRHP Criterion A. MCRAD Register table.	MCRAD Register table	String (3)
	B	NRHP Criterion B. MCRAD Register table.	MCRAD Register table	String (3)
	C	NRHP Criterion C. MCRAD Register table.	MCRAD Register table	String (3)
	D	NRHP Criterion D. MCRAD Register table.	MCRAD Register table	String (3)
	CritConsid	Describes the NRHP criteria considerations (Less than 50 years of age, Church, Relocated, etc). MCRAD Register table.	MCRAD Register table	String (255)
	I1	Integrity of location. MRCAD Register table.	MCRAD Register table	String (50)
	I2	Integrity of design. MRCAD Register table.	MCRAD Register table	String (50)
	I3	Integrity of setting. MRCAD Register table.	MCRAD Register table	String (50)
	I4	Integrity of materials. MRCAD Register table.	MCRAD Register table	String (50)
	I5	Integrity of workmanship. MRCAD Register table.	MCRAD Register table	String (50)
	I6	Integrity of feeling. MRCAD Register table.	MCRAD Register table	String (50)
	I7	Integrity of association. MRCAD Register table.	MCRAD Register table	String (50)
	Sig_Per	The period of significance. MCRAD Register table.	MCRAD Register table	String (50)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	Themes	Applicable National Register themes. MCRAD Register table.	MCRAD Register table	String (255)
	Sensitivity	The potential effects (i.e. Sensitive to visual effects, Excavation, etc). MCRAD Register table.	MCRAD Register table	String (50)
	Date_Notes	Notes on the date for the NR opinion. MCRAD Register table.	MCRAD Register table	String (255)
	Recon_Year	The year the opinion needs to be reconsidered, such as when a property reaches 50 years of age. MCRAD Register table.	MCRAD Register table	Integer (Long)
	Opinion_Status	The status of the opinion, such as Official-Current, Official-Not Current, Unofficial, Advisory. MCRAD Register table.	MCRAD Register table / Official-Current, Official-Not Current, Unofficial, Advisory	String (50)
	Opinion_Date	The date in which NRHP status opinion was rendered. Format for date is YYYYMMDD (i.e. September 15, 1994 = 19940915). MCRAD Register table.	MCRAD Register table	Integer (Long)
	Notes	Notes. MCRAD Resources and Register tables.	MCRAD Resources and Register table	String (255)

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Cultural Resources, Sacred Site

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: ArtifactDensity	
ATTRIBUTE NAME: Artifact_Density	
CODED DOMAIN	DEFINITION
none	There were not any artifacts found at this site.
low1	Artifact density is low at 1. Based on a density range between 1-10.
moderate2-5	Artifact density range is moderate between 2-5. Based on a density range between 1-10.
high6-10	Artifact density range is high between 6-10. Based on a density range between 1-10.
veryHigh10	Artifact density is very high at greater than 10. Based on a density range between 1-10.
veryLow10	Artifact density is very low at 1 - 10. Based on a density range between 1-1000.
low11-24	Artifact density range is low between 11-24. Based on a density range between 1-1000.
moderate25-100	Artifact density range is moderate between 25-100. Based on a density range between 1-1000.
high101-1000	Artifact density range is high between 101-1000. Based on a density range between 1-1000.
veryHigh1000	Artifact density is very high at greater than 1000. Based on a density range between 1-1000.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.
unknown	The artifact density of this location is unknown.

DOMAIN TABLE NAME: DateMethod	
ATTRIBUTE NAME: Date_Meth	
CODED DOMAIN	DEFINITION
archaeomagnetic	Date method type is archaeomagnetic.
bioluminescence	Date method type is bioluminescence.
biosilicates	Date method type is biosilicates.
c14	Date method type is C-14 radioactive.
ceramicDating	Date method type is ceramic dating.
chronometric	Date method type is absolute/chronometric.
NA	Not Applicable: No value exists.
none	A date method type was not used.
other	Other. Must be described in the sdsFeatureDescription attribute.
projectilePt	The date method type is projectile point technique inference.
relative	The data method type is relative.
researchExp	The date method type is research/experience.
seriation	The date method type is seriation.
TBD	To Be Determined: A value is required but the value has yet to be determined.
thermolumin	The date method type is thermoluminescence.
treeRing	The date method type is tree ring.

DOMAIN TABLE NAME: Disturbance	
ATTRIBUTE NAME: Disturb	
CODED DOMAIN	DEFINITION
destroyed	The feature has been destroyed.
majorImp	The feature has experienced major impact with 51-99% disturbed.
minorImp	The feature has experienced minor impact with 1-25% disturbed.
modImp	The feature has experienced moderate impact with 26-50% disturbed.
NA	Not Applicable: No value exists.
none	No disturbance has impacted the feature.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.
unknown	The disturbance level of the feature is unknown.

DOMAIN TABLE NAME: HistoricStatusCode	
ATTRIBUTE NAME: nationalRegisterStatus	
CODED DOMAIN	DEFINITION
DNE	Determined Not Eligible for Listing: An asset that has been evaluated using the National Register of Historic Places (NRHP) criteria and is determined not to meet the criteria of eligibility.
DNR	Designation Rescinded for NHLI/NHLC/NREI/NREC National Register Property: Determined by the Keeper of the National Register of Historic Places (NRHP) to no longer meet the criteria for listing in the NRHP.
ELPA	Eligible for the Purposes of a Program Alternative: An asset that is included within the scope of a program alternative developed and implemented pursuant to 36 CFR 800.14, Protection of Historic Properties.
NA	Not Applicable: No value exists.
NAR	Not Assessed Routinely: An asset that is not routinely planned to be evaluated for National Register of Historic Places (NRHP) eligibility.
NCE	Non-Contributing Element of NHL/NRL/NRE District: Assets within the designated boundaries of a National Historic Landmark (NHL) or National Register of Historic Places (NRHP) listed or eligible property that have been evaluated and determined not to contribute to the historic significance of the property.
NEV	Not Yet Evaluated: An asset that has not been evaluated for National Register of Historic Places (NRHP) eligibility.
NHLC	Contributing Element of a NHL District: An asset that is identified as a contributing element of a larger property listed in the National Register of Historic Places (NRHP) and also designated a National Historic Landmark (NHL) by the Secretary of Interior.
NHLI	Individual National Historic Landmark: An asset that is individually listed in the National Register of Historic Places (NRHP) and also designated as a National Historic Landmark (NHL) by the Secretary of Interior.
NREC	Contributing Element of NRE District: An asset that is identified as a contributing element of a larger property or district determined eligible for inclusion in the National Register of Historic Places (NRHP).
NREI	Individual National Register Eligible: An individual asset that is determined to meet the National Register of Historic Places (NRHP) criteria of eligibility.
NRLC	Contributing Element of NRL District: An asset that is identified as a contributing element of a historic property listed in the National Register of Historic Places (NRHP).
NRLI	Individual National Register Listed: An individual asset that has been listed in the National Register of Historic Places (NRHP).
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: SiteStatus	
ATTRIBUTE NAME: Res_Status	
CODED DOMAIN	DEFINITION
collection	Items have been collected from the site.
evaluated	The site has been evaluated.
excavated	The site has been excavated.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
partMitigate	The site is in partial mitigation.
TBD	To Be Determined: A value is required but the value has yet to be determined.
tested	The site has been tested.
undisturbed	The site is undisturbed (Surveyed - No Collections).
unknown	The site status is unknown.

March 01, 2018

Data Layer Specifications for:

Traditional Cultural Resource

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	TraditionalCulturalResource_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
10/4/2016	TraditionalCulturalResource_20161004	• Updated feature class codes used for creating Resource ID when MCRAD data is not present.
6/23/2016	TraditionalCulturalResource_20160623	• Added TraditionalCulRes_P representation under "Data Layer Details" section. • Updated "Positional Accuracy" section.
3/13/2017	TraditionalCulturalResource_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection. • Updated the "Representation" subsection of the "Data Layer Details" section. • Updated the "Point Features" subsection of the "Geometry/Topology" section.
6/8/2017	TraditionalCulturalResource_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
03/01/2018	TraditionalCulturalResource_20180301	• Updated the "Definition", "Geometry/Topology", "Positional Accuracy", "Attributes", "Business Tables," and "Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables" sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the TraditionalCulRes_A, TraditionalCulRes_L, and TraditionalCulRes_P data layers implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

The location of a recorded traditional cultural resource, including Traditional Cultural Property and/or Reserved Treaty Rights.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	TraditionalCulRes_A TraditionalCulRes_L TraditionalCulRes_P
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalCulturalResources
Previous Layer Names:	TraditionalCulturalResource_A TraditionalCulturalResource _L TraditionalCulturalResource _P
Geometry Type:	Polygon, Line, Point
Data Steward Organization (Program Area):	Program Area: Cultural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Cultural Resources Program SME
Representation:	• All traditional cultural resource locations shall represent the latitude, longitude location of an identified site. • Traditional cultural resource areas are represented as closed polygons depicting the outermost extent of the site. • Each individual traditional cultural resource location is represented by a single area feature. • Traditional cultural resources will be represented as a continuous unbroken line. • All points developed from areas shall represent the centroid of the traditional cultural resource area.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013

Implementing Program(s):	Driver(s):
	• AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009

Geometry/Topology

Polygon Features:
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).
Line Features:
Lines must not self-overlap.
Lines must not self-intersect.
Lines must be single part features.
Lines must be larger than cluster tolerance (.001 meter).
Point Features:
If a point represents a polygon feature, then the point must fall properly inside of the coinciding polygon.

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Military Cultural Resources Analysis Database (MCRAD) is a relational data model that uses the functionality of Microsoft Access. It was created by Dr. Paul Green in collaboration with Dr. Brian Crane to resolve the issues that arise due to idiosyncratic formats of cultural resource data. MCRAD has been refined to support cultural resource business practices with DoD-wide input and has been

adopted by the Deputy Under Secretary of Defense for Installations and Environment as a cultural resources geodata standard. MCRAD, if being used, should only be used to populate the business tables.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the TraditionalCulRes_A, TraditionalCulRes_L and TraditionalCulRes_P layers will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the TraditionalCulRes_A, TraditionalCulRes_L and TraditionalCulRes_P data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	traditionalCulResIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Traditional Cultural Resource.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Traditional Cultural Resource that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize *(Polygon geometry)*	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM *(Polygon geometry)*	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize *(Polygon geometry)*	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM *(Polygon geometry)*	The perimeter unit of measure.	foot	String (25)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	latitude *(Polygon geometry)*	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude *(Polygon geometry)*	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid *(Polygon geometry)*	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	lengthSize *(Line geometry)*	The value of the measured length.	Recorded to the 1/1000 of a foot.	Double	AF
D	lengthSizeUOM *(Line geometry)*	The unit of measure for the calculated length.	foot	String (25)	AF
	latitudeFrom *(Line geometry*	The latitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	latitudeTo *(Line geometry)*	The latitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	longitudeFrom *(Line geometry)*	The longitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	longitudeTo *(Line geometry)*	The longitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	elevationFrom *(Line geometry)*	The elevation component of the beginning (upstream/upgradient) coordinate point in feet.		Double	AF
	elevationTo *(Line geometry)*	The elevation component of the ending (downstream/downgradient) coordinate point in feet.		Double	AF
D	elevationUOM *(Line geometry)*	The unit of measure for elevation dimension.	foot	String (25)	AF
	latitude *(Point geometry)*	The latitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	longitude *(Point geometry)*	The longitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	MGRS *(Point geometry)*	Military Grid Reference System for the coordinate point. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	elevation *(Line geometry)*	The elevation of the subject item in relation to a datum.		Double	AF
D	elevationUOM *(Line geometry)*	The unit of measure for elevation dimension.	foot	String (25)	AF
	resourceID	Represents the Primary Key (ResourceID) for the feature in the MCRAD database. If the Resource_ID does not currently exist in MCRAD, use a concatenation of the installation siteID, the FDS code (CR), and the feature class code (YYYY) followed by a unique sequential six digit number (example: XXXX0001CRYYYY000001) to develop a unique identifier. This value is used to link to the feature class business table. See feature class Data Layer Specifications for applicable feature class code.	Feature Class Codes for Traditional Cultural Resource: Area – “TCRA” Line – “TCRL” Point – “TCRP”.	String (50)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	nationalRegisterStatus	Specifies the historic status of a cultural resource feature with respect to placement on the National Register of Historic Places. Categorizes the feature as one of the Real Property Asset (RPA) Historic Status Code values as defined by the DUSD IandE RPIR.	**For a list of domain values, see HistoricStatusCode in Appendix 1.**	String (5)	SDSFIE
	otherRegisterStatus	Specifies placement on the World Heritage List, or a cultural property inventory/registry of the host nation.	Status of site on any additional inventory, registry or list.	String (150)	SDSFIE
	lastInspectionDate	The date of the last inspection of the feature. Format for date is YYYYMMDD (i.e. September 15, 1994 = 19940915). MCRAD Register table.		Integer (Long)	AF
	inspectionNotes	Any notes regarding the last inspection.		String (255)	AF
	gisDataSource	The data source of the feature.		String (255)	AF
	gisDataReliability	The reliability of the GIS data.		String (255)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary**.	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary**.	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business tables will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. The business tables for TraditionalCulRes_A, TraditionalCulRes_L and TraditionalCulRes_P are:

Table Name	Identifier	Source
cr_TraditionalCulRes_A	ResourceID	MCRAD database
cr_TraditionalCulRes_L	ResourceID	MCRAD database
cr_TraditionalCulRes_P	ResourceID	MCRAD database

Business Table Attributes for cr_TraditionalCulRes_A, cr_TraditionalCulRes_L and cr_TraditionalCulRes_P

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	ResourceID	Primary Key in MCRAD Resources table. Used to link this business table to the appropriate feature class.	MCRAD Resources table	String (50)
	Res_Num	Smithsonian trinomial or equivalent. MCRAD Resources table.	MCRAD Resources table	String (50)
	Res_Name	Site name recognized by agency. MCRAD Resources table.	MCRAD Resources table	String (100)
	Res_Grp	Type of resource (single, district, route, other aggregate groupings, etc.). MCRAD Resources table.	MCRAD Resources table	String (50)
	Res_Type	Archaeological site, building, structure, object, etc. MCRAD Resources table.	MCRAD Resources table	String (155)
	Res_Desc	Short description of resource. MCRAD Resources table.	MCRAD Resources table	String (255)
	Condition	Overall condition, nature of disturbances, etc. MCRAD Resources table.	MCRAD Resources table	String (255)
D	Disturb	The percentage of the site that has been disturbed. MCRAD Resources table.	MCRAD Resources table **For a list of domain values, see Disturbance in Appendix 1.**	String (10)
	Disturb_Source	Describes the source of the disturbance. MCRAD Resources table.	MCRAD Resources table	String (250)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
D	Threatened	Indicates whether resource is threatened. MCRAD Resources table.	MCRAD Resources table NA, no, TBD, yes	String (3)
	Threats	Describes the nature of threats to resource. MCRAD Resources table.	MCRAD Resources table	String (255)
D	Res_Status	Research status: Evaluated? Excavated? MCRAD Resources table.	MCRAD Resources table **For a list of domain values, see SiteStatus in Appendix 1.**	String (15)
	Drainage	River drainage where resource is located. MCRAD Resources table.	MCRAD Resources table	String (50)
	Physio_Prov	Name of physiographic province. MCRAD Resources table.	MCRAD Resources table	String (50)
	Size_Notes	Any notes regarding the size of the feature. MCRAD Resources table.	MCRAD Resources table	String (255)
	Occ_Start	The occupation start year. MCRAD Resources table.	MCRAD Resources table	Double
	Occ_End	The occupation end year. MCRAD Resources table.	MCRAD Resources table	Double
D	Date_Meth	Method used to determine date. MCRAD Resources table.	MCRAD Resources table **For a list of domain values, see DateMethod in Appendix 1.**	String (20)
	Fac_Num	Air Force building or facility number (for historic buildings/structures on base property). MCRAD Resources table.	MCRAD Resources table	String (50)
D	Artifact_Density	Density of artifacts within the area. MCRAD Resources table.	MCRAD Resources table **For a list of domain values, see ArtifactDensity in Appendix 1.**	String (25)
	Rec_Date	Date resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)
	Rec_Month	Month resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	Rec_Day	Day resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)
	Rec_Year	Year resource was originally recorded. MCRAD Resources table.	MCRAD Resources table	Integer (Long)
	Register_Name	Identifies the name of the register (e.g. World Heritage, Host Nation Register). MCRAD Register table.	MCRAD Register table	String (50)
	Op_Source	Source of opinion (Consultant, Agency). MCRAD Register table.	MCRAD Register table	String (50)
	Signif_Level	Significance level: International, National, Provincial, Local. MCRAD Register table.	MCRAD Register table / International, National, Provincial, Local	String (50)
	A	NRHP Criterion A. MCRAD Register table.	MCRAD Register table	String (3)
	B	NRHP Criterion B. MCRAD Register table.	MCRAD Register table	String (3)
	C	NRHP Criterion C. MCRAD Register table.	MCRAD Register table	String (3)
	D	NRHP Criterion D. MCRAD Register table.	MCRAD Register table	String (3)
	CritConsid	Describes the NRHP criteria considerations (Less than 50 years of age, Church, Relocated, etc). MCRAD Register table.	MCRAD Register table	String (255)
	I1	Integrity of location. MRCAD Register table.	MCRAD Register table	String (50)
	I2	Integrity of design. MRCAD Register table.	MCRAD Register table	String (50)
	I3	Integrity of setting. MRCAD Register table.	MCRAD Register table	String (50)
	I4	Integrity of materials. MRCAD Register table.	MCRAD Register table	String (50)
	I5	Integrity of workmanship. MRCAD Register table.	MCRAD Register table	String (50)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	I6	Integrity of feeling. MRCAD Register table.	MCRAD Register table	String (50)
	I7	Integrity of association. MRCAD Register table.	MCRAD Register table	String (50)
	Sig_Per	The period of significance. MCRAD Register table.	MCRAD Register table	String (50)
	Themes	Applicable National Register themes. MCRAD Register table.	MCRAD Register table	String (255)
	Sensitivity	The potential effects (i.e. Sensitive to visual effects, Excavation, etc). MCRAD Register table.	MCRAD Register table	String (50)
	Date_Notes	Notes on the date for the NR opinion. MCRAD Register table.	MCRAD Register table	String (255)
	Recon_Year	The year the opinion needs to be reconsidered, such as when a property reaches 50 years of age. MCRAD Register table.	MCRAD Register table	Integer (Long)
	Opinion_Status	The status of the opinion, such as Official-Current, Official-Not Current, Unofficial, Advisory. MCRAD Register table.	MCRAD Register table / Official-Current, Official-Not Current, Unofficial, Advisory	String (50)
	Opinion_Date	The date in which NRHP status opinion was rendered. Format for date is YYYYMMDD (i.e. September 15, 1994 = 19940915). MCRAD Register table.	MCRAD Register table	Integer (Long)
	Notes	Notes. MCRAD Resources and Register tables.	MCRAD Resources and Register table	String (255)

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Cultural Resources, Traditional Cultural Resource

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: ArtifactDensity	
ATTRIBUTE NAME: Artifact_Density	
CODED DOMAIN	DEFINITION
none	There were not any artifacts found at this site.
low1	Artifact density is low at 1. Based on a density range between 1-10.
moderate2-5	Artifact density range is moderate between 2-5. Based on a density range between 1-10.
high6-10	Artifact density range is high between 6-10. Based on a density range between 1-10.
veryHigh10	Artifact density is very high at greater than 10. Based on a density range between 1-10.
veryLow10	Artifact density is very low at 1 - 10. Based on a density range between 1-1000.
low11-24	Artifact density range is low between 11-24. Based on a density range between 1-1000.
moderate25-100	Artifact density range is moderate between 25-100. Based on a density range between 1-1000.
high101-1000	Artifact density range is high between 101-1000. Based on a density range between 1-1000.
veryHigh1000	Artifact density is very high at greater than 1000. Based on a density range between 1-1000.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.
unknown	The artifact density of this location is unknown.

DOMAIN TABLE NAME: DateMethod	
ATTRIBUTE NAME: Date_Meth	
CODED DOMAIN	DEFINITION
archaeomagnetic	Date method type is archaeomagnetic.
bioluminescence	Date method type is bioluminescence.
biosilicates	Date method type is biosilicates.
c14	Date method type is C-14 radioactive.
ceramicDating	Date method type is ceramic dating.
chronometric	Date method type is absolute/chronometric.
NA	Not Applicable: No value exists.
none	A date method type was not used.
other	Other. Must be described in the sdsFeatureDescription attribute.
projectilePt	The date method type is projectile point technique inference.
relative	The data method type is relative.
researchExp	The date method type is research/experience.
seriation	The date method type is seriation.
TBD	To Be Determined: A value is required but the value has yet to be determined.
thermolumin	The date method type is thermoluminescence.
treeRing	The date method type is tree ring.

DOMAIN TABLE NAME: Disturbance	
ATTRIBUTE NAME: Disturb	
CODED DOMAIN	DEFINITION
destroyed	The feature has been destroyed.
majorImp	The feature has experienced major impact with 51-99% disturbed.

DOMAIN TABLE NAME: Disturbance	
ATTRIBUTE NAME: Disturb	
minorImp	The feature has experienced minor impact with 1-25% disturbed.
modImp	The feature has experienced moderate impact with 26-50% disturbed.
NA	Not Applicable: No value exists.
none	No disturbance has impacted the feature.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.
unknown	The disturbance level of the feature is unknown.

DOMAIN TABLE NAME: HistoricalStatusCode	
ATTRIBUTE NAME: nationalRegisterStatus	
CODED DOMAIN	DEFINITION
DNE	Determined Not Eligible for Listing: An asset that has been evaluated using the National Register of Historic Places (NRHP) criteria and is determined not to meet the criteria of eligibility.
DNR	Designation Rescinded for NHLI/NHLC/NREI/NREC National Register Property: Determined by the Keeper of the National Register of Historic Places (NRHP) to no longer meet the criteria for listing in the NRHP.
ELPA	Eligible for the Purposes of a Program Alternative: An asset that is included within the scope of a program alternative developed and implemented pursuant to 36 CFR 800.14, Protection of Historic Properties.
NA	Not Applicable: No value exists.
NAR	Not Assessed Routinely: An asset that is not routinely planned to be evaluated for National Register of Historic Places (NRHP) eligibility.
NCE	Non-Contributing Element of NHL/NRL/NRE District: Assets within the designated boundaries of a National Historic Landmark (NHL) or National Register of Historic Places (NRHP) listed or eligible property that have been evaluated and determined not to contribute to the historic significance of the property.
NEV	Not Yet Evaluated: An asset that has not been evaluated for National Register of Historic Places (NRHP) eligibility.
NHLC	Contributing Element of a NHL District: An asset that is identified as a contributing element of a larger property listed in the National Register of Historic Places (NRHP) and also designated a National Historic Landmark (NHL) by the Secretary of Interior.
NHLI	Individual National Historic Landmark: An asset that is individually listed in the National Register of Historic Places (NRHP) and also designated as a National Historic Landmark (NHL) by the Secretary of Interior.
NREC	Contributing Element of NRE District: An asset that is identified as a contributing element of a larger property or district determined eligible for inclusion in the National Register of Historic Places (NRHP).
NREI	Individual National Register Eligible: An individual asset that is determined to meet the National Register of Historic Places (NRHP) criteria of eligibility.
NRLC	Contributing Element of NRL District: An asset that is identified as a contributing element of a historic property listed in the National Register of Historic Places (NRHP).
NRLI	Individual National Register Listed: An individual asset that has been listed in the National Register of Historic Places (NRHP).
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: SiteStatus	
ATTRIBUTE NAME: Res_Status	
CODED DOMAIN	DEFINITION
collection	Items have been collected from the site.
evaluated	The site has been evaluated.
excavated	The site has been excavated.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
partMitigate	The site is in partial mitigation.
TBD	To Be Determined: A value is required but the value has yet to be determined.
tested	The site has been tested.
undisturbed	The site is undisturbed (Surveyed - No Collections).
unknown	The site status is unknown.

March 01, 2018

Data Layer Specifications for:

Air Emission Source

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	AirEmissionSource Point_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	AirEmissionSource Point_20160623	• Updated "Positional Accuracy" section.
3/9/2017	AirEmissionSource Point_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	AirEmissionSource Point_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
03/01/2018	AirEmissionSource _20180301	• Updated the "Definition", "Positional Accuracy", "Attributes", "Business Tables," and "Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables" sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the AirEmissionSource_P data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

A specific location of an intentional air emission discharge into the environment.

True non-point source, base-wide type air emission discharges should not be included in this data layer. The following table lists true non-point, base-wide type air emissions. This is not a complete list.

Air Emission Source Categories
Aircraft operations
Asphalt operations
Construction operations
Deicing of aircraft
Electric transmission
Hazardous materials
Hazardous waste
Inspection only processes for compliance with housekeeping requirements
Liquid calibration units
Miscellaneous chemical usage
Ozone depleting chemicals
Purchased power
Roads
Safety
Sealants and adhesives
Spills/releases
Storage piles
Tactical support equipment

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	AirEmissionSource_P
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalAirQuality
Previous Layer Names:	air_emissions_source_point EnvironmentalDischargePoint
Geometry Type:	Point

Data Steward Organization (Program Area):	Program Area: Air Quality
Data Steward POC:	AFCEC/CZTQ Air Force Air Quality Program SME
Representation:	• Air emission source points are a representation of the coordinate location of that feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Base Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Managing Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • The Clean Air Act Amendments of 1990 (CAA90)

Geometry/Topology

Point Features:
Points must be disjoint.

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. As a general rule, mobile air emission source points will not be included in the feature class. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the AirEmissionSource_P layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the AirEmissionSource_P data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	airEmissionSourceIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Air Emission Source point.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Air Emission Source point that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	latitude	The latitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	longitude	The longitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	MGRS	Military Grid Reference System for the coordinate point. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	elevation	The elevation of the subject item in relation to a datum.		Double	AF
D	elevationUOM	The unit of measure for elevation dimension.	foot	String (25)	AF
	apimsID	The unique identifier for each AirEmissionSource_P. This will be the Process PID from APIMS for processes without equipment, or a combination of the Process PID and Equipment PID for processes with equipment. In the latter case the two values will be combined, Process PID first followed by Equipment PID, to create a unique value for each air emission source point.	Allowed values can be obtained from APIMS database.	String (50)	AF
	processID	The process ID; from the Process_ID field in the Unique_Process table in APIMS.	Allowed values can be obtained from APIMS database.	String (20)	AF
	processName	Short descriptive name of activity; from the Process_Name field in the Unique_Process table in APIMS.	Allowed values can be obtained from APIMS database.	String (50)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	baseSpecificID	A base specific identifier; from the UPID6 field in the Unique_Process table in APIMS.	Allowed values can be obtained from APIMS database.	String (7)	AF
	sourceCategoryName	General category of process activity type; from the Source_Category_Name field in the Source_Category table in APIMS.	Allowed values can be obtained from APIMS database.	String (80)	AF
	location	Structured location value; from the Location field in the Location table in APIMS.	Allowed values can be obtained from APIMS database.	String (100)	AF
	bldgNum	Additional location information to supplement location or other fields; from the Bldg_No field in the Unique_Process table in APIMS.	Allowed values can be obtained from APIMS database.	String (30)	AF
D	isPermittedSource	Indicates whether a source is covered under an installation air permit or not; from the Permitted_Source_Flg field in the Unique_Process table in APIMS.	Allowed values can be obtained from APIMS database. NA, no, TBD, yes	String (3)	AF
	emissionPoint	Identifies where emissions are released to; from the Description field in the VT_Emissoin_Point_Type table in APIMS.	Allowed values can be obtained from APIMS database.	String (75)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	sourceType	Identifies high level categorization of a source as mobile, stationary or other related types; from the Description field in the VT_Source_Type table in APIMS.	Allowed values can be obtained from APIMS database.	String (75)	AF
	equipMfr	Name of equipment manufacturer; from the MFG_Name field in the Model table in APIMS.	Allowed values can be obtained from APIMS database.	String (50)	AF
	equipDesc	General description applied to all equipment of this model; from the Equip_Desc field in the Model table in APIMS.	Allowed values can be obtained from APIMS database.	String (255)	AF
	capacity	Operational capacity of equipment; from the Capacity field in the Equipment table in APIMS.	Allowed values can be obtained from APIMS database.	Double	AF
	designCapacity	Design capacity of equipment; from the Rated_Capacity field in the Equipment table in APIMS.	Allowed values can be obtained from APIMS database.	Double	AF
	maxCapacity	Maximum operational capacity of equipment; from the Maximum_Capacity field in the Equipment table in APIMS.	Allowed values can be obtained from APIMS database.	Double	AF
D	capacityUOM	Unit of measure for the capacity fields.	Allowed values can be obtained from APIMS database. **For the list of domain values see CapacityUOM in Appendix 1.**	String (35)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	ratedKW	Electrical production capacity of generator; from the Rated_KW field in the Equipment table in APIMS.	Allowed values can be obtained from APIMS database.	Double	AF
	ratedHorsepower	Power rating of engine; from the Rated_Horsepower field in the Equipment table in APIMS.	Allowed values can be obtained from APIMS database.	Double	AF
	ignitionType	Identifies an engine as compression (diesel) or spark (gasoline, etc); from the Ignition_Type field in the Equipment table in APIMS.	Allowed values can be obtained from APIMS database.	String (15)	AF
	heatingCapacity	Heat input rating of heating equipment; from the Heating_Capacity field in the Equipment table in APIMS.	Allowed values can be obtained from APIMS database.	Double	AF
D	heatingCapacityUOM	Unit of measure for heating capacity.	Allowed values can be obtained from APIMS database. **For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (45)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Primary Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for AirEmissionSource_P is:

Table Name	Identifier	Source
aq_AirEmissionSource	apimsID	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Air Quality, Air Emission Source

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: CapacityUOM	
ATTRIBUTE NAME: capacityUOM	
CODED DOMAIN	DEFINITION
ampere	Ampere - the SI base unit for electrical current.
boilerHorsepower	Boiler horsepower - a unit of measure equal to a boiler thermal output of 33,475 Btu/h.
britishThermalUnit	British thermal unit - A traditional unit of measurement of energy equal to approximately 1,055 Joules.
britishThermalUnitPerHour	British thermal unit per hour.
cubicFeetPerMinute	Cubic feet per minute.
cubicFoot	Cubic foot - a conventional unit of measurement of volume whose dimensions are one foot on each side, 0.02831685 cubic meters.
cubicYardPerHour	Cubic yard per hour.
gallonPerDay	Gallon per day.
gallonPerHour	Gallon per hour.
gallonPerMinute	Gallon per minute.
gramsPerHour	Grams per hour.
horsePower	Horsepower.
kilowatt	A conventional unit of measurement of power equal to one thousand watts.
kilowattHour	Kilowatt Hour - A conventional unit of measurement of energy in electrical systems equal to 3,600,000 Joules.
millionBritishThermalUnits	Million British thermal units.
millionBritishThermalUnitsPerHour	Million British thermal units per hour.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
pound	Pound (avoirdupois) - a unit of mass equal to 0.45359237 kilograms.
poundPerHour	Pound per hour.
poundPerSquareInch	Pounds per square inch.
revPerMinute	Revolutions per minute.
TBD	To Be Determined: A value is required but the value has yet to be determined.
thousandBritishThermalUnits	Thousand British thermal units.
thousandBritishThermalUnitsPerHour	Thousand British thermal units per hour.
ton	Ton (short).
tonPerHour	Tons (short) per hour.
usGallon	US gallon - a conventional unit of measurement of liquid volume that is 231 cubic inches in dimension, 0.003785412 cubic meters.
usQuart	US quart - a conventional unit of measurement of liquid volume that is 1/4 of a U.S. gallon, being 0.000946353 cubic meters.

March 01, 2018

Data Layer Specifications for:

Hazardous Material Site

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	HazardousMaterialSite_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	HazardousMaterialSite_20160623	• Added authoritative source language to the "Allowed Values" column under "Attributes" section. • Updated "Positional Accuracy" section.
3/13/2017	HazardousMaterialSite_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	HazardousMaterialSite_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
03/01/2018	HazardousMaterialSite_20180301	• Updated the "Definition", "Positional Accuracy", "Attributes", "Business Tables," and "Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables" sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the HazMatSite_P data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

This feature is used to identify the active HazMart and HazShop locations within the installation. HazMarts are the central issuing point for all hazardous materials to their associated HazShop. This feature is also associated to a building within the real property database.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	HazMatSite_P
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalHazMat
Previous Layer Names:	cont_hazmat_storage_point hazardous_materiels_storage_location_point hazmat_storage_building_point hazmat_storage_room_point hazmat_storage_vault_point HazardousMaterialManagement
Geometry Type:	Point
Data Steward Organization (Program Area):	Program Area: Hazardous Materials
Data Steward POC:	AFCEC/CZTQ Air Force Hazardous Materials Program SME
Representation:	• Hazardous material sites are a representation of the coordinate location of HazMarts or HazShops.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Base Comprehensive Planning, 27 June 2013 • Enterprise Environmental, Safety, and Occupational Health Management Information System (EESOH-MIS) • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996

Implementing Program(s):	Driver(s):
	• Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • AFI32-7086, Hazardous Materials Management • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • The occupational Safety and Health Act (OSHA), Executive Order (EO) 12088 • Federal Compliance with Pollution Standards.

Geometry/Topology

Point Features:
Points must be disjoint.

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on a quarterly (3 month) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the quarterly update. Additionally a quarterly Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Data should only represent active marts and shops with approved processes and materials. Virtual sites, i.e. those without a physical location, should not be included.

Positional Accuracy

Horizontal Accuracy: At a minimum, data developed within this layer should be within the building footprint of the building where the mart or shop is located. If possible, data should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the HazMatSite_P layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the HazMatSite_P data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	hazMatSiteIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Allowed values can be obtained from EESOH-MIS.	String (80)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Hazardous Material Site that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	latitude	The latitude coordinate in decimal degrees to sub foot precision.		Double	AF
	longitude	The longitude coordinate in decimal degrees to sub foot precision.		Double	AF
	MGRS	Military Grid Reference System for the coordinate point. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	elevation	The elevation of the subject item in relation to a datum.		Double	AF
D	elevationUOM	The unit of measure for elevation dimension.	foot	String (25)	AF
	shopID	The unique hazmat shop ID from EESOH-MIS. Used to link to the HazMatSite business table.	Allowed values can be obtained from EESOH-MIS.	Double	AF
D	hazMatSite	A descriptor of the type of hazardous material site.	**For a list of domain values, see HazMatSiteType in Appendix 1**.	String (7)	AF
	buildingNumber	The building number for the building where the feature is located.	Allowed values can be obtained from EESOH-MIS.	String (16)	AF
	shopCode	Installation specific codes to identify the different shops.	Allowed values can be obtained from EESOH-MIS.	String (255)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	orgOwnerCode	UIC of the organization that owns the site.		String (255)	AF
	orgOwnerName	Name of the organization that owns the site.	Allowed values can be obtained from EESOH-MIS.	String (255)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary**.	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	GEOLOC	JOPES geolocator code.		String (4)	AF

Business Tables

The business tables will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business tables for HazMatSite_P are:

Table Name	Identifier	Source
hm_HazMatSiteProcess	hazmatShopID	Program Area Manager

Business Table Attributes for hm_HazMatSiteProcess

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	HazmatShopID	The HazMat shop ID. This field is used to link this table to the HazMatSite_P attribute table. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	Double
	Hazmat_Shop_CD	The HazMat shop code. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (20)
	Hazmat_Shop_NM	The HazMat shop name. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (55)
	Hazmat_Location_ID	The HazMat shop location ID. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	Double
	Hazmat_Location_Name	The HazMat shop location name. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (55)
	SID	The installation Structural Interior Design code. This code is unique to each installation.	Allowed values can be obtained from EESOH-MIS.	String (16)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	Organization_Symbol	The organization symbol of the organization responsible for the HazMat shop. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (55)
	Office_Symbol	The office symbol of the office responsible for the HazMat shop. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (20)
	Shop_Type	The type of HazMat site, either a shop or HazMart. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (75)
	Ownership	Identification of whether the shop/hazmart is government operated or contracted. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (75)
	Process_Status	The status of the HazMat process. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (55)
	Hazmat_Process_ID	The process ID for HazMat process(es) that utilize the hazardous material. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (4000)
	Unique_Process_NM	The name of the HazMat process. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (50)
	Process_NM_Description	A description of the HazMat process. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (75)
	Proc_Location	The location where the HazMat process occurs. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (50)
	MSN	The Material Stock Number for the hazardous material. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (25)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	Noun	The noun for the hazardous material used in the HazMat process. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (100)
	CUP_QIP_SUI	The Container Unit Package, Quantity In Package, and Supply Unit of Issue of the material. These attributes are derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (25)
	Max_Allowed_On_Hand	The maximum number of containers allowed to be stored on site. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	Double

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Hazardous Materials, Hazardous Material Site

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: HazMatSiteType	
ATTRIBUTE NAME: hazMatSite	
CODED DOMAIN	DEFINITION
hazMart	The site is a Hazardous Material Pharmacy.
hazShop	The site is a Hazardous Material Shop.

March 01, 2018

Data Layer Specifications for:

Hazardous Waste Site

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	HazardousWasteSite_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	HazardousWasteSite_20160623	• Added authoritative source language to the "Allowed Values" column under "Attributes" section. • Updated "Positional Accuracy" section.
3/13/2017	HazardousWasteSite_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	HazardousWasteSite_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
03/01/2018	HazardousWasteSite_20180301	• Updated the "Definition", "Positional Accuracy", "Attributes", "Business Tables," and "Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables" sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the HazWasteSite_P data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

A defined, active area designated for the storage of contained hazardous waste.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	HazWasteSite_P
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalHazWaste
Previous Layer Names:	hazardous_waste_storage_location_point hazwaste_storage_bldg_point hazwaste_storage_point hazwaste_storage_room_point hazwaste_storage_vault_point HazardousWasteManagement
Geometry Type:	Point
Data Steward Organization (Program Area):	Program Area: Hazardous Waste
Data Steward POC:	AFCEC/CZTQ Air Force Hazardous Waste Program SME
Representation:	• Hazardous waste sites are a representation of the coordinate location of that feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Base Comprehensive Planning, 27 June 2013 • Enterprise Environmental, Safety, and Occupational Health Management Information System (EESOH-MIS) • AFI32-7086, Hazardous Materials Management • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003

Implementing Program(s):	Driver(s):
	• USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • The Resource Conservation and Recovery Act (RCRA) of 1976 • The Federal Facility Compliance Act (FFCA) of 1992 • Nebraska Administrative Code Title 128 (Chapters 1 - 26) • Code of Federal Regulations 40 • State Regulations 9VAC • AFI32-7042 Waste Disposal

Geometry/Topology

Point Features:
Points must be disjoint.

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on a quarterly (3 month) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the quarterly update. Additionally a quarterly Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Data should only represent active sites with approved waste streams. Virtual sites, i.e. those without a physical location, should not be included.

Positional Accuracy

Horizontal Accuracy: At a minimum, data developed within this layer should be within the building footprint of the building where the site is located. If possible, data should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the HazWasteSite_P layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the HazWasteSite_P data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	hazWasteSiteIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Allowed values can be obtained from EESOH-MIS.	String (80)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Hazardous Waste Site that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	latitude	The latitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	longitude	The longitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	MGRS	Military Grid Reference System for the coordinate point. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	elevation	The elevation of the subject item in relation to a datum.		Double	AF
D	elevationUOM	The unit of measure for elevation dimension.	foot	String (25)	AF
	hazWasteSiteID	The unique hazardous waste site ID from EESOH-MIS. Used to link to the HazWasteSite business table.	Allowed values can be obtained from EESOH-MIS.	Double	AF
D	hazWasteSiteType	Indicates which type of waste site is present.	Allowed values can be obtained from EESOH-MIS. **For a list of domain values, see WasteSiteType in Appendix 1.**	String (30)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	storageDurationTimeLimit	A descriptor for the storage duration time limit.	Allowed values can be obtained from EESOH-MIS. **For a list of domain values, see StorageDurationTimeLimit in Appendix 1.**	String (10)	AF
D	isExtremeHazSub	Indicates whether or not the storage location stores extremely hazardous substances.	NA, no, TBD, yes	String (3)	AF
D	hazLocation	A descriptor indicating the category of storage location for contained hazardous materiel/hazardous waste (e.g., area, building, or room).	**For a list of domain values, see HazLocation in Appendix 1.**	String (10)	AF
D	permitStatus	Indicates the status of the permit for the subject item.	**For a list of domain values, see PermitStatus in Appendix 1.**	String (30)	AF
	buildingNumber	The building number for the building where the feature is located.	Allowed values can be obtained from EESOH-MIS.	String (16)	AF
	shopCode	Installation specific codes to identify the different shops.	Allowed values can be obtained from EESOH-MIS.	String (255)	AF
	orgOwnerCode	UIC of the organization that owns the site.	Allowed values can be obtained from EESOH-MIS.	String (255)	AF
	orgOwnerName	Name of the organization that owns the site.	Allowed values can be obtained from EESOH-MIS.	String (255)	AF
	EPAWasteFacID	EPA unique ID associated with each HazSite.	Allowed values can be obtained from EESOH-MIS.	String (255)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF

Business Tables

The business tables will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the

attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business tables for HazWasteSite_P are:

Table Name	Identifier	Source
hw_HazWasteSiteStream	HazwasteSiteID	Program Area Manager

Business Table Attributes for hw_HazWasteSiteStream

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	HazwasteSiteID	The hazardous waste site ID. This field is used to link this table to the HazWasteSite_P attribute table. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	Double
	Site_Nbr	The hazardous waste site number. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (25)
	Hazwaste_Location_ID	The hazardous waste site location ID. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	Double
	Hazwaste_Location_Name	The hazardous waste site location name. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (55)
	SID	The installation Structural Interior Design Code. This code is unique to each installation.	Allowed values can be obtained from EESOH-MIS.	String (16)
	Organization	The name of the organization responsible for the hazardous waste site. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (55)
	Hazwaste_Shop_ID	The hazardous waste shop ID. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	Double
	Hazwaste_Shop_CD	The hazardous waste shop code. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (20)
	Hazwaste_Shop_NM	The hazardous waste shop name. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (55)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	Stream_ID	The hazardous waste stream ID. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	Double
	Stream_Nbr	The hazardous waste stream number. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (20)
	Stream_NM	The hazardous waste stream name. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (110)
	Label_Type	The hazardous waste site stream default container label. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (4000)
	Disposal_Code_NM	The hazardous waste disposal code name. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (260)
	Site_Profile_ID	The hazardous waste site profile ID. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	Double
	Profile_Nbr	The hazardous waste site profile number. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (25)
	Waste_Description_1	Description of the hazardous waste. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (75)
	DLADS_MSN	The Defense Logistics Agency Disposition Services (DLA-DS) Material Stock Number for the hazardous waste. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (25)
	EPA_CD	The EPA code(s) for the hazardous waste. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (4000)
	CLIN	The Contract Line Item Number. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (4000)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	CAS_No	The CAS number for the chemical(s) in the hazardous substance. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (4000)
	Hazwaste_Process_ID	The process ID for HazMat process(es) contributing to the waste stream. This attribute is derived from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (4000)

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Data Layer Specification – Hazardous Waste Site

Theme Keywords: Hazardous Waste, Hazardous Waste Site

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: HazLocation	
ATTRIBUTE NAME: hazLocation	
CODED DOMAIN	DEFINITION
area	A defined area designated for the storage of hazardous material or hazardous waste.
building	A building designated for the storage of hazardous material or hazardous waste.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
room	A room designated for the storage of hazardous material or hazardous waste.
TBD	To Be Determined: A value is required but the value has yet to be determined.
vault	A secured vault or cabinet designated for the storage of hazardous material or hazardous waste.

DOMAIN TABLE NAME: PermitStatus	
ATTRIBUTE NAME: permitStatus	
CODED DOMAIN	DEFINITION
acquired	The parcel has been acquired.
cancelled	The parcel acquisition has been cancelled.
constructPermIssued	A construction permit has been issued.
constructPermUnderRev	The construction permit application is under review.
disposed	The parcel has been disposed.
excessed	The parcel has been excessed.
expired	The parcel has expired.
limStorageFacilAppUnderRev	The limited storage facility application is under review.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
permAppNotCalledIn	The permit application has not been called in.
permAppNotSub	The permit application has not been submitted to the regulatory authority.
permAppUnderRev	The permit application is under review by the regulatory authority.
permDenied	The permit has been denied by the regulatory authority.
permExp	The permit has expired.
permIss	A permit has been issued by the regulatory authority.
permNotIss	A permit has not been issued.
permNotReq	A permit or closure is not required.
permReappUnderRev	A permit reapplication is under review by the regulatory authority.
permReq	The permit has been removed by the regulatory authority.
surplus	The parcel has been surplused.
TBD	To Be Determined: A value is required but the value has yet to be determined.
toBeAcq	The parcel is to be acquired.

DOMAIN TABLE NAME: StorageDurationTimeLimit	
ATTRIBUTE NAME: storageDurationTimeLimit	
CODED DOMAIN	DEFINITION
90day	90 day duration time limit.
180day	180 day duration time limit.
270day	270 day duration time limit.

DOMAIN TABLE NAME: StorageDurationTimeLimit	
ATTRIBUTE NAME: storageDurationTimeLimit	
365day	365 day duration time limit.
NA	Not Applicable: No value exists.
none	There is not a storage duration time limit.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.
unknown	The storage duration time limit is unknown.

DOMAIN TABLE NAME: WasteSiteType	
ATTRIBUTE NAME: hazWasteSiteType	
CODED DOMAIN	DEFINITION
hazWasteAccumSite	The site is a 90/180/270 day accumulation site (time limit).
initialAccumPt	The site is a satellite or initial accumulation site (no time limit).
NA	Not Applicable: No value exists.
oconusHazWasteAccumPt	The site is a hazardous waste accumulation point (no time limit).
oconusHazWasteStorageArea	The site is a hazardous waste storage area central hazardous waste storage site.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.
trmntStrgDispFacContStrgFac	The site is a 365 day RCRA permitted storage facility (time limit) treatment, storage and disposal facility or container storage facility.
universalWaste	The site is a universal waste collection site.
usedOil	The site is a used oil collection site.

March 01, 2018

Data Layer Specifications for:

Solid Waste Landfill

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	SolidWasteLandfill _20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	SolidWasteLandfill _20160623	• Updated "Positional Accuracy" section.
3/13/2017	SolidWasteLandfill _20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	SolidWasteLandfill _20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
03/01/2018	SolidWasteLandfill _20180301	• Updated the "Definition", "Geometry/Topology", "Positional Accuracy", "Attributes", "Business Tables," and "Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables" sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the SolidWasteLandfill_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

A facility or site, permitted by a regulatory authority, which is specifically designed and managed for the land disposal of solid waste.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	SolidWasteLandfill_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalIntegratedSolidWaste
Previous Layer Names:	landfill_cell_area landfill_runoff_retention_area solid_waste_landfill_area SolidWasteLandfill
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Integrated Solid Waste
Data Steward POC:	AFCEC/CZTQ Air Force Integrated Solid Waste Program SME
Representation:	• Solid waste landfill areas are represented as closed polygons depicting the outermost extent of the area. • Each individual solid waste landfill area is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Base Comprehensive Planning, 13 November 2009 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Managing Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996

Implementing Program(s):	Driver(s):
	• Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009

Geometry/Topology

Polygon Features:
Polygons must not overlap.
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the SolidWasteLandfill_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the SolidWasteLandfill_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	solidWasteLandfillIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Solid Waste Landfill.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Solid Waste Landfill that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
D	landfillFeature	The type of landfill feature.	**For a list of domain values, see LandfillFeature in Appendix 1.**	String (50)	AF
D	landfillType	Type of landfill.	**For a list of domain values, see SolidWasteType in Appendix 1.**	String (35)	AF
	dateEst	The date on which the feature was originally established. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dateInspt	The date on which the feature was last inspected. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
	dateClosed	Indicates the date on which the landfill was closed, if applicable. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
D	permitStatus	Indicates the status of the permit for the subject item.	**For a list of domain values, see PermitStatus in Appendix 1.**	String (30)	AF
	permitNum	Unique identification number of the operational permit received from the applicable federal, state, or local regulatory agency.		String (50)	AF
	permitExp	Indicates the date on which the current permit expires. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
D	isDispPit	Indicates whether the landfill is associated with a disposal pit.	NA, no, TBD, yes	String (3)	AF
D	hasLeachateCollect	Indicates whether the landfill has a leachate collection and removal system.	NA, no, TBD, yes	String (3)	AF
D	hasGroundwaterMon	Indicates whether the landfill has groundwater monitoring stations.	NA, no, TBD, yes	String (3)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	hasMethaneCollect	Indicates whether the landfill has a methane collection system.	NA, no, TBD, yes	String (3)	AF
D	landfillStatus	The status of the landfill, from lists or entered from field inspections.	**For a list of domain values, see SolidWasteStatus in Appendix 1.**	String (10)	AF
	localEnvReg	Indicates the local (state, county and/or city) environmental regulation under which the feature is operated or permitted.		String (100)	AF
D	envReg	Indicates the federal environmental regulation the feature is operated and permitted under.	**For a list of domain values, see EnvReg in Appendix 1.**	String (10)	AF
	epaDesignator	Unique site specific designation developed, and used, by the Environmental Protection Agency.		String (20)	AF
	grndwtrElev	Indicates the elevation, in feet, of the seasonal high groundwater table at the landfill.		Double	AF
D	grndwtrElevUOM	The unit of measure used for the groundwater elevation.	foot	String (25)	AF
D	isRemediation	Indicates whether or not further action or remediation is necessary.	NA, no, TBD, yes	String (3)	AF
D	actionStatus	The status for correcting the environmental hazard.	**For a list of domain values, see ActionStatus in Appendix 1.**	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	avgIntake	A descriptor for the average intake of the landfill.		Double	AF
	landfillCapacity	The total estimated volume for the landfill in cubic yards.		Double	AF
D	landfillCapacityUOM	The unit of measure used for the volumes of the landfill.	cubicYard	String (20)	AF
	currentVol	The volume of the landfill currently filled in cubic yards.		Double	AF
D	currentVolUOM	The unit of measure used for the volumes of the landfill.	cubicYard	String (20)	AF
	bottomElev	The bottom elevation, in feet, of the deepest cell at the landfill.		Double	AF
D	bottomElevUOM	The unit of measure used for the deepest cell elevation.	foot	String (25)	AF
	avgTopElev	The average top elevation, in feet, of the landfill.		Double	AF
D	avgTopElevUOM	The unit of measure used for the average top elevation.	foot	String (25)	AF
D	agencyType	Indicates the type of regulatory agency (i.e., state, federal, local).	**For a list of domain values, see AgencyType in Appendix 1.**	String (15)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		Sting (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for SolidWasteLandfill_A is:

Table Name	Identifier	Source
sw_SolidWasteLandfill	solidWasteLandfillIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Integrated Solid Waste, Solid Waste Landfill

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: ActionStatus	
ATTRIBUTE NAME: actionStatus	
CODED DOMAIN	DEFINITION
complete	Efforts to correct or remove the environmental hazard are complete.
NA	Not Applicable: No value exists.
no	No, efforts to correct or remove the environmental hazard have not begun.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.
yes	Yes, efforts are being made to correct or remove the environmental hazard.

DOMAIN TABLE NAME: AgencyType	
ATTRIBUTE NAME: agencyType	
CODED DOMAIN	DEFINITION
city	City government agency or organization.
cntyParish	County or parish government agency or organization.
fedEPA	Federal government - Environmental Protection Agency.
fedOther	Federal government agency or organization other than the Environmental Protection Agency.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
state	State government agency or organization.
stDeptHealth	State health department or equivalent.
stDEQ	State department of environmental quality or equivalent.
stPubServ	State Public Service Commission
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: EnvReg	
ATTRIBUTE NAME: envReg	
CODED DOMAIN	DEFINITION
AHERA	Asbestos Hazard Emergency Response Act
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act (also known as Superfund)
CWA	Clean Water Act
ESA	Endangered Species Act
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
NA	Not Applicable: No value exists.
NCA	Noise Control Act
NEPA	National Environmental Policy Act
NESHAPS	National Emission Standards For Hazardous Air Pollutants
NHPA	National Historic Preservation Act
OSHA	Occupational Safety And Health Act
other	Other. Must be described in the sdsFeatureDescription attribute.
RCRA	Resource Conservation And Recovery Act (General)
RCRAC	Resource Conservation And Recovery Act - Subtitle C: Hazardous Waste

DOMAIN TABLE NAME: EnvReg	
ATTRIBUTE NAME: envReg	
RCRAD	Resource Conservation And Recovery Act - Subtitle D: Nonhazardous Waste
RCRAI	Resource Conservation And Recovery Act - Subtitle I: Underground Storage Tanks
SDWA	Safe Drinking Water Act
TBD	To Be Determined: A value is required but the value has yet to be determined.
TSCA	Toxic Substances Control Act

DOMAIN TABLE NAME: LandfillFeature	
ATTRIBUTE NAME: landfillFeature	
CODED DOMAIN	DEFINITION
landfillArea	A site designed and managed for the land disposal of solid waste.
landfillCellArea	A designated storage area of an existing landfill for compacted non-hazardous solid waste.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: PermitStatus	
ATTRIBUTE NAME: permitStatus	
CODED DOMAIN	DEFINITION
acquired	The parcel has been acquired.
cancelled	The parcel acquisition has been cancelled.
constructPermIssued	A construction permit has been issued.
constructPermUnderRev	The construction permit application is under review.
disposed	The parcel has been disposed.
excessed	The parcel has been excessed.
expired	The parcel has expired.
limStorageFacilAppUnderRev	The limited storage facility application is under review.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
permAppNotCalledIn	The permit application has not been called in.
permAppNotSub	The permit application has not been submitted to the regulatory authority.
permAppUnderRev	The permit application is under review by the regulatory authority.
permDenied	The permit has been denied by the regulatory authority.
permExp	The permit has expired.
permIss	A permit has been issued by the regulatory authority.
permNotIss	A permit has not been issued.
permNotReq	A permit or closure is not required.
permReappUnderRev	A permit reapplication is under review by the regulatory authority.
permReq	The permit has been removed by the regulatory authority.
surplus	The parcel has been surplused.
TBD	To Be Determined: A value is required but the value has yet to be determined.
toBeAcq	The parcel is to be acquired.

DOMAIN TABLE NAME: SolidWasteStatus	
ATTRIBUTE NAME: landfillStatus	
CODED DOMAIN	DEFINITION
abandoned	Solid waste status is abandoned in place (not in use).
buried	Solid waste status is buried.
incomp	Solid waste status is incomplete or unfinished.
inServ	Solid waste status is in service and being used.
NA	Not Applicable: No value exists.
natural	Solid waste status is natural.
other	Other. Must be described in the sdsFeatureDescription attribute.
perm	Solid waste status is permanent.
proposed	Solid waste status is proposed.
retired	Solid waste status is permanently retired, or taken out of service.
TBD	To Be Determined: A value is required but the value has yet to be determined.
temp	Solid waste status is temporary.
unknown	Solid waste status is unknown.

DOMAIN TABLE NAME: SolidWasteType	
ATTRIBUTE NAME: landfillType	
CODED DOMAIN	DEFINITION
bulk	Bulk Waste Accumulation Point/Dumpster
debris	Solid waste management landfill, incinerator, or other item is permitted or used for the disposal of nonhazardous construction debris and wood materials.
foodWste	Solid waste management landfill, incinerator, or other item is permitted or used for the disposal of pure food waste.
hazWste	Solid waste management landfill, incinerator, or other item is permitted or used for the disposal of hazardous waste.
indust	Solid waste management landfill, incinerator, or other item is permitted or used for the disposal of industrial solid waste.
militaryFamilyHousingGarbage	Military Family Housing Garbage Dumpster
militaryFamilyHousingOrganic	Military Family Housing Organic (Green/Yard Waste) Dumpster
militaryFamilyHousingRecycling	Military Family Housing Recycling Dumpster
NA	Not Applicable: No value exists.
organic	Organic (Green/Yard Waste) Dumpster
other	Other. Must be described in the sdsFeatureDescription attribute.
recycleCommodity	Solid waste management landfill, incinerator, or other item is permitted or used for the disposal of recyclable materials (beverage containers, cardboard boxes, etc).
sanitaryWste	Solid waste management landfill, incinerator, or other item is permitted or used for the disposal of household garbage, sanitary waste, and nonhazardous waste.
TBD	To Be Determined: A value is required but the value has yet to be determined.
toxicWste	Solid waste management landfill, incinerator, or other item is permitted or used for the disposal of toxic solid waste (including asbestos).

March 01, 2018

Data Layer Specifications for:

Solid Waste Management

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	SolidWasteManagement_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	SolidWasteManagement_20160623	• Updated "Positional Accuracy" section.
3/13/2017	SolidWasteManagement_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection. • Updated the "Representation" subsection of the "Data Layer Details" section. • Updated the "Point Features" subsection of the "Geometry/Topology" section.
6/8/2017	SolidWasteManagement_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
03/01/2018	SolidWasteManagement_20180301	• Updated the "Definition", "Geometry/Topology", "Positional Accuracy", "Attributes", "Business Tables," and "Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables" sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the SolidWasteMgt_A and SolidWasteMgt_P data layers implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

A contained waste management system which contains, moves and disposes of solid waste in a variety of managed methods. This is container disposal or container recycling/composting to collection to storage to eventual disposal.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	SolidWasteMgt_A SolidWasteMgt_P
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalIntegratedSolidWaste
Previous Layer Names:	solid_waste_compactor_point solid_waste_compost_point solid_waste_incinerator_point solid_waste_recovery_point solid_waste_transfer_point solid_waste_dump_area solid_waste_stockpile_area SolidWasteManagement SolidWasteManagement_A
Geometry Type:	Polygon, Point
Data Steward Organization (Program Area):	Program Area: Integrated Solid Waste
Data Steward POC:	AFCEC/CZTQ Air Force Integrated Solid Waste Program SME
Representation:	• Solid waste management areas are represented as closed polygons depicting the outermost extent of the area. • Each individual solid waste management area is represented by a single area feature. • A solid waste management area is represented as a point feature to symbolize sites at small scales. • All solid waste management points developed from areas shall represent the centroid of the site's area.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Base Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Managing Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • The Resource Conservation and Recovery Act (RCRA) of 1976 • The Solid Waste Disposal Act of 1976 • Recycling Quality Assurance Plan • 40 Code of Federal Regulations 258 • 40 Code of Federal Regulations 60.750- 60.759

Geometry/Topology

Polygon Features:
Polygons must not overlap.
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).
Point Features:
Points must be disjoint.
If a point represents a polygon feature, then the point must fall properly inside of the coinciding polygon.

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on a bi-annual (6 month) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the bi-annual update. Additionally a bi-annual Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the SolidWasteMgt_A and SolidWasteMgt_P layers will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the SolidWasteMgt_A and SolidWasteMgt_P data layers.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	solidWasteMgtIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Solid Waste Management site.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Solid Waste Management site that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize *(Polygon geometry)*	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM *(Polygon geometry)*	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize *(Polygon geometry)*	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM *(Polygon geometry)*	The perimeter unit of measure.	foot	String (25)	AF
	latitude *(Polygon geometry)*	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	longitude *(Polygon geometry)*	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid *(Polygon geometry)*	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	latitude *(Point geometry)*	The latitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	longitude *(Point geometry)*	The longitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	MGRS *(Point geometry)*	Military Grid Reference System for the coordinate point. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	elevation *(Point geometry)*	The elevation of the subject item in relation to a datum.		Double	AF
D	elevationUOM *(Point geometry)*	The unit of measure for elevation dimension.	foot	String (25)	AF
D	receptacleStructureType	The type of receptacle or structure used to manage solid waste (i.e., compost, incinerator, recovery).	**For a list of domain values, see ReceptacleStructureType in Appendix 1.**	String (30)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	isAutoNotify	Indicates whether compactor sends an automated notification when full. Otherwise compactor has no remote notifications.	NA, no, TBD, yes	String (3)	AF
D	isEnclosed	Indicates whether the container is enclosed within a structure.	NA, no, TBD, yes	String (3)	AF
	receptacleCapacity	The capacity of the receptacle in cubic yards.		Double	AF
D	solidWasteType	The type of solid waste collected.	**For a list of domain values, see SolidWasteType in Appendix 1.**	String (35)	AF
D	isForeignWaste	Indicates whether the container contains waste from a foreign country.	NA, no, TBD, yes	String (3)	AF
D	receptacleOwner	Identifies the owner of the receptacle.	**For a list of domain values, see ReceptacleOwner in Appendix 1.**	String (20)	AF
	solidWasteMgtSchedule	This value defines when contracted service will service the receptacle.		String (25)	SDSFIE
	dateEst	The date on which the feature was originally established. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
	dateInspt	The date on which the feature was last inspected. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	solidWasteStatus	The status of the subject item, from lists or entered from field inspections.	**For a list of domain values, see SolidWasteStatus in Appendix 1.**	String (10)	AF
	localEnvReg	Indicates the local (state, county and/or city) environmental regulation under which the feature is operated or permitted.		String (100)	AF
	envReg	Indicates the federal environmental regulation the feature is operated and permitted under.	**For a list of domain values, see EnvReg in Appendix 1.**	String (10)	AF
	permitStatus	Indicates the status of the permit for the subject item.	**For a list of domain values, see PermitStatus in Appendix 1.**	String (30)	AF
	permitNum	Unique identification number of the operational permit received from the applicable federal, state, or local regulatory agency.		String (50)	AF
	permitExp	Indicates the date on which the current permit expires. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
D	agencyType	Indicates the type of regulatory agency (i.e., state, federal, local).	**For a list of domain values, see AgencyType in Appendix 1.**	String (15)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business tables will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business tables for SolidWasteMgt_A and SolidWasteMgt_P are:

Table Name	Identifier	Source
sw_SolidWasteMgt	solidWasteMgtIDFK	Program Area Manager
sw_SolidWasteMgt_P	solidWasteMgtIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager. Data layer should include residential waste and should still be captured even if managed by a 3rd party agency.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Integrated Solid Waste, Solid Waste Management

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: AgencyType	
ATTRIBUTE NAME: agencyType	
CODED DOMAIN	DEFINITION
city	City government agency or organization.
cntyParish	County or parish government agency or organization.
fedEPA	Federal government - Environmental Protection Agency.
fedOther	Federal government agency or organization other than the Environmental Protection Agency.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
state	State government agency or organization.
stDeptHealth	State health department or equivalent.
stDEQ	State department of environmental quality or equivalent.
stPubServ	State Public Service Commission
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: EnvReg	
ATTRIBUTE NAME: envReg	
CODED DOMAIN	DEFINITION
AHERA	Asbestos Hazard Emergency Response Act
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act (also known as Superfund)
CWA	Clean Water Act
ESA	Endangered Species Act
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
NA	Not Applicable: No value exists.
NCA	Noise Control Act
NEPA	National Environmental Policy Act
NESHAPS	National Emission Standards For Hazardous Air Pollutants
NHPA	National Historic Preservation Act
OSHA	Occupational Safety And Health Act
other	Other. Must be described in the sdsFeatureDescription attribute.
RCRA	Resource Conservation And Recovery Act (General)
RCRAC	Resource Conservation And Recovery Act - Subtitle C: Hazardous Waste
RCRAD	Resource Conservation And Recovery Act - Subtitle D: Nonhazardous Waste
RCRAI	Resource Conservation And Recovery Act - Subtitle I: Underground Storage Tanks
SDWA	Safe Drinking Water Act
TBD	To Be Determined: A value is required but the value has yet to be determined.
TSCA	Toxic Substances Control Act

DOMAIN TABLE NAME: PermitStatus	
ATTRIBUTE NAME: permitStatus	
CODED DOMAIN	DEFINITION
acquired	The parcel has been acquired.
cancelled	The parcel acquisition has been cancelled.

DOMAIN TABLE NAME: PermitStatus	
ATTRIBUTE NAME: permitStatus	
constructPermIssued	A construction permit has been issued.
constructPermUnderRev	The construction permit application is under review.
disposed	The parcel has been disposed.
excessed	The parcel has been excessed.
expired	The parcel has expired.
limStorageFacilAppUnderRev	The limited storage facility application is under review.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
permAppNotCalledIn	The permit application has not been called in.
permAppNotSub	The permit application has not been submitted to the regulatory authority.
permAppUnderRev	The permit application is under review by the regulatory authority.
permDenied	The permit has been denied by the regulatory authority.
permExp	The permit has expired.
permIss	A permit has been issued by the regulatory authority.
permNotIss	A permit has not been issued.
permNotReq	A permit or closure is not required.
permReappUnderRev	A permit reapplication is under review by the regulatory authority.
permReq	The permit has been removed by the regulatory authority.
surplus	The parcel has been surplused.
TBD	To Be Determined: A value is required but the value has yet to be determined.
toBeAcq	The parcel is to be acquired.

DOMAIN TABLE NAME: ReceptacleOwner	
ATTRIBUTE NAME: receptacleOwner	
CODED DOMAIN	DEFINITION
contractedLeased	The receptacle is owned by a contracted waste management company or is leased.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.
USAFgovernment	The receptacle is owned by the US Air Force or the US government.

DOMAIN TABLE NAME: ReceptacleStructureType	
ATTRIBUTE NAME: receptacleStructureType	
CODED DOMAIN	DEFINITION
foodWasteCompost	A receptacle or structure specifically designed and operated for the purpose of reducing food waste to decayed organic matter.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
solidWasteCompactor	A structure containing a device which compresses solid waste.
solidWasteCompost	A receptacle or structure specifically designed and operated for the purpose of reducing solid waste to decayed organic matter.
solidWasteDumpster	A dumpster type receptacle used for the collection of solid waste.
solidWasteIncinerator	Furnace or container for disposal of solid waste by burning at high temperature.
solidWasteRecovery	A receptacle or structure where solid waste materials are collected for recycling.
solidWasteRolloff	A roll-off type receptacle without a compactor used for the collection of solid waste.
solidWasteRolloffCompactor	A roll-off type receptacle with a compactor used for the collection of solid waste.
solidWasteTransferStation	Area or structure where solid waste is transferred from a collection truck or receptacle to another truck or receptacle for transporting to a disposal or treatment facility.

DOMAIN TABLE NAME: ReceptacleStructureType	
ATTRIBUTE NAME: receptacleStructureType	
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: SolidWasteStatus	
ATTRIBUTE NAME: solidWasteStatus	
CODED DOMAIN	DEFINITION
abandoned	Solid waste status is abandoned in place (not in use).
buried	Solid waste status is buried.
incomp	Solid waste status is incomplete or unfinished.
inServ	Solid waste status is in service and being used.
NA	Not Applicable: No value exists.
natural	Solid waste status is natural.
other	Other. Must be described in the sdsFeatureDescription attribute.
perm	Solid waste status is permanent.
proposed	Solid waste status is proposed.
retired	Solid waste status is permanently retired, or taken out of service.
TBD	To Be Determined: A value is required but the value has yet to be determined.
temp	Solid waste status is temporary.
unknown	Solid waste status is unknown.

DOMAIN TABLE NAME: SolidWasteType	
ATTRIBUTE NAME: solidWasteType	
CODED DOMAIN	DEFINITION
bulk	Bulk Waste Accumulation Point/Dumpster
debris	Solid waste management landfill, incinerator, or other item is permitted or used for the disposal of nonhazardous construction debris and wood materials.
foodWste	Solid waste management landfill, incinerator, or other item is permitted or used for the disposal of pure food waste.
hazWste	Solid waste management landfill, incinerator, or other item is permitted or used for the disposal of hazardous waste.
indust	Solid waste management landfill, incinerator, or other item is permitted or used for the disposal of industrial solid waste.
militaryFamilyHousingGarbage	Military Family Housing Garbage Dumpster
militaryFamilyHousingOrganic	Military Family Housing Organic (Green/Yard Waste) Dumpster
militaryFamilyHousingRecycling	Military Family Housing Recycling Dumpster
NA	Not Applicable: No value exists.
organic	Organic (Green/Yard Waste) Dumpster
other	Other. Must be described in the sdsFeatureDescription attribute.
recycleCommodity	Solid waste management landfill, incinerator, or other item is permitted or used for the disposal of recyclable materials (beverage containers, cardboard boxes, etc).
sanitaryWste	Solid waste management landfill, incinerator, or other item is permitted or used for the disposal of household garbage, sanitary waste, and nonhazardous waste.
TBD	To Be Determined: A value is required but the value has yet to be determined.
toxicWste	Solid waste management landfill, incinerator, or other item is permitted or used for the disposal of toxic solid waste (including asbestos).

March 01, 2018

Data Layer Specifications for:

Storage Tank

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	StorageTank_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	StorageTank_20160623	• Updated "Positional Accuracy" section.
3/9/2017	StorageTank_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	StorageTank_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC".
12/13/2017	StorageTank_20171213	• Add AFI32-7044 to Implementing Authorities and Regulations. • Update Sources and Source Selection to include guidance on minimum size of tank and tank types to include in the data layer.
03/01/2018	StorageTank_20180301	• Updated the "Definition", "Positional Accuracy", "Attributes", "Business Tables," and "Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables" sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the StorageTank_P data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

A receptacle or chamber used for storing bulk commodities or fuels. This data layer contains both above and underground tanks. If 90% or more of the tank is located above the surface of the ground it must be considered an above ground tank. If more than 10% of the tank is located below the ground surface it must be considered an underground tank.

Storage tanks with a capacity of 55 gallons or greater that hold a petroleum, oil, or lubricant (POL) product and are in-service or out of-service should be included in this data layer. The following table identifies a series of tank contents and a determination of whether they should be included in this data layer.

Content Type	Included In Data Layer
#1 fuel oil	Yes
#2 fuel oil	Yes
#3 fuel oil	Yes
#4 fuel oil	Yes
#5 fuel oil	Yes
#6 fuel oil	Yes
1010 jet engine oil	Yes
Acid solution	No
AFFF/HEF	No
Alternative fuel e85	Yes
Antifreeze	No
Automatic transmission fluid	Yes
Aviation gasoline	Yes
Aviation turbine fuel grade JP-10	Yes
Aviation turbine fuel grade JP-4	Yes
Aviation turbine fuel grade JP-5	Yes
Aviation turbine fuel grade JP-7	Yes
Aviation turbine fuel grade JP-8	Yes
Aviation turbine fuel grade JP-8 And 100 Additive	Yes
Aviation turbine fuel jet FT	Yes
Aviation turbine fuel, thermally stable	Yes
Calibration fluids not otherwise classified	No
Caustic solution	No
Chemicals	No
Cleaning compounds not otherwise classified	No
Compressed Air	No
Compressed natural gas	No
Compressor oil	Yes

Deicing fluid	No
Dielectric oil	Yes
Diesel fuel	Yes
Domestic wastewater	No
Empty	Yes
Ethanol	Yes
Fire protection water	No
Gasoline	Yes
Hydraulic fluid	Yes
Hydrazine	No
Jet A/ jet A-1	Yes
Jet A1	Yes
Jet B	Yes
Jet engine oil 1010	Yes
Kerosene	Yes
Liquefied petroleum gas	No
Liquid nitrogen	No
Liquefied natural gas	No
Lubricating oil that is not otherwise classified	Yes
Lubricating oils [0-278], [mil-prf-17331]	Yes
Mineral oil	Yes
Mixture of Alcohol And water	No
Motor oil	Yes
Non-hazardous waste paint related material	No
Non-potable water	No
Off-spec fuel	Yes
Oil/water separator	Yes
Otto fuels	Yes
Pesticide/herbicide	No
Potable water	No
Preservation oil	Yes
Propane	No
Raw water	No
Reclaimed fuel	Yes
Reclaimed JP-8 + 100	Yes
Saltwater	No
Solvent not otherwise classified	No
Steam turbine lubricating oils [0-250], [mil-prf-17331]	Yes
Storm water	No
Treated water	No
Turbine oil	Yes
Used cooking oil/grease	Yes
Used oil	Yes
Used petroleum	Yes
Used petroleum products	Yes

Used pol engine/HYD JP-8	Yes
Used pol engine/HYD oil	Yes
Waste fuel	Yes
Waste oil	Yes
Waste water	No

Mobile, bowser, and/or portable storage tanks should not be included in this data layer.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	StorageTank_P
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalStorageTanks
Previous Layer Names:	regulated_aboveground_storage_tank_point regulated_underground_storage_tank_point AboveGroundStorageTank_P UnderGroundStorageTank_P
Geometry Type:	Point
Data Steward Organization (Program Area):	Program Area: Storage Tanks
Data Steward POC:	AFCEC/CZTQ Air Force Storage Tanks Program SME
Representation:	• Storage tank points are a representation of the coordinate location of that feature.

Implementing Authorities and Regulations

Implementing Program(s):	**Driver(s):**
HQ AF/A7CAN	• AFI32-7044, Storage Tank Environmental Compliance, 18 August 2015, Incorporating Change 1, 22 April 2016 • AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996

Implementing Program(s):	Driver(s):
	• Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • The Federal Facilities compliance Act (FFCA) of 1992 • South Dakota Codified Laws Chapter (34A - 2 - 98) • North Dakota Century Code (NDCC) 23-13-16 • Nebraska Administrative Code (NAC) 159-1-001 to 159-001 for USTs and ASTs

Geometry/Topology

Point Features:
Points must be disjoint.

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on a quarterly (3 month) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the quarterly update. Additionally a quarterly Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Data should only represent tanks containing Petroleum, Oil, and Lubricants (POL) product. Tanks containing other products such as waste water, de-icing fluid, propane, or other non-POL products should not be included in the data set. The status of the tank may either be “In Service” or “Out of Service” (valid tankStatus domain values include “inactive”, “inUse”, or “outOfService”). Out of Service tanks are those that are still in place, but have been temporarily closed and are available for future use, or are planned for future removal. Tanks must have a capacity of 55 gallons or more. Smaller capacity tanks will not be included in the data set. Bowser, portable, or otherwise mobile tanks will not be included in the data set.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west-most spatial extents of the StorageTank_P layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the StorageTank_P data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	storageTankIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Allowed values can be obtained from STAR database.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Allowed values can be obtained from STAR database.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	latitude	The latitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	longitude	The longitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	MGRS	Military Grid Reference System for the coordinate point. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	elevation	The elevation of the subject item in relation to a datum.		Double	AF
D	elevationUOM	The unit of measure for elevation dimension.	foot	String (25)	AF
	starID	The unique storage tank ID from STAR.	Allowed values can be obtained from STAR database.	String (50)	AF
	realPropertyUniqueIdentifier	The real property unique identifier (RPUID) is a non-intelligent code used to permanently and uniquely identify a real property asset. Source: RPIM 3.0, extracted 4/2009.	Allowed values can be obtained from STAR database.	String (18)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	facilityID	The facility ID number.	Allowed values can be obtained from STAR database.	String (100)	AF
	localDesignator	Any local designation, common name or alias for the tank as identified by the installation or other agency.		String (150)	AF
D	isRegulated	Indicates whether the feature is regulated by Federal, State or local jurisdiction or no regulation.	Allowed values can be obtained from STAR database. NA, no, TBD, yes	String (3)	AF
D	isRegCAA	Indicates whether the tank is regulated under the Clean Air Act.	NA, no, TBD, yes	String (3)	AF
D	isRegCWA	Indicates whether the tank is regulated under the Clean Water Act.	NA, no, TBD, yes	String (3)	AF
D	isRegOPPA	Indicates whether the tank is regulated under the Oil Pollution Prevention Act.	NA, no, TBD, yes	String (3)	AF
D	isRegRCRA	Indicates whether the tank is regulated under the Resource Conservation and Recovery Act.	Allowed values can be obtained from STAR database. NA, no, TBD, yes	String (3)	AF
D	isRegOther	Indicates whether the tank is regulated under other authority (e.g. STI, industry standards, specific local/regional laws, etc.). Provide specifics in the narrative field.	NA, no, TBD, yes	String (3)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	stiCategory	A descriptor that identifies the STI category for each tank.	Allowed values can be obtained from STAR database. **For the list of domain values see STIcategory in Appendix 1.**	String (5)	AF
D	isSPCC	Indicates whether the tank should be included in the SPCC.	Allowed values can be obtained from STAR database. NA, no, TBD, yes	String (3)	AF
D	dlaManaged	Indicates tanks that store Defense Logistics Agency capitalized fuel.	Allowed values can be obtained from STAR database. NA, no, TBD, yes	String (3)	AF
D	isPermitRegister	Indicates whether the tank is permitted or registered or not.	Allowed values can be obtained from STAR database. NA, no, TBD, yes	String (3)	AF
	permitRegisterNum	Unique identification number of the operational permit or registration received from the applicable federal, state, or local regulatory agency.	Allowed values can be obtained from STAR database.	String (50)	AF
	permitRegisterDate	The date on which the tank was permitted or registered. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).	Allowed values can be obtained from STAR database.	Integer (Long)	AF
	permitRegisterExp	Indicates the date on which the current permit or registration expires. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).	Allowed values can be obtained from STAR database.	Integer (Long)	AF
D	permitRegisterStatus	Indicates the status of the permit or registration for the subject item.	**For the list of domain values see TankPermitStatus in Appendix 1.**	String (15)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dateInstalled	Indicates the date on which the feature was/is to be installed. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).	Allowed values can be obtained from STAR database.	Integer (Long)	AF
	dateCertified	Indicates the date on which the tank was certified. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
D	tankStatus	A descriptor of the status of the tank.	Allowed values can be obtained from STAR database. **For the list of domain values see TankStatus in Appendix 1.**	String (15)	AF
	dateRemoved	Indicates the date on which the tank was/is to be removed. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
D	tankContents	A descriptor of the contents of the tank.	Allowed values can be obtained from STAR database. **For the list of domain values see TankContents in Appendix 1.**	String (20)	AF
	tankManufacturer	The tank manufacturer.	Allowed values can be obtained from STAR database.	String (100)	AF
	manufactDate	Indicates the manufacture date of the tank. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).	Allowed values can be obtained from STAR database.	Integer (Long)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	modelNum	The model number of the tank.	Allowed values can be obtained from STAR database.	String (60)	AF
	serialNum	The serial number on the tank.	Allowed values can be obtained from STAR database.	String (75)	AF
D	isNamePlateLegible	Indicates whether the name plate on the tank is legible.	Allowed values can be obtained from STAR database. NA, no, TBD, yes	String (3)	AF
D	areNFPAplacardsCompliant	Indicates whether the NFPA placards are properly affixed and legible on the tank.	NA, no, TBD, yes	String (3)	AF
D	isUnderground	Indicates whether the tank is an underground storage tank. If false, the assumption is the tank is an above ground storage tank.	Allowed values can be obtained from STAR database. NA, no, TBD, yes	String (3)	AF
D	tankType	The primary type of tank.	**For the list of domain values see TankType in Appendix 1.**	String (20)	AF
D	tankMaterial	A descriptor of the type of material of the tank.	Allowed values can be obtained from STAR database. **For the list of domain values see TankMaterial in Appendix 1.**	String (15)	AF
D	pipingType	A descriptor of the primary/majority type of piping used.	**For the list of domain values see PipingType in Appendix 1.**	String (20)	AF
D	pipingMaterial	A descriptor of the material composition of the pipe.	Allowed values can be obtained from STAR database. **For the list of domain values see PipingMaterial in Appendix 1.**	String (15)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	isPressurized	Indicates whether the tank is pressurized.	Allowed values can be obtained from STAR database. NA, no, TBD, yes	String (3)	AF
D	isContained	Indicates whether the tank is surrounded by secondary containment.	Allowed values can be obtained from STAR database. NA, no, TBD, yes	String (3)	AF
D	containType	The primary type of secondary containment used for the tank if a spill or leak were to occur.	Allowed values can be obtained from STAR database. **For the list of domain values see ContainType in Appendix 1.**	String (20)	AF
	containDescript	A description of the secondary containment for the tank. Include containment method and capacity in the description.		String (255)	AF
D	meetsContainCap	Indicates whether the secondary containment meets requirements (100% of the largest tank plus freeboard).	NA, no, TBD, yes	String (3)	AF
D	isLeakDetection	Indicates whether the tank has the required leak detection.	Allowed values can be obtained from STAR database. NA, no, TBD, yes	String (3)	AF
	leakDetectDescript	A description of the tank's leak detection sensor.		String (100)	AF
D	isLeakDetectCompliant	Indicates whether the leak detection system is compliant/meets standards and in operable condition.	NA, no, TBD, yes	String (3)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	isSpillProtection	Indicates whether the tank has the required spill protection system.	Allowed values can be obtained from STAR database. NA, no, TBD, yes	String (3)	AF
	spillProtectDescript	A description of the spill protection system.		String (255)	AF
D	isSpillProtectCompliant	Indicates whether the spill protection is compliant/meets standards and in operable condition.	NA, no, TBD, yes	String (3)	AF
D	vaporContr	A descriptor of the primary vapor control.	Allowed values can be obtained from STAR database. **For the list of domain values see VaporContr in Appendix 1.**	String (15)	AF
D	tankRoofType	A descriptor of the type of roof.	Allowed values can be obtained from STAR database. **For the list of domain values see RoofType in Appendix 1.**	String (20)	AF
	tankHeight	The height of the tank in feet.	Allowed values can be obtained from STAR database.	Double	AF
	tankLength	The length of the tank in feet.	Allowed values can be obtained from STAR database.	Double	AF
	tankWidth	The width of the tank in feet.	Allowed values can be obtained from STAR database.	Double	AF
	tankDiameter	The diameter of the tank in feet.	Allowed values can be obtained from STAR database.	Double	AF
D	tankDimensionUOM	The unit of measure used for the tank dimensions.	foot	String (25)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	tankDepth	The depth of the tank, in feet, measured as the distance from the ground surface to the bottom of the tank.		Double	AF
D	tankDepthUOM	The unit of measure used for tank depth.	foot	String (25)	AF
	tankCapacity	The usable tank capacity in gallons.	Allowed values can be obtained from STAR database.	Double	AF
D	tankCapacityUOM	The unit of measure for tank capacity.	usGallon	String (20)	AF
	ratedCapacity	The rated tank capacity in gallons.		Double	AF
D	ratedCapacityUOM	The unit of measure for rated capacity data.	usGallon	String (20)	AF
D	tankColor	The color of the tank.	Allowed values can be obtained from STAR database. **For the list of domain values see TankColor in Appendix 1.**	String (10)	AF
	accessRestricted	A descriptor indicating whether access to the tank is restricted (e.g. flightline, controlled, secured, or other security).		String (150)	AF
	orgID	ID or symbol of the organization owning the tank.		String (50)	AF
	business	The business or organization utilizing the tank system.		String (100)	AF
	businessID	The ID of the business or organization utilizing the tank system.		String (20)	AF
	poc	The point of contact for the tank.	Allowed values can be obtained from STAR database.	String (50)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	tankCorrosion	A descriptor of any corrosion occurring on or in the tank.		String (150)	AF
	pipeCorrosion	A descriptor of any corrosion occurring on the piping.		String (150)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary**.	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	GEOLOC	JOPES geolocator code.		String (4)	AF

Business Tables

The business tables will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for StorageTank_P is:

Table Name	Identifier	Source
et_StorageTank_P	starID	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Storage Tanks, Storage Tank

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: ContainType	
ATTRIBUTE NAME: containType	
CODED DOMAIN	DEFINITION
berm	Containment type is a berm.
concreteConstruct	Containment type is a constructed concrete structure.
concreteCurb	Containment type is a constructed concrete curb.
concreteDike	Containment type is a concrete dike.
concreteVault	Containment type is a concrete vault tank.
doubleBottom	Containment type is double bottom.
doubleWalled	Containment type is double-walled tank.
integral	Containment type is integral to the tank construction.
metalPan	Containment type is a metal pan.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
plasticPanSystem	Containment type is a plastic pan containment system.
portableContain	Containment type is a portable containment device.
remoteImpound	Containment type is a remote impoundment.
responseCapability	Containment type is response capability to include deployment of spill kits and use of internal response resources for initial spill.
spillPan	Containment type is a spill pan.
steelDike	Containment type is a steel dike.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: PipingMaterial	
ATTRIBUTE NAME: pipingMaterial	
CODED DOMAIN	DEFINITION
aluminum	Piping material consists of aluminum.
brass	Piping material consists of brass.
castIron	Piping material consists of cast iron.
copper	Piping material consists of copper.
fiberglass	Piping material consists of fiberglass.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
plastic	Piping material consists of plastic.
rubber	Piping material consists of rubber.
stainlessSteel	Piping material consists of stainless steel.
steel	Piping material consists of steel.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: PipingType	
ATTRIBUTE NAME: pipingType	
CODED DOMAIN	DEFINITION
flangeAndThreadPipe	Piping type is flanged and threaded pipe.
flexible	Piping type is flexible.
hose	Piping type is hose.

DOMAIN TABLE NAME: PipingType	
ATTRIBUTE NAME: pipingType	
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
rigid	Piping type is rigid.
TBD	To Be Determined: A value is required but the value has yet to be determined.
threadedPipe	Piping type is threaded pipe.

DOMAIN TABLE NAME: STICategory	
ATTRIBUTE NAME: stiCategory	
CODED DOMAIN	DEFINITION
1	The STI category is 1 - ASTs with spill control and continuous release detection monitoring (CRDM).
2	The STI category is 2 - ASTs with spill control but without continuous release detection monitoring (CRDM).
3	The STI category is 3 - ASTs without spill control or continuous release detection monitoring (CRDM).
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: TankColor	
ATTRIBUTE NAME: tankColor	
CODED DOMAIN	DEFINITION
black	The tank color is black.
blue	The tank color is blue.
brown	The tank color is brown.
combo	The tank is a combination of colors.
cream	The tank color is cream.
gray	The tank color is gray.
green	The tank color is green.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
purple	The tank color is purple.
red	The tank color is red.
silver	The tank color is silver.
TBD	To Be Determined: A value is required but the value has yet to be determined.
white	The tank color is white.
yellow	The tank color is yellow.

DOMAIN TABLE NAME: TankContents	
ATTRIBUTE NAME: tankContents	
CODED DOMAIN	DEFINITION
acidSolution	Tank contains an acid solution.
afffHEF	Tank contains aqueous film forming foam / high expansion foam (AFFF / HEF).
alcoholWater	Tank contains a mixture of alcohol and water.
antiFreeze	Tank contains anti-freeze.
autoTransFluid	Tank contains automatic transmission fluid.

DOMAIN TABLE NAME: TankContents	
ATTRIBUTE NAME: tankContents	
avGasoline	Tank contains aviation gasoline.
burnerFuel1	Tank contains burner fuel No. 1.
burnerFuel2	Tank contains burner fuel No. 2.
burnerFuel3	Tank contains burner fuel No. 3.
burnerFuel4	Tank contains burner fuel No. 4.
burnerFuel5	Tank contains burner fuel No. 5.
burnerFuel6	Tank contains burner fuel No. 6.
calibrationFluidNOC	Tank contains calibration fluid that is not otherwise classified.
causticSolution	Tank contains a caustic solution.
chemicals	Tank contains chemicals (please list actual chemicals in the feature description).
cleaningCompoundNOC	Tank contains cleaning compound that is not otherwise classified.
cng	Tank contains compressed natural gas (CNG).
compressedAir	Tank contains compressed air.
compressorOil	Tank contains compressor oil.
deicing	Tank contains deicing fluid.
dielectricOil	Tank contains non-conducting dielectric oil.
dieselFuel	Tank contains diesel fuel. This includes auto diesel, bio diesel, marine diesel, or any other form of diesel fuel.
domesticWstewtr	Tank contains domestic wastewater.
e85	Tank contains alternative fuel E85.
ethanol	Tank contains ethanol.
fireProtectWtr	Tank contains fire protection water.
gasoline	Tank contains gasoline. This includes any form of gasoline.
hydraulicFluid	Tank contains hydraulic fluid.
hydrazine	Tank contains hydrazine - water (H-70).
jetAA1	Tank contains aviation turbine fuel Jet A or Jet A-1.
jetB	Tank contains aviation turbine fuel Jet B.
jetEngineOil1010	Tank contains jet engine oil 1010.
jetFT	Tank contains aviation turbine fuel Jet FT.
jp10	Tank contains aviation turbine fuel Grade JP-10.
jp4	Tank contains aviation turbine fuel Grade JP-4.
jp5	Tank contains aviation turbine fuel Grade JP-5.
jp7	Tank contains aviation turbine fuel Grade JP-7.
jp8	Tank contains aviation turbine fuel Grade JP-8.
jp8-100Additive	Tank contains aviation turbine fuel Grade JP-8 + 100 additive.
jpts	Tank contains aviation turbine fuel, thermally stable.
kerosene	Tank contains kerosene.
liquidNitrogen	Tank contains liquid nitrogen.
lng	Tank contains liquefied natural gas (LNG).
lpg	Tank contains liquefied petroleum gas (LPG).
lubricatingOilNOC	Tank contains lubricating oil that is not otherwise classified.
mineralOil	Tank contains mineral oil.
motorOil	Tank contains motor oil.
NA	Not Applicable: No value exists.
nonHazWstePaintMat	Tank contains non-hazardous waste paint related material.
nonPotWtr	Tank contains non-potable water.
o250	Tank contains steam turbine lubricating oils [0-250], [MIL-PRF-17331].
o278	Tank contains lubricating oils [0-278], [MIL-PRF-9000].
offSpecFuel	Tank contains off-spec fuel.
oilyWstewtr	Tank contains oily wastewater.
other	Other. Must be described in the sdsFeatureDescription attribute.
otto	Tank contains OTTO Fuels.

DOMAIN TABLE NAME: TankContents	
ATTRIBUTE NAME: tankContents	
pesticideHerbicide	Tank contains pesticide or herbicide.
potWtr	Tank contains potable water.
preservationOil	Tank contains preservation oil.
propane	Tank contains propane.
rawWtr	Tank contains raw water.
reclaimedFuel	Tank contains reclaimed fuel.
reclaimedJP8-100	Tank contains reclaimed JP-8 + 100.
saltwater	Tank contains saltwater.
solventNOC	Tank contains solvent that is not otherwise classified.
stormwater	Tank contains stormwater.
TBD	To Be Determined: A value is required but the value has yet to be determined.
treatedWtr	Tank contains treated water.
usedCookingOil	Tank contains used cooking oil.
usedOil	Tank contains used oil.
usedPetro	Tank contains used petroleum.
usedPetroProd	Tank contains used petroleum products.
usedPOLEng-HydJP8	Tank contains used POL Eng/Hyd JP-8.
usedPOLEng-HydOil	Tank contains used POL Eng/Hyd oil.
wastewater	Tank contains wastewater. This excludes domestic wastewater.
wsteFuel	Tank contains waste fuel.
wsteOil	Tank contains waste oil.

DOMAIN TABLE NAME: TankMaterial	
ATTRIBUTE NAME: tankMaterial	
CODED DOMAIN	DEFINITION
aluminum	Tank is constructed from aluminum.
carbonFiber	Tank is constructed from carbon fiber.
carbonSteel	Tank is constructed from carbon steel.
composite	Tank is constructed from composite.
concrete	Tank is constructed from concrete.
fiberglass	Tank is constructed from fiberglass.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
plastic	Tank is constructed from plastic.
polyethylene	Tank is constructed from polyethylene.
stainlessSteel	Tank is constructed from stainless steel.
steelConcrete	Tank is constructed from a combination of steel and concrete.
steelFiberglass	Tank is constructed from a combination of steel and fiberglass.
TBD	To Be Determined: A value is required but the value has yet to be determined.
thermoplastic	Tank is constructed from thermoplastic.
unknown	Tank is constructed from an unknown material.

DOMAIN TABLE NAME: TankPermitStatus	
ATTRIBUTE NAME: permitRegisterStatus	
CODED DOMAIN	DEFINITION
appNotSub	The permit or registration application has not been submitted to the regulatory authority.
appUnderRev	The permit or registration application is under review by the regulatory authority.

DOMAIN TABLE NAME: TankPermitStatus	
ATTRIBUTE NAME: permitRegisterStatus	
denied	The permit or registration has been denied by the regulatory authority.
expired	The permit or registration has expired.
issued	A permit or registration has been issued by the regulatory authority.
NA	Not Applicable: No value exists.
notIssued	A permit or registration has not been issued.
notReq	A permit or registration is not required.
other	Other. Must be described in the sdsFeatureDescription attribute.
reappUnderRev	A permit or registration reapplication is under review by the regulatory authority.
removed	The permit or registration has been removed by the regulatory authority.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: TankRoofType	
ATTRIBUTE NAME: tankroofType	
CODED DOMAIN	DEFINITION
buttWeld	Roof type is butt welded.
buttWeldCone	Roof type is butt welded cone.
domedExternFloat	Roof type is domed external floating roof.
domedFixed	Roof type is domed fixed roof.
domedInternFloat	Roof type is domed internal floating roof.
externFloat	Roof type is external floating roof.
flat	Roof type is flat.
flatHeads	Roof type is flat heads.
flatWLid	Roof type is flat with lid.
horizExternFloat	Roof type is horizontal external floating roof.
horizFixed	Roof type is horizontal fixed roof.
horizInternFloat	Roof type is horizontal internal floating roof.
internFloat	Roof type is internal floating roof.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
plasticLid	Roof type is plastic lid.
pressDome	Roof type is pressed dome.
pressHeads	Roof type is pressed heads.
TBD	To Be Determined: A value is required but the value has yet to be determined.
vertExternFloat	Roof type is vertical external floating roof.
vertFixed	Roof type is vertical fixed roof.
vertInternFloat	Roof type is vertical internal floating roof.

DOMAIN TABLE NAME: TankStatus	
ATTRIBUTE NAME: tankStatus	
CODED DOMAIN	DEFINITION
abandoned	Tank is permanently out of service and has not been removed or "closed" in accordance with the appropriate environmental regulations.
closedInPlace	Tank was permanently taken out of service, filled with inert material, left in place, site has been closed in accordance with appropriate environmental regulations.
closedRemoved	Tank was permanently taken out of service, has been removed, and the tank site has been closed in accordance with all appropriate environmental regulations.
filled	Tank was permanently taken out of service, filled with inert material, left in place, site was not closed in accordance with current appropriate environmental regulations.

DOMAIN TABLE NAME: TankStatus	
ATTRIBUTE NAME: tankStatus	
inactive	Tank is temporarily inactive, but is available for future service.
inUse	Tank is currently in service or active use.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
outOfService	Tank is temporarily out of service, but is available for future service or removal/replacement.
removed	Tank was permanently taken out of service and removed, but the tank site was not closed in accordance with all current applicable environmental regulations.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: TankType	
ATTRIBUTE NAME: tankType	
CODED DOMAIN	DEFINITION
astInBldg	The tank is an aboveground storage tank inside a building.
astOutBldg	The tank is an aboveground storage tank outside a building.
bowser	The tank is a bowser tank.
chemical	The tank is a chemical tank.
elevated	The tank is an elevated tank.
fuel	The tank is a fuel tank.
highPress	The tank is a high pressure tank.
highTherm	The tank is a high thermal tank.
horizCylind	The tank is a horizontal cylindrical tank.
horizRect	The tank is a horizontal rectangular tank.
mobile	The tank is a mobile tank.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
ows	The tank is an oil/water separator.
portable	The tank is a portable tank.
TBD	To Be Determined: A value is required but the value has yet to be determined.
vertCylind	The tank is a vertical cylindrical tank.
vertRect	The tank is a vertical rectangular tank.

DOMAIN TABLE NAME: VaporContr	
ATTRIBUTE NAME: vaporContr	
CODED DOMAIN	DEFINITION
EV	Vapor control consists of an emergency vent.
IFR	Vapor control consists of an internal floating roof.
NA	Not Applicable: No value exists.
none	Vapor control does not exist.
other	Other. Must be described in the sdsFeatureDescription attribute.
PEV	Vapor control consists of a primary emergency vent.
pressVac	Vapor control consists of a pressure vacuum.
pressVent	Vapor control consists of a pressure vent.
SEV	Vapor control consists of a secondary emergency vent.
TBD	To Be Determined: A value is required but the value has yet to be determined.
ventOpenToAtmos	Vapor control consists of a vent open to atmosphere.

March 01, 2018

Data Layer Specifications for:

Environmental Water Quality Permit

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	EnvironmentalWaterQualityPermit_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	EnvironmentalWaterQualityPermit_20160623	• Added authoritative source language to the "Allowed Values" column under "Attributes" section. • Updated "Positional Accuracy" section.
3/9/2017	EnvironmentalWaterQualityPermit_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	EnvironmentalWaterQualityPermit_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
03/01/2018	EnvironmentalWaterQualityPermit_20180301	• Updated the "Definition", "Geometry/Topology", "Positional Accuracy", "Attributes", "Business Tables," and "Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables" sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the EnvWtrQualPermit_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

The boundary of a water system to which a water pollution control permit applies for water quality.

Only Clean Water Act permits should be included in this data layer. Permits associated with Safe Drinking Water Act should not be included in this data layer.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	EnvWtrQualPermit_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalWaterQuality
Previous Layer Names:	None
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Environmental Water Quality
Data Steward POC:	AFCEC/CZTQ Air Force Environmental Water Quality Program SME
Representation:	• Environmental water quality permit areas are represented as closed polygons depicting the outermost extent of the area. • Each individual environmental water quality permit is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Managing Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • AFI32-7047, Water and Fuel Systems

Implementing Program(s):	Driver(s):
	• Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009

Geometry/Topology

Polygon Features:
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on a quarterly (3 month) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the quarterly update. Additionally a quarterly Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Currently, only stormwater and wastewater permits will be included in this layer. Drinking water permits will not be included. Attributes specific to drinking water permits (indicated in the Attributes section below) should be populated with "NA" or its equivalent. If drinking water permits are included in the future these attributes will be populated accordingly.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **6 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the EnvWtrQualPermit_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the EnvWtrQualPermit_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	envWtrQualPermitIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Allowed values can be obtained from WET database.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Allowed values can be obtained from WET database.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acres	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	wetPermitID	The unique identifier for each EnvWtrQualPermit feature. This is the permit ID from the WET database for wastewater, storm water, and other permitted sources, or the PWS ID from the WET database for drinking water.	Allowed values can be obtained from WET database.	String (50)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	envSystemType	Identifies the type of water system for the specific feature.	Allowed values can be obtained from WET database. **For the list of domain values see EnvSystemType in Appendix 1.**	String (10)	AF
D	regulatedEntityType	A descriptor to indicate the type of regulated entity.	Allowed values can be obtained from WET database. **For the list of domain values see RegulatedType in Appendix 1.**	String (20)	AF
	populationServed	A number indicating the total population served by the drinking water system.	Specific to drinking water permits. Populate with 77777.	Integer (Long)	AF
D	grantingAuthority	A descriptor that indicates the granting authority for the permit.	Allowed values can be obtained from WET database. **For the list of domain values see GrantingAuthority in Appendix 1.**	String (5)	AF
	authorityName	A descriptor indicating the name of the authority granting the permit.	Allowed values can be obtained from WET database.	String (80)	AF
	effectDate	The effective date of the permit. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).	Allowed values can be obtained from WET database.	Integer (Long)	AF
	expireDate	The expiration date of the permit. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).	Allowed values can be obtained from WET database.	Integer (Long)	AF
	systemOwnerContact	Identifies the name and phone number of the treatment work owner.	Allowed values can be obtained from WET database.	String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	isContractorOperated	Indicates if the system is being operated by a contractor for the AF.	Allowed values can be obtained from WET database. NA, no, TBD, yes	String (3)	AF
D	drainageSourceType	General type of drainage to the feature or source of drinking water.	Allowed values can be obtained from WET database. **For the list of domain values see DrainageSourceType in Appendix 1.**	String (20)	AF
D	dischargePntType	A description that identifies the type of discharge (CWA).	Allowed values can be obtained from WET database. **For the list of domain values see DischargePntType in Appendix 1.**	String (15)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for EnvWtrQualPermit_A is:

Table Name	Identifier	Source
wq_EnvWtrQualFee	wetPermitID	Program Area Manager

Business Table Attributes for wq_EnvWtrQualFee

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	wetPermitID	The unique identifier for each EnvWtrQualPermit feature. Used to link back to the EnvWtrQualPermit_A attribute table.	Allowed values can be obtained from WET database.	String (50)
	trackingNumber	The invoice number or other tracking number for each EnvWtrQualFee.	Allowed values can be obtained from WET database.	String (20)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	feeType	Indicates what type of fee it is.	Allowed values can be obtained from WET database.	String (20)
	dateDue	Indicates the due date of the fee.	Allowed values can be obtained from WET database.	Date
	datePaid	Indicates the date the fee was paid.	Allowed values can be obtained from WET database.	Date
	amount	Indicates the amount paid.	Allowed values can be obtained from WET database.	String (20)
	paymentMethod	Indicates how the payment was made.	Allowed values can be obtained from WET database.	String (20)

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Water Quality, Environmental Water Quality Permit

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: DischargePntType	
ATTRIBUTE NAME: dischargePntType	
CODED DOMAIN	DEFINITION
CWAdirect	The discharge type is CWA-direct.
indirect	The discharge type is indirect.
landApplication	The discharge type is land application.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
reuseRecycled	The discharge type is reused/recycled.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: DrainageSourceType	
ATTRIBUTE NAME: drainageSourceType	
CODED DOMAIN	DEFINITION
CWAnonPoint	The source is a Clean Water Act non-point source.
CWApoint	The source is a Clean Water Act point source.
domestic	The source is from domestic or municipal wastewater.
industrial	The source is from industrial wastewater.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
SDWAgroundwater	The source is a Safe Drinking Water Act groundwater source.
SDWAsurfaceWater	The source is a Safe Drinking Water Act surface water source.
stormWater	The source is storm water from a storm water collection system.
TBD	To Be Determined: A value is required but the value has yet to be determined.
treatedRecycled	The source is treated recycled water.

DOMAIN TABLE NAME: EnvSystemType	
ATTRIBUTE NAME: envSystemType	
CODED DOMAIN	DEFINITION
CNGP	The environmental system is a construction general permit.
FOTW	The environmental system is a federally owned treatment works.
IWTP	The environmental system is an industrial waste treatment plant.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
OVRS	The environmental system is an overseas system.
POTW	The environmental system is a discharge to a publicly owned treatment works.
PWS	The environmental system is a public water system.
SWTR	The environmental system is a national pollution discharge elimination system.
SWTRMS4	The environmental system is a municipal separate storm sewer system for storm water.
SWTRMSGP	The environmental system is a multi-sector general permit for storm water.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: GrantingAuthority	
ATTRIBUTE NAME: grantingAuthority	
CODED DOMAIN	DEFINITION
EPA	The EPA is the granting authority for the permit.
local	The local government is the granting authority for the permit.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
state	The state government is the granting authority for the permit.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: RegulatedType	
ATTRIBUTE NAME: regulatedType	
CODED DOMAIN	DEFINITION
drinkingWater	The resource is regulated as drinking water.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
stormWater	The resource is regulated as storm water.
TBD	To Be Determined: A value is required but the value has yet to be determined.
wastewater	The resource is regulated as wastewater.

March 01, 2018

Data Layer Specifications for:

Environmental Water Quality Sample Location

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	EnvironmentalWaterQuality SampleLocation_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	EnvironmentalWaterQuality SampleLocation_20160623	• Updated "Positional Accuracy" section.
3/9/2017	EnvironmentalWaterQuality SampleLocation_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	EnvironmentalWaterQuality SampleLocation_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
1/8/2018	EnvironmentalWaterQuality SampleLocation_20180108	• Updated Allowed Values for dischargeRateUom attribute field. • Corrected camel case for usWaters to USwaters in DischPntCategory domain table.
03/01/2018	EnvironmentalWaterQuality SampleLocation _20180301	• Updated the "Definition", "Positional Accuracy", "Attributes", "Business Tables," and "Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables" sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the EnvWtrQualSampLoc_P data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

The physical location at which samples are collected for the purpose of supporting water quality.

Sampling locations associated with Clean Water Act permits should be included in this data layer. Sampling locations associated with Safe Drinking Water Act should not be included in this data layer.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	EnvWtrQualSampLoc_P
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalWaterQuality
Previous Layer Names:	drinking_water_sample_point groundwater_quality_sta_point groundwater_sample_location_point surface_water_sample_location_point surfacewater_quality_sta_point EnvironmentalSampleLocation
Geometry Type:	Point
Data Steward Organization (Program Area):	Program Area: Environmental Water Quality
Data Steward POC:	AFCEC/CZTQ Air Force Environmental Water Quality Program SME
Representation:	• Environmental water quality sample location points are a representation of the coordinate location of that feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999

Implementing Program(s):	Driver(s):
	• AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • AFI32-7047, Water and Fuel Systems • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009

Geometry/Topology

Point Features:
Points must be disjoint.

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on a quarterly (3 month) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the quarterly update. Additionally a quarterly Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Currently, only stormwater and wastewater sampling locations will be included in this layer. Drinking water sample locations will not be included. Attributes specific to drinking water sample locations (indicated in the Attributes section below) should be populated with “NA” or its equivalent. If drinking water sample locations are included in the future these attributes will be populated accordingly.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the EnvWtrQualSampLoc_P layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the EnvWtrQualSampLoc_P data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	envWtrQualSampLocIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Allowed values can be obtained from WET database.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Allowed values can be obtained from WET database.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	latitude	The latitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	longitude	The longitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	MGRS	Military Grid Reference System for the coordinate point. MGRS is calculated from the Latitude and Longitude values.		String (20)	SDSFIE
	elevation	The elevation of the subject item in relation to a datum.		Double	AF
D	elevationUOM	The unit of measure for elevation dimension.	foot	String (25)	AF
	wetID	The unique identifier from the WET database for each EnvWtrQualSampLoc feature.	Allowed values can be obtained from WET database.	String (50)	AF
	associatedPermit	The unique identifier for each EnvWaterQualPermit associated with the sample location.	Allowed values can be obtained from WET database.	String (50)	AF
	easiReportID	The unique identifier for an EASI report.	Allowed values can be obtained from WET database.	Integer (Long)	AF
D	sampleLocationType	The type of sampling location.	**For a list of domain values, see SampleLocationType in Appendix 1.**	String (30)	AF
D	isRegulatedDischargePt	Indicates if the sampling location is also a discharge point.	NA, no, TBD, yes	String (3)	AF
D	isSourceWell	Indicates if the sampling location is also a source well.	Specific to drinking water sample locations. Populate with NA.	String (3)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	wellPercent	The percentage that the well contributes to the water supply.	Specific to drinking water sample locations. Populate with 77777.	Integer (Long)	AF
D	hasUICPermit	Indicates if well is regulated under an Underground Injection Control permit.	Specific to drinking water sample locations. Populate with NA.	String (3)	AF
D	drainageSourceType	General type of drainage to the feature or source of drinking water.	Allowed values can be obtained from WET database. **For a list of domain values, see DrainageSourceType in Appendix 1.**	String (20)	AF
D	dischargePntType	A description that identifies the type of discharge (CWA).	Allowed values can be obtained from WET database. **For a list of domain values, see DischargePntType in Appendix 1.**	String (15)	AF
D	dischargePntStatus	The status of the discharge point (e.g., permanent, temporary, proposed, abandoned, etc.), from lists or entered from field inspections.	**For a list of domain values, see DischPntStatus in Appendix 1.**	String (10)	AF
D	dischargePntCategory	A field indicating the kind, class, or group of the subject item.	**For a list of domain values, see DischPntCategory in Appendix 1.**	String (8)	AF
	dischargeSourceRate	The estimated discharge/source flow rate at this feature (gpm, gpd, or mgd).	Allowed values can be obtained from WET database.	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	dischargeRateUOM	The unit of measure used for discharge/source rate.	Allowed values can be obtained from WET database. **For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (45)	AF
	receivingWaters	Indicates which federal or state waters receive the discharge.	Allowed values can be obtained from WET database.	String (20)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for EnvWtrQualSampLoc_P is:

Table Name	Identifier	Source
wq_EnvWtrQualSampLoc	wetID	Program Area Manager

Business Table Attributes for wq_EnvWtrQualSampLoc

Domain (D)	Required SDSFIE Name	Definition	Data Source / Allowed Values	Data Type (Length)
	wetID	The unique identifier for each EnvWtrQualSampLoc feature. Used to link back to the EnvWtrQualSampLoc_P attribute table.	Allowed values can be obtained from WET database.	String (50)
	EAID	Indicates the enforcement action ID in EASI for more details of the violation.	Allowed values can be obtained from WET database.	String (255)
	sampleViolationDate	Date the sample exceedance occurred.	Allowed values can be obtained from WET database.	Date

Domain (D)	Required SDSFIE Name	Definition	Data Source / Allowed Values	Data Type (Length)
	sampleViolationTitle	Brief description of the sample exceedance.	Allowed values can be obtained from WET database.	String (255)
	overallRootCause	Indicates the overall root cause of the sample exceedance. IST/Installation inputting into EASI should fill in this field.	Allowed values can be obtained from WET database.	String (255)
D	isPermitConditionMet	Indicates if the permit condition is met.	NA, no, TBD, yes	String (3)
	conditionsNotMet	Lists the conditions that were not met at this sample location and are non-compliant with the permit.	Allowed values can be obtained from WET database.	String (255)
	monitoringFrequency	Describes the frequency in which the sample location is monitored. IST/Installation inputting into EASI should fill in this field.	Allowed values can be obtained from WET database.	String (255)
	sampleType	Describes the type of sample collected at this location. IST/Installation inputting into EASI should fill in this field.	Allowed values can be obtained from WET database.	String (20)
	contaminantType	Describes the type(s) of contaminants being discharged. IST/Installation inputting into EASI should fill in this field.	Allowed values can be obtained from WET database.	String (255)
D	isHBV	Indicates if a biological sample at this location is a health-based violation (HBV). Only applies to SDWA.	Specific to drinking water sample locations. Populate with NA.	String (3)
	popImpacted	Indicates the population potentially affected (SDWA only).	Specific to drinking water sample locations. Populate with 77777.	Double
	notifyTier	Indicates what tier level of public notification is required.	Specific to drinking water sample locations. Populate with NA.	String (5)

Domain (D)	Required SDSFIE Name	Definition	Data Source / Allowed Values	Data Type (Length)
	contaminant	The contaminant of concern being discharged at the location. IST/Installation inputting into EASI should complete this field.	Allowed values can be obtained from WET database.	String (100)
	concentrationLevel	Indicates the concentration of the contaminant based on analysis. IST/Installation inputting into EASI should complete this field.		String (255)
	contaminantPermitLevel	Indicates the level/limit of the contaminant per the permit for which an action is required. IST/Installation inputting into EASI should fill in this field.	Allowed values can be obtained from WET database.	String (255)

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Water Quality, Environmental Water Quality Sample Location

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: DischargePntType	
ATTRIBUTE NAME: dischargePntType	
CODED DOMAIN	DEFINITION
CWAdirect	The discharge type is CWA-direct.
indirect	The discharge type is indirect.
landApplication	The discharge type is land application.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
reuseRecycled	The discharge type is reused/recycled.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: DischPntCategory	
ATTRIBUTE NAME: dischargePntCategory	
CODED DOMAIN	DEFINITION
basin	The discharge point is to a rapid infiltration basin.
drain	The discharge point is a drainage field.
lagoon	The discharge point is to a lagoon.
leach	The discharge point is to a leach field.
NA	Not Applicable: No value exists.
offSite	The discharge point is off site, off base, or out of system.
open	The discharge point is an open discharge.
other	Other. Must be described in the sdsFeatureDescription attribute.
overflow	The discharge point is to an overflow structure.
percPond	The discharge point is to a percolation pond.
surface	The discharge point is an open discharge to the surface.
TBD	To Be Determined: A value is required but the value has yet to be determined.
unknown	The discharge point category is unknown.
USwaters	The discharge point is to Waters of the US (e.g. estuaries, tributaries, or similar).
well	The discharge point is a well.

DOMAIN TABLE NAME: DischPntStatus	
ATTRIBUTE NAME: dischargePntStatus	
CODED DOMAIN	DEFINITION
abandoned	The discharge point has been abandoned in place (not in use).
buried	The discharge point is buried.
incomplete	The discharge point is incomplete or unfinished.
inService	The discharge point is in service and being used.
NA	Not Applicable: No value exists.
natural	The discharge point is naturally occurring.
other	Other. Must be described in the sdsFeatureDescription attribute.
permanent	The discharge point is permanent.
proposed	The discharge point is proposed.
retired	The discharge point is permanently retired, or taken out of service.
TBD	To Be Determined: A value is required but the value has yet to be determined.
temporary	The discharge point is temporary.
unknown	The discharge point status is unknown.

DOMAIN TABLE NAME: DrainageSourceType	
ATTRIBUTE NAME: drainageSourceType	
CODED DOMAIN	DEFINITION
CWAnonPoint	The source is a Clean Water Act non-point source.
CWApoint	The source is a Clean Water Act point source.
domestic	The source is from domestic or municipal wastewater.
industrial	The source is from industrial wastewater.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
SDWAgroundwater	The source is a Safe Drinking Water Act groundwater source.
SDWAsurfaceWater	The source is a Safe Drinking Water Act surface water source.
stormWater	The source is storm water from a storm water collection system.
TBD	To Be Determined: A value is required but the value has yet to be determined.
treatedRecycled	The source is treated recycled water.

DOMAIN TABLE NAME: SampleLocationType	
ATTRIBUTE NAME: sampleLocationType	
CODED DOMAIN	DEFINITION
constructionStormWaterPoint	This value represents discharge point for storm water from a construction site.
distribution	Sample point within the distribution system.
domesticSewerDischargePoint	This value represents discharge point from a domestic sewer.
domesticSewerEndOfPipePoint	This value represents sample location at an end-of-pipe for domestic sewer.
domesticSewerManholePoint	This value represents sample location at a domestic sewer manhole point.
drinkingWaterSamplePoint	This value represents sample location for drinking water at the source.
drinkingWaterStaPoint	This value represents sample location for drinking water within the distribution system.
groundwaterDischargePoint	This value represents discharge point from groundwater source.
groundwaterQualityStaPoint	This value represents sample location at a groundwater station.
groundwaterSampleLocPoint	This value represents sample location at an other groundwater point.
indWastewaterDischargePoint	This value represents discharge point for wastewater from industrial wastewater facility.
injectionWellDischargePoint	This value represents discharge point at an injection well.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
plantTreated	Water treatment plant sample point.
pollutionReleasePoint	This value represents discharge point from a pollution source at the point it reaches water.
pollutionSourcePoint	This value represents discharge point at pollution source.
sourceRaw	Water source sample point.
stormSewerDischargePoint	This value represents discharge point for storm water from storm sewer.
stormSewerEndOfPipePoint	This value represents sample location at an end-of-pipe or outfall for storm sewer.
stormSewerManholePoint	This value represents sample location at a storm sewer manhole point.
surfaceWaterDischargePoint	This value represents discharge point from surface water.
surfaceWaterQualityStaPoint	This value represents sample location at a surface water station.
surfaceWaterSampleLocPoint	This value represents sample location at an other surface water point.
TBD	To Be Determined: A value is required but the value has yet to be determined.
well	Well head sample point.
wellWaterDischargePoint	This value represents discharge point from well source.

March 01, 2018

Data Layer Specifications for:

Spill Incident Area

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	SpillIncidentArea_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	SpillIncidentArea_20160623	• Added SpillIncidentArea_P representation under "Data Layer Details" section. • Added SpillIncidentArea_P topology under "Geometry/ Topology" section. • Added SpillIncidentArea_P business table under "Business Tables" section. • Updated "Positional Accuracy" section.
3/9/2017	SpillIncidentArea_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection. • Updated the "Representation" subsection of the "Data Layer Details" section. • Updated the "Point Features" subsection of the "Geometry/Topology" section.
6/8/2017	SpillIncidentArea_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
03/01/2018	SpillIncidentArea_20180301	• Updated the "Definition", "Geometry/Topology", "Positional Accuracy", "Attributes", "Business Tables," and "Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables" sections.

Data Layer Specification – Spill Incident Area

This Data Layer Specification (DLS) defines geospatial data specifications for the SpillIncidentArea_A and SpillIncidentArea_P data layers implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

The physical location where a spill has occurred.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	SpillIncidentArea_A SpillIncidentArea_P
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalWaterQuality
Previous Layer Names:	None
Geometry Type:	Polygon, Point
Data Steward Organization (Program Area):	Program Area: Environmental Water Quality
Data Steward POC:	AFCEC/CZTQ Air Force Environmental Water Quality Program SME
Representation:	• All spill incident area points developed from areas shall represent the centroid of the site's area. • Spill incident areas are represented as closed polygons depicting the outermost extent of the area. • Each spill incident area is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • AFI32-7047, Water and Fuel Systems • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009

Implementing Program(s):	Driver(s):
	• Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009

Geometry/Topology

Polygon Features:
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).
Point Features:
If a point represents a polygon feature, then the point must fall properly inside of the coinciding polygon.

There are no feature class specific topology rules for SpillIncidentArea_P.

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on a quarterly (3 month) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the quarterly update. Additionally a quarterly Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase. Only spills meeting the criteria to be input into the EASI database should be included in this feature class.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the SpillIncidentArea_A and SpillIncidentArea_P layers will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the SpillIncidentArea_A and SpillIncidentArea_P data layers.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	spillIncidentAreaIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Allowed values can be obtained from SIRIS.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Allowed values can be obtained from SIRIS or any other descriptive information about the Spill Incident Area that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize *(Polygon geometry)*	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	areaSizeUOM *(Polygon geometry)*	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize *(Polygon geometry)*	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM *(Polygon geometry)*	The perimeter unit of measure.	foot	String (25)	AF
	latitude *(Polygon geometry)*	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude *(Polygon geometry)*	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid *(Polygon geometry)*	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	latitude *(Point geometry)*	The latitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	longitude *(Point geometry)*	The longitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	MGRS *(Point geometry)*	Military Grid Reference System for the coordinate point. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	elevation *(Point geometry)*	The elevation of the subject item in relation to a datum.		Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	elevationUOM *(Point geometry)*	The unit of measure for elevation dimension.	foot	String (25)	AF
	easiID	The unique identifier from EASI for each SpillIncidentArea feature.	Allowed values can be obtained from SIRIS.	String (50)	AF
	easiReportID	The unique identifier for an EASI report.	Allowed values can be obtained from SIRIS.	Integer (Long)	AF
D	surfaceWaterImpact	Indicates whether surface water has been impacted by the release.	NA, no, TBD, yes	String (3)	AF
D	groundwaterImpact	Indicates whether groundwater has been impacted by the release.	NA, no, TBD, yes	String (3)	AF
	dateRelease	The date the spill is believed/known to have occurred. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).	Allowed values can be obtained from SIRIS.	Integer (Long)	AF
D	releaseClass	The classification of the extent of the release (EASI).	Allowed values can be obtained from SIRIS. **For the list of domain values see Source and ReleaseClass in Appendix 1.**	String (10)	AF
	waterPollutionSource	The actual or suspected source of the pollutant or equipment type.	Allowed values can be obtained from SIRIS.	String (100)	AF
	rootCause	Describes the root cause of the release at the spill location.	Allowed values can be obtained from SIRIS.	String (255)	AF
D	isRemediation	Indicates whether or not further action or remediation is necessary.	NA, no, TBD, yes	String (3)	AF
	contaminant	The material of concern at the spill location.	Allowed values can be obtained from SIRIS.	String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.	Allowed values may be obtained from SIRIS for some spills.	String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. The business tables for SpillIncidentArea_A and SpillIncidentArea_P are:

Table Name	Identifier	Source
wq_SpillIncidentArea_A	easiID	Program Area Manager
wq_SpillIncidentArea_P	easiID	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Water Quality, Spill Incident Area

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: ReleaseClass	
ATTRIBUTE NAME: releaseClass	
CODED DOMAIN	DEFINITION
classI	Class I: Involves an area less than 2 lineal feet in any plane dimension.
classII	Class II: Involves area not over 10 lineal feet in any plane dimension, or not over 50 square feet, and not of a continuous nature.
classIII	Class III: Involves area over 10 lineal feet in any plane dimension, or over 50 square feet, or of a continuous nature.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.

May 7, 2018

Data Layer Specifications for:

Environmental Constraint

For Official Use Only

United States Air Force

Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
		•

This Data Layer Specification (DLS) defines geospatial data specifications for the EnvConstraint_A, EnvConstraint_L, and EnvConstraint_P data layers implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

Data layer definition: A location where environmental concerns may preclude certain land uses or activities. The appropriate POC should be contacted before activities are undertaken in the area.

These are approximate locations of recorded environmentally constrained sites or areas that may be protected by federal, state, or local law, or simply require further consideration and due diligence prior to being disturbed or otherwise acted upon. Any proposed action that will occur in or could adversely affect the area, will require review and authorization by the appropriate environmental office.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	EnvConstraint_A EnvConstraint_L EnvConstraint_P
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalConstraints
Previous Layer Names:	None
Geometry Type:	Polygon, Line, Point
Data Steward Organization (Program Area):	Program Area: Environmental
Data Steward POC:	AFCEC/CZT Air Force Environmental Technical Support Division
Representation:	• Environmental constraint areas are represented as closed polygons depicting the outermost extent of the area. • Each program area environmental constraint area is represented by a single area feature. • Environmental constraint sites will be represented as a continuous unbroken line.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013

Implementing Program(s):	Driver(s):
	• AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • Archeological Resources Protection Act (ARPA), 1979

Geometry/Topology

Polygon Features:
Polygons must be larger than cluster tolerance (.001 meter).
Polygons must be single part features.
Line Features:
Lines must be single part features.

There are no topology rules for point features.

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

This data layer is an amalgamation of other environmental data layers from multiple Functional Data Sets, some of which may be buffered so as to conceal their exact location. Specific data layers that may serve as sources for this layer include: ArchaeologicalSite_A, ArchaeologicalSite_L, ArchaeologicalSite_P, CemeteryOrBurialSite_A, CemeteryOrBurialSite_P, CulResPotentialArea_A, SacredSite_A, SacredSite_L, SacredSite_P, TraditionalCulRes_A, TraditionalCulRes_L, TraditionalCulRes_P, SolidWasteLandfill_A, CoastalZoneMgtArea_A, EssentialFishHabitat_A, FloodPlainArea_A, HabitatProtectiveZone_A, NatResRestReclProj_A, NatResRestReclProj_P,

SpecialMgtArea_A, SpecialStatusSpecies_A, SpecialStatusSpecies_L, SpecialStatusSpecies_P, SpeciesSpecificHabitat_A, SpeciesSpecificHabitat_L, SpeciesSpecificHabitat_P, Wetland_A, Wetland_L, Wetland_P, EnvOperableUnit_A, EnvRestorationSite_A, LandUseControl_A, PotentialEnvSite_A, RestTreatmentSystem_A, RestTreatmentSysComp_L, RestTreatmentSysComp_P, and StorageTank_P.

Data from the following layers shall be categorized as "red" in the constraint category attribute field indicating a potentially major constraint: ArchaeologicalSite_A, ArchaeologicalSite_L, ArchaeologicalSite_P, CemeteryOrBurialSite_A, CemeteryOrBurialSite_P, CulResPotentialArea_A, SacredSite_A, SacredSite_L, SacredSite_P, TraditionalCulRes_A, TraditionalCulRes_L, TraditionalCulRes_P, SolidWasteLandfill_A, FloodPlainArea_A, HabitatProtectiveZone_A, NatResRestReclProj_A, NatResRestReclProj_P, SpecialStatusSpecies_A, SpecialStatusSpecies_L, SpecialStatusSpecies_P, Wetland_A, Wetland_L, Wetland_P, EnvOperableUnit_A, EnvRestorationSite_A, LandUseControl_A, PotentialEnvSite_A, RestTreatmentSystem_A, RestTreatmentSysComp_L, RestTreatmentSysComp_P, and StorageTank_P. Data from the following layers shall be categorized as "yellow" in the constraint category attribute field indicating a minor constraint: CoastalZoneMgt_A, EssentialFishHabitat_A, SpecialMgtArea_A, SpeciesSpecificHabitat_A, SpeciesSpecificHabitat_L, and SpeciesSpecificHabitat_P.

Sensitive data from the ArchaeologicalSite_A, ArchaeologicalSite_L, ArchaeologicalSite_P, CemeteryOrBurialSite_A, CemeteryOrBurialSite_P, SacredSite_A, SacredSite_L, SacredSite_P, TraditionalCulRes_A, TraditionalCulRes_L, and TraditionalCulRes_P layers shall be buffered in such a manner so as to conceal the exact location of specific features. Data from FloodPlainArea_A shall only include flood zones with a 1% annual flood hazard chance (i.e. 100 year flood plain) or greater. Data from the SpeciesSpecificHabitat_A, SpeciesSpecificHabitat_L, and SpeciesSpecificHabitat_P layers shall only include designated critical habitat. Data from the EnvOperableUnit_A, EnvRestorationSite_A, PotentialEnvSite_A, RestTreatmentSystem_A, RestTreatmentSysComp_L, and RestTreatmentSysComp_P layers shall only include features that do not have existing land use controls and would thus be included in the LandUseControl_A data layer (i.e. duplicate data should be avoided). Data from StorageTank_P shall only include underground tanks.

Sensitive Cultural Resources data shall be buffered to conceal the exact location of specific features using a series of geoprocessing methods. Point data shall be buffered in such a manner so that the original site location will be randomly located within an approximately one acre square polygon. Line data shall be buffered by six meters. The resulting irregular polygon will then be "enveloped" inside a minimum bounding polygon. In this manner the true location and shape of the site will be concealed. For polygon data greater than one acre in size, the original polygon will be buffered by six meters and then "enveloped" inside of a rectangular minimum bounding polygon. For polygon data one acre in size or smaller, the original polygon will be buffered in such a manner so that the polygon will be randomly located inside a rectangle approximately four times larger than the original polygon. In this manner the true location and shape of each site will be concealed.

Positional Accuracy

Horizontal Accuracy: Since the intent of this layer is, in part, to conceal the true locations of sensitive environmental sites, a horizontal positional accuracy threshold is not applicable.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west-most spatial extents of the EnvConstraint_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the EnvConstraint_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	envConstraintIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	sdsFeatureName	The common name of the feature.	Names shall include the installation name, be unique across all geometry types for an installation, and will not be descriptive or provide specific details about the site, e.g. Dover AFB Site 1.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	"Potential environmental constraint site. Prior to performing operations within or disturbing contact Environmental Flight for further guidance."	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize (*Polygon geometry*)	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM (*Polygon geometry*)	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize (*Polygon geometry*)	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM (*Polygon geometry*)	The perimeter unit of measure.	foot	String (25)	AF
	latitude (*Polygon geometry*)	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude (*Polygon geometry*)	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	MGRScentroid (*Polygon Feature*)	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	lengthSize (*Line geometry*)	The value of the measured length.	Recorded to the 1/1000 of a foot.	Double	AF
D	lengthSizeUOM (*Line geometry*)	The unit of measure for the calculated length.	foot	String (25)	AF
	latitudeFrom (*Line geometry*)	The latitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	latitudeTo (*Line geometry*)	The latitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	longitudeFrom (*Line geometry*)	The longitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	longitudeTo (*Line geometry*)	The longitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	elevationFrom (*Line geometry*)	The elevation component of the beginning (upstream/upgradient) coordinate point in feet.		Double	AF
	elevationTo (*Line geometry*)	The elevation component of the ending (downstream/ downgradient) coordinate point in feet.		Double	AF
D	elevationUOM (*Line geometry*)	The unit of measure for elevation dimension.	foot	String (25)	AF
	latitude (*Point geometry*)	The latitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	longitude (*Point geometry*)	The longitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	MGRS (*Point Feature*)	Military Grid Reference System for the coordinate point. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	elevation (*Point geometry*)	The elevation of the subject item in relation to a datum.		Double	AF
D	elevationUOM (*Point geometry*)	The unit of measure for elevation dimension.	foot	String (25)	AF
D	constraintCategory	The category of the environmental constraint.	**For a list of domain values, see ConstraintCategory in Appendix 1**.	String (10)	AF
D	hasLandUseConstraint	Indicates whether the area is subject to land use constraints.	NA, no, TBD, yes	String (3)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	hasLandPlanConstraint	Indicates whether the area is subject to land planning constraints.	NA, no, TBD, yes	String (3)	AF
	poc	The point of contact for the feature.	"Air Force Environmental Flight"	String (50)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. All geometry types for the data layer will relate back to a single business table. The business table for EnvConstraint_A, EnvConstraint_L, and EnvConstraint_P is:

Table Name	Identifier	Source
ec_EnvConstraint	envConstraintIDFK	Program Area Manager

Business Table Attributes for ec_EnvConstraint

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	envConstraintIDFK	The unique identifier for each EnvConstraint feature. Used to link back to the appropriate feature class.		String (20)
	featureName	The name of the feature given in the sdsFeatureName attribute field of the feature class.	This should be the same name as given in the sdsFeatureName attribute field of the related feature class.	String (80)
	constraintReason	A narrative describing the reason for the constraint.		String (255)
	sourceDataLayer	The environmental data layer(s) containing the source data the constraint is based on.		String (255)
	programAreaPOC	The point of contact for the program area that owns the specific feature requiring the environmental constraint.		String (50)

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the Environmental office.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Environmental Constraints, Environmental Constraint

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: ConstraintCategory	
ATTRIBUTE NAME: constraintCategory	
CODED DOMAIN	DEFINITION
red	Red - Significant environmental constraints are likely present.
yellow	Yellow - Minor environmental constraints are likely present.

March 01, 2018

Data Layer Specifications for:

Environmental Operable Unit

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	EnvironmentalOperableUnit_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	EnvironmentalOperableUnit_20160623	• Updated "Positional Accuracy" section.
3/9/2017	EnvironmentalOperableUnit_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	EnvironmentalOperableUnit_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	EnvironmentalOperableUnit_20180301	• Updated Definition, Geometry/Topology, Positional Accuracy, and Attributes sections. • Added Appendix 1 for domain table.

This Data Layer Specification (DLS) defines geospatial data specifications for the EnvOperableUnit_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

A discrete action that comprises an incremental step toward comprehensively addressing site problems. This discrete portion of a remedial response manages migration, or eliminates or mitigates a release, threat of release, or pathway of exposure.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	EnvOperableUnit_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalRestoration
Previous Layer Names:	operable_unit_area PollutionArea
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Environmental Restoration
Data Steward POC:	AFCEC/CZTE Air Force Environmental Restoration Program SME
Representation:	• Operable unit areas are represented as closed polygons depicting the outermost extent of the area. • Each individual operable unit is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003

Implementing Program(s):	Driver(s):
	• USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009

Geometry/Topology

Polygon Features:
Polygons must not overlap.
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **6 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west-most spatial extents of the EnvOperableUnit_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters.

Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the EnvOperableUnit_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	envOperableUnitIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	The local name for the Operable Unit.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Operable Unit that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	operableUnit	The operable unit identification.		String (10)	AF
	officialOUname	The official name for the operable unit.		String (100)	AF
	associatedSite	Identifies the associated environmental restoration site(s).		String (255)	AF
D	unitType	Identifies whether the consolidated management area is an Operable Unit under CERCLA or a Groundwater Management Unit under RCRA.	**For a list of domain values, see UnitType in Appendix 1.**	String (10)	AF
D	isTechImpractArea	Indicates whether the area is a Technical Impracticability Area.	NA, no, TBD, yes	String (3)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	isContainZone	Indicates whether the area is a Containment Zone.	NA, no, TBD, yes	String (3)	AF
	programManager	The Environmental Restoration point of contact responsible for the feature.		String (100)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
	MajorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for EnvOperableUnit_A is:

Table Name	Identifier	Source
er_EnvOperableUnit	envOperableUnitIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Environmental Restoration, Environmental Operable Unit

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: UnitType	
ATTRIBUTE NAME: unitType	
CODED DOMAIN	DEFINITION
cerclaOU	The consolidated management area is an Operable Unit under CERCLA.
rcraGWMU	The consolidated management area is a Groundwater Management Unit under RCRA.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.

March 01, 2018

Data Layer Specifications for:

Environmental Restoration Sample Location

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	EnvironmentalRestorationSampleLocation_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	EnvironmentalRestorationSampleLocation_20160623	• Added authoritative source language to the "Allowed Values" column under "Attributes" section. • Updated "Positional Accuracy" section.
3/9/2017	EnvironmentalRestorationSampleLocation_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	EnvironmentalRestorationSampleLocation_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	EnvironmentalRestorationSampleLocation_20180301	• Updated Positional Accuracy and Attributes Sections. • Updated domain tables in Appendix 1.

This Data Layer Specification (DLS) defines geospatial data specifications for the EnvRestorSampLoc_P data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

The physical location at which samples are collected for the purpose of supporting environmental restoration or compliance. This should include all wells, boreholes, piezometers, soil vapor points, air vapor sampling points, etc.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	EnvRestorSampLoc_P
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalRestoration
Previous Layer Names:	air_quality_station_point air_sample_collection_location_point drinking_water_sample_point env_field_sample_loc_point groundwater_quality_sta_point groundwater_sample_collection_location_point soil_sample_collection_location_point soil_sample_point surface_water_sample_collection_location_point surfacewater_quality_sta_point EnvironmentalSampleLocation
Geometry Type:	Point
Data Steward Organization (Program Area):	Program Area: Environmental Restoration
Data Steward POC:	AFCEC/CZTE Air Force Environmental Restoration Program SME
Representation:	• Environmental restoration sample location points are a representation of the coordinate location of that feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Base Comprehensive Planning, 13 November 2009

Implementing Program(s):	Driver(s):
	• AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Managing Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • AFI32-7020, The Environmental Restoration Program, 7 November 2014 • Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) • Title 42 USC (42 USC) Sections 9620

Geometry/Topology

Point Features:
Points must be disjoint.

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **50 centimeters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the EnvRestorSampLoc_P layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the EnvRestorSampLoc_P data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	envRestorationSampleIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	The local name for the Restoration Sample Location.	String (80)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Restoration Sample Location that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	latitude	The latitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	longitude	The longitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	MGRS	Military Grid Reference System for the coordinate point. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	elevation	The elevation of the subject item in relation to a datum.		Double	AF
D	elevationUOM	The unit of measure for elevation dimension.	foot	String (25)	AF
	sampleLocationID	The unique identifier in the ERPIMS database for each sample location. Used to link attribute table to LOCID field in the LDI table of the ERPIMS database.	Allowed values can be obtained from ERPIMS.	String (50)	AF
	eesohmisSiteID	The ID for the restoration site(s) taken from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (80)	AF
	associatedOU	Identifies the associated operable unit.		String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	commonSiteName	The locally assigned common name for the restoration site that contains the sample location.		String (100)	AF
D	sampleType	Represents the type of sample being performed.	**For a list of domain values, see SampleType in Appendix 1.**	String (30)	AF
	sampleDate	Date last sample was collected. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
D	sampleFreq	The frequency at which the location is sampled.	**For a list of domain values, see MonitoringFreq in Appendix 1.**	String (20)	AF
D	sampleStatus	Identifies the status of the environmental restoration sample site.	**For a list of domain values, see SampleStatus in Appendix 1.**	String (10)	AF
	sampleDepth	The depth, in feet, at which the sample was taken.		Double	AF
D	sampleDepthUOM	The unit of measure for the sample depth.	foot	String (25)	AF
D	restWellType	The type of environmental restoration well, either soil vapor well or groundwater well.	**For a list of domain values, see RestWellType in Appendix 1.**	String (15)	AF
D	grndwtrMonWellZone	Identifies the groundwater monitoring well depth zone.	**For a list of domain values, see GWMWzone in Appendix 1.**	String (15)	AF
	dateInstalled	Indicates the date on which the feature was/is to be installed. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	totalDepth	The Z-value representing the total depth of the well, piezometer, or borehole in feet.		Double	AF
D	totalDepthUOM	The unit of measure used for the total depth.	foot	String (25)	AF
	depthToGrndwtr	The Z-value representing the depth to groundwater value, in feet, for each sampling location.		Double	AF
D	depthToGrndwtrUOM	The unit of measure used to measure depth to groundwater.	foot	String (25)	AF
	depthToBedrock	The Z-value representing the depth to bedrock value, in feet, for each sampling location.		Double	AF
D	depthToBedrockUOM	The unit of measure used to measure depth to bedrock.	foot	String (25)	AF
D	isTreatmentSystm	Indicates whether a sampling location (e.g. well) is part of a treatment system.	NA, no, TBD, yes	String (3)	AF
	drillingParameters	Drilling parameters associated with the well. Derived from ERPIMS.		String (255)	AF
	drillDateStart	Date drilling began at the location. Derived from ERPIMS. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
	drillDateEnd	Date drilling ended at the location. Derived from ERPIMS. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	holeDiam	The diameter for the hole in inches.		Double	AF
D	holeDiamUOM	The unit of measure for the diameter.	inch	String (25)	AF
	casingMaterial	The material used for the well casing.		String (50)	AF
	casingDiam	The diameter for the casing in inches.		Double	AF
D	casingDiamUOM	The unit of measure for the diameter.	inch	String (25)	AF
	casingTopElev	The top elevation of the casing in feet.		Double	AF
D	casingElevUOM	The unit of measure for the top elevation.	foot	String (25)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for EnvRestorSampLoc_P is:

Table Name	Identifier	Source
er_EnvRestorSampLoc	envRestorationSampleIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Environmental Restoration, Environmental Restoration Sample Location

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: GWMWzone	
ATTRIBUTE NAME: grndwtrMonWellZone	
CODED DOMAIN	DEFINITION
deep	The groundwater monitoring well is deep.
intermediate	The groundwater monitoring well is intermediate.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
shallow	The groundwater monitoring well is shallow.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: MonitoringFreq	
ATTRIBUTE NAME: sampleFreq	
CODED DOMAIN	DEFINITION
annually	Monitoring occurs annually.
biAnnually	Monitoring occurs bi-annually.
biMonthly	Monitoring occurs bi-monthly.
daily	Monitoring occurs daily.
fiveYears	Monitoring occurs every five years.
monthly	Monitoring occurs monthly.
NA	Not Applicable: No value exists.
other	Other. Must be describe in the sdsFeatureDescription attribute.
quarterly	Monitoring occurs quarterly.
schedNotDefined	The monitoring schedule is not defined.
TBD	To Be Determined: A value is required but the value has yet to be determined.
twoMonths	Monitoring occurs every two months.
twoYears	Monitoring occurs every two years.
weekly	Monitoring occurs weekly.

DOMAIN TABLE NAME: RestWellType	
ATTRIBUTE NAME: restWellType	
CODED DOMAIN	DEFINITION
groundwaterWell	The well is a groundwater well.
NA	Not Applicable: No value exists.
soilVaporWell	The well is a soil vapor well.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: SampleStatus	
ATTRIBUTE NAME: sampleStatus	
CODED DOMAIN	DEFINITION
abandoned	The sample location is abandoned.
active	The sample location is active.
destroyed	The sample location is destroyed.
inactive	The sample location is inactive.
NA	Not Applicable: No value exists.

DOMAIN TABLE NAME: SampleStatus	
ATTRIBUTE NAME: sampleStatus	
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: SampleType	
ATTRIBUTE NAME: sampleType	
CODED DOMAIN	DEFINITION
airSampleIndoor	The sample was derived from an air sample (Indoor).
airSampleOutdoor	The sample was derived from an air sample (Outdoor).
compliance	Compliance.
drinkingWater	The sample was derived from a drinking water point (tap sample).
drinkingWaterWell	The sample was derived from a drinking water well.
extractionGWWell	The sample was derived from a groundwater sample from extraction well.
gasEffluent	The sample was derived from a gas effluent sample (Composite Vapor After Treatment).
gasGWMW	The sample was derived from a gas sample in a GWMW.
gasInfluent	The sample was derived from a gas influent sample (Composite Vapor Before Treatment).
gasPiezometer	The sample was derived from a gas from a piezometer well.
gasSoilExtractionWell	The sample was derived from gas soil extraction well.
gasSoilMonitoringWell	The sample was derived from gas soil monitoring well.
GroundwaterMonitoringWell	The sample was derived from a groundwater monitoring well (GW MW).
GWDirectPush	The sample was derived from direct push groundwater sample (Hydropunch).
GWExtractedEffluent	The sample was derived from a extracted groundwater effluent sample (Composite GW After Treatment).
GWExtractedInfluent	The sample was derived from a extracted groundwater influent sample (Composite GW Before Treatment).
GWHydropunch	The sample was derived from groundwater grab from hydropunching.
GWPiezometer	The sample was derived from a piezometer to collect groundwater sample.
holdingPond	The sample was derived from a holding pond sample.
holdingTank	The sample was derived from a holding tank sample.
indicator	Indicator.
injectionWell	The sample was derived from a water sample from an injection well.
landfillGasMonitoringPoint	The sample was derived from landfill gas monitoring point.
landfillGasWellPoint	The sample was derived from landfill gas well.
landfillLeachatePoint	The sample was derived from landfill leachate point (Seep, Sump, or Pipe).
monitoring	Monitoring.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
sediment	The sample was derived from a sediment sample.
seepSample	The sample was derived from a seep sample.
soilBoreInterval	The sample was derived from a soil grab sample from a boring interval.
soilCompositeSample	The sample was derived from a composite soil sample.
soilDirectPush	The sample was derived from direct push soil sample point.
soilGas	The sample was derived from soil gas grab sample from subsurface.
soilGrab	The sample was derived from a soil grab sample (Borehole).
soilHandAuger	The sample was derived from a soil hand auger.
soilSurface	The sample was derived from a surface soil by grab sample.
springSample	The sample was derived from a spring sample.
stormWater	The sample was derived from a storm water sample.
subslabPort	The sample was derived from gas obtained from a subslab port in a building.
surfaceWater	The sample was derived from a surface water sample.

DOMAIN TABLE NAME: SampleType	
ATTRIBUTE NAME: sampleType	
swabWipe	The sample was derived from a swab/wipe.
TBD	To Be Determined: A value is required but the value has yet to be determined.
tempGWMW	The sample was derived from a groundwater monitoring well (Temporary).
visual	Visual.
wasteWater	The sample was derived from a wastewater sample.

March 01, 2018

Data Layer Specifications for:

Environmental Restoration Site

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	Environmental RemediationSite _20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	Environmental RemediationSite _20160623	• Updated EnvRemediationSite_A representation under "Data Layer Details" section. • Updated EnvRemediationSite_A topology under "Geometry/ Topology" section. • Added authoritative source language to the "Allowed Values" column under "Attributes" section. • Updated "Positional Accuracy" section.
3/9/2017	Environmental RemediationSite _20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	EnvironmentalR emediationSite_ 20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	EnvironmentalR estorationSite_2 0180301	• Updated Definition, Data Layer Details, Geometry/Topology, Positional Accuracy, Attributes, and Business Tables sections. • Updated domain tables in Appendix 1.

This Data Layer Specification (DLS) defines geospatial data specifications for the EnvRestorationSite_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

The area where a Defense Environmental Restoration Program or Compliance-Related Cleanup study or project is planned, underway, or has reached Response Complete.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	EnvRestorationSite_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalRestoration
Previous Layer Names:	environmental_restoration_area superfund_area EnvironmentalRemediationSite
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Environmental Restoration
Data Steward POC:	AFCEC/CZTE Air Force Environmental Restoration Program SME
Representation:	• Restoration sites are represented as closed polygons depicting the outermost extent of the site. • Each individual restoration site is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Base Comprehensive Planning, 13 November 2009 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Managing Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003

Implementing Program(s):	Driver(s):
	• USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • AFI32-7020, The Environmental Restoration Program, 7 November 2014 • Compensation, and Liability Act (CERCLA) • Title 42 USC (42 USC) Sections 9601 - 9675

Geometry/Topology

Polygon Features:
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **6 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the EnvRestorationSite_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the EnvRestorationSite_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	envRestorationSiteIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	SDSFIE
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	The local name for the Restoration Site.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Restoration Site that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	erpimsSiteID	The ID for the feature taken from ERPIMS.		Integer (Long)	AF
	eesohmisSiteID	The ID for the restoration site(s) taken from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (80)	AF
	officialSiteName	The full official site name for the environmental restoration site (e.g. DP001-D-1).		String (100)	AF
	parentSiteName	The name for the site without the subsite designator (e.g. DP001).		String (50)	AF
	subsiteName	The subsite designator for the site (e.g. D-1).		String (50)	AF
	associatedOU	Identifies the associated operable unit.		String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	restProgramType	The environmental restoration program responsible for the site, IRP or MMRP.	**For a list of domain values, see RestProgramType in Appendix 1.**	String (5)	AF
	techImpractContainZone	The Technical Impracticability/Containment Zone in which the restoration site is located.		String (150)	AF
D	restSourceType	Identifies the source for the restoration site.	**For a list of domain values, see RestSourceType in Appendix 1.**	String (3)	AF
	decisionalDocDesc	Identifies the decisional document and date for the restoration site.		String (255)	AF
	soilROD	The Record of Decision that addresses soils for the restoration site.		String (255)	AF
	soilStatus	The status of the soils in the Record of Decision.		String (100)	AF
	soilStatusDate	The date of the Record of Decision that establishes the status of the soils at the restoration site. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
	historicSoilStatus	The status of the soils in the NFA/NFI.		String (100)	AF
	grndwtrROD	The Record of Decision that addresses groundwater for the restoration site.		String (255)	AF
	grndwtrStatus	The status of the groundwater in the Record of Decision.		String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	grndwtrStatusDate	The date of the Record of Decision that establishes the status of the groundwater at the restoration site. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
	historicGrndwtrStatus	The status of the groundwater in the NFA/NFI.		String (100)	AF
D	sitePhaseStatus	Identifies the current phase status of the environmental restoration site.	**For a list of domain values, see PhaseStatus in Appendix 1.**	String (6)	AF
D	isNPLsite	Indicates whether the site is on the National Priorities List.	NA, no, TBD, yes	String (3)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for EnvRestorationSite_A is:

Table Name	Identifier	Source
er_EnvRestorationSite	envRestorationSiteIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Environmental Restoration, Environmental Restoration Site

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: PhaseStatus	
ATTRIBUTE NAME: sitePhaseStatus	
CODED DOMAIN	DEFINITION
FS	The current phase status of the remediation site is feasibility study.
IRAC	The current phase status of the remediation site is interim remedial action construction.
IRAD	The current phase status of the remediation site is interim remedial action design.
IRAO	The current phase status of the remediation site is interim remedial action operation.
LTM	The current phase status of the remediation site is long term maintenance.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
PA	The current phase status of the remediation site is preliminary assessment.
RAC	The current phase status of the remediation site is remedial action construction.
RAD	The current phase status of the remediation site is remedial action design.
RAO	The current phase status of the remediation site is remedial action operation.
RI	The current phase status of the remediation site is remedial investigation.
ROD	The current phase status of the remediation site is record of decision.
SI	The current phase status of the remediation site is site inspection.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: RestProgramType	
ATTRIBUTE NAME: restProgramType	
CODED DOMAIN	DEFINITION
IRP	The site is part of the Installation Restoration Program.
MMRP	The site is part of the Military Munitions Response Program.
NA	Not Applicable: No value exists.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: RestSourceType	
ATTRIBUTE NAME: restSourceType	
CODED DOMAIN	DEFINITION
AL	Air-To-Land
AT	Fire/Crash Training Area
AW	Air-To-Water
BA	Burn Area
BG	Background
BS	Burial Site
BW	Biological Warfare
CB	Contaminated Buildings
CD	Contaminated Soil Piles
CF	Contaminated Fill
CG	Contaminated Groundwater
CS	Contaminated Sediments
CW	Chemical Warfare
DA	Discharge Area Or Surface Drainage

DOMAIN TABLE NAME: RestSourceType	
ATTRIBUTE NAME: restSourceType	
DB	Building Demolition/Debris Removal
DC	Chemical Disposal
DD	Drainage Ditch
DP	Disposal Pit/Dry Well
DS	Drum Storage Area (waste or new product)
DT	Dip Tank
DU	Depleted Uranium
EP	Sewage Effluent Settling Ponds
FL	Leach Field
FR	Firing Range
FT	Fire Training Area
HS	Historical Data Not Available
ID	Industrial Discharge
IN	Incinerator
IW	Industrial Waste Treatment
LF	Landfill
LU	Leaking Underground Storage Tanks/Pipes
MR	Munitions Response
MS	Munitions Storage Area
MU	Munition Disposal
MY	Maintenance Yard
NA	Not Applicable: No value exists.
OS	Optical Shop
OT	The value is not given in the domain table. Provide specifics in the sdsFeatureDescription attribute field.
OW	Oil Water Separator
PL	Petroleum/Lubricants (POL) Lines
PP	Propellant and Pyrotechnics
PR	Pistol Range
PS	Pesticide Shop
RR	Range Residue/Expended Munitions
RS	Surface Runoff
RW	Radioactive Waste Area
SA	Storage Area
SD	Surface Disposal Area
SI	Surface Impoundment/Lagoon
SM	Storm Drain
SO	Soil Contamination After Tank Removed
SP	Plating Shop
SR	Small Arms Range
SS	Spill Site Area
ST	Sewage Treatment Plant
TA	Above Ground Storage Tank
TBD	To Be Determined: A value is required but the value has yet to be determined.
TG	Target Area
TM	Training and Maneuver Area
TS	Trap and Skeet Range
TT	Underground Tank Farm
TU	Soil/Groundwater Treatability Unit
US	Underground Storage Tank
WL	Waste Lines
WM	Mixed Waste Area
WP	Waste Disposal Lagoon/Pit

DOMAIN TABLE NAME: RestSourceType	
ATTRIBUTE NAME: restSourceType	
WR	Washrack
WT	Waste Treatment Plant
WW	Wastewater Treatment Plant
XE	Explosive Ordnance Disposal Area
XU	Unexploded Munitions/Ordnance Area

March 01, 2018

Data Layer Specifications for:

Land Use Control

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	LandUseControl _20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	LandUseControl _20160623	• Added authoritative source language to the "Allowed Values" column under "Attributes" section. • Updated "Positional Accuracy" section.
3/9/2017	LandUseControl _20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	LandUseControl _20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	LandUseControl _20180301	• Updated Geometry/Topology, Positional Accuracy, and Attributes section.

This Data Layer Specification (DLS) defines geospatial data specifications for the LandUseControl_A data layers implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

Locations where land use is restricted due to environmental restoration or compliance purposes.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	LandUseControl_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalRestoration
Previous Layer Names:	brownfield_area
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Environmental Restoration
Data Steward POC:	AFCEC/CZTE Air Force Environmental Restoration Program SME
Representation:	• Land use control areas are represented as closed polygons depicting the outermost extent of the area. • Each individual land use control area site is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s): List the drivers for the feature class
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Base Comprehensive Planning, 13 November 2009 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Managing Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0

Implementing Program(s):	Driver(s): List the drivers for the feature class
	• RPIM 3.0, extracted 4/2009 • AFI32-7020, The Environmental Restoration Program, 7 November 2014

Geometry/Topology

Polygon Features:
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **6 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the LandUseControl_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The

horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the LandUseControl_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	landUseControlIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	The local name for the Land Use Control area.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Land Use Control that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	eesohmisSiteID	The ID for the restoration site(s) taken from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (80)	AF
	associatedOU	Identifies the associated operable unit.		String (100)	AF
	LUCstartDate	Date the restriction took effect. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
	modificationDate	Date the restriction was last modified. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915). If not applicable, use 99999999.		Integer (Long)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	terminationDate	Date the restriction terminated. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915). If not applicable, use 99999999.		Integer (Long)	AF
	LUCduration	A narrative description of the duration of the LUC.		String (255)	AF
	LUCdecisionalDoc	Identifies the decisional document (e.g., Record of Decision, Remedial Action, etc.) for the LUC at the site ID.		String (255)	AF
	LUCdisclaimer	Any disclaimers associated with the LUC.		String (255)	AF
	LUCtype	The general type(s) of LUC applied to the site, such as "groundwater related", "soil related", or "soil and subsurface debris related."		String (255)	AF
D	LUCstatus	Identifies the status of the LUC Site.	**For a list of domain values, see LUCstatus in Appendix 1.**	String (10)	AF
D	LUCmonitor	Identifies the monitoring frequency associated with the LUC.	**For a list of domain values, see MonitoringFreq in Appendix 1.**	String (20)	AF
D	LUCaccess	Identifies the level of access to a site in accordance with the LUC(s) at the site.	**For a list of domain values, see LUCaccess in Appendix 1.**	String (20)	AF
D	isEnvCovenants	Indicates whether there are LUC type environmental covenants.	NA, no, TBD, yes	String (3)	AF
D	isEasements	Indicates whether there are LUC type easements.	NA, no, TBD, yes	String (3)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	isDigPermits	Indicates whether there are LUC type dig permits.	NA, no, TBD, yes	String (3)	AF
D	isDeedRestrict	Indicates whether there are LUC type deed restrictions.	NA, no, TBD, yes	String (3)	AF
D	isDeedNotices	Indicates whether there are LUC type deed notices.	NA, no, TBD, yes	String (3)	AF
D	isFences	Indicates whether there are LUC type fences.	NA, no, TBD, yes	String (3)	AF
D	isGuards	Indicates whether there are LUC type guards.	NA, no, TBD, yes	String (3)	AF
D	isLocUseOrdinance	Indicates whether there are LUC type local use ordinances.	NA, no, TBD, yes	String (3)	AF
D	isMasterPlanNotation	Indicates whether there are LUC type notations in master plan.	NA, no, TBD, yes	String (3)	AF
D	isSigns	Indicates whether there are LUC type signs.	NA, no, TBD, yes	String (3)	AF
D	isZoning	Indicates whether there is LUC type zoning.	NA, no, TBD, yes	String (3)	AF
D	isResidentialUse	Indicates whether residential use is prohibited.	NA, no, TBD, yes	String (3)	AF
D	isSensitiveUse	Indicates whether activities are prohibited due to sensitive use (e.g. hospital, daycare, school).	NA, no, TBD, yes	String (3)	AF
D	isHumanGrndwtrConsum	Indicates whether human consumption of groundwater is prohibited.	NA, no, TBD, yes	String (3)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	isDrinkingWtrWellInst	Indicates whether installation of drinking water well is prohibited.	NA, no, TBD, yes	String (3)	AF
D	isAgriGrndwtrUse	Indicates whether agricultural/irrigation/livestock use of groundwater is prohibited.	NA, no, TBD, yes	String (3)	AF
D	isSurfaceWtrExp	Indicates whether exposure to surface water is prohibited.	NA, no, TBD, yes	String (3)	AF
D	isSoilExposure	Indicates whether exposure to soils is prohibited.	NA, no, TBD, yes	String (3)	AF
D	isSedimentExp	Indicates whether exposure to sediments is prohibited.	NA, no, TBD, yes	String (3)	AF
D	isIndustCommUse	Indicates whether land use is restricted to industrial/commercial only.	NA, no, TBD, yes	String (3)	AF
D	isAgriOrParkUse	Indicates whether agricultural and park land use is prohibited.	NA, no, TBD, yes	String (3)	AF
	associatedCost	Annual maintenance/compliance costs with the LUC.		Integer (Long)	AF
	programManager	The Environmental Restoration point of contact responsible for the feature.		String (100)	AF
	pocContactInfo	The contact information for the point of contact responsible for the feature.		String (255)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for LandUseControl_A is:

Table Name	Identifier	Source
er_LandUseControl	landUseControlIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Environmental Restoration, Land Use Control

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: LUCaccess	
ATTRIBUTE NAME: LUCaccess	
CODED DOMAIN	DEFINITION
NA	Not Applicable: No value exists.
noPubAccess	No public access is allowed in the area.
other	Other. Must be described in the sdsFeatureDescription attribute.
restrictPubAccess	Restricted public access is allowed in the area.
TBD	To Be Determined: A value is required but the value has yet to be determined.
unlimitPubAccess	Unlimited public access is allowed in the area.

DOMAIN TABLE NAME: LUCstatus	
ATTRIBUTE NAME: LUCstatus	
CODED DOMAIN	DEFINITION
current	LUC status is current.
historic	LUC status is historic.
interim	LUC status is interim.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
proposed	LUC status is proposed.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: MonitoringFreq	
ATTRIBUTE NAME: LUCmonitor	
CODED DOMAIN	DEFINITION
annually	Monitoring occurs annually.
biAnnually	Monitoring occurs bi-annually.
biMonthly	Monitoring occurs bi-monthly.
daily	Monitoring occurs daily.
fiveYears	Monitoring occurs every five years.
monthly	Monitoring occurs monthly.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
quarterly	Monitoring occurs quarterly.
schedNotDefined	The monitoring schedule is not defined.
TBD	To Be Determined: A value is required but the value has yet to be determined.
twoMonths	Monitoring occurs every two months.
twoYears	Monitoring occurs every two years.
weekly	Monitoring occurs weekly.

March 01, 2018

Data Layer Specifications for:

Potential Environmental Site

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	PotentialEnvironmental Site_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	PotentialEnvironmental Site_20160623	• Added PotentialEnvSite_L representation under "Data Layer Details" section. • Added PotentialEnvSite_L topology under "Geometry/ Topology" section. • Added PotentialEnvSite_L business table under "Business Tables" section. • Added PotentialEnvSite_P representation under "Data Layer Details" section. • Added PotentialEnvSite_P topology under "Geometry/ Topology" section. • Added PotentialEnvSite_P business table under "Business Tables" section. • Updated "Positional Accuracy" section.
3/9/2017	PotentialEnvironmental Site_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection. • Updated the "Representation" subsection of the "Data Layer Details" section. • Updated the "Point Features" subsection of the "Geometry/Topology" section.
6/8/2017	PotentialEnvironmental Site_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	PotentialEnvironmental Site_20180301	• Updated Data Layer Details, Geometry/Topology, Positional Accuracy, Attributes, and Business Tables sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the PotentialEnvSite_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

An area that is suspected to possess environmental contamination.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	PotentialEnvSite_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalRestoration
Previous Layer Names:	biological_warfare_waste_area building_environmental_concern_area chemical_warfare_waste_area cont_hazmat_storage_area env_contam_reduction_zone_area env_hazard_exclusion_zone_area nonpoint_source_pollution_area polluted_area_of_concern_area potential_env_concern_area sludge_application_area PotentialEnvironmentalSite
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Environmental Restoration
Data Steward POC:	AFCEC/CZTE Air Force Environmental Restoration Program SME
Representation:	• Potential environmental site locations are represented as closed polygons depicting the outermost extent of the area. • Each individual potential environmental site location is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Base Comprehensive Planning, 13 November 2009

Implementing Program(s):	Driver(s):
	• AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Managing Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • AFI32-7020, The Environmental Restoration Program, 7 November 2014 • Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) • Title 42 USC (42 USC) Sections 9601 - 9675

Geometry/Topology

Polygon Features:
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **6 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that

95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the PotentialEnvSite_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the PotentialEnvSite_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	potentialEnvSiteIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	SDSFIE
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	The local name for the Potential Environmental Site.	String (80)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Potential Environmental Site that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	erpimsSiteID	The ID for the feature taken from ERPIMS.		Integer (Long)	AF
	eesohmisSiteID	The ID for the potential environmental site taken from EESOH-MIS.		String (80)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	potentialEnvSiteID	The locally assigned ID for the potential environmental site.		String (80)	AF
D	isAOC	Indicates whether the site is an Area of Concern.	NA, no, TBD, yes	String (3)	AF
D	envHazard	Indicates the broad category or type of the most prevalent or serious environmental hazard present at the site.	**For a list of domain values, see EnvHazard in Appendix 1.**	String (25)	AF
D	pollutionSource	The actual or suspected source of the pollutant.	**For a list of domain values, see RestPollutionSource in Appendix 1.**	String (20)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for PotentialEnvSite_A is:

Table Name	Identifier	Source
er_PotentialEnvSite	potentialEnvSiteIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Environmental Restoration, Potential Environmental Site

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: EnvHazard	
ATTRIBUTE NAME: envHazard	
CODED DOMAIN	DEFINITION
bioWarfare	Residues of biological warfare items, materials, or waste are present.
bldgEnvHazard	Building environmental hazards are present.
chemPollution	Polluted by the residues of one or more chemical (nonpetroleum) products or wastes.
chemWarfare	Residues of chemical warfare items, materials, or waste are present.
leadShot	Lead Shot contamination is present at the site
medPollution	Polluted by the residues of one or more medical or infectious products or wastes.
mixedPollution	Polluted by the residues of one or more chemical, petroleum, and radioactive products or wastes.
NA	Not Applicable: No value exists.
none	Investigation and/or further study has revealed that there are no environmental hazards present at the site.
ordnanceExplosiveWaste	Residues of ordnance and explosive waste items, materials, or waste are present.
other	Other. Must be described in the sdsFeatureDescription attribute.
petroPollution	Polluted by the residues of one or more petroleum products or wastes.
radPollution	Polluted by the residues of one or more radioactive products or wastes.
radWarfare	Residues of radioactive warfare items, materials, or waste are present.
skeet	Skeet shards are present at the site.
solidWaste	Polluted by solid waste.
TBD	To Be Determined: A value is required but the value has yet to be determined.
unknown	The environmental hazard is unknown.

DOMAIN TABLE NAME: RestPollutionSource	
ATTRIBUTE NAME: pollutionSource	
CODED DOMAIN	DEFINITION
agriOther	Other type of agricultural activity or area.
aircraftCrash	The area or site of an aircraft crash.
bioChemWarfare	An area or site where biological or chemical warfare materials have been manufactured, stored, used, or disposed of.
burialPit	The area or site of a burial pit.
construction	An area of past or present construction activity.
fuelTank	A tank (either above or below ground) used to store fuel.
hazwasteDisposal	An area or site where hazardous waste has been buried or disposed of.
industrial	An industrial activity or area.
industrialTank	Storage tank (either above or below ground) used to store chemicals, hazardous materials, or hazardous waste.
landfill	Area or site of a past or present solid waste landfill.
mining	Present or past mining operations.
munitions	Area or site used for testing, training, or disposal of conventional munitions.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
radioactive	An area or site where radioactive materials or waste have been manufactured, stored, used, or disposed of.
spillLand	An uncontrolled release or spill occurring on land.
spillWater	An uncontrolled release or spill occurring on a water body (e.g., river, stream, lake, ocean).

DOMAIN TABLE NAME: RestPollutionSource	
ATTRIBUTE NAME: pollutionSource	
stockyard	An area where domestic animals (e.g., cattle, sheep, swine, or horses) are kept temporarily for slaughter, market, or shipping.
tankFarm	An area consisting of several storage tanks (either above or below ground) which contain fuel or chemicals regulated by environmental regulatory authorities.
TBD	To Be Determined: A value is required but the value has yet to be determined.
urban	An urban or municipal area.
wastewtrDomestic	Wastewater originating from a residential or urban area.
wastewtrIndust	Wastewater originating from an industry or industrial complex.

March 01, 2018

Data Layer Specifications for:

Restoration Treatment System

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	RestorationTreatmentSystemArea_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	RestorationTreatmentSystemArea_20160623	• Added authoritative source language to the "Allowed Values" column under "Attributes" section. • Updated "Positional Accuracy" section.
3/9/2017	RestorationTreatmentSystemArea_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	RestorationTreatmentSystemArea_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	RestorationTreatmentSystemArea_20180301	• Updated Definition, Data Layer Details, Geometry/Topology, Positional Accuracy, Coordinate System, Attributes, and Business Tables sections. • Updated domain tables in Appendix 1.

This Data Layer Specification (DLS) defines geospatial data specifications for the RestorationTreatmentSystem_A data layers implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

An area depicting the extent of restoration treatment infrastructure. This feature class is based on the footprint of features in RestTreatmentSysComp_L along with any other treatment system components such as wells.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	RestTreatmentSystem_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalRestoration
Previous Layer Names:	None
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Environmental Restoration
Data Steward POC:	AFCEC/CZTE Air Force Environmental Restoration Program SME
Representation:	• The polygons for the restoration treatment system area will represent the boundaries of a treatment system. • Each individual restoration treatment system area is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Base Comprehensive Planning, 13 November 2009 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Managing Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996

Implementing Program(s):	Driver(s):
	• Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • AFI32-7020, The Environmental Restoration Program, 7 November 2014 • Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) • Resource Conservation and Recovery Act (RCRA) of 1976

Geometry/Topology

Polygon Features:
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level** for polygons that represent the "footprint" of features in the RestTreatmentSysComp_L and/or RestTreatmentSysComp_P data layers. If the polygon represents actual individual infrastructure the data should be within **50 centimeters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the RestTreatmentSystem_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the RestTreatmentSystem_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	restTreatmentSystemIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	The local name for the Restoration Treatment System.	String (80)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Restoration Treatment System that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	restSystemID	The ID for the feature taken from ERPIMS.		String (20)	AF
	eesohmisSiteID	The ID for the restoration site(s) taken from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (80)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	associatedOU	Identifies the associated operable unit.		String (100)	AF
D	technologyType	A description of the type of technology used to treat the contamination.	**For the list of domain values see TechnologyType in Appendix 1.**	String (30)	AF
D	treatmentSysType	A description of the type of treatment system.	**For a list of domain values, see TreatmentType in Appendix 1.**	String (25)	AF
D	treatmentSysOperStatus	Operational status of the treatment system component.	**For a list of domain values, see TreatmentSysOperStatus in Appendix 1.**	String (10)	AF
	operationalStatusDate	The date operational status was determined. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
D	displacement	Indicates the displacement of the treatment system.	**For a list of domain values, see TreatmentSysDisplacement in Appendix 1.**	String (15)	AF
	programManager	The Environmental Restoration point of contact responsible for the feature.		String (100)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.		String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. The business table for RestTreatmentSystem_A is:

Table Name	Identifier	Source
er_RstrnTrtmntSysPipe	restTreatmentSystemIDFK	Program Area Manager

Business Table Attributes for er_RstrnTrtmntSysPipe

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	restTreatmentSystemIDFK	The unique identifier for each restoration treatment system feature. Used to relate back to the RestTreatmentSystem_A attribute table.		String (21)
D	pipeType	The type of pipe used in the system component.	**For a list of domain values, see PipeType in Appendix 1.**	String (15)
	pipeDescription	Narrative description of the pipe component (e.g. 3" SCH. 40 PVC conduit and instrumental wiring).		String (255)

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Environmental Restoration, Restoration Treatment System

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: PipeType	
ATTRIBUTE NAME: pipeType	
CODED DOMAIN	DEFINITION
electrical	Electrical pipe.
gas	Gas pipe.
groundwater	Groundwater pipe.
instrumentation	Instrumentation pipe.
makeupWater	Makeup water pipe.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
pneumatic	Pneumatic pipe.
potableWater	Potable water pipe.
scrubberWater	Scrubber water pipe.
TBD	To Be Determined: A value is required but the value has yet to be determined.
telephone	Telephone pipe.
treatedWater	Treated water pipe.
unknown	The pipe type is unknown.
vapor	Vapor pipe.

DOMAIN TABLE NAME: TechnologyType	
ATTRIBUTE NAME: technologyType	
CODED DOMAIN	DEFINITION
airSparging	Technology type is air sparging.
airSpargingSoilVaporExtract	Technology type is air sparging/soil vapor extraction.
amendInject	Technology type is amendment injection.
amendInjectRecirc	Technology type is amendment injection and recirculation.
bioreactor	Technology type is a bioreactor.
bioreactorRecirc	Technology type is a bioreactor and recirculation.
bioslurping	Technology type is bioslurping (bioventing and vacuum-enhanced free product recovery).
bioventing	Technology type is bioventing.
dualSoilVaporGrndwtrExtract	Technology type is dual soil vapor/groundwater extraction.
electroSep	Technology type is electrokinetic separation.
excavation	Technology type is excavation.
landfillCap	Technology type is a landfill cap.
landfillETCover	Technology type is a landfill evapotranspiration cover.
NA	Not Applicable: No value exists.
naturalAtten	Technology type is natural attenuation.
other	Other. Must be described in the sdsFeatureDescription attribute.
permReactBarrier	Technology type is a permeable reaction barrier.
phytoremediation	Technology type is phytoremediation.
pumpTreat	Technology type is pump and treat.
soilFlushing	Technology type is soil flushing.
soilVaporExtract	Technology type is soil vapor extraction.
solidifStabil	Technology type is solidification/stabilization.
TBD	To Be Determined: A value is required but the value has yet to be determined.
thermInject	Technology type is thermal injection.

DOMAIN TABLE NAME: TechnologyType	
ATTRIBUTE NAME: technologyType	
thermSoilVaporExtract	Technology type is thermal soil vapor extraction.
vacEnhanceFreeProdRecov	Technology type is vacuum-enhanced free product recovery.

DOMAIN TABLE NAME: TreatmentSysDisplacement	
ATTRIBUTE NAME: displacement	
CODED DOMAIN	DEFINITION
aboveground	The treatment system is located aboveground.
aboveAndBelow	The treatment system is located both above and belowground.
belowground	The treatment system is located belowground.
NA	Not Applicable: No value exists.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: TreatmentSysOperStatus	
ATTRIBUTE NAME: treatmentSysOperStatus	
CODED DOMAIN	DEFINITION
abandoned	Treatment complex is abandoned.
active	Treatment complex is active.
inactive	Treatment complex is inactive.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
proposed	Treatment complex is proposed.
removed	Treatment complex has been removed.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: TreatmentType	
ATTRIBUTE NAME: treatmentSysType	
CODED DOMAIN	DEFINITION
airGasTreatment	Treatment type is air and gas treatment.
airStripper	Treatment type is air stripper treatment.
airStripperGAC	Treatment type is air stripper and granular active carbon treatment.
biostimBioaugCommProduct	Treatment type is biostimulation and bioaugmentation using commercial products.
biostimCommercialProduct	Treatment type is biostimulation using a commercial product.
biostimEmulsifiedVegOil	Treatment type is biostimulation using emulsified vegetable oil.
biostimEVObioaugKB1	Treatment type is biostimulation using emulsified vegetable oil and bioaugmentation using KB-1.
biostimSugar	Treatment type is biostimulation using sugar (e.g. sodium lactate, lactic acid, propionate, butyrate, molasses, high-fructose corn syrup, etc.).
biostimVegOil	Treatment type is biostimulation using vegetable oil.
catalyticOxidation	Treatment type is catalytic oxidation treatment.
chemOxidationFenton	Treatment type is chemical oxidation using Fenton's Reagent.
chemOxidationOzone	Treatment type is chemical oxidation using ozone.
chemOxidationPermanganate	Treatment type is chemical oxidation using permanganate.
chemOxidationPersulfate	Treatment type is chemical oxidation using persulfate.
gasTreatment	Treatment type is gas treatment (alkane gases - propane, methane).
granularActiveCarbon	Treatment type is granular active carbon treatment.
heat	Treatment type is heat treatment.

DOMAIN TABLE NAME: TreatmentType	
ATTRIBUTE NAME: treatmentSysType	
ionExchangeTreatment	Treatment type is an ion exchange treatment.
iron	Treatment type is iron addition (zero valent and/or nano-scale).
ironVegOil	Treatment type is iron addition and vegetable oil.
mulchVegOil	Treatment type is mulching and vegetable oil.
mulchVegOilIron	Treatment type is mulching, vegetable oil and iron addition.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
resin	Treatment type is resin treatment.
steam	Treatment type is steam treatment.
TBD	To Be Determined: A value is required but the value has yet to be determined.
thermOxidation	Treatment type is thermal oxidation treatment.
ultraviolet	Treatment type is ultraviolet treatment.
uvOxidation	Treatment type is ultraviolet and oxidation treatment.

March 01, 2018

Data Layer Specifications for:

Restoration Treatment System Complex Line

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	RestorationTreatmentSystemComplexLine_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	RestorationTreatmentSystemComplexLine_20160623	• Added authoritative source language to the "Allowed Values" column under "Attributes" section. • Updated "Positional Accuracy" section.
3/9/2017	RestorationTreatmentSystemComplexLine_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	RestorationTreatmentSystemComplexLine_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	RestorationTreatmentSystemComplexLine_20180301	• Updated Data Layer Details, Geometry/Topology, Positional Accuracy, Coordinate System, Attributes, and Business Tables sections. • Updated domain tables in Appendix 1.

This Data Layer Specification (DLS) defines geospatial data specifications for the RestTreatmentSysComp_L data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

Line features (e.g. pipes) related to a treatment system.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	RestTreatmentSysComp_L
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalRestoration
Previous Layer Names:	env_remediation_utility_line
Geometry Type:	Line
Data Steward Organization (Program Area):	Program Area: Environmental Restoration
Data Steward POC:	AFCEC/CZTE Air Force Environmental Restoration Program SME
Representation:	• Restoration treatment system complex lines will be represented as a continuous unbroken line.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Base Comprehensive Planning, 13 November 2009 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Managing Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0

Implementing Program(s):	Driver(s):
	• RPIM 3.0, extracted 4/2009 • AFI32-7020, The Environmental Restoration Program, 7 November 2014 • Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) • Resource Conservation and Recovery Act (RCRA) of 1976

Geometry/Topology

Line Features:
Lines must not self-overlap.
Lines must not self-intersect.
Lines must be single part features.
Lines must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **50 centimeters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the RestTreatmentSysComp_L layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the RestTreatmentSysComp_L data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	restTreatmentSysCompIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	The local name for the Restoration Treatment System Complex.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Restoration Treatment System Complex that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	lengthSize	The value of the measured length.		Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	lengthSizeUOM	The unit of measure for the calculated length.	foot	String (25)	AF
	latitudeFrom	The latitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	latitudeTo	The latitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	longitudeFrom	The longitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	longitudeTo	The longitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	elevationFrom	The elevation component of the beginning (upstream/upgradient) coordinate point in feet.		Double	AF
	elevationTo	The elevation component of the ending (downstream/downgradient) coordinate point in feet.		Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	elevationUOM	The unit of measure for elevation dimension.	foot	String (25)	AF
	restSystemID	The ID for the feature taken from ERPIMS.		String (20)	AF
	eesohmisSiteID	The ID for the restoration site(s) taken from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (80)	AF
	associatedOU	Identifies the associated operable unit.		String (100)	AF
D	technologyType	A description of the type of technology used to treat the contamination.	**For the list of domain values see TechnologyType in Appendix 1.**	String (30)	AF
D	treatmentSysType	A description of the type of treatment system.	**For a list of domain values, see TreatmentType in Appendix 1.**	String (25)	AF
D	displacement	Indicates the displacement of the treatment system.	**For a list of domain values, see TreatmentSysDisplacement in Appendix 1.**	String (15)	AF
	depthInches	Depth below ground of the component (in inches). This is most important for the depth of pipe trenches. For some components the depth is effectively zero or undefined (enter 0).		Double	AF
	widthInches	Width of the component (in inches). This is most important for the width of pipe trenches. For some components the width is effectively zero or undefined (enter 0).		Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	treatmentSysOperStatus	Operational status of the treatment system component.	**For a list of domain values, see TreatmentSysOperStatus in Appendix 1.**	String (10)	AF
	operationalStatusDate	The date operational status was determined. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
	programManager	The Environmental Restoration point of contact responsible for the feature.		String (100)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.		String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. The business table for RestTreatmentSysComp_L is:

Table Name	Identifier	Source
er_RstrnTrtmntCmplxPipe	restTreatmentSysCompIDFK	Program Area Manager

Business Table Attributes for er_RstrnTrtmntCmplxPipe

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	restTreatmentSysCompIDFK	The unique identifier for each restoration treatment system component feature. Used to relate back to the RestTreatmentSysComp_L attribute table.		String (21)
D	pipeType	The type of pipe used in the system component.	**For a list of domain values, see PipeType in Appendix 1.**	String (15)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	pipeDescription	Narrative description of the pipe component (e.g. 3" SCH. 40 PVC conduit and instrumental wiring).		String (255)

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Environmental Restoration, Restoration Treatment System Complex Line

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: PipeType	
ATTRIBUTE NAME: pipeType	
CODED DOMAIN	DEFINITION
electrical	Electrical pipe.
gas	Gas pipe.
groundwater	Groundwater pipe.
instrumentation	Instrumentation pipe.
makeupWater	Makeup water pipe.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
pneumatic	Pneumatic pipe.
potableWater	Potable water pipe.
scrubberWater	Scrubber water pipe.
TBD	To Be Determined: A value is required but the value has yet to be determined.
telephone	Telephone pipe.
treatedWater	Treated water pipe.
unknown	The pipe type is unknown.
vapor	Vapor pipe.

DOMAIN TABLE NAME: TechnologyType	
ATTRIBUTE NAME: technologyType	
CODED DOMAIN	DEFINITION
airSparging	Technology type is air sparging.
airSpargingSoilVaporExtract	Technology type is air sparging/soil vapor extraction.
amendInject	Technology type is amendment injection.
amendInjectRecirc	Technology type is amendment injection and recirculation.
bioreactor	Technology type is a bioreactor.
bioreactorRecirc	Technology type is a bioreactor and recirculation.
bioslurping	Technology type is bioslurping (bioventing and vacuum-enhanced free product recovery).
bioventing	Technology type is bioventing.
dualSoilVaporGrndwtrExtract	Technology type is dual soil vapor/groundwater extraction.
electroSep	Technology type is electrokinetic separation.
excavation	Technology type is excavation.
landfillCap	Technology type is a landfill cap.
landfillETCover	Technology type is a landfill evapotranspiration cover.
NA	Not Applicable: No value exists.
naturalAtten	Technology type is natural attenuation.
other	Other. Must be described in the sdsFeatureDescription attribute.
permReactBarrier	Technology type is a permeable reaction barrier.
phytoremediation	Technology type is phytoremediation.
pumpTreat	Technology type is pump and treat.
soilFlushing	Technology type is soil flushing.
soilVaporExtract	Technology type is soil vapor extraction.
solidifStabil	Technology type is solidification/stabilization.
TBD	To Be Determined: A value is required but the value has yet to be determined.
thermInject	Technology type is thermal injection.

DOMAIN TABLE NAME: TechnologyType	
ATTRIBUTE NAME: technologyType	
thermSoilVaporExtract	Technology type is thermal soil vapor extraction.
vacEnhanceFreeProdRecov	Technology type is vacuum-enhanced free product recovery.

DOMAIN TABLE NAME: TreatmentSysDisplacement	
ATTRIBUTE NAME: displacement	
CODED DOMAIN	DEFINITION
aboveground	The treatment system is located aboveground.
aboveAndBelow	The treatment system is located both above and belowground.
belowground	The treatment system is located belowground.
NA	Not Applicable: No value exists.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: TreatmentSysOperStatus	
ATTRIBUTE NAME: treatmentSysOperStatus	
CODED DOMAIN	DEFINITION
abandoned	Treatment complex is abandoned.
active	Treatment complex is active.
inactive	Treatment complex is inactive.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
proposed	Treatment complex is proposed.
removed	Treatment complex has been removed.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: TreatmentType	
ATTRIBUTE NAME: treatmentSysType	
CODED DOMAIN	DEFINITION
airGasTreatment	Treatment type is air and gas treatment.
airStripper	Treatment type is air stripper treatment.
airStripperGAC	Treatment type is air stripper and granular active carbon treatment.
biostimBioaugCommProduct	Treatment type is biostimulation and bioaugmentation using commercial products.
biostimCommercialProduct	Treatment type is biostimulation using a commercial product.
biostimEmulsifiedVegOil	Treatment type is biostimulation using emulsified vegetable oil.
biostimEVObioaugKB1	Treatment type is biostimulation using emulsified vegetable oil and bioaugmentation using KB-1.
biostimSugar	Treatment type is biostimulation using sugar (e.g. sodium lactate, lactic acid, propionate, butyrate, molasses, high-fructose corn syrup, etc.).
biostimVegOil	Treatment type is biostimulation using vegetable oil.
catalyticOxidation	Treatment type is catalytic oxidation treatment.
chemOxidationFenton	Treatment type is chemical oxidation using Fenton's Reagent.
chemOxidationOzone	Treatment type is chemical oxidation using ozone.
chemOxidationPermanganate	Treatment type is chemical oxidation using permanganate.
chemOxidationPersulfate	Treatment type is chemical oxidation using persulfate.
gasTreatment	Treatment type is gas treatment (alkane gases - propane, methane).
granularActiveCarbon	Treatment type is granular active carbon treatment.
heat	Treatment type is heat treatment.

DOMAIN TABLE NAME: TreatmentType	
ATTRIBUTE NAME: treatmentSysType	
ionExchangeTreatment	Treatment type is an ion exchange treatment.
iron	Treatment type is iron addition (zero valent and/or nano-scale).
ironVegOil	Treatment type is iron addition and vegetable oil.
mulchVegOil	Treatment type is mulching and vegetable oil.
mulchVegOilIron	Treatment type is mulching, vegetable oil and iron addition.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
resin	Treatment type is resin treatment.
steam	Treatment type is steam treatment.
TBD	To Be Determined: A value is required but the value has yet to be determined.
thermOxidation	Treatment type is thermal oxidation treatment.
ultraviolet	Treatment type is ultraviolet treatment.
uvOxidation	Treatment type is ultraviolet and oxidation treatment.

March 01, 2018

Data Layer Specifications for:

Restoration Treatment System Complex Point

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	RestorationTreatmentSystemComplexPoint_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	RestorationTreatmentSystemComplexPoint_20160623	• Added authoritative source language to the "Allowed Values" column under "Attributes" section. • Removed er_RstrnTrtmntCmplxPipe from "Business Tables" section. • Updated "Positional Accuracy" section.
3/9/2017	RestorationTreatmentSystemComplexPoint_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	RestorationTreatmentSystemComplexPoint_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	RestorationTreatmentSystemComplexPoint_20180301	• Updated Data Layer Details, Positional Accuracy, Coordinate System, Attributes, and Business Tables sections. • Updated domain tables in Appendix 1.

This Data Layer Specification (DLS) defines geospatial data specifications for the RestTreatmentSysComp_P data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

Point features (e.g. wells) related to a treatment system.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	RestTreatmentSysComp_P
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalRestoration
Previous Layer Names:	Env_remediation_utility_point EnvRegulatedFacilityComplex_P
Geometry Type:	Point
Data Steward Organization (Program Area):	Program Area: Environmental Restoration
Data Steward POC:	AFCEC/CZTE Air Force Environmental Restoration Program SME
Representation:	• Restoration treatment system complex points are a representation of the coordinate location of that feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Base Comprehensive Planning, 13 November 2009 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Managing Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0

Implementing Program(s):	Driver(s):
	• RPIM 3.0, extracted 4/2009 • AFI32-7020, The Environmental Restoration Program, 7 November 2014 • Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) • Resource Conservation and Recovery Act (RCRA) of 1976

Geometry/Topology

Point Features:
Points must be disjoint.

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **50 centimeters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the RestTreatmentSysComp_P layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the RestTreatmentSysComp_P data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	restTreatmentSysCompIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	The local name for the Restoration Treatment System Complex.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Restoration Treatment System Complex that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	latitude	The latitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	longitude	The longitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	MGRS	Military Grid Reference System for the coordinate point. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	elevation	The elevation of the subject item in relation to a datum.		Double	AF
	elevationUOM	The unit of measure for elevation dimension.	foot	String (25)	AF
	restSystemID	The ID for the feature taken from ERPIMS.		String (20)	AF
	eesohmisSiteID	The ID for the restoration site(s) taken from EESOH-MIS.	Allowed values can be obtained from EESOH-MIS.	String (80)	AF
	associatedOU	Identifies the associated operable unit.		String (100)	AF
D	technologyType	A description of the type of technology used to treat the contamination.	**For the list of domain values see TechnologyType in Appendix 1.**	String (30)	AF
D	treatmentSysType	A description of the type of treatment system.	**For a list of domain values, see TreatmentType in Appendix 1.**	String (25)	AF
D	displacement	Indicates the displacement of the treatment system.	**For a list of domain values, see TreatmentSysDisplacement in Appendix 1.**	String (15)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	treatmentSysOperStatus	Operational status of the treatment system component.	**For a list of domain values, see TreatmentSysOperStatus in Appendix 1.**	String (10)	AF
	operationalStatusDate	The date operational status was determined. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
	totalDepth	The Z-value representing the total depth of the well, piezometer, or borehole in feet.		Double	
D	totalDepthUOM	The unit of measure used for the total depth.	foot	String (25)	
	holeDiam	The diameter for the hole in inches.		Double	
D	holeDiamUOM	The unit of measure for the diameter.	inch	String (25)	
	casingDiam	The diameter for the casing in inches.		Double	
D	casingDiamUOM	The unit of measure for the diameter.	inch	String (25)	
	casingTopElev	The top elevation of the casing in feet.		Double	
D	casingElevUOM	The unit of measure for the top elevation.	foot	String (25)	
	programManager	The Environmental Restoration point of contact responsible for the feature.		String (100)	
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. The business table for RestTreatmentSysComp_P is:

Table Name	Identifier	Source
er_RestTreatmentSysComp_P	restTreatmentSysCompIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Environmental Restoration, Restoration Treatment System Complex Point

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: TechnologyType	
ATTRIBUTE NAME: technologyType	
CODED DOMAIN	DEFINITION
airSparging	Technology type is air sparging.
airSpargingSoilVaporExtract	Technology type is air sparging/soil vapor extraction.
amendInject	Technology type is amendment injection.
amendInjectRecirc	Technology type is amendment injection and recirculation.
bioreactor	Technology type is a bioreactor.
bioreactorRecirc	Technology type is a bioreactor and recirculation.
bioslurping	Technology type is bioslurping (bioventing and vacuum-enhanced free product recovery).
bioventing	Technology type is bioventing.
dualSoilVaporGrndwtrExtract	Technology type is dual soil vapor/groundwater extraction.
electroSep	Technology type is electrokinetic separation.
excavation	Technology type is excavation.
landfillCap	Technology type is a landfill cap.
landfillETCover	Technology type is a landfill evapotranspiration cover.
NA	Not Applicable: No value exists.
naturalAtten	Technology type is natural attenuation.
other	Other. Must be described in the sdsFeatureDescription attribute.
permReactBarrier	Technology type is a permeable reaction barrier.
phytoremediation	Technology type is phytoremediation.
pumpTreat	Technology type is pump and treat.
soilFlushing	Technology type is soil flushing.
soilVaporExtract	Technology type is soil vapor extraction.
solidifStabil	Technology type is solidification/stabilization.
TBD	To Be Determined: A value is required but the value has yet to be determined.
thermInject	Technology type is thermal injection.
thermSoilVaporExtract	Technology type is thermal soil vapor extraction.
vacEnhanceFreeProdRecov	Technology type is vacuum-enhanced free product recovery.

DOMAIN TABLE NAME: TreatmentSysDisplacement	
ATTRIBUTE NAME: displacement	
CODED DOMAIN	DEFINITION
aboveground	The treatment system is located aboveground.
aboveAndBelow	The treatment system is located both above and belowground.
belowground	The treatment system is located belowground.
NA	Not Applicable: No value exists.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: TreatmentSysOperStatus	
ATTRIBUTE NAME: treatmentSysOperStatus	
CODED DOMAIN	DEFINITION
abandoned	Treatment complex is abandoned.
active	Treatment complex is active.

DOMAIN TABLE NAME: TreatmentSysOperStatus	
ATTRIBUTE NAME: treatmentSysOperStatus	
inactive	Treatment complex is inactive.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
proposed	Treatment complex is proposed.
removed	Treatment complex has been removed.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: TreatmentType	
ATTRIBUTE NAME: treatmentSysType	
CODED DOMAIN	DEFINITION
airGasTreatment	Treatment type is air and gas treatment.
airStripper	Treatment type is air stripper treatment.
airStripperGAC	Treatment type is air stripper and granular active carbon treatment.
biostimBioaugCommProduct	Treatment type is biostimulation and bioaugmentation using commercial products.
biostimCommercialProduct	Treatment type is biostimulation using a commercial product.
biostimEmulsifiedVegOil	Treatment type is biostimulation using emulsified vegetable oil.
biostimEVObioaugKB1	Treatment type is biostimulation using emulsified vegetable oil and bioaugmentation using KB-1.
biostimSugar	Treatment type is biostimulation using sugar (e.g. sodium lactate, lactic acid, propionate, butyrate, molasses, high-fructose corn syrup, etc.).
biostimVegOil	Treatment type is biostimulation using vegetable oil.
catalyticOxidation	Treatment type is catalytic oxidation treatment.
chemOxidationFenton	Treatment type is chemical oxidation using Fenton's Reagent.
chemOxidationOzone	Treatment type is chemical oxidation using ozone.
chemOxidationPermanganate	Treatment type is chemical oxidation using permanganate.
chemOxidationPersulfate	Treatment type is chemical oxidation using persulfate.
gasTreatment	Treatment type is gas treatment (alkane gases - propane, methane).
granularActiveCarbon	Treatment type is granular active carbon treatment.
heat	Treatment type is heat treatment.
ionExchangeTreatment	Treatment type is an ion exchange treatment.
iron	Treatment type is iron addition (zero valent and/or nano-scale).
ironVegOil	Treatment type is iron addition and vegetable oil.
mulchVegOil	Treatment type is mulching and vegetable oil.
mulchVegOilIron	Treatment type is mulching, vegetable oil and iron addition.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
resin	Treatment type is resin treatment.
steam	Treatment type is steam treatment.
TBD	To Be Determined: A value is required but the value has yet to be determined.
thermOxidation	Treatment type is thermal oxidation treatment.
ultraviolet	Treatment type is ultraviolet treatment.
uvOxidation	Treatment type is ultraviolet and oxidation treatment.

March 01, 2018

Data Layer Specifications for:

Agricultural Tract

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	AgriculturalTract_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	AgriculturalTract_20160623	• Updated "Positional Accuracy" section.
3/9/2017	AgriculturalTract_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	AgriculturalTract_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	AgriculturalTract_20180301	• Updated the "Definition," "Geometry/Topology," "Positional Accuracy," "Attributes," "Business Tables," and "Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables" sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the AgriculturalTract_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

A location specifically designated for agricultural use such as crops, grazing, and commercial fish ponds.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	AgriculturalTract_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	agricultural_tract_area contiguous_farming_unit_area AgriculturalTract
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Agricultural tract areas are represented as closed polygons depicting the outermost extent of the area. • Each individual agricultural tract area is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003

Implementing Program(s):	Driver(s):
	• USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • Out leasing for Grazing and Agriculture on Military Lands (10 USC 2667(d))

Geometry/Topology

Polygon Features:
Polygons must not overlap.
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **6 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the AgricultureTract_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the AgriculturalTract_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	agTractIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Agricultural Tract.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Agricultural Tract that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
D	agricultureTractType	Indicates the type of agriculture occurring on this tract.	**For a list of domain values, see AgricultureTractType in Appendix 1.**	String (12)	SDSFIE
D	isLeased	Identifies if agricultural tract is leased.	NA, no, TBD, yes	String (3)	AF
	outgrantID	A unique identifier used to permanently and uniquely identify an outgrant agreement.		String (20)	SDSFIE
	leaseeName	The name of the current tract leasee.		String (255)	
	tractNum	A unique number used to identify a parcel of land.		String (20)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	tractRentPayment	The dollar value per unit of measure for the rent payment.		Integer (Long)	
D	tractRentUOM	The unit of measure for rent payment.		String (15)	
	commPondArea	The total surface area, in acres, of commercial fish ponds on the tract.		Double	AF
D	commPondAreaUOM	Commercial fish pond area unit of measure.	acre	String (20)	AF
	commPondDepth	The estimated average depth, in feet, of commercial fish ponds on the tract.		Double	AF
D	commPondDepthUOM	Commercial fish pond depth unit of measure.	foot	String (25)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for AgriculturalTract_A is:

Table Name	Identifier	Source
nr_AgriculturalTract	agTractIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Agricultural Tract

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: AgricultureTractType	
ATTRIBUTE NAME: agricultureTractType	
CODED DOMAIN	DEFINITION
aquaculture	Aquaculture.
grazing	Grazing.
hay	Hay.
NA	Not Applicable: No value exists.
orchard	Orchard.
other	Other. Must be described in the sdsFeatureDescription attribute.
rowCrop	Row crop.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: TractRentUOM	
ATTRIBUTE NAME: tractRentUOM	
CODED DOMAIN	DEFINITION
acre	The tract rent payment is per acre.
animalUnitMonth	The tract rent payment is per animal unit month (AUM).
tract	The tract rent payment is per tract.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.

March 01, 2018

Data Layer Specifications for:

Coastal Zone Management Area

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	CoastalZoneManagement Area_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	CoastalZoneManagement Area_20160623	• Updated "Positional Accuracy" section.
3/9/2017	CoastalZoneManagement Area_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	CoastalZoneManagement Area_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	CoastalZoneManagement Area_20180301	• Updated the "Definition," "Geometry/Topology," "Positional Accuracy," "Attributes," "Business Tables," and "Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables" sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the CoastalZoneMgtArea_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

The area regulated under the Coastal Zone Management Act. Each state has its own guidelines for defining this area.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	CoastalZoneMgtArea_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	None
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Coastal zone management areas are represented as closed polygons depicting the outermost extent of the area. • Each individual coastal zone management area is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009

Implementing Program(s):	Driver(s):
	• Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • Chesapeake Bay Preservation Act and Coastal Zone Management Act (CZMA)

Geometry/Topology

Polygon Features:
Polygons must not overlap.
Polygons must not have gaps.
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **12 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the CoastalZoneMgtArea_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the CoastalZoneMgtArea_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	coastalZoneMgtAreaIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Coastal Zone Management Area.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Coastal Zone Management Area that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for CoastalZoneMgtArea_A is:

Table Name	Identifier	Source
nr_CoastalZoneMgtArea	CoastalZoneMgtAreaIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Coastal Zone Management Area

March 01, 2018

Data Layer Specifications for:

Dispersed Recreation Area

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	DispersedRecreation Area_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	DispersedRecreation Area_20160623	• Updated "Positional Accuracy" section.
3/9/2017	DispersedRecreation Area_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	DispersedRecreation Area_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	DispersedRecreation Area_20180301	• Updated the "Definition," "Geometry/Topology," "Positional Accuracy," "Attributes," "Business Tables," and "Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables" sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the DispersedRecArea_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

Non-developed, dispersed outdoor recreation areas managed by Natural Resources. This may include, but is not limited to: hunting areas, multi-use recreation areas, and watchable wildlife areas.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	DispersedRecArea_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	fishing_area hunting_area FishingLocation RecreationArea_A
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Dispersed recreation areas are represented as closed polygons depicting the outermost extent of the area. • Each individual dispersed recreation area is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• Sikes Act, 24 June 2013 • AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999

Implementing Program(s):	Driver(s):
	• AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009

Geometry/Topology

Polygon Features:
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **6 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the DispersedRecArea_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the DispersedRecArea_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dispersedRecAreaIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Dispersed Recreation Area.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Dispersed Recreation Area that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	useDateStart	The month and day of the beginning of the time period in which recreation is allowed, if seasonal. Format for date is MMDD (i.e. September 15 = 0915).		Integer (Long)	AF
	useDateEnd	The ending month and day of the time period in which recreation is allowed. Format for date is MMDD (i.e. September 15 = 0915).		Integer (Long)	AF
	govDesig	Any government designator for the dispersed recreation area.		String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	useAcres	The quantity representing the size of the dispersed recreation use area in acres.		Double	AF
D	accessCategory	The access category as defined in Air Force Instruction 32-7064.		String (10)	AF
	allowedUser	The Allowable User category(ies) as defined in Air Force Instruction 32-7064.		String (255)	AF
	allowedActivity	The activity(ies) allowed such as hunting, fishing, trapping, or other activities as defined in Air Force Instruction 32-7064.		String (255)	AF
	allowedSpecies	The species that are allowed to be harvested in the area.	**For a list of domain values, see AllowedSpecies in Appendix 1.**	String (255)	AF
D	trapType	The type of trap used in the trapping area.	**For a list of domain values, see TrapType in Appendix 1.**	String (11)	AF
D	isADAaccessible	Identifies if the feature is handicapped accessible.	NA, no, TBD, yes	String (3)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for DispersedRecArea_A is:

Table Name	Identifier	Source
nr_DispersedRecArea	dispersedRecAreaIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Dispersed Recreation Area

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: AccessCategory	
ATTRIBUTE NAME: accessCategory	
CODED DOMAIN	DEFINITION
NA	Not Applicable: No value exists.
offLimits	The access category for the area is Off Limits.
open	The access category for the area is Open.
restricted	The access category for the area is Restricted.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: TrapType	
ATTRIBUTE NAME: trapType	
CODED DOMAIN	DEFINITION
cage	Cage trap.
coilSpring	Coil spring trap.
jaw	Jaw trap.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.

March 01, 2018

Data Layer Specifications for:

Essential Fish Habitat

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	EssentialFishHabitat _20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	EssentialFishHabitat _20160623	• Updated EssentialFishHabitat_A topology. • Updated "Positional Accuracy" section.
3/9/2017	EssentialFishHabitat _20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	EssentialFishHabitat _20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	EssentialFishHabitat _20180301	• Updated the "Definition," "Geometry/Topology," "Sources and Source Selection," "Positional Accuracy," "Attributes," "Business Tables," and "Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables" sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the EssentialFishHabitat_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

Bodies of water and substrate required by fish for spawning, breeding, feeding, or growth to maturity. These are the areas defined in Fishery Management Plans, and regulated under the Magnuson-Stevens Fishery Conservation and Management Act.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	EssentialFishHabitat_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	essential_fish_habitat_area SpeciesSpecificHabitat
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Essential fish habitat areas are represented as closed polygons depicting the outermost extent of the area. • Each individual essential fish habitat area is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996

Implementing Program(s):	Driver(s):
	• Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009

Geometry/Topology

Polygon Features:
EssentialFishHabitat_A must be covered by one of the following feature classes; WaterBody_A, WaterFeature_A, or Wetland_A.
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: publicly available data from the National Oceanic and Atmospheric Administration Fisheries Service or Regional Fishery Management Councils, planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the EssentialFishHabitat_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the EssentialFishHabitat_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	essentialFishHabitatID PK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Essential Fish Habitat.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Essential Fish Habitat that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
D	lifeStage	Life stage of the fish species for which the habitat is used. If 'MULTIPLE' is selected, list the stages in the sdsFeatureDescription field.	**For a list of domain values, see LifeStage in Appendix 1.**	String (15)	AF
	habitatSurveyDate	Last date on which the area of the fish habitat was examined. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
	waterDepth	The water depth, in feet, of the fish habitat.		Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	habitatDesc	Description of the habitat area designated as Essential Fish Habitat (EFH). Example: Surface Waters, Bottom Habitat, Pelagic Waters, Hard Bottom, etc.		String (255)	AF
D	isHAPC	Indicates whether a habitat is designated as a Habitat Areas of Particular Concern (HAPC).	NA, no, TBD, yes	String (3)	AF
D	reasonHAPC	Identifies the reason why the habitat is designated as a Habitat Areas of Particular Concern (HAPC).	**For a list of domain values, see ReasonHAPC in Appendix 1.**	String (15)	AF
D	reefZone	The code that represents a category of reef zone type.	**For a list of domain values, see ReefZone in Appendix 1.**	String (30)	AF
	salinity	The total quantity of dissolved salts in water, measured by weight; 1 Practical Salinity Unit (PSU) = 1 Parts Per Thousand (PPT).		String (50)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for EssentialFishHabitat_A is:

Table Name	Identifier	Source
nr_EssentialFishHabitat	essentialFishHabitatIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Essential Fish Habitat

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: LifeStage	
ATTRIBUTE NAME: lifeStage	
CODED DOMAIN	DEFINITION
adult	An adult is a fully developed and mature individual.
eggParturition	An egg parturition is an animal reproductive body consisting of an ovum or embryo together with nutritive and protective envelopes.
juvenile	A juvenile is considered to be physiologically immature or undeveloped.
larvae	The larvae is an immature free-living form of most invertebrates, amphibians, and fish which at hatching is fundamentally unlike its parent and must metamorphose.
multiple	The area has been determined to be essential for multiple life stages.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: ReasonHAPC	
ATTRIBUTE NAME: reasonHAPC	
CODED DOMAIN	DEFINITION
ecological	The importance of the ecological function provided by the habitat.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
rarity	The rarity of the habitat type.
sensitivity	The extent to which the habitat is sensitive to human-induced environmental degradation.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: ReefZone	
ATTRIBUTE NAME: reefZone	
CODED DOMAIN	DEFINITION
btwBackReefAndForeReef	The flattened, emergent (especially during low tides) or nearly emergent segment of a reef. This zone lies between the back reef and fore reef zones. (7)
btwCrestAndLagoon	Area between the seaward edge of a lagoon floor and the landward edge of a reef crest. This zone is present when a reef crest and lagoon exist. (5)
btwInterTideZoneAndBackReef	Shallow area between the shoreline intertidal zone and the back reef of a reef or a barrier island. (4)
btwInterTideZoneAndReefCrest	Shallow (semi-exposed) area between the shoreline intertidal zone and the reef crest of a fringing reef. (6)
btwReefCrestAndBankEdge	Seaward edge of reef crest that slopes into deeper water to the landward edge of the bank. (8)
channel	Naturally occurring channels that often cut across several other zones. (11)
deepWaterToInsularShelf	Deep water extending offshore to the beginning of the escarpment where the insular shelf drops off into deep, oceanic water. (9)
excavation	Area in which natural geomorphology is disrupted or altered by excavation or dredging. (12)
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
otherDelineations	Other Delineations (14)

DOMAIN TABLE NAME: ReefZone	
ATTRIBUTE NAME: reefZone	
patchy	Patchy reef zone. (1)
shelf	The edge of the bank/shelf where depth increases rapidly into deep, oceanic water. (10)
shoreToShelf	Area with near-vertical slope from shore to shelf or shelf escarpment. (3)
sparse	Sparse reef zone. (2)
TBD	To Be Determined: A value is required but the value has yet to be determined.
uninterpretable	Zone, cover, and structure uninterpretable due to turbidity, cloud cover, water depth, or other interference. (13)

March 01, 2018

Data Layer Specifications for:

Fauna Incident Point

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	FaunaIncidentPoint _20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	FaunaIncidentPoint _20160623	• Updated "Positional Accuracy" section.
3/9/2017	FaunaIncidentPoint _20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	FaunaIncidentPoint _20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	FaunaIncidentPoint _20180301	• Updated the "Definition," "Positional Accuracy," "Attributes," "Business Tables," and "Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables" sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the FaunaIncidentPoint_P data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

Locations of wildlife sightings, including human and wildlife interactions.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	FaunaIncidentPoint_P
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	fauna_incident_point
Geometry Type:	Point
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Fauna incident points are a representation of the coordinate location of that feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Managing Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009

Geometry/Topology

There are no feature class specific topology rules for FaunaIncidentPoint_P.

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the FaunaIncidentPoint_P layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the FaunaIncidentPoint_P data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	faunaIncidentPntIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Fauna Incident Point.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Fauna Incident Point that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	latitude	The latitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	longitude	The longitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	MGRS	Military Grid Reference System for the coordinate point. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	elevation	The elevation of the subject item in relation to a datum.		Double	AF
D	elevationUOM	The unit of measure for elevation dimension.	foot	String (25)	AF
	commonName	The common name of the species.		String (255)	AF
	scientificName	The scientific name of the species.		String (255)	AF
D	faunaSex	A descriptor of the sex of the animal.	**For a list of domain values, see SpeciesSex in Appendix 1.**	String (15)	AF
	incidentDate	The date the incident occurred. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
	estAge	The estimated age at time of incident.		String (50)	AF
D	condition	Condition of the animal when found.	**For a list of domain values, see Condition in Appendix 1.**	String (15)	AF
	foundDate	The date the carcass or injured fauna was found. Format for date is YYYYMMDD (i.e. September 15, 1994 = 19940915).		Integer (Long)	AF
	foundTime	The time the carcass or injured fauna was found. Format for time is HHMMSS. Use the standard 24 hour clock.		Integer (Long)	AF
	faunaLoc	Site where animal was discovered.		String (50)	AF
	tagNum	A descriptor for the animal tag number.		String (16)	AF
	tagNum2	A descriptor for an additional animal tag number.		String (16)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	SDSFIE
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute

table and business table. Additional attributes to be determined by the Program Area Manager. The business table for FaunaIncidentPoint_P is:

Table Name	Identifier	Source
nr_FaunaIncidentPoint	faunaIncidentPntIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Fauna Incident Point

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: Condition	
ATTRIBUTE NAME: condition	
CODED DOMAIN	DEFINITION
alive	The fauna was found alive.
driedCarcass	The fauna was a dried carcass when found.
freshDead	The fauna was freshly dead when found.
modDecomp	The fauna was moderately decomposed when found.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
severDecomp	The fauna was severely decomposed when found.
skeleton	The fauna was a skeleton when found.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: SpeciesSex	
ATTRIBUTE NAME: faunaSex	
CODED DOMAIN	DEFINITION
both	The fauna exhibits both male and female sexes.
female	The fauna is of the female sex.
male	The fauna is of the male sex.
NA	Not Applicable: No value exists.
neither	The fauna is of neither male nor female sex.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.
undetermined	The sex of the fauna is undetermined.

March 01, 2018

Data Layer Specifications for:

Fire Area

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	FireArea_ 20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	FireArea_ 20160623	• Updated "Positional Accuracy" section.
3/9/2017	FireArea_ 20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	FireArea_ 20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	FireArea_ 20180301	• Updated Geometry/Topology, Positional Accuracy, and Attributes section. • Updated domain tables in Appendix 1.

This Data Layer Specification (DLS) defines geospatial data specifications for the FireArea_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

The final fire perimeter when the fire is declared 100% contained.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	FireArea_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	flora_fire_area flora_pres_burn_area WildlandFire
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Fire areas are represented as closed polygons depicting the outermost extent of the area. • Each individual fire area is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009

Implementing Program(s):	Driver(s):
	• Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • ACC/National Environmental Policy Act Manager (A7VS)

Geometry/Topology

Polygon Features:
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **12 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the FireArea_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum

to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the FireArea_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	fireAreaIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Fire Area.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Fire Area that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	fireID	The locally assigned ID for the fire.		String (20)	AF
	fireStartDate	The actual or estimated date that the fire started. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
	fireStartTime	The actual or estimated time that the fire started. Format for time is 24 hour notation HHMM (i.e., 4:00 PM = 1600).		Integer (Long)	AF
	containDate	The date that the fire was officially declared 100% contained. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	causeType	The suspected or confirmed cause of the wildland fire.	**For a list of domain values, see CauseType in Appendix 1.**	String (20)	AF
D	fireType	The type of wildland fire, such as wild, prescribed, or managed.	**For a list of domain values, see FireType in Appendix 1.**	String (15)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for FireArea_A is:

Table Name	Identifier	Source
nr_FireArea	fireAreaIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Fire Area

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: CauseType	
ATTRIBUTE NAME: causeType	
CODED DOMAIN	DEFINITION
arson	The fire was determined to have been caused by arson.
camperHunter	The fire was determined to have been caused by a camper or a hunter.
campfire	The fire was determined to have been caused by an unattended or uncontrolled campfire.
children	The fire was determined to have been caused by children.
escapedPresc	The fire was determined to have been caused by an escaped prescribed fire.
fireworks	The fire was determined to have been caused by fireworks.
lghtngNat	The fire was determined to have been caused by lightning or other natural forces.
milLiveAF	The fire was determined to have been the result of a military live fire mission conducted by the Air Force.
milLiveArmy	The fire was determined to have been the result of a military live fire mission conducted by the Army.
milLiveCoast	The fire was determined to have been the result of a military live fire mission conducted by the Coast Guard.
milLiveNavyUSMC	The fire was determined to have been the result of a military live fire mission conducted by the Navy or the Marine Corps.
milNonLiveAF	The fire was determined to have been the result of a military non-live fire exercise conducted by the Air Force.
milNonLiveArmy	The fire was determined to have been the result of a military non-live fire exercise conducted by the Army.
milNonLiveCoast	The fire was determined to have been the result of a military non-live fire exercise conducted by the Coast Guard.
milNonLiveNavyUSMC	The fire was determined to have been the result of a military non-live fire exercise conducted by the Navy or the Marine Corps.
motorEquip	The fire was determined to have been caused by motorized equipment.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
powerLine	The fire was determined to have been caused by vegetation contact with a power line.
railroad	The fire was determined to have been caused by railroad equipment.
rekindle	The fire was determined to have been caused by rekindle.
rxBurn	The fire was determined to have been prescribed.
smoking	The fire was determined to have been caused by smoking materials.
TBD	To Be Determined: A value is required but the value has yet to be determined.
unknown	The cause of the fire is unknown.
vehicle	The fire was determined to have been caused by a motor vehicle.

DOMAIN TABLE NAME: FireType	
ATTRIBUTE NAME: fireType	
CODED DOMAIN	DEFINITION
falseAlarm	The fire was a false alarm.
managed	The fire was caused by an unplanned source but was managed like a prescribed burn.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
pileBurn	The fire was a pile burn.
prescribed	The fire was a prescribed burn.

DOMAIN TABLE NAME: FireType	
ATTRIBUTE NAME: fireType	
TBD	To Be Determined: A value is required but the value has yet to be determined.
unknown	The type of fire is unknown.
wild	The fire was a wildfire.

March 01, 2018

Data Layer Specifications for:

Fire Break Line

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	FireBreakLine _20161212	• Removed “the vertical datum shall be Mean Sea Level (MSL_Height),” from the Coordinate System section.
6/23/2016	FireBreakLine _20160623	• Updated “Positional Accuracy” section.
3/9/2017	FireBreakLine _20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated “Positional Accuracy” section. • Updated “For Empty Text Values” subsection.
6/8/2017	FireBreakLine _20170608	• Updated the data layer update frequency in the “Sources and Source Selection” section. • Updated “Data Steward POC”
3/1/2018	FireBreakLine _20180301	• Updated Geometry/Topology, Positional Accuracy, and Attributes section.

This Data Layer Specification (DLS) defines geospatial data specifications for the FireBreakLine_L data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

Designated firebreaks. Firebreaks are defined as linear features cleared and maintained to mineral soil. The primary purpose of a firebreak is fire containment (e.g. an existing road may be designated as a firebreak, but not every road need be defined as a firebreak).

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	FireBreakLine_L
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	None
Geometry Type:	Line
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Fire break lines represent the firebreaks used for fire containment. • Existing roads may be identified as a firebreak. • Fire break line locations will be represented as a continuous unbroken line.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996

Implementing Program(s):	Driver(s):
	• Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009

Geometry/Topology

Line Features:
Lines must not overlap.
Lines must not intersect.
Lines must not self-overlap.
Lines must not self-intersect.
Lines must be single part features.
Lines must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **6 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the FireBreakLine_L layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the FireBreakLine data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	fireBreakLineIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Fire Break.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Fire Break that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	lengthSize	The value of the measured length.	Recorded to the 1/1000 of a foot.	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	lengthSizeUOM	The unit of measure for the calculated length.	foot	String (25)	AF
	latitudeFrom	The latitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	latitudeTo	The latitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	longitudeFrom	The longitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	longitudeTo	The longitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	elevationFrom	The elevation component of the beginning (upstream/upgradient) coordinate point in feet.		Double	AF
	elevationTo	The elevation component of the ending (downstream/downgradient) coordinate point in feet.		Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	elevationUOM	The unit of measure for elevation dimension.	foot	String (25)	AF
	widthSize	The width of the feature in feet.	Recorded to the 1/1000 of a foot.	Double	AF
D	widthSizeUOM	The unit of measure for the width.	foot	String (25)	AF
	maintFreq	The actual average interval between maintenance cycles for the firebreak in months.		Double	AF
	maintDate	The date the fire break was last maintained. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for FireBreakLine_L is:

Table Name	Identifier	Source
nr_FireBreakLine	fireBreakLineIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Fire Break Line

March 01, 2018

Data Layer Specifications for:

Flood Plain Area

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	FloodPlainArea _20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	FloodPlainArea _20160623	• Updated "Positional Accuracy" section.
3/9/2017	FloodPlainArea _20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	FloodPlainArea _20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	FloodPlainArea _20180301	• Updated Geometry/Topology, Sources and Source Selection, Positional Accuracy, and Attributes section.

Data Layer Specification – Flood Plain Area

This Data Layer Specification (DLS) defines geospatial data specifications for the FloodPlainArea_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

An area where statistically derived flood inundation may exist within a specific return period, e.g. 100 year or 500 year chance of flooding, for insurance and floodplain management purposes.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	FloodPlainArea_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	flood_zone_area Inundation
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Floodplain areas are represented as closed polygons depicting the outermost extent of the area. • Each individual floodplain area is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7061, The Environmental Impact Analysis Process, 12 March 2003 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996

Implementing Program(s):	Driver(s):
	• Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • EO 11988, Floodplain Management

Geometry/Topology

Polygon Features:
Polygons must not overlap.
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: publicly available data from the Federal Emergency Management Agency National Flood Hazard Layer, planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **1.25 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the FloodPlainArea_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the FloodPlainArea_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	floodPlainAreaIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Floodplain Area.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Floodplain Area that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	dateLast	The date the flood zone was last covered with water. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
	dateStudy	Date the study occurred. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915)		Integer (Long)	AF
	floodElev	The maximum elevation or height, in feet, of the waters within the flood zone.		Double	AF
	lastMax	The maximum height or elevation, in feet, associated with the last flood.		Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	elevUOM	The unit of measure for the elevation or height.	foot	String (25)	AF
D	isControls	Identifies whether flood controls are in place.	NA, no, TBD, yes	String (3)	AF
	freqYrs	The normal frequency (in years) when the flood zone is covered with water.		Integer (Long)	AF
	useLimits	Restrictions on the use of the feature.		String (255)	AF
	firmZone	The FEMA Flood Insurance Rate Map hazard area zone code.		String (16)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for FloodPlainArea_A is:

Table Name	Identifier	Source
nr_FloodPlainArea	floodPlainAreaIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Flood Plain Area

March 01, 2018

Data Layer Specifications for:

Forest Compartment

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	ForestCompartment_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	ForestCompartment_20160623	• Updated "Positional Accuracy" section.
3/9/2017	ForestCompartment_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	ForestCompartment_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	ForestCompartment_20180301	• Updated Definition, Geometry/Topology, Positional Accuracy, and Attributes sections. • Removed Appendix 1.

Data Layer Specification – Forest Compartment

This Data Layer Specification (DLS) defines geospatial data specifications for the ForestCompartment_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

A geographic area used for forest management, typically containing one or more forest stands.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	ForestCompartment_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	forest_compartment_area ForestCompartment
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Forest compartments are represented as closed polygons depicting the outermost extent of the compartment area. • Each individual forest compartment is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009

Implementing Program(s):	Driver(s):
	• Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • The Wilderness Act (16 USC 1133)

Geometry/Topology

Polygon Features:
Polygons must not overlap.
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **6 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the ForestCompartment_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The

horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the ForestCompartment_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	forestCompartmentID PK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Forest Compartment.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Forest Compartment that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	compartmentName	A locally unique name used to identify the compartment.	Local name of forest compartment; may be the same as Feature Name.	String (50)	SDSFIE
	compartmentNum	The number assigned to the forest compartment.		String (15)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for ForestCompartment_A is:

Table Name	Identifier	Source
nr_ForestCompartment	forestCompartmentIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Forest Compartment

March 01, 2018

Data Layer Specifications for:

Forest Management Area

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	ForestManagement Area_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	ForestManagement Area_20160623	• Updated "Positional Accuracy" section.
3/9/2017	ForestManagement Area_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	ForestManagement Area_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	ForestManagement Area_20180301	• Updated Geometry/Topology, Positional Accuracy, and Attributes section.

This Data Layer Specification (DLS) defines geospatial data specifications for the ForestMgtArea_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

A plant community predominately of trees and other woody vegetation, covering a large tract.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	ForestMgtArea_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	forest_management_area
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Forest management areas are represented as closed polygons depicting the outermost extent of the area. • Each individual forest management area is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0

Implementing Program(s):	Driver(s):
	• RPIM 3.0, extracted 4/2009 • The Wilderness Act (16 USC 1133)

Geometry/Topology

Polygon Features:
Polygons must not overlap.
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **12 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the ForestMgtArea_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The

horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the ForestMgtArea_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	forestMgtAreaIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Forest Management Area.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Forest Management Area that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
D	managingAgency	The managing agency of the forest area.	**For the list of domain values see GovMgt in Appendix 1.**	String (10)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for ForestMgtArea_A is:

Table Name	Identifier	Source
nr_ForestMgtArea	forestMgtAreaIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Forest Management Area

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: GovMgt	
ATTRIBUTE NAME: managingAgency	
CODED DOMAIN	DEFINITION
city	City Government
county	County Government
federal	Federal Government
local	Local
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
state	State Government
TBD	To Be Determined: A value is required but the value has yet to be determined.

March 01, 2018

Data Layer Specifications for:

Forest Product Harvest

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	ForestProductHarvest _20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	ForestProductHarvest _20160623	• Updated "Positional Accuracy" section.
3/9/2017	ForestProductHarvest _20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	ForestProductHarvest _20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	ForestProductHarvest _20180301	• Updated Geometry/Topology, Positional Accuracy, and Attributes section.

Data Layer Specification – Forest Product Harvest

This Data Layer Specification (DLS) defines geospatial data specifications for the ForestProductHarvest_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

A location where forest timber has been (or will be) cut, felled, and gathered.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	ForestProductHarvest_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	timber_harvest_area ForestProductHarvest
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Forest product harvest areas are represented as closed polygons depicting the outermost extent of the harvest area. • Each individual forest product harvest area is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009

Implementing Program(s):	Driver(s):
	• Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009

Geometry/Topology

Polygon Features:
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **6 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the ForestProductHarvest_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the ForestProductHarvest_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	forestProductHarvestIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Forest Product Harvest area.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Forest Product Harvest area that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	contractNumber	The contract number for the feature.		String (30)	SDSFIE
	harvestYear	The calendar year in which the harvest occurred.		Integer (Long)	SDSFIE
	cost	The gross cost of production in U.S. Dollars.		Double	SDSFIE
	revenue	The gross revenue of the harvest in U.S. Dollars.		Double	SDSFIE
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for ForestProductHarvest_A is:

Table Name	Identifier	Source
nr_ForestProductHarvest	forestProductHarvestIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Forest Product Harvest

March 01, 2018

Data Layer Specifications for:

Forest Stand

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	ForestStand _20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	ForestStand _20160623	• Updated "Positional Accuracy" section.
3/9/2017	ForestStand _20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	ForestStand _20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	ForestStand _20180301	• Updated Geometry/Topology, Positional Accuracy, and Attributes section.

This Data Layer Specification (DLS) defines geospatial data specifications for the ForestStand_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

A group of trees occupying a given area and sufficiently uniform in species composition, age, structure, site quality, and condition so as to be distinguishable from the forest in adjoining areas.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	ForestStand_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	forest_stand_area riparian_forest_buffer_area tree_plantation_area ForestStand
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Forest stands are represented as closed polygons depicting the outermost extent of the stand area. • Each individual forest stand is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996

Implementing Program(s):	Driver(s):
	• Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • Sikes Act section 107

Geometry/Topology

Polygon Features:
Polygons must not overlap.
ForestStand_A must be covered by ForestCompartment_A.
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **6 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the ForestStand_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the ForestStand_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	forestStandIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Forest Stand.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Forest Stand that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	compartmentNum	The number assigned to the forest compartment.		String (15)	AF
D	forestCategory	A category of forest defined by its dominant tree species, vegetation and/or locality factors.	**For a list of domain values, see ForestCategory in Appendix 1.**	String (35)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	forestHealth	A measure of the robustness of forest ecosystems. Aspects of forest health include biological diversity; soil, air, and water productivity; natural disturbances; and the capacity of the forest to provide a sustaining flow of goods and services for people.	**For a list of domain values, see ForestHealth in Appendix 1.**	String (10)	AF
	forestAcres	The quantity representing the amount of forested acres in the feature.		Double	AF
D	registry	Highest level at which stand is recognized.	**For a list of domain values, see RegStatus in Appendix 1.**	String (15)	AF
D	isCommProduct	Indicates whether the stand meets criteria for commercial productivity. The stand is capable (>20 cubic foot per acre per year of growth), accessible, and available for commercial forest product production.	NA, no, TBD, yes	String (3)	AF
D	isRegulated	Indicates whether the feature is regulated by Federal, State or local jurisdiction or no regulation.	NA, no, TBD, yes	String (3)	AF
	datePlanted	The date on which the stand area was planted. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
	standAge	The average age of trees in the stand in years.		Integer (Long)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	standDensity	The number of tree trunks per acre.		Integer (Long)	AF
D	densityUOM	The unit of measure for the density unit area.	acre	String (20)	AF
	sawTimberDiam	The quantity representing the average tree diameter, in inches, at breast height of saw timber.		Double	AF
	pulpwoodDiam	The quantity representing the average diameter, in inches, of the pulpwood trees at breast height.		Double	AF
D	diameterUOM	The unit of measure for diameter.	inch	String (25)	AF
	basalArea	The quantity representing the basal area of tree trunks per acre (sqft per acre).		Double	AF
	hardwoodBasal	The quantity representing the hardwood basal area (sqft per acre) quantity. This quantity must be in the same units as basalArea and pineBasal.		Double	AF
	pineBasal	The quantity representing the pine basal area (sqft per acre). This quantity must be in the same units as basalArea and hardwoodBasal.		Double	AF
	crownClosure1	Measurement of the crown closure of layer1.		Double	AF
	crownClosure2	Measurement of the crown closure of layer2.		Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	meanHt1	The mean height, in feet, of layer1 within the feature.		Double	AF
	meanHt2	The mean height, in feet, of layer2 within the feature.		Double	AF
D	heightUOM	The unit of measure for the height.	foot	String (25)	AF
	midstory	A text description of the trees in the forest midstory.		String (50)	AF
	overstory	A text description of trees in the forest overstory.		String (50)	AF
	pctSawTimber	The quantity representing the percentage of saw timber.		Integer (Long)	AF
	pctPulpwood	The quantity representing the percentage of pulpwood in the area.		Integer (Long)	AF
	pctHardwood	The quantity representing the percentage of hardwood in the area.		Integer (Long)	AF
	pctPine	The quantity representing the percentage of pine trees in the area.		Integer (Long)	AF
	acreValue	The quantity representing the value per acre. This should be represented as a dollar amount.		Double	
	totalValue	The quantity representing the total value of the area. This should be represented as a dollar amount.		Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for ForestStand_A is:

Table Name	Identifier	Source
nr_ForestStand	forestStandIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Forest Stand

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: ForestCategory	
ATTRIBUTE NAME: : forestCategory	
CODED DOMAIN	DEFINITION
arizonaCypress	Classification# 240, Arizona Cypress.
asheJuniperRedberryJuniper	Classification# 66, Ashe Juniper-Redberry Juniper.
aspen	Classification# 16, Aspen.
aspenInterior	Classification# 217, Aspen-Interior.
atlanticWhiteCedar	Classification# 97, Atlantic White-Cedar.
baldCypress	Classification# 101, Bald Cypress.
baldCypressTupelo	Classification# 102, Bald Cypress-Tupelo.
balsamFir	Classification# 5, Balsam Fir.
balsamPoplar	Classification# 203, Balsam Poplar.
bearOak	Classification# 43, Bear Oak.
beechSugarMaple	Classification# 60, Beech-Sugar Maple.
blackAshAmericanElmRedMaple	Classification# 39, Black Ash-American Elm-Red Maple.
blackCherryMaple	Classification# 28, Black Cherry-Maple.
blackCottonwoodWillow	Classification# 222, Black Cottonwood-Willow.
blackLocust	Classification# 55, Black Locust.
blackOak	Classification# 53, Black Oak.
blackSpruce	Classification# 13, Black Spruce.
blackSpruceBoreal	Classification# 12, Black Spruce-Boreal.
blackSprucePaperBirch	Classification# 204, Black Spruce-Paper Birch.
blackSpruceTamarack	Classification# 254, Black Spruce Tamarack.
blackSpruceWhiteSpruce	Classification# 253, Black Spruce-White Spruce.
blackWillow	Classification# 95, Black Willow.
blueOakDiggerPine	Classification# 250, Blue Oak-Digger Pine.
blueSpruce	Classification# 216, Blue Spruce.
bristleconePine	Classification# 209, Bristlecone Pine.
burOak	Classification# 42, Bur Oak.
cabbagePalmetto	Classification# 74, Cabbage Palmetto.
californiaBlackOak	Classification# 246, California Black Oak.
californiaCoastLiveOak	Classification# 255, California Coast Live Oak.
californiaMixedSubalpine	Classification# 256, California Mixed Subalpine.
canyonLiveOak	Classification# 249, Canyon Live Oak.
chestnutOak	Classification# 44, Chestnut Oak.
coastalTrueFirHemlock	Classification# 226, Coastal True Fir-Hemlock.
cottonwood	Classification# 63, Cottonwood.
cottonwoodWillow	Classification# 235, Cottonwood-Willow.
douglasFirTanoakPacifMadrone	Classification# 230, Douglas Fir-Tanoak-Pacific Madrone.
douglasFirWesternHemlock	Classification# 234, Douglas Fir Western Hemlock.
easternHemlock	Classification# 23, Eastern Hemlock.
easternRedCedar	Classification# 46, Eastern Red Cedar.
easternWhitePine	Classification# 21, Eastern White Pine.
englemannSpruce	Classification# 206, Englemann Spruce.
grandFir	Classification# 213, Grand Fir.
grayBirchRedMaple	Classification# 19, Gray Birch-Red Maple.
hawthorn	Classification# 109, Hawthorn.
hemlockYellowBirch	Classification# 24, Hemlock Yellow-Birch.
interiorDouglasFir	Classification# 210, Interior Douglas Fir.
interiorPonderosaPine	Classification# 237, Interior Ponderosa Pine.
jackPine	Classification# 1, Jack Pine.

DOMAIN TABLE NAME: ForestCategory	
ATTRIBUTE NAME: : forestCategory	
jeffreyPine	Classification# 247, Jeffrey Pine.
knobconePine	Classification# 248, Knobcone Pine.
limberPine	Classification# 219, Limber Pine.
liveOak	Classification# 89, Live Oak.
loblollyPine	Classification# 81, Loblolly Pine.
loblollyPineHardwood	Classification# 82, Loblolly Pine-Hardwood.
loblollyPineShortLeafPine	Classification# 80, Loblolly Pine-Short Leaf Pine.
lodgepolePine	Classification# 218, Lodgepole Pine.
longleafPine	Classification# 70, Longleaf Pine.
longleafPineScrubOak	Classification# 71, Longleaf Pine-Scrub Oak.
longleafPineSlashPine	Classification# 83, Longleaf Pine-Slash Pine.
mangrove	Classification# 106, Mangrove.
mesquite	Classification# 68, Mesquite.
mesquiteInterior	Classification# 242, Mesquite-Interior.
mohrsOak	Classification# 67, Mohrs Oak.
mountainHemlock	Classification# 205, Mountain Hemlock.
NA	Not Applicable: No value exists.
northernPinOak	Classification# 14, Northern Pin Oak.
northernRedOak	Classification# 110, Northern Red Oak.
northernWhiteCedar	Classification# 37, Northern White-Cedar.
oregonWhiteOak	Classification# 233, Oregon White Oak.
other	Other. Must be described in the sdsFeatureDescription attribute.
overcupOakWaterHickory	Classification# 96, Overcup Oak-Water Hickory.
pacificDouglasFir	Classification# 229, Pacific Douglas Fir.
pacificPonderosaPine	Classification# 245, Pacific Ponderosa Pine.
pacifPonderosaPineDouglasFir	Classification# 244, Pacific Ponderosa Pine-Douglas Fir.
paperBirch	Classification# 18, Paper Birch.
paperBirchBoreal	Classification# 252, Paper Birch-Boreal.
paperBirchRedSpruceBalsamFir	Classification# 35, Paper Birch-Red Spruce-Balsam Fir.
pinCherry	Classification# 17, Pin Cherry.
pinOakSweetGum	Classification# 64, Pin Oak-Sweet Gum.
pinyonJuniper	Classification# 239, Pinyon-Juniper.
pitchPine	Classification# 45, Pitch Pine.
pondCypress	Classification# 100, Pond Cypress.
pondPine	Classification# 98, Pond Pine.
portOrfordCedar	Classification# 231, Port Orford-Cedar.
postOakBlackjackOak	Classification# 40, Post Oak-Blackjack Oak.
redAlder	Classification# 221, Red Alder.
redFir	Classification# 207, Red Fir.
redMaple	Classification# 108, Red Maple.
redPine	Classification# 15, Red Pine.
redSpruce	Classification# 32, Red Spruce.
redSpruceBalsamFir	Classification# 33, Red Spruce-Balsam Fir.
redSpruceFraserFir	Classification# 34, Red Spruce-Fraser Fir.
redSpruceSugarMapleBeech	Classification# 31, Red Spruce-Sugar Maple-Beech.
redSpruceYellowBirch	Classification# 30, Red Spruce-Yellow Birch.
redwood	Classification# 232, Redwood.
riverBirchSycamore	Classification# 59, River Birch-Sycamore.
rockyMountainJuniper	Classification# 220, Rocky Mountain Juniper.
sandPine	Classification# 69, Sand Pine.
sassafrasPersimmon	Classification# 62, Sassafras-Persimmon.
shortLeafPine	Classification# 75, Short Leaf Pine.
shortLeafPineOak	Classification# 76, Short Leaf Pine-Oak.

DOMAIN TABLE NAME: ForestCategory	
ATTRIBUTE NAME: : forestCategory	
sierraNevadaMixedConifer	Classification# 243, Sierra Nevada Mixed Conifer.
silverMapleAmericanElm	Classification# 61, Silver Maple-American Elm.
sitkaSpruce	Classification# 223, Sitka Spruce.
slashPine	Classification# 84, Slash Pine.
slashPineHardwood	Classification# 85, Slash Pine-Hardwood.
southernRedCedar	Classification# 111, Southern Red Cedar.
southernScrubOak	Classification# 73, Southern Scrub Oak.
southFloridaSlashPine	Classification# 72, South Florida Slash Pine.
sugarberryAmerElmGreenAsh	Classification# 27, Sugarberry-American Elm-Green Ash.
sugarMaple	Classification# 26, Sugar Maple.
sugarMapleBasswood	Classification# 25, Sugar Maple-Basswood.
sugarMapleBeechYellowBirch	Classification# 93, Sugar Maple-Beech-Yellow Birch.
swampChestnutOakCherryBarkOak	Classification# 91, Swamp Chestnut Oak-Cherry Bark Oak.
sweetbaySwampTupeloRedBay	Classification# 92, Sweetbay-Swamp Tupelo-Red Bay.
sweetGumWillowOak	Classification# 87, Sweet Gum-Willow Oak.
sweetGumYellowPoplar	Classification# 104, Sweet Gum-Yellow Poplar.
sycamoreSweetGumAmericanElm	Classification# 94, Sycamore-Sweet Gum-American Elm.
tamarack	Classification# 38, Tamarack.
TBD	To Be Determined: A value is required but the value has yet to be determined.
tropicalHardwoods	Classification# 105, Tropical Hardwoods.
virginiaPine	Classification# 79, Virginia Pine.
virginiaPineOak	Classification# 78, Virginia Pine-Oak.
waterTupeloSwampTupelo	Classification# 103, Water Tupelo-Swamp Tupelo.
westernHemlock	Classification# 224, Western Hemlock.
westernHemlockSitkaSpruce	Classification# 225, Western Hemlock-Sitka Spruce.
westernJuniper	Classification# 238, Western Juniper.
westernLarch	Classification# 212, Western Larch.
westernLiveOak	Classification# 241, Western Live Oak.
westernRedCedar	Classification# 228, Western Red Cedar.
westernWhitePine	Classification# 215, Western White Pine.
westrnRedCedarWestrnHemlock	Classification# 227, Western Red Cedar-Western Hemlock.
whitebarkPine	Classification# 211, Whitebark Pine.
whiteFir	Classification# 52, White Fir.
whiteOak	Classification# 51, White Oak.
whitePineChestnutOak	Classification# 22, White Pine-Chestnut Oak.
whitePineHemlock	Classification# 20, White Pine-Hemlock.
whiteSpruce	Classification# 251, White Spruce.
whiteSpruceAspen	Classification# 201, White Spruce-Aspen.
whiteSpruceBoreal	Classification# 202, White Spruce-Boreal.
whiteSprucePaperBirch	Classification# 208, White Spruce-Paper Birch.
whtePineNthrnRedOakRedMaple	Classification# 107, White Pine-Northern Red Oak-Red Maple.
willowOakWtrOakDiamondLeafOak	Classification# 88, Willow Oak-Water Oak-Diamond Leaf Oak.
yellowPoplar	Classification# 50, Yellow-Poplar.
yellowPoplarEasternHemlock	Classification# 57, Yellow-Poplar-Eastern Hemlock.
yllwPoplrWhteOakNthrnRedOak	Classification# 58, Yellow-Poplar-White Oak-Northern Red Oak.

DOMAIN TABLE NAME: ForestHealth	
ATTRIBUTE NAME: forestHealth	
CODED DOMAIN	DEFINITION
excellent	Forest health is in excellent condition.
fair	Forest health is in fair condition.

DOMAIN TABLE NAME: ForestHealth	
ATTRIBUTE NAME: forestHealth	
good	Forest health is in good condition.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
poor	Forest health is in poor condition.
TBD	To Be Determined: A value is required but the value has yet to be determined.
veryPoor	Forest health is very poor.

DOMAIN TABLE NAME: RegStatus	
ATTRIBUTE NAME: registry	
CODED DOMAIN	DEFINITION
federal	Federal.
local	Local (city, town, county).
NA	Not Applicable: No value exists.
natureConsrv	Nature Conservancy.
other	Other. Must be described in the sdsFeatureDescription attribute.
state	State.
TBD	To Be Determined: A value is required but the value has yet to be determined.

March 01, 2018

Data Layer Specifications for:

Fuel Break Line

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	FuelBreakLine _20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	FuelBreakLine _20160623	• Updated "Positional Accuracy" section.
3/9/2017	FuelBreakLine _20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	FuelBreakLine _20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	FuelBreakLine _20180301	• Updated Definition, Geometry/Topology, Positional Accuracy, and Attributes sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the FuelBreakLine_L data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

Linear areas within which fuels characteristics have been altered that produce, either intentionally or coincidentally, more manageable fire behavior. Non-fire fuels treatment, such as clearance of vegetation along a utility right-of-way, is an example of an action that may coincidentally serve to maintain a Fuel Break Line.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	FuelBreakLine_L
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	None
Geometry Type:	Line
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Fuel break lines represent fuel reduction areas. • Fuel break line locations will be represented as a continuous unbroken line.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003

Implementing Program(s):	Driver(s):
	• USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009

Geometry/Topology

Line Features:
Lines must not overlap.
Lines must not intersect.
Lines must not self-overlap.
Lines must not self-intersect.
Lines must be single part features.
Lines must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **6 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the FuelBreakLine_L layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the FuelBreakLine_L data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	fuelBreakLineIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Fuel Break Line.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Fuel Break Line that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	lengthSize	The value of the measured length.	Recorded to the 1/1000 of a foot.	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	lengthSizeUOM	The unit of measure for the calculated length.	foot	String (25)	AF
	latitudeFrom	The latitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	latitudeTo	The latitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	longitudeFrom	The longitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	longitudeTo	The longitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	elevationFrom	The elevation component of the beginning (upstream/upgradient) coordinate point in feet.		Double	AF
	elevationTo	The elevation component of the ending (downstream/downgradient) coordinate point in feet.		Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	elevationUOM	The unit of measure for elevation dimension.	foot	String (25)	AF
	widthSize	The width of the feature in feet.	Recorded to the 1/1000 of a foot.	Double	AF
D	widthSizeUOM	The unit of measure for the width.	foot	String (25)	AF
	maintFreq	The actual average interval between maintenance cycles for the fuel break in months.		Double	AF
	maintDate	The date the fuel break was last maintained. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
D	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
D	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
D	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
D	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for FuelBreakLine_L is:

Table Name	Identifier	Source
nr_FuelBreakLine	fuelBreakLineIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Fuel Break Line

March 01, 2018

Data Layer Specifications for:

Fuel Management Area

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	FuelManagement Area_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	FuelManagement Area_20160623	• Updated "Positional Accuracy" section.
3/9/2017	FuelManagement Area_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	FuelManagement Area_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	FuelManagement Area_20180301	• Updated Definition, Geometry/Topology, Positional Accuracy, and Attributes sections.

Data Layer Specification – Fuel Management Area

This Data Layer Specification (DLS) defines geospatial data specifications for the FuelMgtArea_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

Non-linear areas within which fuels characteristics have been altered that produce, either intentionally or coincidentally, more manageable fire behavior. Non-fire fuels treatments, such as mechanical or chemical reduction of fuels, are examples of actions that may coincidentally serve to maintain Fuel Management Areas.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	FuelMgtArea_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	None
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Fuel management areas are represented as closed polygons depicting the outermost extent of the area. • Each individual fuel management area is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 17 September 2004 • AFI32-7065, Cultural Resources Management Program, 1 June 2004 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003

Implementing Program(s):	Driver(s):
	• USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009

Geometry/Topology

Polygon Features:
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **12 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the FuelMgtArea_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The

horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the FuelMgtArea_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	fuelMgtAreaIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Fuel Management Area.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Fuel Management Area that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (15)	AF
	maintFreq	The actual average interval between maintenance cycles for the fuel management area in months.		Double	AF
	maintDate	The date the fuel management area was last maintained. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for FuelMgtArea_A is:

Table Name	Identifier	Source
nr_FuelMgtArea	fuelMgtAreaIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete FGDC compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Fuel Management Area

March 01, 2018

Data Layer Specifications for:

Habitat Disturbance

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
3/1/2018	HabitatDisturbance _20180301	• Created Data Layer Specification for Habitat Disturbance.

This Data Layer Specification (DLS) defines geospatial data specifications for the HabitatDisturbance_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

Areas that have been impacted by disturbance of some sort, either natural or human caused.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	HabitatDisturbance_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	None
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Habitat disturbance areas are represented as closed polygons depicting the outermost extent of the area. • Each individual habitat disturbance area is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 17 September 2004 • AFI32-7065, Cultural Resources Management Program, 1 June 2004 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009

Geometry/Topology

Polygon Features:
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **6 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the HabitatDisturbance_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the HabitatDisturbance_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	habDisturbanceIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Habitat Disturbance.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Habitat Disturbance that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (15)	AF
D	disturbanceSurveyType	Indicates the type of survey conducted to assess and delineate the disturbance.	**For a list of domain values, see DisturbanceSurveyType in Appendix 1.**	String (20)	AF
D	disturbanceType	Indicates the general type of disturbance.	**For a list of domain values, see DisturbanceType in Appendix 1.**	String (20)	AF
	disturbanceCause	A narrative describing the specific cause of the disturbance.		String (255)	AF
D	disturbanceDuration	Indicates whether the disturbance is temporary or permanent in nature. Temporary disturbance would be expected to repair itself naturally without assistance, whereas permanent disturbance would require restoration/reclamation actions.	**For a list of domain values, see DisturbanceDuration in Appendix 1.**	String (10)	AF
	disturbanceDate	The date the disturbance occurred. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	disturbProjectName	The locally assigned name of the project that caused the disturbance.		String (150)	AF
	disturbProjectID	The locally assigned ID of the project that caused the disturbance.		String (20)	AF
D	isRemediated	Indicates whether remediation of the disturbance has occurred.	NA, no, TBD, yes	String (3)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for HabitatDisturbance_A is:

Table Name	Identifier	Source
nr_HabitatDisturbance	habDisturbanceIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete FGDC compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Habitat Disturbance

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: DisturbanceDuration	
ATTRIBUTE NAME: disturbanceDuration	
CODED DOMAIN	DEFINITION
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
permanent	The disturbance is considered permanent and unlikely to regenerate naturally.
TBD	To Be Determined: A value is required but the value has yet to be determined.
temporary	The disturbance is considered temporary and likely to regenerate naturally.

DOMAIN TABLE NAME: DisturbanceSurveyType	
ATTRIBUTE NAME: disturbanceSurveyType	
CODED DOMAIN	DEFINITION
damageAssessment	A Damage Assessment of unplanned disturbance was conducted.
disturbDelineation	A Disturbance Delineation of planned disturbance was conducted.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: DisturbanceType	
ATTRIBUTE NAME: disturbanceType	
CODED DOMAIN	DEFINITION
burn	The disturbance was caused by fire.
clearing	The disturbance was caused by vegetation clearing activities.
construction	The disturbance was caused by construction activities.
historicDisturbance	The disturbance is associated with historical land use.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.
vandalism	The disturbance was caused by vandalism.
vehicularImpact	The disturbance was caused by a vehicle or other equipment unrelated to construction activities.

March 01, 2018

Data Layer Specifications for:

Habitat Protective Zone

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	HabitatProtectiveZone_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
3/9/2017	HabitatProtectiveZone_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	HabitatProtectiveZone_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	HabitatProtectiveZone_20180301	• Updated Geometry/Topology, Positional Accuracy, and Attributes section.

This Data Layer Specification (DLS) defines geospatial data specifications for the HabitatProtectiveZone_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

An area surrounding an identified habitat where recreation, training or other activities are restricted. This is a specific zone delineated by an agreement or law that extends beyond the actual habitat limits.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	HabitatProtectiveZone_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	habitat_protective_zone_area
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Habitat protective zone areas are represented as closed polygons depicting the outermost extent of the area. • Each individual habitat protective zone area is represented by a single area feature. • Habitat protective zone areas include the species specific habitat area that is being protected.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996

Implementing Program(s):	Driver(s):
	• Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • Fish and Wildlife Migratory Bird Act • Bald and Golden Eagle Protection Act

Geometry/Topology

Polygon Features:
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the HabitatProtectiveZone_A will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the HabitatProtectiveZone_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	habProtectiveZoneIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Habitat Protective Zone.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Habitat Protective Zone that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
D	speciesCat	The code indicating the class of flora or fauna.	**For a list of domain values, see SpeciesCat in Appendix 1.**	String (15)	AF
	restrictDateStart	The month and day land use restriction begins, if seasonal. Format for date is MMDD (i.e. September 15 = 0915).		Integer (Long)	AF
	restrictDateEnd	The month and day land use restriction ends, if seasonal. Format for date is MMDD (i.e. September 15 = 0915).		Integer (Long)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for HabitatProtectiveZone_A is:

Table Name	Identifier	Source
nr_HabitatProtectiveZone	habProtectiveZoneIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Habitat Protective Zone

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: SpeciesCat	
ATTRIBUTE NAME: speciesCat	
CODED DOMAIN	DEFINITION
amphibia	Amphibian species.
aves	Avian (Birds) species.
bryoid	Bryoid species.
crustacea	Crustacean species.
epiphyte	Epiphyte species.
general	An aggregate of more than one species.
herb	Herb species.
insecta	Insect species.
liana	Liana species.
mammalia	Mammal species.
mollusca	Mollusk species.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
pisces	Pisces (Fish) species.
reptilia	Reptile species.
shrub	Shrub species.
TBD	To Be Determined: A value is required but the value has yet to be determined.
thallophyte	Thallophyte species.
tree	Tree species.

March 01, 2018

Data Layer Specifications for:

Hazardous Suppression Area

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	HazardousSuppression Area_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	HazardousSuppression Area_20160623	• Updated "Positional Accuracy" section.
3/9/2017	HazardousSuppression Area_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	HazardousSuppression Area_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	HazardousSuppression Area_20180301	• Updated Definition, Geometry/Topology, Positional Accuracy, and Attributes sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the HazSuppressionArea_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

Areas in which fire management has potential hazardous risks to assets or personnel managing the fire. Some of these areas may be off-limits to fire fighting. For example, UXO contamination, QD arcs, and ammunition storage areas are some features that should be tracked within this data layer.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	HazSuppressionArea_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	None
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Hazardous suppression areas are represented as closed polygons depicting the outermost extent of the area. • Each individual hazardous suppression area is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003

Implementing Program(s):	Driver(s):
	• USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009

Geometry/Topology

Polygon Features:
Polygons must not overlap.
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **6 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the HazSuppressionArea_A layer will be based on the Universal Transverse Mercator (UTM) Zone,

meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the HazSuppressionArea_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	hazSuppressionAreaID PK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Hazardous Suppression Area.	String (80)	SDSDFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Hazardous Suppression Area that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
D	suppressType	The type of suppression authorized.	**For a list of domain values, see SuppressionType in Appendix 1.**	String (8)	AF
D	groundDisturb	Whether or not ground disturbing activities are authorized.	**For a list of domain values, see GroundDisturbance in Appendix 1.**	String (15)	AF
D	attackMethod	Authorized methods to attack a fire.	**For a list of domain values, see FireAttackMethod in Appendix 1.**	String (15)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for HazSuppressionArea_A is:

Table Name	Identifier	Source
nr_HazSuppressionArea	hazSuppressionAreaIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Hazardous Suppression Area

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: FireAttackMethod	
ATTRIBUTE NAME: attackMethod	
CODED DOMAIN	DEFINITION
all	All fire attack methods are authorized.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
plowing	The fire may be attacked with plowing only.
TBD	To Be Determined: A value is required but the value has yet to be determined.
water	The fire may be attacked with water only.
waterPlowing	The fire may be attacked with water and plowing only.

DOMAIN TABLE NAME: GroundDisturbance	
ATTRIBUTE NAME: groundDisturb	
CODED DOMAIN	DEFINITION
authorized	Ground disturbance activities are authorized.
NA	Not Applicable: No value exists.
notAuthorized	Ground disturbance activities are not authorized.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: SuppressionType	
ATTRIBUTE NAME: suppressType	
CODED DOMAIN	DEFINITION
full	Full suppression is authorized.
NA	Not Applicable: No value exists.
none	No suppression is authorized.
other	Other. Must be described in the sdsFeatureDescription attribute.
road	Suppression methods only requiring road access are authorized.
surface	Suppression methods requiring surface attack methods are authorized.
TBD	To Be Determined: A value is required but the value has yet to be determined.

March 01, 2018

Data Layer Specifications for:

Historic River Alignment

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	HistoricRiverAlignment_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	HistoricRiverAlignment_20160623	• Updated "Positional Accuracy" section.
3/9/2017	HistoricRiverAlignment_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	HistoricRiverAlignment_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	HistoricRiverAlignment_20180301	• Updated Geometry/Topology, Positional Accuracy, and Attributes section.

This Data Layer Specification (DLS) defines geospatial data specifications for the HistoricRiverAlignment_L data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

Location(s) of previous river channels formed during the recent epoch.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	HistoricRiverAlignment_L
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	historic_river_alignment_line HistoricRiverAlignment
Geometry Type:	Line
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Historic river alignments are represented as unbroken lines.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009

Geometry/Topology

Line Features:
Lines must not self-intersect.
Lines must not self-overlap.
HistoricRiverAlignment_L must not overlap with WatercourseLine_L.
Lines must be single part features.
Lines must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the HistoricRiverAlignment_L layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the HistoricRiverAlignment_L data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	histRiverAlignmentIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Historic River Alignment.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Historic River Alignment that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	lengthSize	The value of the measured length.	Recorded to the 1/1000 of a foot.	Double	AF
D	lengthSizeUOM	The unit of measure for the calculated length.	foot	String (25)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	latitudeFrom	The latitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	latitudeTo	The latitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	longitudeFrom	The longitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	longitudeTo	The longitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	elevationFrom	The elevation component of the beginning (upstream/upgradient) coordinate point in feet.		Double	AF
	elevationTo	The elevation component of the ending (downstream/downgradient) coordinate point in feet.		Double	AF
D	elevationUOM	The unit of measure for elevation dimension.	foot	String (25)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	alignmentYear	The year(s) the alignment was active (e.g. 1850 - 1920, or pre-1942 - 1986).		String (40)	SDSFIE
	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
D	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
D	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute

table and business table. Additional attributes to be determined by the Program Area Manager. The business table for HistoricRiverAlignment_L is:

Table Name	Identifier	Source
nr_HistoricRiverAlignment	histRiverAlignmentIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Historic River Alignment

March 01, 2018

Data Layer Specifications for:

Land Cover

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	LandCover_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	LandCover_20160623	• Updated "Positional Accuracy" section.
3/9/2017	LandCover_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	LandCover_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	LandCover_20180301	• Updated Geometry/Topology, Sources and Source Selection, Positional Accuracy, and Attributes section.

Data Layer Specification – Land Cover

This Data Layer Specification (DLS) defines geospatial data specifications for the LandCover_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

The observed physical and biological cover of the land as vegetation or man-made features.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	LandCover_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	flora_crown_closure_area ice_area land_cover_area LandCover
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Land Cover areas are represented as closed polygons depicting the outermost extent of the area. • Each individual land cover area is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003

Implementing Program(s):	Driver(s):
	• USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • Sikes Act section 107 • Executive Order (EO) 11514, Protection and Enhancement of Environmental Quality

Geometry/Topology

Polygon Features:
Polygons must not overlap.
Polygons must not have gaps.
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: publicly available data from the Multi-Resolution Land Characteristics Consortium National Land Cover Database, planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the LandCover_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the LandCover_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	landCoverIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Land Cover.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Land Cover that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
D	landCoverType	The type of land cover.	**For a list of domain values, see LandCoverType in Appendix 1.**	String (20)	SDSFIE
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for LandCover_A is:

Table Name	Identifier	Source
nr_LandCover	landCoverIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Land Cover

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: : LandCoverType	
ATTRIBUTE NAME: landCoverType	
CODED DOMAIN	DEFINITION
agriculturalLand	agricultural land
barrenLand	barren land
forestLand	forest land
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
perennialSnowOrIce	perennial snow or ice
rangeland	rangeland
TBD	To Be Determined: A value is required but the value has yet to be determined.
tundra	tundra
urbanOrBuiltUpLand	urban or built-up land
water	water
wetland	wetland

March 01, 2018

Data Layer Specifications for:

Natural Resource Recreation Feature

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	NaturalResourceRecreation Feature_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	NaturalResourceRecreation Feature_20160623	• Updated "Positional Accuracy" section.
3/9/2017	NaturalResourceRecreation Feature_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	NaturalResourceRecreation Feature_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	NaturalResourceRecreation Feature_20180301	• Updated Definition, Positional Accuracy, and Attributes sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the NatResRecFeature_P data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

Recreation features managed by Natural Resources such as, but not limited to: hunting stands, fishing docks, trapping locations, fishing locations, wildlife observation points, etc.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	NatResRecFeature_P
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResource
Previous Layer Names:	blind_or_stand_point fauna_viewing_point fishing_point recreation_feature_point trapping_point RecreationFeature FishingLocation_P ObservationLocation TrappingLocation_P
Geometry Type:	Point
Data Steward Organization (Program Area):	Program Area: Natural Resource
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Natural resource recreation feature points are a representation of the coordinate location of that feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014

Implementing Program(s):	Driver(s):
	• AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • Outdoor Recreation on Federal Lands (16 USC 4601)

Geometry/Topology

Point Features:
Points must be disjoint.

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the NatResRecFeature_P layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the NatResRecFeature_P data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	natResRecFeatureIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Natural Resource Recreation Feature.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Natural Resource Recreation Feature that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	latitude	The latitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	longitude	The longitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	MGRS	Military Grid Reference System for the coordinate point. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	elevation	The elevation of the subject item in relation to a datum.		Double	AF
D	elevationUOM	The unit of measure for elevation dimension.	foot	String (25)	AF
	recFeatureID	The locally assigned ID for the recreation feature.		String (20)	AF
D	featureType	An enumeration indicating the primary recreational usage of the feature.	**For a list of domain values, see NRrecFeatureType in Appendix 1.**	String (20)	AF
	endDate	The date the feature or project was completed. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
	maintDate	The date the recreation feature was last serviced. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
	useLimits	Restrictions on the use of the feature.		String (255)	AF
D	isADAaccessible	Identifies if the feature is handicapped accessible.	NA, no, TBD, yes	String (3)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	trapType	The type of trap used in the trapping area.	**For a list of domain values, see TrapType in Appendix 1.**	String (11)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute

table and business table. Additional attributes to be determined by the Program Area Manager. The business table for NatResRecFeature_P is:

Table Name	Identifier	Source
nr_NatResRecFeature	NatResRecFeatureIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Natural Resource Recreation Feature

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: NRrecFeatureType	
ATTRIBUTE NAME: featureType	
CODED DOMAIN	DEFINITION
bench	Bench
brochureHolder	Brochure Holder
fishingDockOrPier	Fishing Dock/Pier
fishingSite	Fishing Site
huntingBlindOrStand	Hunting Blind Or Stand
interpretiveSign	Interpretive Sign
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.
trappingLocation	An area where trapping is allowed.
wildlifeViewingSite	Wildlife Viewing Site

DOMAIN TABLE NAME: TrapType	
ATTRIBUTE NAME: trapType	
CODED DOMAIN	DEFINITION
cage	Cage trap.
coilSpring	Coil spring trap.
jaw	Jaw trap.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.

March 01, 2018

Data Layer Specifications for:

Natural Resource Restoration Reclamation Project

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	NaturalResourceRestorationReclamationProject_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	NaturalResourceRestorationReclamationProject_20160623	• Added NatResRestReclProj_P representation under "Data Layer Details" section. • Updated "Positional Accuracy" section.
3/9/2017	NaturalResourceRestorationReclamationProject_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection. • Updated the "Representation" subsection of the "Data Layer Details" section. • Updated the "Point Features" subsection of the "Geometry/Topology" section.
6/8/2017	NaturalResourceRestorationReclamationProject_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	NaturalResourceRestorationReclamationProject_20180301	• Updated Definition, Data Layer Details, Geometry/Topology, Positional Accuracy, Attributes, and Business Tables sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the NatResRestReclProj_A and NatResRestReclProj_P data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

A location where action has been taken (or is planned) to restore or reclaim degraded ecosystem structure, function, and dynamic process to a more natural condition or to enhance habitat for one or more species. Examples would be restoration of wetlands, river channels, native vegetation, and dunes or management of moist soil units for waterfowl.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	NatResRestReclProj_A NatResRestReclProj_P
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	flora_replanting_area flora_replanting_point land_reclamation_project_area land_reclamation_project_point riparian_forest_buff_prof_area species_repop_area species_repop_point FloraPlantingOrSeeding FloraPlantingOrSeeding_P ForestStand NaturalResourceResRecProject NaturalResourceResRecProject_P
Geometry Type:	Polygon, Point
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Restoration or reclamation locations are represented as closed polygons depicting the outermost extent of the area. • Each individual restoration or reclamation area is represented by a single area feature. • All points developed from areas shall represent the centroid of the natural resource restoration reclamation project area.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • EO 13195, Trails for America in the 21st Century

Geometry/Topology

Polygon Features:
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).
Point Features:
If a point represents a polygon feature, then the point must fall properly inside of the coinciding polygon.

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **6 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the NatResRestReclProj_A and NatResRestReclProj_P layers will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for NatResRestReclProj_A and NatResRestReclProj_P data layers.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	natResRestReclProjIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Natural Resource Restoration Reclamation Project.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Natural Resource Restoration Reclamation Project that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize *(Polygon geometry)*	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	
D	areaSizeUOM *(Polygon geometry)*	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize *(Polygon geometry)*	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM *(Polygon geometry)*	The perimeter unit of measure.	foot	String (25)	AF
	latitude *(Polygon geometry)*	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude *(Polygon geometry)*	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	MGRScentroid *(Polygon geometry)*	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	latitude *(Point geometry)*	The latitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	longitude *(Point geometry)*	The longitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	MGRS *(Point geometry)*	Military Grid Reference System for the coordinate point. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	elevation *(Point geometry)*	The elevation of the subject item in relation to a datum.		Double	AF
D	elevationUOM *(Point geometry)*	The unit of measure for elevation dimension.	foot	String (25)	AF
D	recResProjectType	A code indicating the purpose of the project.	**For a list of domain values, see RecResProjectType in Appendix 1.**	String (24)	SDSFIE
	commonName	The common name of the species.		String (255)	AF
	scientificName	The scientific name of the species.		String (255)	SDSFIE
	startDate	The date the restoration or reclamation project was started. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	endDate	The date the feature or project was completed. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	SHAPE_Length *(Polygon geometry)*	ESRI-generated field.			ESRI
	SHAPE_Area *(Polygon geometry)*	ESRI-generated field.			ESRI

Business Tables

The business tables will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business tables for NatResRestReclProj_A and NatResRestReclProj_P are:

Table Name	Identifier	Source
nr_NatResRestReclProj_A	natResRestReclProjIDFK	Program Area Manager
nr_NatResRestReclProj_P	natResRestReclProjIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Natural Resource Restoration Reclamation Project

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: RecResProjectType	
ATTRIBUTE NAME: recResProjectType	
CODED DOMAIN	DEFINITION
enhancement	Enhancement.
erosionControl	Erosion Control.
maintenance	Maintenance.
mitigation	Mitigation.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
protectionOrPreservation	The purpose of the project is protection or preservation of the project area.
reforestation	Reforestation.
remediation	Remediation.
restoration	Restoration.
specificSpeciesHabitat	Specific Species Habitat.
TBD	To Be Determined: A value is required but the value has yet to be determined.

March 01, 2018

Data Layer Specifications for:

Natural Resource Survey

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	NaturalResource Survey_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	NaturalResource Survey_20160623	• Added NatResSurvey_P representation under "Data Layer Details" section. • Updated "Positional Accuracy" section.
3/9/2017	NaturalResource Survey_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection. • Updated the "Representation" subsection of the "Data Layer Details" section. • Updated the "Point Features" subsection of the "Geometry/Topology" section.
6/8/2017	NaturalResource Survey_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	NaturalResource Survey_20180301	• Updated Data Layer Details, Geometry/Topology, Positional Accuracy, Attributes, and Business Tables sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the NatResSurvey_A, NatResSurvey_L, and NatResSurvey_P data layers implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

A location where a natural resources study, evaluation, assessment, survey or sample has taken place. Natural resource surveys, such as soil surveys, that are represented in other data layers should not be included here.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	NatResSurvey_A NatResSurvey_L NatResSurvey_P
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	fauna_study_area flora_sample_area flora_sample_point flora_study_area forest_plot_area habitat_sample_point lcta_line lcta_point plankton_sampling_area plankton_sampling_point sediment_sample_area sediment_sample_point soil_sample_area soil_sample_collection_location_point soil_sample_point suspended_sediment_samp_area suspended_sediment_samp_point EnvironmentalSampleLocation NaturalResourceSurvey NaturalResourceSurvey_P
Geometry Type:	Polygon, Line, Point
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME

Representation:	• All survey locations shall represent the latitude, longitude location of an identified survey or sample location. • Survey or sample areas are represented as closed polygons depicting the outermost extent of the survey area. • Each individual survey or sample area is represented by a single area feature. • Surveys will be represented as a continuous unbroken line. • All points developed from areas shall represent the centroid of the natural resource survey area.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • 40 CFR 1500; 50 CFR 402.01(a), 402.10, and 402.12 Endangered/Threatened Species compliance requirements • 2011 Arbor Plan

Geometry/Topology

Polygon Features:
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).
Line Features:
LInes must be single part features.
Lines must be larger than cluster tolerance (.001 meter).
Point Features:
If a point represents a polygon feature, then the point must fall properly inside of the coinciding polygon.

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the NatResSurvey_A, NatResSurvey_L, and NatResSurvey_P layers will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the NatResSurvey_A, NatResSurvey_L, and NatResSurvey_P data layers.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	natResSurveyIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Natural Resource Survey.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Natural Resource Survey that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize *(Polygon geometry)*	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM *(Polygon geometry)*	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize *(Polygon geometry)*	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM *(Polygon geometry)*	The perimeter unit of measure.	foot	String (25)	AF
	latitude *(Polygon geometry)*	The latitude coordinate representing the feature in decimal degrees.	decimal degrees	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	longitude *(Polygon geometry)*	The longitude coordinate representing the feature in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid *(Polygon geometry)*	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	lengthSize *(Line geometry)*	The value of the measured length.	Recorded to the 1/1000 of a foot.	Double	AF
D	lengthSizeUOM *(Line geometry)*	The unit of measure for the calculated length.	foot	String (25)	AF
	latitudeFrom *(Line geometry)*	The latitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	latitudeTo *(Line geometry)*	The latitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	longitudeFrom *(Line geometry)*	The longitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	longitudeTo *(Line geometry)*	The longitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	elevationFrom *(Line geometry)*	The elevation component of the beginning (upstream/upgradient) coordinate point in feet.		Double	AF
	elevationTo *(Line geometry)*	The elevation component of the ending (downstream/downgr adient) coordinate point in feet.		Double	AF
D	elevationUOM *(Line geometry)*	The unit of measure for elevation dimension.	foot	String (25)	AF
	latitude *(Point geometry)*	The latitude coordinate representing the feature in decimal degrees.	decimal degrees	Double	AF
	longitude *(Point geometry)*	The longitude coordinate representing the feature in decimal degrees.	decimal degrees	Double	AF
	MGRS *(Point geometry)*	Military Grid Reference System for the coordinate point. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	elevation *(Point geometry)*	The elevation of the subject item in relation to a datum.		Double	AF
D	elevationUOM *(Point geometry)*	The unit of measure for elevation dimension.	foot	String (25)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dataFK	A unique identifier that contains the foreign key into the (possibly external) data table named in the dataTableName attribute.		String (38)	SDSFIE
	dataTableName	The name of a table in a (possibly external) database containing data records related to this survey or sample.		String (38)	SDSFIE
	projectName	The locally assigned project name.		String (100)	AF
	surveyDateStart	The date the natural resource survey started. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
	surveyDateEnd	The date the natural resource survey ended. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
	survOrSampMeth	A description of the survey or sample method used.		String (255)	SDSFIE
	survOrSampPurpose	A discriminator that indicates the purpose of survey or sample. This should include common key words such as Threatened, Endangered, Candidate, Rare, Sensitive, small mammal, neotropical songbird, etc.		String (255)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	surveyNum	Unique number assigned to the sample or plot by an installation for their own use.		String (20)	AF
	commonName	The common name of the species.		String (255)	AF
	scientificName	The scientific name of the species.		String (255)	AF
D	speciesCat	The code indicating the class of flora or fauna.	**For a list of domain values, see SpeciesCat in Appendix 1.**	String (15)	AF
	collector	The entity accomplishing the survey.		String (40)	AF
	reportName	The name of the report produced as a result of the survey.		String (255)	AF
	reportDate	The date the report was published. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
	authAgency	Contact information for the entity that initiated the survey.		String (255)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length *(Polygon and Line geometry)*	ESRI-generated field.			ESRI
	SHAPE_Area *(Polygon geometry)*	ESRI-generated field.			ESRI

Business Tables

The business tables will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business tables for NatResSurvey_A, NatResSurvey_L, and NatResSurvey_P are:

Table Name	Identifier	Source
nr_ NatResSurvey_A	natResSurveyIDFK	Program Area Manager
nr_ NatResSurvey _L	natResSurveyIDFK	Program Area Manager
nr_ NatResSurvey _P	natResSurveyIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Natural Resource Survey

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: SpeciesCat	
ATTRIBUTE NAME: speciesCat	
CODED DOMAIN	DEFINITION
amphibia	Amphibian species.
aves	Avian (Birds) species.
bryoid	Bryoid species.
crustacea	Crustacean species.
epiphyte	Epiphyte species.
general	An aggregate of more than one species.
herb	Herb species.
insecta	Insect species.
liana	Liana species.
mammalia	Mammal species.
mollusca	Mollusk species.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
pisces	Pisces (Fish) species.
reptilia	Reptile species.
shrub	Shrub species.
TBD	To Be Determined: A value is required but the value has yet to be determined.
thallophyte	Thallophyte species.
tree	Tree species.

March 01, 2018

Data Layer Specifications for:

Noxious or Invasive Species

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	NoxiousOrInvasive Species_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	NoxiousOrInvasive Species_20160623	• Added NoxiousOrInvasiveSpecies_P representation under "Data Layer Details" section. • Updated "Positional Accuracy" section.
3/9/2017	NoxiousOrInvasive Species_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection. • Updated the "Representation" subsection of the "Data Layer Details" section. • Updated the "Point Features" subsection of the "Geometry/Topology" section.
6/8/2017	NoxiousOrInvasive Species_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	NoxiousOrInvasive Species_20180301	• Updated Data Layer Details, Geometry/Topology, Positional Accuracy, Attributes, and Business Tables sections. • Updated domain tables in Appendix 1.

Data Layer Specification – Noxious or Invasive Species

This Data Layer Specification (DLS) defines geospatial data specifications for the NoxiousOrInvasiveSpecies_A, NoxiousOrInvasiveSpecies_L, and NoxiousOrInvasiveSpecies_P data layers implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

Locations where noxious or invasive species are present, either currently or historically.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	NoxiousOrInvasiveSpecies_A NoxiousOrInvasiveSpecies_L NoxiousOrInvasiveSpecies_P
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	NuisanceSpecies NuisanceSpecies_L NuisanceSpecies_P
Geometry Type:	Polygon, Line, Point
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• All noxious or invasive species locations shall represent the latitude, longitude location of an identified species. Noxious or invasive species locations may differ by season and breeding habits of a particular species. • Noxious or invasive species areas are represented as closed polygons depicting the outermost extent of the species area. • Each individual noxious or invasive species area is represented by a single area feature. • Noxious or invasive species locations will be represented as a continuous unbroken line. • All points developed from areas shall represent the centroid of the noxious or invasive species area.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-1053, Integrated Pest Management Program, 23 June 2009 • AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007

Implementing Program(s):	Driver(s):
	• AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • EO 13112, Invasive Species, 3 February 1999 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 extracted • RPIM 3.0, extracted 4/2009 • EO 13112 Invasive Species

Geometry/Topology

Polygon Features:
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).
Line Features:
Lines must be single part features.
Lines must be larger than cluster tolerance (.001 meter).
Point Features:
If a point represents a polygon feature, then the point must fall properly inside of the coinciding polygon.

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the NoxiousOrInvasiveSpecies_A, NoxiousOrInvasiveSpecies_L, and NoxiousOrInvasiveSpecies_P layers will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the NoxiousOrInvasiveSpecies_A, NoxiousOrInvasiveSpecies_L, and NoxiousOrInvasiveSpecies_P data layers.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	noxiousOrInvasiveSpecIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used for the noxious or invasive species.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the noxious or invasive species that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize *(Polygon geometry)*	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM *(Polygon geometry)*	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize *(Polygon geometry)*	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM *(Polygon geometry)*	The perimeter unit of measure.	foot	String (25)	AF
	latitude *(Polygon geometry)*	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude *(Polygon geometry)*	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid *(Polygon geometry)*	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	lengthSize *(Line geometry)*	The value of the measured length.	Recorded to the 1/1000 of a foot.	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	lengthSizeUOM *(Line geometry)*	The unit of measure for the calculated length.	foot	String (25)	AF
	latitudeFrom *(Line geometry)*	The latitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	latitudeTo *(Line geometry)*	The latitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	longitudeFrom *(Line geometry)*	The longitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	longitudeTo *(Line geometry)*	The longitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	elevationFrom *(Line geometry)*	The elevation component of the beginning (upstream/upgradient) coordinate point in feet.		Double	AF
	elevationTo *(Line geometry)*	The elevation component of the ending (downstream/downgradient) coordinate point in feet.		Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	elevationUOM *(Line geometry)*	The unit of measure for elevation dimension.	foot	String (25)	AF
	latitude *(Point geometry)*	The latitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	longitude *(Point geometry)*	The longitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	MGRS *(Point geometry)*	Military Grid Reference System for the coordinate point. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	elevation *(Point geometry)*	The elevation of the subject item in relation to a datum.		Double	AF
D	elevationUOM *(Point geometry)*	The unit of measure for elevation dimension.	foot	String (25)	AF
	commonName	The common name of the species.		String (255)	AF
	scientificName	The scientific name of the species.		String (255)	SDSFIE
D	kingdom	A descriptor identifying one of the five taxonomic kingdoms into which scientists place all living organisms.	**For a list of domain values, see KingdomType in Appendix 1.**	String (10)	SDSFIE
D	speciesCat	The code indicating the class of flora or fauna.	**For a list of domain values, see SpeciesCat in Appendix 1.**	String (15)	AF
	natureServeID	The unique identifier for the NatureServe record of the species (http://www.natureserve.org).		String (10)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	isNative	The species is a native species. If false, the assumption is that the species is exotic.	NA, no, TBD, yes	String (3)	SDSFIE
D	isNoxious	Indicates whether the species is designated noxious.	NA, no, TBD, yes	String (3)	AF
D	isInvasive	Indicates whether the species is considered invasive.	NA, no, TBD, yes	String (3)	AF
D	isManagedSpecies	Indicates whether the species is under active management.	NA, no, TBD, yes	String (3)	AF
D	mgtAction	The management action, if any, being taken to control the species.	**For a list of domain values, see MgtAction in Appendix 1.**	String (20)	AF
	controlDate	The date management action was taken. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
	pesticide1	The trade name of the primary pesticide applied.		String (100)	AF
	pesticide1LBS	The total pounds of active ingredient of pesticide 1 applied.		Double	AF
	pesticide2	The trade name of the secondary pesticide applied.		String (100)	AF
	pesticide2LBS	The total pounds of active ingredient of pesticide 2 applied.		Double	AF
	pesticide3	The trade name of the tertiary pesticide applied.		String (100)	AF
	pesticide3LBS	The total pounds of active ingredient of pesticide 3 applied.		Double	AF
	popCover	The population count at the site.		Integer (Long)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	percentCover	The percent cover of the species at the site.		String (50)	AF
	countCoverDate	The date on which the population count or percent cover measurement was made. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	SHAPE_Length *(Polygon and Line geometry)*	ESRI-generated field.			ESRI
	SHAPE_Area *(Polygon geometry)*	ESRI-generated field.			ESRI

Business Tables

The business tables will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business tables for NoxiousOrInvasiveSpecies_A, NoxiousOrInvasiveSpecies_L, and NoxiousOrInvasiveSpecies_P are:

Table Name	Identifier	Source
nr_NoxiousOrInvasiveSpecies_A	noxiousOrInvasiveSpecIDFK	Program Area Manager
nr_NoxiousOrInvasiveSpecies_L	noxiousOrInvasiveSpecIDFK	Program Area Manager
nr_NoxiousOrInvasiveSpecies_P	noxiousOrInvasiveSpecIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Noxious or Invasive Species

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: KingdomType	
ATTRIBUTE NAME: kingdom	
CODED DOMAIN	DEFINITION
animalia	Animals are a major group of multicellular, eukaryotic organisms of the kingdom Animalia.
fungi	A fungus is a eukaryotic organism that is a member of the kingdom Fungi.
monera	Monera are bacteria and other mostly tiny, single-celled organisms whose genetic material is loose in the cell. Once Monera were briefly understood to be one of five biological kingdoms. Now it comprises two kingdoms: Eubacteria and Archaebacteria.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
plantae	Plants are a major group of multicellular, eukaryotic organisms of the kingdom Plantae.
protista	Protists are unicellular eukaryotes that either exist as independent cells, or if they occur in colonies, do not show differentiation into tissues and are members of the kingdom Protista.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: MgtAction	
ATTRIBUTE NAME: mgtAction	
CODED DOMAIN	DEFINITION
aerialSpraying	Action taken to manage the species is aerial spraying.
biological	Action taken to manage the species is biological control.
broadcastSpraying	Action taken to manage the species is broadcast spraying.
burning	Action taken to manage the species is prescribed burning.
cutStump	Action taken to manage the species is cut stump treatment.
electrofishing	Action taken to manage the species is electro-fishing.
fumigation	Action taken to manage the species is fumigation.
gillnetting	Action taken to manage the species is gillnetting.
manual	Action taken to manage the species is manual removal.
mechanical	Action taken to manage the species is mechanical control.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
pesticide	Action taken to manage the species is general pesticide application.
poisonBait	Action taken to manage the species is use of poison bait.
spotSpraying	Action taken to manage the species is spot spraying.
TBD	To Be Determined: A value is required but the value has yet to be determined.
trapping	Action taken to manage the species is trapping.

DOMAIN TABLE NAME: SpeciesCat	
ATTRIBUTE NAME: speciesCat	
CODED DOMAIN	DEFINITION
amphibia	Amphibian species.
aves	Avian (Birds) species.
bryoid	Bryoid species.
crustacea	Crustacean species.
epiphyte	Epiphyte species.
general	An aggregate of more than one species.

DOMAIN TABLE NAME: SpeciesCat	
ATTRIBUTE NAME: speciesCat	
herb	Herb species.
insecta	Insect species.
liana	Liana species.
mammalia	Mammal species.
mollusca	Mollusk species.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
pisces	Pisces (Fish) species.
reptilia	Reptile species.
shrub	Shrub species.
TBD	To Be Determined: A value is required but the value has yet to be determined.
thallophyte	Thallophyte species.
tree	Tree species.

March 01, 2018

Data Layer Specifications for:

Prescribed Burn Unit

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	PrescribedBurnUnit _20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	PrescribedBurnUnit _20160623	• Updated "Positional Accuracy" section.
3/9/2017	PrescribedBurnUnit _20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	PrescribedBurnUnit _20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	PrescribedBurnUnit _20180301	• Updated Geometry/Topology, Positional Accuracy, and Attributes section.

This Data Layer Specification (DLS) defines geospatial data specifications for the PrescribedBurnUnit_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

Designated prescribed burn units, also often referred to as burn 'blocks'. Burn units represent areas where fire managers expect to use prescribed fire. In some cases, much or all of an installation may be divided into burn units.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	PrescribedBurnUnit_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	flora_pres_burn_area WildlandFire
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Prescribed burn units are represented as closed polygons depicting the outermost extent of the area. • Each individual prescribed burn unit is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996

Implementing Program(s):	Driver(s):
	• Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009

Geometry/Topology

Polygon Features:
Polygons must not overlap.
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **12 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the PrescribedBurnUnit_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the PrescribedBurnUnit_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	prescribedBurnUnitIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Prescribed Burn Unit.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Prescribed Burn Unit that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	burnUnitID	Name or identifier of the burn unit.		String (10)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for PrescribedBurnUnit_A is:

Table Name	Identifier	Source
nr_PrescribedBurnUnit	prescribedBurnUnitIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Prescribed Burn Unit

March 01, 2018

Data Layer Specifications for:

Recreation Nature Trail

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	RecreationNatureTrail _20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	RecreationNatureTrail _20160623	• Updated "Positional Accuracy" section.
3/9/2017	RecreationNatureTrail _20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	RecreationNatureTrail _20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	RecreationNatureTrail _20180301	• Updated Geometry/Topology, Positional Accuracy, and Attributes section.

This Data Layer Specification (DLS) defines geospatial data specifications for the RecNatureTrail_L data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

All nature trails managed by Natural Resources. This layer does not include other trails used for recreational purposes, such as, running/walking or biking trails.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	RecNatureTrail_L
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	recreation_trail_centerline RecreationTrail
Geometry Type:	Line
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Recreation nature trails will be represented as a continuous unbroken line.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0

Implementing Program(s):	Driver(s):
	• RPIM 3.0, extracted 4/2009 • EO 13195, Trails for America in the 21st Century

Geometry/Topology

Line Features:
Lines must not overlap.
Lines must not intersect.
Lines must not self-overlap.
Lines must not self-intersect.
Lines must be single part features.
Lines must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the RecNatureTrail_L layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the RecNatureTrail_L data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	recNatureTrailIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Recreation Nature Trail.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Recreation Nature Trail that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	lengthSize	The value of the measured length.	Recorded to the 1/1000 of a foot.	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	lengthSizeUOM	The unit of measure for the calculated length.	foot	String (25)	AF
	latitudeFrom	The latitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	latitudeTo	The latitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	longitudeFrom	The longitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	longitudeTo	The longitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	elevationFrom	The elevation component of the beginning (upstream/upgradient) coordinate point in feet.		Double	AF
	elevationTo	The elevation component of the ending (downstream/downgradient) coordinate point in feet.		Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	elevationUOM	The unit of measure for elevation dimension.	foot	String (25)	AF
	trailID	Local identifier for recreation trail.		String (20)	AF
	useLimits	Restrictions on the use of the feature.		String (255)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	SHAPE_Length	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for RecNatureTrail_L is:

Table Name	Identifier	Source
nr_RecreationNatureTrail	RecNatureTrailIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Recreation Nature Trail

March 01, 2018

Data Layer Specifications for:

Soil Survey Area

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	SoilSurveyArea _20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	SoilSurveyArea _20160623	• Updated "Positional Accuracy" section.
3/9/2017	SoilSurveyArea _20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	SoilSurveyArea _20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	SoilSurveyArea _20180301	• Updated Geometry/Topology, Sources and Source Selection, Positional Accuracy, Attributes, and Business Tables sections.

This Data Layer Specification (DLS) defines geospatial data specifications for the SoilSurveyArea_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

An overall soil survey which consists of one to many soil map unit areas. The projected uses of the survey and the complexity of the soil patterns largely determine the scale of the soil map.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	SoilSurveyArea_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	soil_map_unit_area soil_survey_area NaturalResourceSurvey
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Soil survey areas are represented as closed polygons depicting the outermost extent of the survey area or soil type. • Each individual survey area or soil type is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003

Implementing Program(s):	Driver(s):
	• Soil and Water Resources Conservation Act (16 USC 2001-2009), 1977 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009

Geometry/Topology

Polygon Features:
Polygons must not overlap
Polygons must not have gaps.
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: publicly available data from the Natural Resources Conservation Service Web Soil Survey, planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Since there are no definitive boundaries for this layer, a horizontal positional accuracy threshold is not applicable. However, if the data was acquired from an outside agency, the accuracy threshold/report of the originating agency is acceptable.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the SoilSurveyArea_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the SoilSurveyArea_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	soilSurveyIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Soil Survey Area.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Soil Survey Area that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	surveyDate	The date the survey was conducted. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	SDSFIE
	mapUnitName	The name for a specific soil map unit obtained from the NRCS Soil Survey Geographic (SSURGO) database.		String (175)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	mapUnitKey	The unique identifier for a specific soil map unit obtained from the NRCS Soil Survey Geographic (SSURGO) database. Can be used to link to the tables in the SSURGO database.		String (30)	AF
	mapUnitSym	The symbol for a specific soil map unit obtained from the NRCS Soil Survey Geographic (SSURGO) database. Can be used to link to the tables in the SSURGO database.		String (6)	AF
	surveyAreaName	The name for the soil survey area obtained from the NRCS Soil Survey Geographic (SSURGO) database.		String (135)	AF
	surveyAreaSym	The symbol for the soil survey area obtained from the NRCS Soil Survey Geographic (SSURGO) database.		String (20)	AF
	soilSurveyNum	A five character identification number for the soil survey area. Created by combining the numeric state code and the soil survey area symbol. Example: 08617.		String (5)	AF
	fips	FIPS alpha code for the state. Example: AR, CO, etc.		String (2)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	editDate	The edit date the soil survey area was certified by the state soil scientist and made available for public use. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
	editStatus	The status of editing or certification level for the soil survey.		String (50)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for SoilSurveyArea_A is:

Table Name	Identifier	Source
nr_SoilSurveyArea	soilSurveyIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Soil Survey Area

March 01, 2018

Data Layer Specifications for:

Special Management Area

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	SpecialManagement Area_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	SpecialManagement Area_20160623	• Updated "Positional Accuracy" section.
3/9/2017	SpecialManagement Area_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	SpecialManagement Area_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	SpecialManagement Area_20180301	• Updated Geometry/Topology, Positional Accuracy, and Attributes section.

This Data Layer Specification (DLS) defines geospatial data specifications for the SpecialMgtArea_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

An area where a unique natural feature occurs and where special management actions have been taken in order to protect and preserve the resource. This may include, but is not limited to: wild and scenic rivers, unique or rare ecosystems such as the Post Oak Savannah ecosystem, or geologic features such as Mima Mounds and.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	SpecialMgtArea_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	None
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Special management areas are represented as closed polygons depicting the outermost extent of the area. • Each individual special management area is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996

Implementing Program(s):	Driver(s):
	• Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009

Geometry/Topology

Polygon Features:
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **12 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the SpecialMgtArea_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the SpecialMgtArea_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	specialMgtAreaIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Special Management Area.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Special Management Area that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	managedResource	The feature or resource being protected or managed.		String (125)	AF
	dateDesig	Date the area was designated. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
D	mgtLevel	Discriminator. The level of management for the area.	**For a list of domain values, see GovMgt in Appendix 1.**	String (10)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for SpecialMgtArea_A is:

Table Name	Identifier	Source
nr_SpecialMgtArea	specialMgtAreaIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Special Management Area

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: GovMgt	
ATTRIBUTE NAME: mgtLevel	
CODED DOMAIN	DEFINITION
city	City Government
county	County Government
federal	Federal Government
local	Local
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
state	State Government
TBD	To Be Determined: A value is required but the value has yet to be determined.

March 01, 2018

Data Layer Specifications for:

Special Status Species

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	SpecialStatusSpecies _20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	SpecialStatusSpecies _20160623	• Updated "Positional Accuracy" section.
3/9/2017	SpecialStatusSpecies _20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection. • Updated the "Representation" subsection of the "Data Layer Details" section. • Updated the "Point Features" subsection of the "Geometry/Topology" section.
6/8/2017	SpecialStatusSpecies _20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	SpecialStatusSpecies _20180301	• Updated Data Layer Details, Geometry/Topology, Positional Accuracy, and Attributes sections. • Updated domain tables in Appendix 1.

Data Layer Specification – Special Status Species

This Data Layer Specification (DLS) defines geospatial data specifications for the SpecialStatusSpecies_A, SpecialStatusSpecies_L, and SpecialStatusSpecies_P data layers implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

Indicates existence of a special status species by the geographically described geometry either currently, historically, or the species is being recruited into the area. Only those species that have a legal designation under the federal Endangered Species Act or a state analog should be included.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	SpecialStatusSpecies_A SpecialStatusSpecies_L SpecialStatusSpecies_P
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	fauna_special_species_area fauna_special_species_point flora_special_species_area flora_special_species_point SpecialStatusSpecies
Geometry Type:	Polygon, Line, Point
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Special status species areas are represented as closed polygons depicting the outermost extent of the area. • Each individual special status species area is represented by a single area feature. • Special status species locations will be represented as a continuous unbroken line. • All points developed from areas shall represent the centroid of the special status species area.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013

Implementing Program(s):	Driver(s):
	• AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • Sikes Act of 1960 • The Endangered Species Act (ESA) of 1973

Geometry/Topology

Polygon Features:
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).
Line Features:
Lines must be single part features.
Lines must be larger than cluster tolerance (.001 meter).
Point Features:
If a point represents a polygon feature, then the point must fall properly inside of the coinciding polygon.

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the SpecialStatusSpecies_A, SpecialStatusSpecies_L, and SpecialStatusSpecies_P layers will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the SpecialStatusSpecies_A, SpecialStatusSpecies_L, and SpecialStatusSpecies_P data layers.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	specialStatusSpeciesID PK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used for the special status species.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the special status species that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize *(Polygon geometry)*	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM *(Polygon geometry)*	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize *(Polygon geometry)*	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM *(Polygon geometry)*	The perimeter unit of measure.	foot	String (25)	AF
	latitude *(Polygon geometry)*	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude *(Polygon geometry)*	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid *(Polygon geometry)*	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	lengthSize *(Line geometry)*	The value of the measured length.	Recorded to the 1/1000 of a foot.	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	lengthSizeUOM *(Line geometry)*	The unit of measure for the calculated length.	foot	String (25)	AF
	latitudeFrom *(Line geometry)*	The latitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	latitudeTo *(Line geometry)*	The latitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	longitudeFrom *(Line geometry)*	The longitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	longitudeTo *(Line geometry)*	The longitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	elevationFrom *(Line geometry)*	The elevation component of the beginning (upstream/upgradient) coordinate point in feet.		Double	AF
	elevationTo *(Line geometry)*	The elevation component of the ending (downstream/downgradient) coordinate point in feet.		Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	elevationUOM *(Line geometry)*	The unit of measure for elevation dimension.	foot	String (25)	AF
	latitude *(Point geometry)*	The latitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	longitude *(Point geometry)*	The longitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	MGRS *(Point geometry)*	Military Grid Reference System for the coordinate point. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	elevation *(Point geometry)*	The elevation of the subject item in relation to a datum.		Double	AF
D	elevationUOM *(Point geometry)*	The unit of measure for elevation dimension.	foot	String (25)	AF
	commonName	The common name of the species.		String (255)	AF
	scientificName	The scientific name of the species.		String (255)	SDSFIE
D	kingdom	A descriptor identifying one of the five taxonomic kingdoms into which scientists place all living organisms.	**For a list of domain values, see KingdomType in Appendix 1.**	String (10)	SDSFIE
D	speciesCat	The code indicating the class of flora or fauna.	**For a list of domain values, see SpeciesCat in Appendix 1.**	String (15)	AF
D	activityStatus	The category of activity status for the species.	**For a list of domain values, see ActivityStatusType in Appendix 1.**	String (15)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	isFedListed	The species special status is based on a notice published in the Federal Register per the US Endangered Species Act.	NA, no, TBD, yes	String (3)	SDSFIE
D	isStateProtected	Indicates whether the species is protected by the state.	NA, no, TBD, yes	String (3)	AF
D	iucnRedListed	The species is listed on the International Union for Conservation of Nature (IUCN) Red List.	NA, no, TBD, yes	String (3)	SDSFIE
	natureServeID	The unique identifier for the NatureServe record of the species (http://www.natureserve.org).	Examples: "2.453627" or "2.102013".	String (10)	SDSFIE
	natureServeStatus	The NatureServe conservation status code.		String (20)	AF
D	otherSpecStatus	The category of the other special status for the species.	**For a list of domain values, see OtherSpecStatus in Appendix 1.**	String (24)	SDSFIE
	otherStatusValue	A string value that is constructed per species as defined by appropriate otherSpecStatus. See http://www.natureserve.org/explorer/statusus.htm for more details.		String (30)	SDSFIE
D	specStatusCat	The category of the special status of the species.	**For a list of domain values, see SpecStatusCat in Appendix 1.**	String (30)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dateListed	The date on which the current designation of the species as special was made. Format for date is YYYYMMDD (i.e. September 15, 1994 = 19940915).		Integer (Long)	AF
	nestNum	Number of nests observed.		Integer (Long)	AF
	hibernaculaNum	The number of hibernacula (hibernation locations).		Integer (Long)	AF
	popCount	The population count at the site.		Integer (Long)	AF
	popDate	The date on which the population count was made. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915)		Integer (Long)	AF
D	speciesPop	Identify if the species population is: increasing, decreasing or stable.	**For a list of domain values, see SpeciesPopulation in Appendix 1.**	String (11)	AF
	bufferWidth	The width, in feet, of any associated buffer.		Double	AF
D	widthUOM	The unit of measure for the width dimension.	foot	String (25)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length *(Polygon and Line geometry)*	ESRI-generated field.			ESRI
	SHAPE_Area *(Polygon geometry)*	ESRI-generated field.			ESRI

Business Tables

The business tables will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business tables for SpecialStatusSpecies_A, SpecialStatusSpecies_L, and SpecialStatusSpecies_P are:

Table Name	Identifier	Source
nr_SpecialStatusSpecies_A	specialStatusSpeciesIDFK	Program Area Manager
nr_SpecialStatusSpecies_L	specialStatusSpeciesIDFK	Program Area Manager
nr_SpecialStatusSpecies_P	specialStatusSpeciesIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Special Status Species

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: ActivityStatusType	
ATTRIBUTE NAME: activityStatus	
CODED DOMAIN	DEFINITION
active	The species is active in the indicated range.
inactive	The species was historically active in the indicated range but is known to no longer be active.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
recruitment	Species activity is being recruited into the indicated range.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: KingdomType	
ATTRIBUTE NAME: kingdom	
CODED DOMAIN	DEFINITION
animalia	Animals are a major group of multicellular, eukaryotic organisms of the kingdom Animalia.
fungi	A fungus is a eukaryotic organism that is a member of the kingdom Fungi.
monera	Monera are bacteria and other mostly tiny, single-celled organisms whose genetic material is loose in the cell. Once Monera were briefly understood to be one of five biological kingdoms. Now it comprises two kingdoms: Eubacteria and Archaebacteria.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
plantae	Plants are a major group of multicellular, eukaryotic organisms of the kingdom Plantae.
protista	Protista are unicellular eukaryotes that either exist as independent cells, or if they occur in colonies, do not show differentiation into tissues and are members of the kingdom Protista.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: OtherSpecStatus	
ATTRIBUTE NAME: otherSpecStatus	
CODED DOMAIN	DEFINITION
combinationFlaggedValues	The taxon has no U.S. ESA status and is not named in the Federal Register; however, each infraspecific taxa have official status but at least two taxa are in a different status. Show a combination of the statuses with a flag. Example (value, value).
combinationValues	The taxon has one status currently, but a more recent proposal has been made to change that status with no final action yet published. For example, LE, PDL indicates that the species is currently listed as endangered, but has been proposed for delisting.
flaggedValues	The taxon itself is not named in the Federal Register as having U.S. ESA status; however, it does have U.S. ESA status as a result of its taxonomic relationship to a named entity. For example, if a species is federally listed as endangered, then by default, all of its recognized subspecies also have endangered status.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
partialStatus	Indicates partial status, status in only a portion of the species range. Typically indicated in a full species record where at least one but not all of a species infraspecific taxa or populations has U.S. ESA status. Value pattern example (PS).

DOMAIN TABLE NAME: OtherSpecStatus	
ATTRIBUTE NAME: otherSpecStatus	
partialStatusValues	Indicates partial status, status in only a portion of the species range. The value of that status appears because the listed entity (usually a population defined by geopolitical boundaries or defined administratively, such as experimental populations) does not have an individual entry in NatureServe Explorer.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: SpeciesCat	
ATTRIBUTE NAME: speciesCat	
CODED DOMAIN	DEFINITION
amphibia	Amphibian species.
aves	Avian (Birds) species.
bryoid	Bryoid species.
crustacea	Crustacean species.
epiphyte	Epiphyte species.
general	An aggregate of more than one species.
herb	Herb species.
insecta	Insect species.
liana	Liana species.
mammalia	Mammal species.
mollusca	Mollusk species.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
pisces	Pisces (Fish) species.
reptilia	Reptile species.
shrub	Shrub species.
TBD	To Be Determined: A value is required but the value has yet to be determined.
thallophyte	Thallophyte species.
tree	Tree species.

DOMAIN TABLE NAME: SpeciesPopulation	
ATTRIBUTE NAME: speciesPop	
CODED DOMAIN	DEFINITION
decreasing	The species population is decreasing in numbers.
increasing	The species population is increasing in numbers.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
stable	The species population is stable.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: SpecStatusCat	
ATTRIBUTE NAME: specStatusCat	
CODED DOMAIN	DEFINITION
candidate	Candidate.
essentExperPop	Essential experimental population.
listedEndangered	Listed endangered.
listedThreatened	Listed threatened.
NA	Not Applicable: No value exists.

DOMAIN TABLE NAME: SpecStatusCat	
ATTRIBUTE NAME: specStatusCat	
nonessentExperPop	Nonessential experimental population.
other	Other. Must be described in the sdsFeatureDescription attribute.
otherStatus	Some other status is designated in the otherSpecStatus and otherStatusValue attributes.
proposedEndangered	Proposed endangered.
proposedForDelisting	Proposed for delisting.
propSimilarOfAppearEndangered	Proposed endangered because of similarity of appearance.
propSimilarOfAppearThreatened	Proposed threatened because of similarity of appearance.
proposedThreatened	Proposed threatened.
similarOfAppearEndangered	Listed endangered because of similarity of appearance.
similarOfAppearThreatened	Listed threatened because of similarity of appearance.
specialConcern	Special concern.
TBD	To Be Determined: A value is required but the value has yet to be determined.

March 01, 2018

Data Layer Specifications for:

Species Area

Species Line

Species Point

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	SpeciesAreaSpeciesPoint_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	SpeciesAreaSpeciesPoint_20160623	• Added SpeciesLine_L representation under "Data Layer Details" section. • Added SpeciesLine_L topology under "Geometry/ Topology" section. • Added positional accuracy requirements for SpeciesLine_L under "Positional Accuracy" section. • Added SpeciesPoint_P representation under "Data Layer Details" section. • Added SpeciesLine_L business table under "Business Tables" section. • Updated "Positional Accuracy" section.
3/9/2017	SpeciesAreaSpeciesPoint_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection. • Updated the "Representation" subsection of the "Data Layer Details" section. • Updated the "Point Features" subsection of the "Geometry/Topology" section.
6/8/2017	SpeciesAreaSpeciesPoint_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	SpeciesAreaSpeciesLineSpeciesPoint_20180301	• Updated Data Layer Details, Geometry/Topology, Positional Accuracy, Attributes, and Business Tables sections.

Data Layer Specification – Species Area, Species Line, and Species Point

This Data Layer Specification (DLS) defines geospatial data specifications for the SpeciesArea_A, SpeciesLine_L and SpeciesPoint_P data layers implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

The specific location where an individual species has been observed either currently, historically, or the species is being recruited to the area.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	SpeciesArea_A SpeciesLine_L SpeciesPoint_P
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	ecology_species_area ecology_species_point fauna_species_area fauna_species_point flora_species_area flora_species_point SpeciesRange SpeciesRange_P
Geometry Type:	Polygon, Line, Point
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Species areas are represented as closed polygons depicting the outermost extent of the area. • Each individual species area is represented by a single area feature. • Species locations will be represented as a continuous unbroken line. • All points developed from areas shall represent the centroid of the species area.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007

Implementing Program(s):	Driver(s):
	• AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • Sikes Act of 1960 • 50 CFR 402.02 (Biological Assessment) • Fish and Wildlife Conservation Act of 1980 (PL 96-366)

Geometry/Topology

Polygon Features:
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).
Line Features:
Lines must be single part features.
Lines must be larger than cluster tolerance (.001 meter).
Point Features:
If a point represents a polygon feature, then the point must fall properly inside of the coinciding polygon.

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Since there are no definitive boundaries for SpeciesArea_A, a horizontal positional accuracy threshold is not applicable. Likewise, point features in SpeciesPoint_P that represent polygon features in SpeciesArea_A will not have an associated horizontal positional accuracy. However, if the data was acquired from an outside agency, the accuracy threshold/report of the originating agency is acceptable.

Data developed within the SpeciesLine_L and SpeciesPoint_P layer (point features not subject to the stipulation above) should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the SpeciesArea_A, SpeciesLine_L and SpeciesPoint_P layers will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the SpeciesArea_A, SpeciesLine_L and SpeciesPoint_P data layers.

SDSFIE 3.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	speciesIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used for the species.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the species that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize *(Polygon geometry)*	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM *(Polygon geometry)*	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize *(Polygon geometry)*	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM *(Polygon geometry)*	The perimeter unit of measure.	foot	String (25)	AF
	latitude *(Polygon geometry)*	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	longitude *(Polygon geometry)*	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid *(Polygon geometry)*	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	lengthSize *(Line geometry)*	The value of the measured length.	Recorded to the 1/1000 of a foot.	Double	AF
D	lengthSizeUOM *(Line geometry)*	The unit of measure for the calculated length.	foot	String (25)	AF
	latitudeFrom *(Line geometry)*	The latitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	latitudeTo *(Line geometry)*	The latitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	longitudeFrom *(Line geometry)*	The longitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	longitudeTo *(Line geometry)*	The longitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	elevationFrom *(Line geometry)*	The elevation component of the beginning (upstream/upgradient) coordinate point in feet.		Double	AF
	elevationTo *(Line geometry)*	The elevation component of the ending (downstream/downgr adient) coordinate point in feet.		Double	AF
D	elevationUOM *(Line geometry)*	The unit of measure for elevation dimension.	foot	String (25)	AF
	latitude *(Point geometry)*	The latitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	longitude *(Point geometry)*	The longitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	MGRS *(Point geometry)*	Military Grid Reference System for the coordinate point. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	elevation *(Point geometry)*	The elevation of the subject item in relation to a datum.		Double	AF
D	elevationUOM *(Point geometry)*	The unit of measure for elevation dimension.	foot	String (25)	AF
	commonName	The common name of the species.		String (255)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	scientificName	The scientific name of the species.		String (255)	SDSFIE
D	activityStatus	The category of activity status for the species.	**For a list of domain values, see ActivityStatusType in Appendix 1.**	String (15)	SDSFIE
D	isNative	The species is a native species. If false, the assumption is that the species is exotic.	NA, no, TBD, yes	String (3)	SDSFIE
D	kingdom	A descriptor identifying one of the five taxonomic kingdoms into which scientists place all living organisms.	**For a list of domain values, see KingdomType in Appendix 1.**	String (10)	SDSFIE
	natureServeID	The unique identifier for the NatureServe record of the species (http://www.natureserve.org).	Examples: "2.453627" or "2.102013".	String (10)	SDSFIE
	natureServeStatus	The NatureServe conservation status code.		String (20)	AF
D	speciesCat	The code indicating the class of flora or fauna.	**For a list of domain values, see SpeciesCat in Appendix 1.**	String (15)	AF
	nestNum	Number of nests observed.		Integer (Long)	AF
	hibernaculaNum	The number of hibernacula (hibernation locations).		Integer (Long)	AF
	popCount	The population count at the site.		Integer (Long)	AF
	popDate	The date on which the population count was made. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915)		Integer (Long)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length *(Polygon geometry and Line geometry)*	ESRI-generated field.			ESRI
	SHAPE_Area *(Polygon geometry)*	ESRI-generated field.			ESRI

Business Tables

The business tables will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business tables for SpeciesArea_A, SpeciesLine_L, and SpeciesPoint_P are:

Table Name	Identifier	Source
nr_SpeciesArea	speciesIDFK	Program Area Manager
nr_SpeciesLine	speciesIDFK	Program Area Manager
nr_SpeciesPoint	speciesIDFK	Program Area Manager
nr_UrbanTreeInventory	speciesIDFK	Urban Tree Inventory Survey

Business Table Attributes for nr_UrbanTreeInventory

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	speciesIDFK	The unique identifier for each urban tree feature. Used to link back to the SpeciesPoint_P attribute table.		String (20)
	inventoryDate	The date the inventory was conducted. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).	Urban Tree Inventory Survey	Integer (Long)
	treeCode	The alphanumeric code for the tree species, generally consisting of the first two letters of the genus followed by the first two letters of the species.	Urban Tree Inventory Survey	String (5)
	DBH	Diameter of the main or dominant stem of the tree measured at 4 ½ feet above ground level to the nearest inch.	Urban Tree Inventory Survey	Integer (Long)
D	dbhUOM	The unit of measure for dbh.	inch	String (25)
	stemNumber	The number of primary stems counted at 4 ½ feet above ground level.	Urban Tree Inventory Survey	Integer (Long)
	treeHeightClass	The estimated height of the tree.	Urban Tree Inventory Survey	String (15)

Domain (D)	Attribute Name	Definition	Data Source / Allowed Values	Data Type (Length)
	canopyRadiusClass	The estimated radius of the tree canopy from the stem to the canopy dripline.	Urban Tree Inventory Survey	String (15)
	treeConditionClass	The condition of the tree.	Urban Tree Inventory Survey	String (5)
	treeOwnerCode	The unique code for each tree that designates the office with responsibility for care and maintenance of the tree.	Urban Tree Inventory Survey	String (15)
	treeLocationType	The type of location where the tree is found.	Urban Tree Inventory Survey	String (20)
	treeLocationValue	The value of the tree relative to its location.	Urban Tree Inventory Survey	String (15)
	treeConflictType	The type of conflict the tree causes relative to other infrastructure, if any.	Urban Tree Inventory Survey	String (100)
	primMaintNeed	The primary maintenance need of the tree.	Urban Tree Inventory Survey	String (25)
	otherMaintNeed	Other maintenance requirements of the tree.	Urban Tree Inventory Survey	String (100)
	plantingSitePriority	The classification of a potential tree planting site.	Urban Tree Inventory Survey	String (10)
	treeNotes	Additional comments regarding the tree.	Urban Tree Inventory Survey	String (255)

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Species Area, Species Line, Species Point

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: ActivityStatusType	
ATTRIBUTE NAME: activityStatus	
CODED DOMAIN	DEFINITION
active	The species is active in the indicated range.
inactive	The species was historically active in the indicated range but is known to no longer be active.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
recruitment	Species activity is being recruited into the indicated range.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: KingdomType	
ATTRIBUTE NAME: kingdom	
CODED DOMAIN	DEFINITION
animalia	Animals are a major group of multicellular, eukaryotic organisms of the kingdom Animalia.
fungi	A fungus is a eukaryotic organism that is a member of the kingdom Fungi.
monera	Monera are bacteria and other mostly tiny, single-celled organisms whose genetic material is loose in the cell. Once Monera were briefly understood to be one of five biological kingdoms. Now it comprises two kingdoms: Eubacteria and Archaebacteria.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
plantae	Plants are a major group of multicellular, eukaryotic organisms of the kingdom Plantae.
protista	Protists are unicellular eukaryotes that either exist as independent cells, or if they occur in colonies, do not show differentiation into tissues and are members of the kingdom Protista.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: SpeciesCat	
ATTRIBUTE NAME: speciesCat	
CODED DOMAIN	DEFINITION
amphibia	Amphibian species.
aves	Avian (Birds) species.
bryoid	Bryoid species.
crustacea	Crustacean species.
epiphyte	Epiphyte species.
general	An aggregate of more than one species.
herb	Herb species.
insecta	Insect species.
liana	Liana species.
mammalia	Mammal species.
mollusca	Mollusk species.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
pisces	Pisces (Fish) species.
reptilia	Reptile species.
shrub	Shrub species.

DOMAIN TABLE NAME: SpeciesCat	
ATTRIBUTE NAME: speciesCat	
TBD	To Be Determined: A value is required but the value has yet to be determined.
thallophyte	Thallophyte species.
tree	Tree species.

March 01, 2018

Data Layer Specifications for:

Species Specific Habitat

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	SpeciesSpecific Habitat_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	SpeciesSpecific Habitat_20160623	• Added SpeciesSpecificHabitat_P representation under "Data Layer Details" section. • Updated "Positional Accuracy" section.
3/9/2017	SpeciesSpecific Habitat_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection. • Updated the "Representation" subsection of the "Data Layer Details" section. • Updated the "Point Features" subsection of the "Geometry/Topology" section.
6/8/2017	SpeciesSpecific Habitat_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	SpeciesSpecific Habitat_20180301	• Updated Data Layer Details, Geometry/Topology, Positional Accuracy, Attributes, and Business Tables sections. • Updated domain tables in Appendix 1.

This Data Layer Specification (DLS) defines geospatial data specifications for the SpeciesSpecificHabitat_A, SpeciesSpecificHabitat_L, and SpeciesSpecificHabitat_P data layers implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

A location that has biotic and abiotic characteristics that supports a particular species.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	SpeciesSpecificHabitat_A SpeciesSpecificHabitat_L SpeciesSpecificHabitat_P
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	flora_spec_geo_range_area flora_species_home_range_area flora_species_population_area habitat_area habitat_point hist_bald_eagle_nesting_area hist_bald_eagle_nesting_point marine_species_occur_area migration_route_area migratory_stopover_area migratory_stopover_point nesting_area nesting_point species_population_area SpeciesSpecificHabitat
Geometry Type:	Polygon, Line, Point
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME

Representation:	• All species habitat locations shall represent the latitude, longitude location of an identified species. Species habitat locations may differ by season and breeding habits of a particular species. • Species habitat areas are represented as closed polygons depicting the outermost extent of the species area. • Each individual species habitat is represented by a single area feature. • Species habitats will be represented as a continuous unbroken line. • All points developed from areas shall represent the centroid of the species specific habitat area.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • Fish and Wildlife Conservation Act of 1980 (PL 96-366)

Geometry/Topology

Polygon Features:
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).
Line Features:
Lines must be single part features.
Lines must be larger than cluster tolerance (.001 meter).
Point Features:
If a point represents a polygon feature, then the point must fall properly inside of the coinciding polygon.

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the SpeciesSpecificHabitat_A, SpeciesSpecificHabitat_L, and SpeciesSpecificHabitat_P layers will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the SpeciesSpecificHabitat_A, SpeciesSpecificHabitat_L, and SpeciesSpecificHabitat_P data layers.

SDSFIE 3.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	speciesSpecHabIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Species Specific Habitat.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Species Specific Habitat that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize *(Polygon geometry)*	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM *(Polygon geometry)*	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize *(Polygon geometry)*	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM *(Polygon geometry)*	The perimeter unit of measure.	foot	String (25)	AF
	latitude *(Polygon geometry)*	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	longitude *(Polygon geometry)*	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid *(Polygon geometry)*	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	lengthSize *(Line geometry)*	The value of the measured length.	Recorded to the 1/1000 of a foot.	Double	AF
D	lengthSizeUOM *(Line geometry)*	The unit of measure for the calculated length.	foot	String (25)	AF
	latitudeFrom *(Line geometry)*	The latitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	latitudeTo *(Line geometry)*	The latitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	longitudeFrom *(Line geometry)*	The longitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	longitudeTo *(Line geometry)*	The longitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	elevationFrom *(Line geometry)*	The elevation component of the beginning (upstream/upgradient) coordinate point in feet.		Double	AF
	elevationTo *(Line geometry)*	The elevation component of the ending (downstream/downgr adient) coordinate point in feet.		Double	AF
D	elevationUOM *(Line geometry)*	The unit of measure for elevation dimension.	foot	String (25)	AF
	latitude *(Point geometry)*	The latitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	longitude *(Point geometry)*	The longitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	MGRS *(Point geometry)*	Military Grid Reference System for the coordinate point. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	elevation *(Point geometry)*	The elevation of the subject item in relation to a datum.		Double	AF
D	elevationUOM *(Point geometry)*	The unit of measure for elevation dimension.	foot	String (25)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	habitatDescript	A descriptor of the type of habitat.	**For a list of domain values, see HabitatDescriptor in Appendix 1.**	String (20)	AF
D	isOccupied	A value representing whether the species or suite of species exists in the location.	NA, no, TBD, yes	String (3)	SDSFIE
D	habitatUse	Specific use of the habitat by the target species, e.g., nesting, resting, loafing, breeding.	**For a list of domain values, see HabitatUse in Appendix 1.**	String (10)	AF
D	isCritical	A Boolean value representing whether or not an agency (like the US Fish and Wildlife Service in the United States) or country has determined and listed this location as critical to the existence of a species.	NA, no, TBD, yes	String (3)	SDSFIE
D	isManagedHabitat	A Boolean value representing whether or not the habitat is managed.	NA, no, TBD, yes	String (3)	SDSFIE
	commonName	The common name of the species.		String (255)	SDSFIE
	scientificName	The scientific name of the species.		String (255)	SDSFIE
D	isNative	The species is a native species. If false, the assumption is that the species is exotic.	NA, no, TBD, yes	String (3)	SDSFIE
	natureServeID	The unique identifier for the NatureServe record of the species (http://www.natureserve.org).	Examples: “2.453627” or “2.102013”.	String (10)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	kingdom	A descriptor identifying one of the five taxonomic kingdoms into which scientists place all living organisms.	**For a list of domain values, see KingdomType in Appendix 1.**	String (10)	SDSFIE
D	speciesCat	The code indicating the class of flora or fauna.	**For a list of domain values, see SpeciesCat in Appendix 1.**	String (15)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	SHAPE_Length *(Polygon and Line geometry)*	ESRI-generated field.			ESRI
	SHAPE_Area *(Polygon geometry)*	ESRI-generated field.			ESRI

Business Tables

The business tables will contain information that goes beyond the attribute table information, which will be related to the data layer using a Primary Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business tables for SpeciesSpecificHabitat_A, SpeciesSpecificHabitat_L, and SpeciesSpecificHabitat_P are:

Table Name	Identifier	Source
nr_SpeciesSpecificHabitat_A	speciesSpecHabIDFK	Program Area Manager
nr_SpeciesSpecificHabitat_L	speciesSpecHabIDFK	Program Area Manager
nr_SpeciesSpecificHabitat_P	speciesSpecHabIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Species Specific Habitat

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: HabitatDescriptor	
ATTRIBUTE NAME: habitatDescrip	
CODED DOMAIN	DEFINITION
cave	The habitat area consists of one or more caves.
clearing	The habitat area exists in a clearing.
cliff	The habitat area exists on one or more cliffs.
coastal	The habitat area is coastal.
coralReefs	The habitat area is within coral reefs.
cultivatedField	The habitat area exists in cultivated fields.
desert	The habitat area exists in a desert environment.
estuarine	The habitat area is estuarine.
forest	The habitat area exists in a forested region.
grasslands	The habitat area exists within a grassland environment.
ice	The habitat area consists of ice.
lake	The habitat area is within one or more lakes.
lowland	The habitat area is within the lowlands.
meadow	The habitat area is within a meadow.
NA	Not Applicable: No value exists.
naturalBank	The habitat area exists on a natural bank.
nearshore	The habitat area is nearshore zone, dune line to closure depth.
ocean	The habitat area is within an ocean.
other	Other. Must be described in the sdsFeatureDescription attribute.
perennialSnow	The habitat area is in locations with perennial snow.
ponds	The habitat area is within one or more ponds.
prairie	The habitat area is within a prairie environment.
riparian	The habitat area is riparian.
rivers	The habitat area is within one or more rivers.
savanna	The habitat area is within a savanna environment.
shoal	The habitat area is on a shoal.
shoreZone	The habitat area is within the shore zone.
stream	The habitat area is within one or more streams.
swamp	The habitat area is within a swamp environment.
TBD	To Be Determined: A value is required but the value has yet to be determined.
undevelopedLand	The habitat area is within undeveloped land.
unknown	The habitat type is unknown.
unvegSand	The habitat area is within unvegetated sand.
upland	The habitat area is within an upland environment.
urbanLand	The habitat area is within urban land.
vegSand	The habitat area is within vegetated sand.
wetlands	The habitat area is within a wetlands environment.

DOMAIN TABLE NAME: HabitatUse	
ATTRIBUTE NAME: habitatUse	
CODED DOMAIN	DEFINITION
breeding	The species uses the habitat for breeding purposes.
feeding	The species uses the habitat for feeding purposes.
loafing	The species uses the habitat for loafing purposes.
NA	Not Applicable: No value exists.

DOMAIN TABLE NAME: HabitatUse	
ATTRIBUTE NAME: habitatUse	
nesting	The species uses the habitat for nesting purposes.
other	Other. Must be described in the sdsFeatureDescription attribute.
resting	The species uses the habitat for resting purposes.
roosting	The species uses the habitat for roosting purposes.
stopover	The species uses the habitat as a stopover.
TBD	To Be Determined: A value is required but the value has yet to be determined.
wintering	The species uses the habitat for wintering purposes.

DOMAIN TABLE NAME: KingdomType	
ATTRIBUTE NAME: kingdom	
CODED DOMAIN	DEFINITION
animalia	Animals are a major group of multicellular, eukaryotic organisms of the kingdom Animalia.
fungi	A fungus is a eukaryotic organism that is a member of the kingdom Fungi.
monera	Monera are bacteria and other mostly tiny, single-celled organisms whose genetic material is loose in the cell. Once Monera were briefly understood to be one of five biological kingdoms. Now it comprises two kingdoms: Eubacteria and Archaebacteria.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
plantae	Plants are a major group of multicellular, eukaryotic organisms of the kingdom Plantae.
protista	Protists are unicellular eukaryotes that either exist as independent cells, or if they occur in colonies, do not show differentiation into tissues and are members of the kingdom Protista.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: SpeciesCat	
ATTRIBUTE NAME: speciesCat	
CODED DOMAIN	DEFINITION
amphibia	Amphibian species.
aves	Avian (Birds) species.
bryoid	Bryoid species.
crustacea	Crustacean species.
epiphyte	Epiphyte species.
general	An aggregate of more than one species.
herb	Herb species.
insecta	Insect species.
liana	Liana species.
mammalia	Mammal species.
mollusca	Mollusk species.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
pisces	Pisces (Fish) species.
reptilia	Reptile species.
shrub	Shrub species.
TBD	To Be Determined: A value is required but the value has yet to be determined.
thallophyte	Thallophyte species.
tree	Tree species.

March 01, 2018

Data Layer Specifications for:

Surface Riparian Area

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	SurfaceRiparianArea_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	SurfaceRiparianArea_20160623	• Updated "Positional Accuracy" section.
3/9/2017	SurfaceRiparianArea_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	SurfaceRiparianArea_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	SurfaceRiparianArea_20180301	• Updated Geometry/Topology, Sources and Source Selection, Positional Accuracy, and Attributes section. • Updated domain tables in Appendix 1.

This Data Layer Specification (DLS) defines geospatial data specifications for the SurfaceRiparianArea_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

A vegetated ecosystem along a water body through which energy, material, and water pass and is managed to maintain the integrity of stream channels and shorelines, to reduce the impact of upland sources of pollution by trapping, filtering, and converting sediments, nutrients, and other chemicals, and to supply food, cover and thermal protection to fish and other wildlife.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	SurfaceRiparianArea_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	surface_riparian_area LandCover
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Surface riparian areas are represented as closed polygons depicting the outermost extent of the area. • Each individual surface riparian area is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996

Implementing Program(s):	Driver(s):
	• Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • Chesapeake Bay Preservation Act and Coastal Zone Management Act (CZMA) • Fish and Wildlife Conservation Act of 1980

Geometry/Topology

Polygon Features:
SurfaceRiparianArea_A must not overlap with WaterFeature_A.
SurfaceRiparianArea_A must not overlap with WaterBody_A.
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: publicly available data from the U.S. Fish and Wildlife Service National Wetlands Inventory (select regions west of the Mississippi River), planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the SurfaceRiparianArea_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the SurfaceRiparianArea_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	surfRiparianAreaIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Surface Riparian Area.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Surface Riparian Area that is not already included in the attribute table.	String (255)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
D	isRegulated	Indicates whether the feature is regulated by Federal, State or local jurisdiction or no regulation.	NA, no, TBD, yes	String (3)	AF
	bufferWidth	The width, in feet, of any associated buffer.		Double	AF
D	bufferWidthUOM	The unit of measure for buffer width dimension.	foot	String (25)	AF
	bufferLength	The length, in feet, of the buffer along the stream corridor.		Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	bufferLengthUOM	The unit of measure for buffer length dimension.	foot	String (25)	AF
	bufferSource	A narrative describing the source of the buffer, e.g. is it legislatively determined by the state, city or other governing entity.		String (125)	AF
D	fwsSubsystem	Type of US Fish and Wildlife Service riparian subsystem.	**For a list of domain values, see FWSsubsystem in Appendix 1.**	String (10)	AF
D	fwsClass	Type of US Fish and Wildlife Service riparian class.	**For a list of domain values, see FWSclass in Appendix 1.**	String (15)	AF
D	fwsSubclass	Type of US Fish and Wildlife Service riparian subclass.	**For a list of domain values, see FWSsubclass in Appendix 1.**	String (10)	AF
D	oppBank	Status of the opposite bank of the stream.	**For a list of domain values, see OppBank in Appendix 1.**	String (15)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for SurfaceRiparianArea_A is:

Table Name	Identifier	Source
nr_SurfaceRiparianArea	surfRiparianAreaIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Surface Riparian Area

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: FWSclass	
ATTRIBUTE NAME: fwsClass	
CODED DOMAIN	DEFINITION
emergent	The surface riparian class is emergent.
forested	The surface riparian class is forested.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
scrub-Shrub	The surface riparian class is scrub-shrub.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: FWSsubclass	
ATTRIBUTE NAME: fwsSubclass	
CODED DOMAIN	DEFINITION
dead	The surface riparian subclass is dead.
deciduous	The surface riparian subclass is deciduous.
evergreen	The surface riparian subclass is evergreen.
mixed	The surface riparian subclass is mixed.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: FWSsubsystem	
ATTRIBUTE NAME: fwsSubsystem	
CODED DOMAIN	DEFINITION
lentic	The subsystem inhabits still fresh water.
lotic	The subsystem inhabits rapidly moving fresh water.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: OppBank	
ATTRIBUTE NAME: oppBank	
CODED DOMAIN	DEFINITION
buffered	Opposite bank is also protected.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
proposed	Opposite bank is proposed for protection.
TBD	To Be Determined: A value is required but the value has yet to be determined.
unknown	Unknown status.
unprotected	Opposite bank is not protected.

March 01, 2018

Data Layer Specifications for:

Vegetation

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	Vegetation _20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	Vegetation _20160623	• Updated "Positional Accuracy" section.
3/9/2017	Vegetation _20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	Vegetation _20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	Vegetation _20180301	• Updated Geometry/Topology, Positional Accuracy, and Attributes section. • Updated domain tables in Appendix 1.

This Data Layer Specification (DLS) defines geospatial data specifications for the Vegetation_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

A discrete area where terrestrial flora has been classified according to the National Vegetation Classification Standard (Version 2).

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	Vegetation_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	land_vegeation_area LandCover Vegetation
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Vegetation areas are represented as closed polygons depicting the outermost extent of the vegetation type. • Each individual vegetation type area is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996

Implementing Program(s):	Driver(s):
	• Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • The Wilderness Act (16 USC 1133)

Geometry/Topology

Polygon Features:
Polygons must not overlap.
Polygons must not have gaps.
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Since there are no definitive boundaries for this layer, a horizontal positional accuracy threshold is not applicable. However, if the data was acquired from an outside agency, the accuracy threshold/report of the originating agency is acceptable.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the Vegetation_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the Vegetation_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	vegetationIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Vegetation type.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Vegetation type that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
D	formationClass	A descriptor which is the first (highest) level in the NVC natural vegetation hierarchy, in which each vegetation unit is defined by a characteristic combination of dominant growth forms adapted to a very basic set of moisture/ temperature regimes.	**For a list of domain values, see FGDCformationClassType in Appendix 1.**	String (5)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	formationSubclass	A descriptor which is the second level in the NVC natural vegetation hierarchy, in which each vegetation unit is defined by geographically widespread (global) plant communities of similar physiognomy and dominant growth forms, typically related to major climatic conditions (Whittaker 1975, Lincoln et al. 1998).	**For a list of domain values, see FGDCformationSubclassType in Appendix 1.**	String (5)	SDSFIE
D	formation	A descriptor which is the third level in the NVC natural vegetation hierarchy, in which each vegetation unit is defined by geographically widespread (global) plant communities of similar physiognomy and dominant growth forms, typically related to major topographic and edaphic conditions occurring within major climatic conditions (Whittaker 1975, Lincoln et al.1998)	**For a list of domain values, see FGDCformationType in Appendix 1.**	String (5)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	division	The fourth level in the NVC natural vegetation hierarchy, in which each vegetation unit is defined by a group of plant communities in a given continental or other broad geographic area exhibiting a common set of dominant growth forms and many diagnostic plant taxa (including character taxa of the dominant growth forms) corresponding to broad climatic and environmental characteristics. (Westhoff and van der Maarel 1973, p 664-665, Whittaker 1975).		String (255)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	macroGroup	The fifth level in the NVC natural vegetation hierarchy, in which each vegetation unit is defined by a group of plant communities with a common set of growth forms and many diagnostic plant taxa, including many character taxa of the dominant growth forms, preferentially sharing a broadly similar geographic region and regional climate, and disturbance. (cf Pignatti et al. 1995, and Braun-Blanquet concept of Class).		String (255)	SDSFIE
	vegetationGroup	The sixth level in the NVC natural vegetation hierarchy, in which each vegetation unit is defined by a group of plant communities with a common set of growth forms and diagnostic species or taxa (including several character species of the dominant growth forms), preferentially sharing a similar set of regional edaphic, topographic, and disturbance factors. (cf. Pignatti et al. 1995, Specht and Specht 2001).		String (255)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	alliance	The seventh level in the NVC natural vegetation hierarchy defined by a characteristic range of species composition, habitat conditions, physiognomy, and diagnostic species, typically at least one of which is found in the upper most or dominant stratum of the vegetation (Jennings et al.2006).		String (255)	SDSFIE
	classDate	The date the vegetation was classified. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for Vegetation_A is:

Table Name	Identifier	Source
nr_Vegetation	vegetationIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Vegetation

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: FGDCformationClassType	
ATTRIBUTE NAME: formationClass	
CODED DOMAIN	DEFINITION
1	1. Forest to Open Woodland
2	2. Shrubland & Grassland
3	3. Desert & Semi-Desert
4	4. Polar & High Montane Scrub & Grassland
5	5. Aquatic Vegetation
6	6. Rock Vegetation
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: FGDCformationSubclassType	
ATTRIBUTE NAME: formationSubclass	
CODED DOMAIN	DEFINITION
1A	1.A. Tropical Forest
1B	1.B. Temperate & Boreal Forest
2A	2.A. Tropical Grassland, Savanna & Shrubland
2B	2.B. Temperate & Boreal Grassland & Shrubland
2C	2.C. Shrub & Herb Wetland
3A	3.A. Warm Desert & Semi-Desert Woodland, Scrub & Grassland
3B	3.B. Cool Semi-Desert Scrub & Grassland
4A	4.A. Tropical High Montane Scrub & Grassland
4B	4.B. Temperate, Boreal & Polar Alpine - Tundra Vegetation
5A	5.A. Saltwater Aquatic Vegetation
5B	5.B. Freshwater Aquatic Vegetation
6A	6.A. Tropical Rock Vegetation
6B	6.B. Mediterranean, Temperate & Boreal Rock Vegetation
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: FGDCformationType	
ATTRIBUTE NAME: formation	
CODED DOMAIN	DEFINITION
1A1	1.A.1. Tropical Seasonally Dry Forest
1A2	1.A.2. Tropical Lowland Humid Forest
1A3	1.A.3. Tropical Montane Humid Forest
1A4	1.A.4. Tropical Flooded & Swamp Forest
1A5	1.A.5. Mangrove
1B1	1.B.1. Warm Temperate Forest
1B2	1.B.2. Cool Temperate Forest
1B3	1.B.3. Temperate Flooded & Swamp Forest
1B4	1.B.4. Boreal Forest

DOMAIN TABLE NAME: FGDCformationType	
ATTRIBUTE NAME: formation	
1B5	1.B.5. Boreal Flooded & Swamp Forest
2A1	2.A.1. Tropical Lowland Grassland, Savanna & Shrubland
2A2	2.A.2. Tropical Montane Grassland & Shrubland
2A3	2.A.3. Tropical Scrub & Herb Coastal Vegetation
2B1	2.B.1. Mediterranean Scrub & Grassland
2B2	2.B.2. Temperate Grassland, Meadow & Shrubland
2B3	2.B.3. Boreal Grassland, Meadow & Shrubland
2B4	2.B.4. Temperate & Boreal Scrub & Herb Coastal Vegetation
2C1	2.C.1 Tropical Bog & Fen
2C2	2.C.2 Temperate & Boreal Bog & Fen
2C3	2.C.3 Tropical Freshwater Marsh, Wet Meadow & Shrubland
2C4	2.C.4 Temperate & Boreal Freshwater Marsh, Wet Meadow & Shrubland
2C5	2.C.5 Salt Marsh
3A1	3.A.1. Tropical Thorn Woodland
3A2	3.A.2. Warm Desert & Semi-Desert Scrub & Grassland
3B1	3.B.1. Cool Semi-Desert Scrub & Grassland
4A1	4.A.1. Tropical High Montane Scrub & Grassland
4B1	4.B.1. Temperate & Boreal Alpine Vegetation
4B2	4.B.2. Polar Tundra Vegetation
5A1	5.A.1. Floating & Suspended Macroalgae Saltwater Vegetation
5A2	5.A.2. Benthic Macroalgae Saltwater Vegetation
5A3	5.A.3. Benthic Aquatic Vascular Saltwater Vegetation
5A4	5.A.4. Benthic Lichen Saltwater Vegetation
5B1	5.B.1. Tropical Freshwater Aquatic Vegetation
5B2	5.B.2. Temperate & Boreal Freshwater Aquatic Vegetation
6A1	6.A.1. Tropical Cliff, Scree & Other Rock Vegetation
6B1	6.B.1 Temperate & Boreal Cliff, Scree & Other Rock Vegetation
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.

March 01, 2018

Data Layer Specifications for:

Water Body

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	WaterBody _20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
3/9/2017	WaterBody _20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	WaterBody _20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	WaterBody _20180301	• Updated Geometry/Topology, Sources and Source Selection, Positional Accuracy, and Attributes section.

This Data Layer Specification (DLS) defines geospatial data specifications for the WaterBody_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

An accumulation of water, such as oceans, seas, and lakes, but also includes smaller pools of open water such as ponds that are managed by Natural Resources. These water bodies can be naturally occurring or impounded. If the water body is utilized by Civil Engineering, it does not belong here and should be placed in the appropriate data layer.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	WaterBody_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	surface_water_body_area NaturalWaterbody
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Water bodies are represented as closed polygons depicting the outermost extent of the area. • Each individual water body is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996

Implementing Program(s):	Driver(s):
	• Clean Water Act, 1977 • EO 11990, Protection of Wetlands, 24 May 1977 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • 40 CFR 141.2 Surface Water • The Safe Drinking Water Act

Geometry/Topology

Polygon Features:
Polygons must not overlap.
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: publicly available data from the U.S. Geological Survey National Hydrography Dataset, planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the WaterBody_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the WaterBody_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	waterBodyIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Water Body area.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Water Body area that is not already included in the attribute table.	String (255)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	hydroCode	Permanent unique public identifier for the feature (e.g., USGS code or similar).		String (40)	SDSFIE
D	permCode	A code indicating the degree of permanence of the feature.	**For the list of domain values see PermCode in Appendix 1.**	String (15)	SDSFIE
D	bodyType	The type of water body: ocean, pond, etc.	**For the list of domain values see BodyType in Appendix 1.**	String (15)	AF
	maxDepth	The maximum depth, in feet, of water in the water body when full.		Double	AF
D	maxDepthUOM	The unit of measure for the depth.	foot	String (25)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	isManmade	Indicates whether a water body is manmade.	NA, no, TBD, yes	String (3)	AF
D	isTidal	Indicates whether the feature is tidal.	NA, no, TBD, yes	String (3)	AF
D	salinityType	The salinity category of the feature. Haline refers to coastal waters and saline refers to inland waters.	**For the list of domain values see SalinityType in Appendix 1.**	String (20)	AF
	salinity	The total quantity of dissolved salts in water, measured by weight; 1 Practical Salinity Unit (PSU) = 1 Parts Per Thousand (PPT).		String (50)	AF
D	isAcidic	Indicates whether the feature is acidic.	NA, no, TBD, yes	String (3)	AF
D	isAlkaline	Indicates whether the feature is alkaline.	NA, no, TBD, yes	String (3)	AF
D	nutrientClass	A descriptor of the nutrient class of the feature.	**For a list of domain values, see NutrientClass in Appendix 1.**	String (12)	SDSFIE
	elevMax	The maximum elevation of the feature in feet.		Double	AF
D	elevMaxUOM	The unit of measure for the maximum elevation.	foot	String (25)	AF
	elevMin	The minimum elevation of the feature in feet.		Double	AF
D	elevMinUOM	The unit of measure for the minimum elevation.	foot	String (25)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for WaterBody_A is:

Table Name	Identifier	Source
nr_WaterBody	waterBodyIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Water Body

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: BodyType	
ATTRIBUTE NAME: bodyType	
CODED DOMAIN	
bay	A water body associated with the mouth of a river.
duckPond	A small water body, modified by man specifically to function as duck habitat.
fishHatchery	Water bodies used exclusively for the hatching and raising of fish.
lake	Lake.
mReservior	An artificial lake with masonry sides where water is collected and kept in quantity for use.
NA	Not Applicable: No value exists.
ocean	Ocean.
other	Other. Must be described in the sdsFeatureDescription attribute.
pond	A small water body, occasionally man made.
saltLake	A lake with a very high salt content.
saltPond	A small water body with a very high salt content.
tailingsPond	A small water body which contains mill wastes which are in the form of finely divided particles suspended in water and disposed of in that fashion.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: NutrientClass	
ATTRIBUTE NAME: nutrientClass	
CODED DOMAIN	
eutrophic	Eutrophic (High Nutrient, Low Oxygen)
mesotrophic	Mesotrophic (Medium Nutrient And Oxygen)
NA	Not Applicable: No value exists.
oligotrophic	Oligotrophic (Low Nutrient, High Oxygen)
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.
unknown	The nutrient class is unknown.

DOMAIN TABLE NAME: PermCode	
ATTRIBUTE NAME: permCode	
CODED DOMAIN	
dry	Almost never contains water and if so, it is as a direct result of local storms.
intermittent	Contains or does not contain water based on climatic conditions.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
permanent	Contains water except under extreme circumstances.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: SalinityType	
ATTRIBUTE NAME: salinityType	
CODED DOMAIN	DEFINITION
euhaline	Euhaline – Water with a concentration of ocean-derived salts measuring 30.0-40 ppt

DOMAIN TABLE NAME: SalinityType	
ATTRIBUTE NAME: salinityType	
eusaline	Eusaline – Water with a concentration of land-derived salts measuring 30.0-40 ppt.
fresh	Freshwater – Water with a dissolved salt concentration measuring <0.5 ppt.
hyperhaline	Hyperhaline – Water with a concentration of ocean-derived salts measuring >40 ppt.
hypersaline	Hypersaline – Water with a concentration of land-derived salts measuring >40 ppt.
mesohaline	Mesohaline – Water with a concentration of ocean-derived salts measuring 5.0-18 ppt.
mesosaline	Mesosaline – Water with a concentration of land-derived salts measuring 5.0-18 ppt.
mixohaline	Mixohaline – Water with a concentration of ocean-derived salts measuring 0.5-30 ppt. The term is roughly equivalent to the term brackish.
mixosaline	Mixosaline – Water with a concentration of land-derived salts measuring 0.5-30 ppt.
NA	Not Applicable: No value exists.
oligohaline	Oligohaline – Water with a concentration of ocean-derived salts measuring 0.5-5 ppt.
oligosaline	Oligosaline – Water with a concentration of land-derived salts measuring 0.5-5 ppt.
polyhaline	Polyhaline – Water with a concentration of ocean-derived salts measuring 18.0-30 ppt.
polysaline	Polysaline – Water with a concentration of land-derived salts measuring 18.0-30 ppt.
TBD	To Be Determined: A value is required but the value has yet to be determined.

March 01, 2018

Data Layer Specifications for:

Watercourse Line

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	WatercourseLine_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	WatercourseLine_20160623	• Updated "Positional Accuracy" section.
3/9/2017	WatercourseLine_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	WatercourseLine_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	WatercourseLine_20180301	• Updated Geometry/Topology, Sources and Source Selection, Positional Accuracy, and Attributes section. • Updated domain tables in Appendix 1.

This Data Layer Specification (DLS) defines geospatial data specifications for the WatercourseLine_L data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

A hydroline defining a reach of a watercourse that is managed by Natural Resources (e.g. creek, stream, river). The watercourse can either occur naturally or be channelized. If the watercourse feature is managed by Civil Engineering, it should not be included here and be placed in the appropriate data layer.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	WatercourseLine_L
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResource
Previous Layer Names:	river_bank_line surface_water_course_centerline water_rapids_centerline waterfall_centerline WatercourseLine
Geometry Type:	Line
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Watercourse lines will be represented as a continuous unbroken line.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996

Implementing Program(s):	Driver(s):
	• Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • 40 CFR 141.2 Surface Water • The Safe Drinking Water Act • EO 11988, Floodplain Management

Geometry/Topology

Line Features:
Lines must not overlap.
Lines must not intersect.
Lines must not have dangles.
Lines must not self-intersect.
Lines must not self-overlap.
WatercourseLine_L must be inside Watershed_A.
Lines must be single part features.
Lines must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: publicly available data from the U.S. Geological Survey National Hydrography Dataset, planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the WatercourseLine_L layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the WatercourseLine_L data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	watercourseLineIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Watercourse Line.	String (80)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Watercourse Line that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	lengthSize	The value of the measured length.	Recorded to the 1/1000 of a foot.	Double	AF
D	lengthSizeUOM	The unit of measure for the calculated length.	foot	String (25)	AF
	latitudeFrom	The latitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	latitudeTo	The latitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	longitudeFrom	The longitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	longitudeTo	The longitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	elevationFrom	The elevation component of the beginning (upstream/upgradient) coordinate point in feet.		Double	AF
	elevationTo	The elevation component of the ending (downstream/downgradient) coordinate point in feet.		Double	AF
D	elevationUOM	The unit of measure for elevation dimension.	foot	String (25)	AF
	hydroCode	Permanent unique public identifier for the feature (e.g., USGS code or similar).		String (40)	SDSFIE
D	permCode	A code indicating the degree of permanence of the feature.	**For the list of domain values see PermCode in Appendix 1.**	String (15)	SDSFIE
	reachIdentifier	Defines a unique identifier for this particular reach of a river (a segment between two watercourse junctions, such as Upper, Lower, East Fork, or Reach 13).		String (80)	SDSFIE
	reachDate	Date reach code was assigned. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
D	watercourseElement	Discriminates which element of the reach is defined by this feature.	**For the list of domain values see WatercourseElement in Appendix 1.**	String (20)	SDSFIE
D	streamType	A descriptor of the stream or river type.	**For the list of domain values see StreamType in Appendix 1.**	String (15)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	govMgt	The government that manages the river or stream designated for protection by state/federal/local authority (e.g. wild and scenic river).	**For the list of domain values see GovMgt in Appendix 1.**	String (10)	AF
D	isNavigable	Indicates whether the line designates a navigable portion of the watercourse.	NA, no, TBD, yes	String (3)	SDSFIE
D	isArtificial	Indicates whether the feature was artificially constructed.	NA, no, TBD, yes	String (3)	AF
D	isCanals	Indicates whether the feature is lined on one or both sides with canals.	NA, no, TBD, yes	String (3)	AF
D	isTidal	Indicates whether the feature is tidal.	NA, no, TBD, yes	String (3)	AF
D	salinityType	The salinity category of the feature. Haline refers to coastal waters and saline refers to inland waters.	**For the list of domain values see SalinityType in Appendix 1.**	String (20)	AF
	salinity	The total quantity of dissolved salts in water, measured by weight; 1 Practical Salinity Unit (PSU) = 1 Parts Per Thousand (PPT).		String (50)	AF
D	isAcidic	Indicates whether the feature is acidic.	NA, no, TBD, yes	String (3)	AF
D	isAlkaline	Indicates whether the feature is alkaline.	NA, no, TBD, yes	String (3)	AF
D	nutrientClass	A descriptor of the nutrient class of the feature.	**For a list of domain values, see NutrientClass in Appendix 1.**	String (12)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	bedBottom	A descriptor of the bed lining of the bottom of the feature.	**For a list of domain values, see BedMaterial in Appendix 1.**	String (15)	AF
D	bedLeftBank	A descriptor of the bed lining of the left bank of the water feature, looking down the flow of water.	**For a list of domain values, see BedMaterial in Appendix 1.**	String (15)	AF
D	bedRightBank	A descriptor of the bed lining of the right bank of the water feature, looking down the flow of water.	**For a list of domain values, see BedMaterial in Appendix 1.**	String (15)	AF
	gradBottom	The slope or gradient of the bottom of the feature as percent slope.		Double	AF
	gradLeftBank	The slope or gradient of the left bank of the feature, looking down the flow of water, as percent slope.		Double	AF
	gradRightBank	The slope or gradient of the right bank of the feature, looking down the flow of water, as percent slope.		Double	AF
D	gradientUOM	The unit of measure for the gradient.	percentSlope	String (25)	AF
	discharge	Discharge of river in cubic feet per second.		Double	AF
D	dischargeUOM	The unit of measure for the discharge of the river.	cubicFootPerSecond	String (45)	AF
	velocityMax	The maximum velocity, in feet per second, of the flow of water.		Double	AF
	velocityMean	The mean velocity, in feet per second, of the flow of water.		Double	

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	velocityUOM	The unit of measure for the velocity.	footPerSecond	String (45)	
	fromJunction	The sdsID of the source WatercourseJunction in the stream network to which this feature belongs.		GUID	SDSFIE
	toJunction	The sdsID of the sink WatercourseJunction in the stream network to which this feature belongs.		GUID	SDSFIE
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for WatercourseLine_L is:

Table Name	Identifier	Source
nr_WatercourseLine	watercourseLineIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Watercourse Line

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: BedMaterial	
ATTRIBUTE NAME: bedBottom, bedLeftBank, bedRightBank	
CODED DOMAIN	DEFINITION
aquatcWeed	The bed or bank material consists of aquatic weed.
cementedStone	The bed or bank material consists of cemented stones.
clay	The bed or bank material consists of clay.
concreteLined	The bed or bank is concrete lined.
crSandGravel	The bed or bank material consists of coarse sand and gravel.
exposedRock	The bed or bank is exposed rock.
fineSand	The bed or bank material consists of fine sand.
grassed	The bed or bank is grass.
gravelStone	The bed or bank material consists of gravel to larger stone.
NA	Not Applicable: No value exists.
organicMud	The bed or bank material consists of organic mud.
other	Other. Must be described in the sdsFeatureDescription attribute.
placedStone	The bed or bank is placed stone.
sand	The bed or bank material consists of sand.
siltSand	The bed or bank material consists of silty sand.
TBD	To Be Determined: A value is required but the value has yet to be determined.
underbrush	The bed or bank is underbrush.
unknown	The bed or bank material is unknown.

DOMAIN TABLE NAME: GovMgt	
ATTRIBUTE NAME: govMgt	
CODED DOMAIN	DEFINITION
city	City Government
county	County Government
federal	Federal Government
local	Local
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
state	State Government
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: GradientUOM	
ATTRIBUTE NAME: gradientUOM	
CODED DOMAIN	DEFINITION
degrees	Degrees.
eastToWest	East to West.
grades	Grades.
microradians	Microradians.
milliradians	Milliradians.
minAngle	A unit of angular measure equal to one sixtieth of a degree or 60 seconds.
NA	Not Applicable: No value exists.
northeastToSouthwest	Northeast to Southwest.
northToSouth	North to South.

DOMAIN TABLE NAME: GradientUOM	
ATTRIBUTE NAME: gradientUOM	
northwestToSoutheast	Northwest to Southeast.
other	Other. Must be described in the sdsFeatureDescription attribute.
percentSlope	Percent slope.
quadrant	Quadrant.
radians	Radians.
rotation	Rotation.
secAngle	A unit of angular measure equal to one sixtieth of a minute of an arc.
southeastToNorthwest	Southeast to Northwest.
southToNorth	South to North.
southwestToNortheast	Southwest to Northeast.
steradians	Steradians.
TBD	To Be Determined: A value is required but the value has yet to be determined.
westToEast	West to East.

DOMAIN TABLE NAME: NutrientClass	
ATTRIBUTE NAME: nutrientClass	
CODED DOMAIN	DEFINITION
eutrophic	Eutrophic (High Nutrient, Low Oxygen)
mesotrophic	Mesotrophic (Medium Nutrient And Oxygen)
NA	Not Applicable: No value exists.
oligotrophic	Oligotrophic (Low Nutrient, High Oxygen)
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.
unknown	The nutrient class is unknown.

DOMAIN TABLE NAME: PermCode	
ATTRIBUTE NAME: permCode	
CODED DOMAIN	DEFINITION
dry	Almost never contains water and if so, it is as a direct result of local storms.
intermittent	Contains or does not contain water based on climatic conditions.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
permanent	Contains water except under extreme circumstances.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: SalinityType	
ATTRIBUTE NAME: salinityType	
CODED DOMAIN	DEFINITION
euhaline	Euhaline – Water with a concentration of ocean-derived salts measuring 30.0-40 ppt
eusaline	Eusaline – Water with a concentration of land-derived salts measuring 30.0-40 ppt.
fresh	Freshwater – Water with a dissolved salt concentration measuring <0.5 ppt.
hyperhaline	Hyperhaline – Water with a concentration of ocean-derived salts measuring >40 ppt.
hypersaline	Hypersaline – Water with a concentration of land-derived salts measuring >40 ppt.
mesohaline	Mesohaline – Water with a concentration of ocean-derived salts measuring 5.0-18 ppt.
mesosaline	Mesosaline – Water with a concentration of land-derived salts measuring 5.0-18 ppt.
mixohaline	Mixohaline – Water with a concentration of ocean-derived salts measuring 0.5-30 ppt. The term is roughly equivalent to the term brackish.

DOMAIN TABLE NAME: SalinityType	
ATTRIBUTE NAME: salinityType	
mixosaline	Mixosaline – Water with a concentration of land-derived salts measuring 0.5-30 ppt.
NA	Not Applicable: No value exists.
oligohaline	Oligohaline – Water with a concentration of ocean-derived salts measuring 0.5-5 ppt.
oligosaline	Oligosaline – Water with a concentration of land-derived salts measuring 0.5-5 ppt.
polyhaline	Polyhaline – Water with a concentration of ocean-derived salts measuring 18.0-30 ppt.
polysaline	Polysaline – Water with a concentration of land-derived salts measuring 18.0-30 ppt.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: StreamType	
ATTRIBUTE NAME: streamType	
CODED DOMAIN	DEFINITION
canal	A canal is an artificial waterway for navigation or irrigating land.
channelized	The feature represents a river or stream that has been channelized.
culvert	A culvert is a structure used to channel water underneath a roadway or other feature.
flume	A flume is an inclined channel for carrying water.
NA	Not Applicable: No value exists.
natural	The feature represents a river or stream course that is naturally occurring.
other	Other. Must be described in the sdsFeatureDescription attribute.
scenicRiver	The feature represents a scenic river or stream.
TBD	To Be Determined: A value is required but the value has yet to be determined.
wildRiver	The feature represents a wild river or stream.

DOMAIN TABLE NAME: WatercourseElement	
ATTRIBUTE NAME: watercourseElement	
CODED DOMAIN	DEFINITION
geometricCenterline	The element represents a line drawn in the geometric center of the watercourse and would typically be used to define the reach stations in a stream network with cross-sections.
leftBank	The element represents the bank to ones left while facing downstream.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
rightBank	The element represents the bank to ones right while facing downstream.
TBD	To Be Determined: A value is required but the value has yet to be determined.
thalweg	The element represents a line drawn to join the lowest points along the entire length of a watercourse in its downward slope, defining its deepest channel.
thruWaterbody	The element represents a line drawn in the geometric center of a Waterbody and thus represents the flow through a waterbody in a stream network.
toe	A line drawn to join points marking a transition between a steep and flat portion of the watercourse bed area (two or more such features would define the watercourse bottom, along with bank features and a thalweg or geometric centerline).

March 01, 2018

Data Layer Specifications for:

Water Feature Area

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	WaterFeature_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	WaterFeature_20160623	• Updated "Positional Accuracy" section.
3/9/2017	WaterFeature_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	WaterFeature_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section.
3/1/2018	WaterFeatureArea_20180301	• Updated Data Layer Details, Geometry/Topology, Sources and Source Selection, Positional Accuracy, Coordinate System, Attributes, and Business Tables sections. • Updated domains in Appendix 1.

Data Layer Specification – Water Feature Area

This Data Layer Specification (DLS) defines geospatial data specifications for the WaterFeature_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

Represents linear waterways as polygons when the features are large enough that both banks should be shown. This feature includes rivers, streams, and creeks that are managed by Natural Resources. If the feature is managed by Civil Engineering, it should not be included here and placed in the appropriate data layer.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	WaterFeature_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	canal_area carolina_bay_area channel_area grassy_waterway_area low_water_area surface_water_course_area water_rapids_area water_turbulence_area WaterFeature
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Water feature areas are represented as closed polygons depicting the outermost extent of the area. • Each individual water feature is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013

Implementing Program(s):	Driver(s):
	• AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • EO 11988, Floodplain Management

Geometry/Topology

Polygon Features:
Polygons must not overlap.
WaterFeature_A must not overlap with WaterBody_A.
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: publicly available data from the U.S. Geological Survey National Hydrography Dataset, planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the WaterFeature_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the WaterFeature_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	waterFeatureIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Water Feature.	String (80)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Water Feature that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	hydrocode	Permanent unique public identifier for the feature (e.g., USGS code or similar).		String (40)	SDSFIE
D	permCode	A code indicating the degree of permanence of the feature.	**For the list of domain values see PermCode in Appendix 1.**	String (15)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	streamType	A descriptor of the stream or river type.	**For the list of domain values see StreamType in Appendix 1.**	String (15)	AF
D	govMgt	The government that manages the river or stream designated for protection by state/federal/local authority (e.g. wild and scenic river).	**For the list of domain values see GovMgt in Appendix 1.**	String (10)	AF
D	isArtificial	Indicates whether the feature was artificially constructed.	NA, no, TBD, yes	String (3)	AF
D	isCanals	Indicates whether the feature is lined on one or both sides with canals.	NA, no, TBD, yes	String (3)	AF
D	isTidal	Indicates whether the feature is tidal.	NA, no, TBD, yes	String (3)	AF
D	salinityType	The salinity category of the feature. Haline refers to coastal waters and saline refers to inland waters.	**For the list of domain values see SalinityType in Appendix 1.**	String (20)	AF
	salinity	The total quantity of dissolved salts in water, measured by weight; 1 Practical Salinity Unit (PSU) = 1 Parts Per Thousand (PPT).		String (50)	AF
D	isAcidic	Indicates whether the feature is acidic.	NA, no, TBD, yes	String (3)	AF
D	isAlkaline	Indicates whether the feature is alkaline.	NA, no, TBD, yes	String (3)	AF
D	nutrientClass	A descriptor of the nutrient class of the feature.	**For a list of domain values, see NutrientClass in Appendix 1.**	String (12)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	bedBottom	A descriptor of the bed lining of the bottom of the feature.	**For a list of domain values, see BedMaterial in Appendix 1.**	String (15)	AF
D	bedLeftBank	A descriptor of the bed lining of the left bank of the water feature, looking down the flow of water.	**For a list of domain values, see BedMaterial in Appendix 1.**	String (15)	AF
D	bedRightBank	A descriptor of the bed lining of the right bank of the water feature, looking down the flow of water.	**For a list of domain values, see BedMaterial in Appendix 1.**	String (15)	AF
	gradBottom	The slope or gradient of the bottom of the feature as percent slope.		Double	AF
	gradLeftBank	The slope or gradient of the left bank of the feature, looking down the flow of water, as percent slope.		Double	AF
	gradRightBank	The slope or gradient of the right bank of the feature, looking down the flow of water, as percent slope.		Double	AF
D	gradientUOM	The unit of measure for the gradient.	percentSlope	String (25)	AF
	discharge	Discharge of river in cubic feet per second.		Double	AF
D	dischargeUOM	The unit of measure for the discharge of the river.	cubicFootPerSecond	String (45)	AF
	velocityMax	The maximum velocity, in feet per second, of the flow of water.		Double	AF
	velocityMean	The mean velocity, in feet per second, of the flow of water.		Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	velocityUOM	The unit of measure for the velocity.	footPerSecond	String (45)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for WaterFeature_A is:

Table Name	Identifier	Source
nr_WaterFeature_A	waterFeatureIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Water Feature

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: BedMaterial	
ATTRIBUTE NAME: bedBottom, bedLeftBank, bedRightBank	
CODED DOMAIN	DEFINITION
aquatcWeed	The bed or bank material consists of aquatic weed.
cementedStone	The bed or bank material consists of cemented stones.
clay	The bed or bank material consists of clay.
concreteLined	The bed or bank is concrete lined.
crSandGravel	The bed or bank material consists of coarse sand and gravel.
exposedRock	The bed or bank is exposed rock.
fineSand	The bed or bank material consists of fine sand.
grassed	The bed or bank is grass.
gravelStone	The bed or bank material consists of gravel to larger stone.
NA	Not Applicable: No value exists.
organicMud	The bed or bank material consists of organic mud.
other	Other. Must be described in the sdsFeatureDescription attribute.
placedStone	The bed or bank is placed stone.
sand	The bed or bank material consists of sand.
siltSand	The bed or bank material consists of silty sand.
TBD	To Be Determined: A value is required but the value has yet to be determined.
underbrush	The bed or bank is underbrush.
unknown	The bed or bank material is unknown.

DOMAIN TABLE NAME: GovMgt	
ATTRIBUTE NAME: govMgt	
CODED DOMAIN	DEFINITION
city	City Government
county	County Government
federal	Federal Government
local	Local
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
state	State Government
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: GradientUOM	
ATTRIBUTE NAME: gradientUOM	
CODED DOMAIN	DEFINITION
degrees	Degrees.
eastToWest	East to West.
grades	Grades.
microradians	Microradians.
milliradians	Milliradians.
minAngle	A unit of angular measure equal to one sixtieth of a degree or 60 seconds.
NA	Not Applicable: No value exists.
northeastToSouthwest	Northeast to Southwest.
northToSouth	North to South.

DOMAIN TABLE NAME: GradientUOM	
ATTRIBUTE NAME: gradientUOM	
northwestToSoutheast	Northwest to Southeast.
other	Other. Must be described in the sdsFeatureDescription attribute.
percentSlope	Percent slope.
quadrant	Quadrant.
radians	Radians.
rotation	Rotation.
secAngle	A unit of angular measure equal to one sixtieth of a minute of an arc.
southeastToNorthwest	Southeast to Northwest.
southToNorth	South to North.
southwestToNortheast	Southwest to Northeast.
steradians	Steradians.
TBD	To Be Determined: A value is required but the value has yet to be determined.
westToEast	West to East.

DOMAIN TABLE NAME: NutrientClass	
ATTRIBUTE NAME: nutrientClass	
CODED DOMAIN	DEFINITION
eutrophic	Eutrophic (High Nutrient, Low Oxygen)
mesotrophic	Mesotrophic (Medium Nutrient And Oxygen)
NA	Not Applicable: No value exists.
oligotrophic	Oligotrophic (Low Nutrient, High Oxygen)
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.
unknown	The nutrient class is unknown.

DOMAIN TABLE NAME: PermCode	
ATTRIBUTE NAME: permCode	
CODED DOMAIN	DEFINITION
dry	Almost never contains water and if so, it is as a direct result of local storms.
intermittent	Contains or does not contain water based on climatic conditions.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
permanent	Contains water except under extreme circumstances.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: SalinityType	
ATTRIBUTE NAME: salinityType	
CODED DOMAIN	DEFINITION
euhaline	Euhaline – Water with a concentration of ocean-derived salts measuring 30.0-40 ppt.
eusaline	Eusaline – Water with a concentration of land-derived salts measuring 30.0-40 ppt.
fresh	Freshwater – Water with a dissolved salt concentration measuring <0.5 ppt.
hyperhaline	Hyperhaline – Water with a concentration of ocean-derived salts measuring >40 ppt.
hypersaline	Hypersaline – Water with a concentration of land-derived salts measuring >40 ppt.
mesohaline	Mesohaline – Water with a concentration of ocean-derived salts measuring 5.0-18 ppt.
mesosaline	Mesosaline – Water with a concentration of land-derived salts measuring 5.0-18 ppt.
mixohaline	Mixohaline – Water with a concentration of ocean-derived salts measuring 0.5-30 ppt. The term is roughly equivalent to the term brackish.

DOMAIN TABLE NAME: SalinityType	
ATTRIBUTE NAME: salinityType	
mixosaline	Mixosaline – Water with a concentration of land-derived salts measuring 0.5-30 ppt.
NA	Not Applicable: No value exists.
oligohaline	Oligohaline – Water with a concentration of ocean-derived salts measuring 0.5-5 ppt.
oligosaline	Oligosaline – Water with a concentration of land-derived salts measuring 0.5-5 ppt.
polyhaline	Polyhaline – Water with a concentration of ocean-derived salts measuring 18.0-30 ppt.
polysaline	Polysaline – Water with a concentration of land-derived salts measuring 18.0-30 ppt.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: StreamType	
ATTRIBUTE NAME: streamType	
CODED DOMAIN	DEFINITION
canal	A canal is an artificial waterway for navigation or irrigating land.
channelized	The feature represents a river or stream that has been channelized.
culvert	A culvert is a structure used to channel water underneath a roadway or other feature.
flume	A flume is an inclined channel for carrying water.
NA	Not Applicable: No value exists.
natural	The feature represents a river or stream course that is naturally occurring.
other	Other. Must be described in the sdsFeatureDescription attribute.
scenicRiver	The feature represents a scenic river or stream.
TBD	To Be Determined: A value is required but the value has yet to be determined.
wildRiver	The feature represents a wild river or stream.

March 01, 2018

Data Layer Specifications for:

Water Feature Point

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
3/1/2018	WaterFeaturePoint _20180301	• Created Data Layer Specification for Water Feature Point.

This Data Layer Specification (DLS) defines geospatial data specifications for the WaterFeature_P data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

Hydrographic features including, but not limited to: springs, seeps, gaging stations, or waterfalls.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	WaterFeature_P
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	named_river_feature_point spring_point surf_wat_gauging_station_point waterfall_point water_rapids_point weir_point
Geometry Type:	Point
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Water feature points are a representation of the coordinate location of that feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003

Implementing Program(s):	Driver(s):
	• USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009

Geometry/Topology

Point Features:
Points must be disjoint.

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: publicly available data from the U.S. Geological Survey National Hydrography Dataset, planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the WaterFeature_P layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The

horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the WaterFeature_P data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	waterFeatPointIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Water Feature.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Water Feature that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	latitude	The latitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	longitude	The longitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	MGRS	Military Grid Reference System for the coordinate point. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	elevation	The elevation of the subject item in relation to a datum.		Double	AF
D	elevationUOM	The unit of measure for elevation dimension.	foot	String (25)	AF
	hydroCode	Permanent unique public identifier for the feature (e.g., USGS code or similar).		String (40)	AF
D	hydroFeatType	The type of hydrographic feature.	**For the list of domain values see HydroFeatType in Appendix 1.**	String (15)	AF
D	permCode	A code indicating the degree of permanence of the feature.	**For the list of domain values see PermCode in Appendix 1.**	String (15)	AF
D	salinityType	The salinity category of the feature. Haline refers to coastal waters and saline refers to inland waters.	**For the list of domain values see SalinityType in Appendix 1.**	String (20)	AF
	salinity	The total quantity of dissolved salts in water, measured by weight; 1 Practical Salinity Unit (PSU) = 1 Parts Per Thousand (PPT).		String (50)	AF
D	isAcidic	Indicates whether the feature is acidic.	NA, no, TBD, yes	String (3)	AF
D	isAlkaline	Indicates whether the feature is alkaline.	NA, no, TBD, yes	String (3)	AF
D	nutrientClass	A descriptor of the nutrient class of the feature.	**For the list of domain values see NutrientClass in Appendix 1.**	String (12)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute

table and business table. Additional attributes to be determined by the Program Area Manager. The business table for WaterFeature_P is:

Table Name	Identifier	Source
nr_WaterFeature_P	waterFeatPointIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Water Feature

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: HydroFeatType	
ATTRIBUTE NAME: hydroFeatType	
CODED DOMAIN	DEFINITION
damWeir	A barrier constructed to control the flow, or raise the level, of water.
gagingStation	A structure used to measure the characteristics of a hydrographic feature.
gate	A structure that may be swung, drawn, or lowered, to block an entrance or passageway.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
rapids	An area of swift current in a stream or river characterized by standing waves, boulders, or rocks.
rise	The place at which a stream reappears at the surface in a karst area.
rockAbovewater	An in-stream rock that is visible above the water surface.
rockUnderwater	An in-stream rock that is not visible above the water surface.
sink	The place at which a stream disappears underground in a karst area.
springSeep	A place where water issues from the ground naturally.
TBD	To Be Determined: A value is required but the value has yet to be determined.
waterfall	A vertical or near vertical descent of water over a step or ledge in the bed of a river.
waterIntake	A structure through which water enters a conduit.
waterOutflow	A structure through which water exits a conduit.
well	A pit or hole, dug or bored into the earth for the extraction of water.

DOMAIN TABLE NAME: NutrientClass	
ATTRIBUTE NAME: nutrientClass	
CODED DOMAIN	DEFINITION
eutrophic	Eutrophic (High Nutrient, Low Oxygen)
mesotrophic	Mesotrophic (Medium Nutrient And Oxygen)
NA	Not Applicable: No value exists.
oligotrophic	Oligotrophic (Low Nutrient, High Oxygen)
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.
unknown	The nutrient class is unknown.

DOMAIN TABLE NAME: PermCode	
ATTRIBUTE NAME: permCode	
CODED DOMAIN	DEFINITION
dry	Almost never contains water and if so, it is as a direct result of local storms.
intermittent	Contains or does not contain water based on climatic conditions.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
permanent	Contains water except under extreme circumstances.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: SalinityType	
ATTRIBUTE NAME: salinityType	
CODED DOMAIN	DEFINITION
euhaline	Euhaline – Water with a concentration of ocean-derived salts measuring 30.0-40 ppt.
eusaline	Eusaline – Water with a concentration of land-derived salts measuring 30.0-40 ppt.
fresh	Freshwater – Water with a dissolved salt concentration measuring <0.5 ppt.
hyperhaline	Hyperhaline – Water with a concentration of ocean-derived salts measuring >40 ppt.
hypersaline	Hypersaline – Water with a concentration of land-derived salts measuring >40 ppt.
mesohaline	Mesohaline – Water with a concentration of ocean-derived salts measuring 5.0-18 ppt.
mesosaline	Mesosaline – Water with a concentration of land-derived salts measuring 5.0-18 ppt.
mixohaline	Mixohaline – Water with a concentration of ocean-derived salts measuring 0.5-30 ppt. The term is roughly equivalent to the term brackish.
mixosaline	Mixosaline – Water with a concentration of land-derived salts measuring 0.5-30 ppt.
NA	Not Applicable: No value exists.
oligohaline	Oligohaline – Water with a concentration of ocean-derived salts measuring 0.5-5 ppt.
oligosaline	Oligosaline – Water with a concentration of land-derived salts measuring 0.5-5 ppt.
polyhaline	Polyhaline – Water with a concentration of ocean-derived salts measuring 18.0-30 ppt.
polysaline	Polysaline – Water with a concentration of land-derived salts measuring 18.0-30 ppt.
TBD	To Be Determined: A value is required but the value has yet to be determined.

March 01, 2018

Data Layer Specifications for:

Watershed

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	Watershed _20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	Watershed _20160623	• Updated "Positional Accuracy" section.
3/9/2017	Watershed _20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	Watershed _20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	Watershed _20180301	• Updated Geometry/Topology, Sources and Source Selection, Positional Accuracy, and Attributes section.

Data Layer Specification – Watershed

This Data Layer Specification (DLS) defines geospatial data specifications for the Watershed_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

The land area that drains water to a particular stream, river, or lake. It is a land feature that can be identified by tracing a line along the highest elevations between two areas on a map, often a ridge. Large watersheds, like the Mississippi River basin, contain thousands of smaller watersheds.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	Watershed_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	watershed_area AdministrativeBoundary
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Watershed areas are represented as closed polygons depicting the outermost extent of the watershed. • Each individual watershed area is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7061, The Environmental Impact Analysis Process, 12 March 2003 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996

Implementing Program(s):	Driver(s):
	• Clean Water Act, 1977 • EO 12372, Intergovernmental review of Federal Programs, 14 July 1982 • EO 11990, Protection of Wetlands, 24 May 1977 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • Sikes Act (16 USC 670a-670f, November 1997

Geometry/Topology

Polygon Features:
Polygons must not overlap.
Polygons must not have gaps.
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: publicly available data from the U.S. Geological Survey National Hydrography Dataset or Watershed Boundary Dataset, planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **12 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the Watershed_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the Watershed_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	watershedIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Watershed.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Watershed that is not already included in the attribute table.	String (255)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	hydroUnitCode	The hydrologic unit code obtained from the USGS Watershed Boundary Dataset.		String (15)	AF
D	hydroUnitLevel	The level of the hydrologic unit as it relates to the USGS Watershed Boundary Dataset hierarchy.	**For a list of domain values, see HydrologicUnitLevel in Appendix 1.**	String (15)	AF
D	nutrientClass	A descriptor of the nutrient class of the feature.	**For a list of domain values, see NutrientClass in Appendix 1.**	String (12)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for Watershed_A is:

Table Name	Identifier	Source
nr_Watershed	watershedIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will include all watersheds that cross the installation, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Watershed

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: HydrologicUnitLevel	
ATTRIBUTE NAME: hydrologicUnitLevel	
CODED DOMAIN	DEFINITION
basin	The basin represents the third level of the hierarchy.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
region	The region represents the first and highest level of the hierarchy.
subbasin	The subbasin represents the fourth level of the hierarchy.
subregion	The subregion represents the second level of the hierarchy.
subwatershed	The subwatershed represents the sixth level of the hierarchy.
TBD	To Be Determined: A value is required but the value has yet to be determined.
watershed	The watershed represents the fifth level of the hierarchy.

DOMAIN TABLE NAME: NutrientClass	
ATTRIBUTE NAME: nutrientClass	
CODED DOMAIN	DEFINITION
eutrophic	Eutrophic (High Nutrient, Low Oxygen)
mesotrophic	Mesotrophic (Medium Nutrient And Oxygen)
NA	Not Applicable: No value exists.
oligotrophic	Oligotrophic (Low Nutrient, High Oxygen)
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.
unknown	The nutrient class is unknown.

March 01, 2018

Data Layer Specifications for:

Wetland

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	Wetland_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	Wetland_20160623	• Added Wetland_P representation under "Data Layer Details" section. • Updated "Positional Accuracy" section.
3/9/2017	Wetland_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection. • Updated the "Representation" subsection of the "Data Layer Details" section. • Updated the "Point Features" subsection of the "Geometry/Topology" section.
6/8/2017	Wetland_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	Wetland_20180301	• Updated Data Layer Details, Geometry/Topology, Sources and Source Selection, Positional Accuracy, and Attributes sections. • Updated domain tables in Appendix 1.

This Data Layer Specification (DLS) defines geospatial data specifications for the Wetland_A, Wetland_L, and Wetland_P data layers implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

Land consisting of marshes or swamps; saturated land. This layer consists of both jurisdictional and non-jurisdictional wetlands. Open bodies of water that are classified as jurisdictional wetlands by the U.S. Army Corps of Engineers are included in this layer.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	Wetland_A Wetland_L Wetland_P
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	wetland_area wetland_centerline Wetland
Geometry Type:	Polygon, Line, Point
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• All wetland locations shall represent the latitude, longitude location of an identified wetland area. • Wetland areas are represented as closed polygons depicting the outermost extent of the area. • Each individual wetland area is represented by a single area feature. • Wetland locations will be represented as a continuous unbroken line. • All points developed from areas shall represent the centroid of the wetland area.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7061, The Environmental Impact Analysis Process, 12 March 2003

Implementing Program(s):	Driver(s):
	• AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • Clean Water Act, 1977 • EO 12372, Intergovernmental review of Federal Programs, 14 July 1982 • EO 11990, Protection of Wetlands, 24 May 1977 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • 40 Code of Federal Regulation 110.2 Wetland

Geometry/Topology

Polygon Features:
Polygons must not overlap.
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).
Line Features:
Lines must not overlap.
Lines must not intersect.
Lines must not have dangles.
Lines must not self-overlap.
Lines must not self-intersect.
Lines must be single part features.
Lines must be larger than cluster tolerance (.001 meter).
Point Features:
Points must be disjoint.
If a point represents a polygon feature, then the point must fall properly inside of the coinciding polygon.

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data

layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: publicly available data from the U.S. Fish and Wildlife Service National Wetlands Inventory, planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **3 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the Wetland_A, Wetland_L, and Wetland_P layers will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the Wetland_A, Wetland_L, and Wetland_P data layers.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	wetlandIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	The common name for the Wetland site.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Wetland that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize *(Polygon geometry)*	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM *(Polygon geometry)*	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize *(Polygon geometry)*	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
D	perimeterSizeUOM *(Polygon geometry)*	The perimeter unit of measure.	foot	String (25)	AF
	latitude *(Polygon geometry)*	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	longitude *(Polygon geometry)*	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid *(Polygon geometry)*	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	lengthSize *(Line geometry)*	The value of the measured length.	Recorded to the 1/1000 of a foot	Double	AF
D	lengthSizeUOM *(Line geometry)*	The unit of measure for the calculated length.	foot	String (25)	AF
	latitudeFrom *(Line geometry)*	The latitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	latitudeTo *(Line geometry)*	The latitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	longitudeFrom *(Line geometry)*	The longitude coordinate of the beginning (upstream/up gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	longitudeTo *(Line geometry)*	The longitude coordinate of the ending (downstream/down gradient) coordinate point in decimal degrees.	decimal degrees	Double	AF
	elevationFrom *(Line geometry)*	The elevation component of the beginning (upstream/upgradient) coordinate point in feet.		Double	AF
	elevationTo *(Line geometry)*	The elevation component of the ending (downstream/downgr adient) coordinate point in feet.		Double	AF
D	elevationUOM *(Line geometry)*	The unit of measure for elevation dimension.	foot	String (25)	AF
	latitude *(Point geometry)*	The latitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	longitude *(Point geometry)*	The longitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	MGRS *(Point geometry)*	Military Grid Reference System for the coordinate point. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	elevation *(Point geometry)*	The elevation of the subject item in relation to a datum.		Double	AF
D	elevationUOM *(Point geometry)*	The unit of measure for elevation dimension.	foot	String (25)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	regulatoryActionIDFK	Foreign Key ID to the parent regulatory action.		String (38)	SDSFIE
	localName	Locally known waterway name (the name of the site should be stored in the sdsFeatureName attribute).		String (255)	SDSFIE
D	cowardin	Wetlands classification according to the Cowardin System.	**For a list of domain values, see CowardinType in Appendix 1.**	String (10)	SDSFIE
D	wetlandDescriptor	A descriptor of how the wetland is depicted graphically.	**For a list of domain values, see WetlandDescriptor in Appendix 1.**	String (15)	AF
D	statusCOE	Status of the wetland under the US Army Corps of Engineers jurisdiction.	**For a list of domain values, see StatueCOE in Appendix 1.**	String (20)	AF
	statusCOEDate	The date the COE status was determined. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
D	jurisdictionalFeature	The jurisdictional feature type of the wetland.	**For a list of domain values, see JurisdictionalFeature in Appendix 1.**	String (10)	SDSFIE
D	hydrogeomorphology	The hydrogeomorphology of the wetland.	**For a list of domain values, see Hydrogeomorphology in Appendix 1.**	String (16)	SDSFIE
D	wtrRegimeCOE	Water regime as described by the US Army Corps of Engineers.	**For a list of domain values, see WtrRegimeCOE in Appendix 1.**	String (15)	AF
	mgtAgreement	A narrative field that describes the special management agreements.		String (255)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	mgtDescription	Any description of the management practices associated with the wetland.		String (255)	AF
D	nutrientClass	A descriptor of the nutrient class of the feature.	**For a list of domain values, see NutrientClass in Appendix 1.**	String (12)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	SHAPE_Length *(Polygon and Line geometry)*	ESRI-generated field.			ESRI
	SHAPE_Area *(Polygon geometry)*	ESRI-generated field.			ESRI

Business Tables

The business tables will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business tables for Wetland_A, Wetland_L, and Wetland_P are:

Table Name	Identifier	Source
nr_Wetland_A	wetlandIDFK	Program Area Manager
nr_Wetland_L	wetlandIDFK	Program Area Manager
nr_Wetland_P	wetlandIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Wetland

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: CowardinType	
ATTRIBUTE NAME: cowardin	
CODED DOMAIN	DEFINITION
E	Deepwater tidal habitats and adjacent tidal wetlands that are usually semi enclosed by land but have open, partly obstructed, or sporadic access to the open ocean, and in which ocean water is at least occasionally diluted by freshwater land runoff.
E1	Subtidal, Estuarine
E1AB	Aquatic Bed, Subtidal, Estuarine
E1AB1	Algal, Aquatic Bed, Subtidal, Estuarine
E1AB3	Rooted Vascular, Aquatic Bed, Subtidal, Estuarine
E1AB4	Floating Vascular, Aquatic Bed, Subtidal, Estuarine
E1AB5	Unknown Submergent, Aquatic Bed, Subtidal, Estuarine
E1AB6	Unknown Surface, Aquatic Bed, Subtidal, Estuarine
E1OW	Open Water, Subtidal, Estuarine (Used On Older Maps)
E1RB	Rock Bottom, Subtidal, Estuarine
E1RB1	Bedrock, Rock Bottom, Subtidal, Estuarine
E1RB2	Rubble, Rock Bottom, Subtidal, Estuarine
E1RF	Reef, Subtidal, Estuarine
E1RF2	Mollusk, Reef, Subtidal, Estuarine
E1RF3	Worm, Reef, Subtidal, Estuarine
E1UB	Unconsolidated Bottom, Subtidal, Estuarine
E1UB1	Cobble-Gravel, Unconsolidated Bottom, Subtidal, Estuarine
E1UB2	Sand, Unconsolidated Bottom, Subtidal, Estuarine
E1UB3	Mud, Unconsolidated Bottom, Subtidal, Estuarine
E1UB4	Organic, Unconsolidated Bottom, Subtidal, Estuarine
E2	Intertidal, Estuarine
E2AB	Aquatic Bed, Intertidal, Estuarine
E2AB1	Algal, Aquatic Bed, Intertidal, Estuarine
E2AB3	Rooted Vascular, Aquatic Bed, Intertidal, Estuarine
E2AB4	Floating Vascular, Aquatic Bed, Intertidal, Estuarine
E2AB5	Unknown Submergent, Aquatic Bed, Intertidal, Estuarine
E2AB6	Unknown Surface, Aquatic Bed, Intertidal, Estuarine
E2EM	Emergent, Intertidal, Estuarine
E2EM1	Persistent, Emergent, Intertidal, Estuarine
E2EM2	Nonpersistent, Emergent, Intertidal, Estuarine
E2FO	Forested, Intertidal, Estuarine
E2FO1	Broad-Leaved Deciduous, Forested, Intertidal, Estuarine
E2FO2	Needle-Leaved Deciduous, Forested, Intertidal, Estuarine
E2FO3	Broad-Leaved Evergreen, Forested, Intertidal, Estuarine
E2FO4	Needle-Leaved Evergreen, Forested, Intertidal, Estuarine
E2FO5	Dead, Forested, Intertidal, Estuarine
E2FO6	Indeterminate Deciduous, Forested, Intertidal, Estuarine
E2FO7	Indeterminate Evergreen, Forested, Intertidal, Estuarine
E2RF	Reef, Intertidal, Estuarine
E2RF2	Mollusk, Reef, Intertidal, Estuarine
E2RF3	Worm, Reef, Intertidal, Estuarine
E2RS	Rocky Shore, Intertidal, Estuarine
E2RS1	Bedrock, Rocky Shore, Intertidal, Estuarine
E2RS2	Rubble, Rocky Shore, Intertidal, Estuarine
E2SB	Stream Bed, Intertidal, Estuarine
E2SB1	Bedrock, Stream Bed, Intertidal, Estuarine

DOMAIN TABLE NAME: CowardinType	
ATTRIBUTE NAME: cowardin	
E2SB2	Rubble, Stream Bed, Intertidal, Estuarine
E2SB3	Cobble-Gravel, Stream Bed, Intertidal, Estuarine
E2SB4	Sand, Stream Bed, Intertidal, Estuarine
E2SB5	Mud, Stream Bed, Intertidal, Estuarine
E2SB6	Organic, Stream Bed, Intertidal, Estuarine
E2SS	Scrub-Shrub, Intertidal, Estuarine
E2SS1	Broad-Leaved Deciduous, Scrub-Shrub, Intertidal, Estuarine
E2SS2	Needle-Leaved Deciduous, Scrub-Shrub, Intertidal, Estuarine
E2SS3	Broad-Leaved Evergreen, Scrub-Shrub, Intertidal, Estuarine
E2SS4	Needle-Leaved Evergreen, Scrub-Shrub, Intertidal, Estuarine
E2SS5	Dead, Scrub-Shrub, Intertidal, Estuarine
E2SS6	Indeterminate Deciduous, Scrub-Shrub, Intertidal, Estuarine
E2SS7	Indeterminate Evergreen, Scrub-Shrub, Intertidal, Estuarine
E2US	Unconsolidated Shore, Intertidal, Estuarine
E2US1	Cobble, Unconsolidated Shore, Intertidal, Estuarine
E2US2	Sand, Unconsolidated Shore, Intertidal, Estuarine
E2US3	Mud, Unconsolidated Shore, Intertidal, Estuarine
E2US4	Organic, Unconsolidated Shore, Intertidal, Estuarine
L	Wetlands and deepwater habitats that are 1) situated in a topographic depression or a dammed river channel AND 2) lacks trees, shrubs, persistent emergents, emergent mosses or lichens with greater than 30% areal coverage AND 3) exceeds 8 ha (20 acres).
L1	Limnetic, Lacustrine
L1AB	Aquatic Bed, Limnetic, Lacustrine
L1AB1	Algal, Aquatic Bed, Limnetic, Lacustrine
L1AB2	Aquatic Moss, Aquatic Bed, Limnetic, Lacustrine
L1AB3	Rooted Vascular, Aquatic Bed, Limnetic, Lacustrine
L1AB4	Floating Vascular, Aquatic Bed, Limnetic, Lacustrine
L1AB5	Unknown Submergent, Aquatic Bed, Limnetic, Lacustrine
L1AB6	Unknown Surface, Aquatic Bed, Limnetic, Lacustrine
L1OW	Open Water/Unknown Bottom, Limnetic, Lacustrine (Used On Older Maps)
L1RB	Rock Bottom, Limnetic, Lacustrine
L1RB1	Bedrock, Rock Bottom, Limnetic, Lacustrine
L1RB2	Rubble, Rock Bottom, Limnetic, Lacustrine
L1UB	Unconsolidated Bottom, Limnetic, Lacustrine
L1UB1	Cobble-Gravel, Unconsolidated Bottom, Limnetic, Lacustrine
L1UB2	Sand, Unconsolidated Bottom, Limnetic, Lacustrine
L1UB3	Mud, Unconsolidated Bottom, Limnetic, Lacustrine
L1UB4	Organic, Unconsolidated Bottom, Limnetic, Lacustrine
L2	Littoral, Lacustrine
L2AB	Aquatic Bed, Littoral, Lacustrine
L2AB1	Algal, Aquatic Bed, Littoral, Lacustrine
L2AB2	Aquatic Moss, Aquatic Bed, Littoral, Lacustrine
L2AB3	Rooted Vascular, Aquatic Bed, Littoral, Lacustrine
L2AB4	Floating Vascular, Aquatic Bed, Littoral, Lacustrine
L2AB5	Unknown Submergent, Aquatic Bed, Littoral, Lacustrine
L2AB6	Unknown Surface, Aquatic Bed, Littoral, Lacustrine
L2EM	Emergent, Littoral, Lacustrine
L2EM2	Nonpersistent, Emergent, Littoral, Lacustrine
L2OW	Open Water/Unknown Bottom, Littoral, Lacustrine
L2RB	Rock Bottom, Littoral, Lacustrine
L2RB1	Bedrock, Rock Bottom, Littoral, Lacustrine
L2RB2	Rubble, Rock Bottom, Littoral, Lacustrine

DOMAIN TABLE NAME: CowardinType	
ATTRIBUTE NAME: cowardin	
L2RS	Rocky Shore, Littoral, Lacustrine
L2RS1	Bedrock, Rocky Shore, Littoral, Lacustrine
L2RS2	Rubble, Rocky Shore, Littoral, Lacustrine
L2UB	Unconsolidated Bottom, Littoral, Lacustrine
L2UB1	Cobble-Gravel, Unconsolidated Bottom, Littoral, Lacustrine
L2UB2	Sand, Unconsolidated Bottom, Littoral, Lacustrine
L2UB3	Mud, Unconsolidated Bottom, Littoral, Lacustrine
L2UB4	Organic, Unconsolidated Bottom, Littoral, Lacustrine
L2US	Unconsolidated Shore, Littoral, Lacustrine
L2US1	Cobble-Gravel, Unconsolidated Shore, Littoral, Lacustrine
L2US2	Sand, Unconsolidated Shore, Littoral, Lacustrine
L2US3	Mud, Unconsolidated Shore, Littoral, Lacustrine
L2US4	Organic, Unconsolidated Shore, Littoral, Lacustrine
L2US5	Vegetated, Unconsolidated Shore, Littoral, Lacustrine
M	The open ocean overlying the continental shelf and its associated high-energy coastline.
M1	Subtidal, Marine
M1AB	Aquatic Bed, Subtidal, Marine
M1AB1	Algal, Aquatic Bed, Subtidal, Marine
M1AB3	Rooted Vascular, Aquatic Bed, Subtidal, Marine
M1AB5	Unknown Submergent, Aquatic Bed, Subtidal, Marine
M1OW	Open Water, Subtidal, Marine (Used On Older Maps)
M1RB	Rock Bottom, Subtidal, Marine
M1RB1	Bedrock, Rock Bottom, Subtidal, Marine
M1RB2	Rubble, Rock Bottom, Subtidal, Marine
M1RF	Reef, Subtidal, Marine
M1RF1	Coral, Reef, Subtidal, Marine
M1RF3	Worm, Reef, Subtidal, Marine
M1UB	Unconsolidated Bottom, Subtidal, Marine
M1UB1	Cobble-Gravel, Unconsolidated, Subtidal, Marine
M1UB2	Sand, Unconsolidated Bottom, Subtidal, Marine
M1UB3	Mud, Unconsolidated Bottom, Subtidal, Marine
M1UB4	Organic, Unconsolidated Bottom, Subtidal, Marine
M2	Intertidal, Marine
M2AB	Aquatic Bed, Intertidal, Marine
M2AB1	Algal, Aquatic Bed, Intertidal, Marine
M2AB3	Rooted Vascular, Aquatic Bed, Intertidal, Marine
M2AB5	Unknown Submergent, Aquatic Bed, Intertidal, Marine
M2RF	Reef, Intertidal, Marine
M2RF1	Coral, Reef, Intertidal, Marine
M2RF3	Worm, Reef, Intertidal, Marine
M2RS	Rocky Shore, Intertidal, Marine
M2RS1	Bedrock, Rocky Shore, Intertidal, Marine
M2RS2	Rubble, Rocky Shore, Intertidal, Marine
M2US	Unconsolidated Shore, Intertidal, Marine
M2US1	Cobble-Gravel, Unconsolidated Shore, Intertidal, Marine
M2US2	Sand, Unconsolidated Shore, Intertidal, Marine
M2US3	Mud, Unconsolidated Shore, Intertidal, Marine
M2US4	Organic, Unconsolidated Shore, Intertidal, Marine
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.

DOMAIN TABLE NAME: CowardinType	
ATTRIBUTE NAME: cowardin	
P	Includes all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5%.
PAB	Aquatic Bed, Palustrine
PAB1	Algal, Aquatic Bed, Palustrine
PAB2	Aquatic Moss, Aquatic Bed, Palustrine
PAB3	Rooted Vascular, Aquatic Bed, Palustrine
PAB4	Floating Vascular, Aquatic Bed, Palustrine
PAB5	Unknown Submergent, Aquatic Bed, Palustrine
PAB6	Unknown Surface, Aquatic Bed, Palustrine
PEM	Emergent, Palustrine
PEM1	Persistent, Emergent, Palustrine
PEM2	Nonpersistent, Emergent, Palustrine
PFO	Forested, Palustrine
PFO1	Broad-Leaved Deciduous, Forested, Palustrine
PFO2	Needle-Leaved Deciduous, Forested, Palustrine
PFO3	Broad-Leaved Evergreen, Forested, Palustrine
PFO4	Needle-Leaved Evergreen, Forested, Palustrine
PFO5	Dead, Forested, Palustrine
PFO6	Indeterminate Deciduous, Forested, Palustrine
PFO7	Indeterminate Evergreen, Forested, Palustrine
PML	Moss-Lichen, Palustrine
PML1	Moss, Moss-Lichen, Palustrine
PML2	Lichen, Moss-Lichen, Palustrine
POW	Palustrine, Open Water (Used On Older Maps)
PRB	Rock Bottom, Palustrine
PRB1	Bedrock, Rock Bottom, Palustrine
PRB2	Rubble, Rock Bottom, Palustrine
PSS	Scrub-Shrub, Palustrine
PSS1	Broad-Leaved Deciduous, Scrub-Shrub, Palustrine
PSS2	Needle-Leaved Deciduous, Scrub-Shrub, Palustrine
PSS3	Broad-Leaved Evergreen, Scrub-Shrub, Palustrine
PSS4	Needle-Leaved Evergreen, Scrub-Shrub, Palustrine
PSS5	Dead, Scrub-Shrub, Palustrine
PSS6	Indeterminate Deciduous, Scrub-Shrub, Palustrine
PSS7	Indeterminate Evergreen, Scrub-Shrub, Palustrine
PUB	Unconsolidated Bottom, Palustrine
PUB1	Cobble-Gravel, Unconsolidated Bottom, Palustrine
PUB2	Sand, Unconsolidated Bottom, Palustrine
PUB3	Mud, Unconsolidated Bottom, Palustrine
PUB4	Organic, Unconsolidated Bottom, Palustrine
PUS	Unconsolidated Shore, Palustrine
PUS1	Cobble-Gravel, Unconsolidated Shore, Palustrine
PUS2	Sand, Unconsolidated Shore, Palustrine
PUS3	Mud, Unconsolidated Shore, Palustrine
PUS4	Organic, Unconsolidated Shore, Palustrine
PUS5	Vegetated, Unconsolidated Shore, Palustrine
R	Wetlands and deepwater habitats contained within a channel, with two exceptions: (1) wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens, and (2) habitats with water containing ocean-derived salts in excess of 0.5%.
R1	Tidal, Riverine
R1AB	Aquatic Bed, Tidal, Riverine
R1AB1	Algal, Aquatic Bed, Tidal, Riverine

DOMAIN TABLE NAME: CowardinType	
ATTRIBUTE NAME: cowardin	
R1AB2	Aquatic Moss, Aquatic Bed, Tidal, Riverine
R1AB3	Rooted Vascular, Aquatic Bed, Tidal, Riverine
R1AB4	Floating Vascular, Aquatic Bed, Tidal, Riverine
R1AB5	Unknown Submergent, Aquatic Bed, Tidal, Riverine
R1AB6	Unknown Surface, Aquatic Bed, Tidal, Riverine
R1EM	Emergent, Tidal, Riverine
R1EM2	Nonpersistent, Emergent, Tidal, Riverine
R1RB	Rock Bottom, Tidal, Riverine
R1RB1	Bedrock, Rock Bottom, Tidal, Riverine
R1RB2	Rubble, Rock Bottom, Tidal, Riverine
R1RS	Rocky Shore, Tidal, Riverine
R1RS1	Bedrock, Rocky Shore, Tidal, Riverine
R1RS2	Rubble, Rocky Shore, Tidal, Riverine
R1SB	Streambed, Tidal, Riverine
R1SB1	Bedrock, Streambed, Tidal, Riverine
R1SB2	Rubble, Streambed, Tidal, Riverine
R1SB3	Cobble-Gravel, Streambed, Tidal, Riverine
R1SB4	Sand, Streambed, Tidal, Riverine
R1SB5	Mud, Streambed, Tidal, Riverine
R1SB6	Organic, Streambed, Tidal, Riverine
R1SB7	Vegetated, Streambed, Tidal, Riverine
R1UB	Unconsolidated Bottom, Tidal, Riverine
R1UB1	Cobble-Gravel, Unconsolidated Bottom, Tidal, Riverine
R1UB2	Sand, Unconsolidated Bottom, Tidal, Riverine
R1UB3	Mud, Unconsolidated Bottom, Tidal, Riverine
R1UB4	Organic, Unconsolidated Bottom, Tidal, Riverine
R1US	Unconsolidated Shore, Tidal, Riverine
R1US1	Cobble-Gravel, Unconsolidated Shore, Tidal, Riverine
R1US2	Sand, Unconsolidated Shore, Tidal, Riverine
R1US3	Mud, Unconsolidated Shore, Tidal, Riverine
R1US4	Organic, Unconsolidated Shore, Tidal, Riverine
R1US5	Vegetated, Unconsolidated Shore, Tidal, Riverine
R2	Lower Perennial, Riverine
R2AB	Aquatic Bed, Lower Perennial, Riverine
R2AB1	Algal, Aquatic Bed, Lower Perennial, Riverine
R2AB2	Aquatic Moss, Aquatic Bed, Lower Perennial, Riverine
R2AB3	Rooted Vascular, Aquatic Bed, Lower Perennial, Riverine
R2AB4	Floating Vascular, Aquatic Bed, Lower Perennial, Riverine
R2AB5	Unknown Submergent, Aquatic Bed, Lower Perennial, Riverine
R2AB6	Unknown Surface, Aquatic Bed, Lower Perennial, Riverine
R2EM	Emergent, Lower Perennial, Riverine
R2EM2	Nonpersistent, Emergent, Lower Perennial, Riverine
R2RB	Rock Bottom, Lower Perennial, Riverine
R2RB1	Bedrock, Rock Bottom, Lower Perennial, Riverine
R2RB2	Rubble, Rock Bottom, Lower Perennial, Riverine
R2RS	Rocky Shore, Lower Perennial, Riverine
R2RS1	Bedrock, Rocky Shore, Lower Perennial, Riverine
R2RS2	Rubble, Rocky Shore, Lower Perennial, Riverine
R2UB	Unconsolidated Bottom, Lower Perennial, Riverine
R2UB1	Cobble-Gravel, Unconsolidated Bottom, Lower Perennial, Riverine
R2UB2	Sand, Unconsolidated Bottom, Lower Perennial, Riverine
R2UB3	Mud, Unconsolidated Bottom, Lower Perennial, Riverine
R2UB4	Organic, Unconsolidated Bottom, Lower Perennial, Riverine

DOMAIN TABLE NAME: CowardinType	
ATTRIBUTE NAME: cowardin	
R2US	Unconsolidated Shore, Lower Perennial, Riverine
R2US1	Cobble-Gravel, Unconsolidated Shore, Lower Perennial, Riverine
R2US2	Sand, Unconsolidated Shore, Lower Perennial, Riverine
R2US3	Mud, Unconsolidated Shore, Lower Perennial, Riverine
R2US4	Organic, Unconsolidated Shore, Lower Perennial, Riverine
R2US5	Vegetated, Unconsolidated Shore, Lower Perennial, Riverine
R3	Upper Perennial, Riverine
R3AB	Aquatic Bed, Upper Perennial, Riverine
R3AB1	Algal, Aquatic Bed, Upper Perennial, Riverine
R3AB2	Aquatic Moss, Aquatic Bed, Upper Perennial, Riverine
R3AB3	Rooted Vascular, Aquatic Bed, Upper Perennial, Riverine
R3AB4	Floating Vascular, Aquatic Bed, Upper Perennial, Riverine
R3AB5	Unknown Submergent, Aquatic Bed, Upper Perennial, Riverine
R3AB6	Unknown Surface, Aquatic Bed, Upper Perennial, Riverine
R3EM	Emergent, Upper Perennial, Riverine
R3EM2	Nonpersistent, Emergent, Upper Perennial, Riverine
R3RB	Rock Bottom, Upper Perennial, Riverine
R3RB1	Bedrock, Rock Bottom, Upper Perennial, Riverine
R3RB2	Rubble, Rock Bottom, Upper Perennial, Riverine
R3RS	Rocky Shore, Upper Perennial, Riverine
R3RS1	Bedrock, Rocky Shore, Upper Perennial, Riverine
R3RS2	Rubble, Rocky Shore, Upper Perennial, Riverine
R3UB	Unconsolidated Bottom, Upper Perennial, Riverine
R3UB1	Cobble-Gravel, Unconsolidated Bottom, Upper Perennial, Riverine
R3UB2	Sand, Unconsolidated Bottom, Upper Perennial, Riverine
R3UB3	Mud, Unconsolidated Bottom, Upper Perennial, Riverine
R3UB4	Organic, Unconsolidated Bottom, Upper Perennial, Riverine
R3US	Unconsolidated Shore, Upper Perennial, Riverine
R3US1	Cobble-Gravel, Unconsolidated Shore, Upper Perennial, Riverine
R3US2	Sand, Unconsolidated Shore, Upper Perennial, Riverine
R3US3	Mud, Unconsolidated Shore, Upper Perennial, Riverine
R3US4	Organic, Unconsolidated Shore, Upper Perennial, Riverine
R3US5	Vegetated, Unconsolidated Shore, Upper Perennial, Riverine
R4	Intermittent, Riverine
R4SB	Streambed, Intermittent, Riverine
R4SB1	Bedrock, Streambed, Intermittent, Riverine
R4SB2	Rubble, Streambed, Intermittent, Riverine
R4SB3	Cobble-Gravel, Streambed, Intermittent, Riverine
R4SB4	Sand, Streambed, Intermittent, Riverine
R4SB5	Mud, Streambed, Intermittent, Riverine
R4SB6	Organic, Streambed, Intermittent, Riverine
R4SB7	Vegetated, Streambed, Intermittent, Riverine
R5	Unknown Perennial, Riverine
R5UB	Unconsolidated Bottom, Unknown Perennial, Riverine
R5UB1	Cobble-Gravel, Unconsolidated Bottom, Unknown Perennial, Riverine
R5UB2	Sand, Unconsolidated Bottom, Unknown Perennial, Riverine
R5UB3	Mud, Unconsolidated Bottom, Unknown Perennial, Riverine
R5UB4	Organic, Unconsolidated Bottom, Unknown Perennial, Riverine
RP	Riparian - Plant communities contiguous to and affected by surface and subsurface hydrologic features of perennial or intermittent lotic and lentic water bodies (rivers, streams, lakes, or drainage ways).
RP1	Lotic, Riparian
RP1EM	Emergent, Lotic, Riparian

DOMAIN TABLE NAME: CowardinType	
ATTRIBUTE NAME: cowardin	
RP1FO	Forested, Lotic, Riparian
RP1FO5	Dead, Forested, Lotic, Riparian
RP1FO6	Deciduous, Forested, Lotic, Riparian
RP1FO7	Evergreen, Forested, Lotic, Riparian
RP1FO8	Mixed, Forested, Lotic, Riparian
RP1SS	Scrub-Shrub, Lotic, Riparian
RP1SS5	Dead, Scrub-Shrub, Lotic, Riparian
RP1SS6	Deciduous, Scrub-Shrub, Lotic, Riparian
RP1SS7	Evergreen, Scrub-Shrub, Lotic, Riparian
RP1SS8	Mixed, Scrub-Shrub, Lotic, Riparian
RP2	Lentic, Riparian
RP2EM	Emergent, Lentic, Riparian
RP2FO	Forested, Lentic Riparian
RP2FO5	Dead, Forested, Lentic, Riparian
RP2FO6	Deciduous, Forested, Lentic, Riparian
RP2FO7	Evergreen, Forested, Lentic, Riparian
RP2FO8	Mixed, Forested, Lentic, Riparian
RP2SS	Scrub-Shrub, Lentic, Riparian
RP2SS5	Dead, Scrub-Shrub, Lentic, Riparian
RP2SS6	Deciduous, Scrub-Shrub, Lentic, Riparian
RP2SS7	Evergreen, Scrub-Shrub, Lentic, Riparian
RP2SS8	Mixed, Scrub-Shrub, Lentic, Riparian
TBD	To Be Determined: A value is required but the value has yet to be determined.
U	Upland - Not A Wetland Or Deepwater Habitat Of The United States As Described By Cowardin

DOMAIN TABLE NAME: Hydrogeomorphology	
ATTRIBUTE NAME: hydrogeomorphology	
CODED DOMAIN	DEFINITION
depress	Depressional is characterized by a water source consisting of return flow from groundwater and interflow with primarily vertical hydrodynamics.
estuarineFringe	The water source of the estuarine fringe consists of overbank flow from estuaries, with bidirectional and horizontal hydrodynamics being dominant.
lacustrineFringe	A Lacustrine fringe has a dominant water source of lake overbank flow, and the dominant hydrodynamics are bidirectional and horizontal.
mineralSoilFlats	Mineral soil flats have a water source of precipitation and vertical hydrodynamics are dominant.
NA	Not Applicable: No value exists.
organicSoilFlats	Organic soil flats have precipitation as the water source and its dominant hydrodynamic is vertical.
other	Other. Must be described in the sdsFeatureDescription attribute.
riverine	Riverine is characterized by a water source of overbank flow from a channel and hydrodynamics which are predominantly unidirectional and horizontal.
slope	The Slope wetland class is characterized by a water source of return flow from groundwater with principally unidirectional and horizontal hydrodynamics.
TBD	To Be Determined: A value is required but the value has yet to be determined.

DOMAIN TABLE NAME: JurisdictionalFeature	
ATTRIBUTE NAME: jurisdictionalFeature	
CODED DOMAIN	DEFINITION
delineate	Delineation only.
isolated	Isolated (interstate or intrastate) waters, including isolated wetlands.
NA	Not Applicable: No value exists.
nonRPW	Non-RPWs that flow directly or indirectly into TNWs.
nonRPWW	Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.
other	Other. Must be described in the sdsFeatureDescription attribute.
RPW	Relatively Permanent Waters (RPWs) that flow directly or indirectly into TNWs.
RPWWD	Wetlands directly abutting RPWs that flow directly or indirectly into TNWs.
RPWWN	Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs.
TBD	To Be Determined: A value is required but the value has yet to be determined.
TNW	Traditional Navigable Waters (TNW), including territorial seas.
TNWRPW	Tributary consisting of both RPWs and non-RPWs.
TNWW	Wetlands adjacent to TNWs.
upland	Uplands.

DOMAIN TABLE NAME: NutrientClass	
ATTRIBUTE NAME: nutrientClass	
CODED DOMAIN	DEFINITION
eutrophic	Eutrophic (High Nutrient, Low Oxygen)
mesotrophic	Mesotrophic (Medium Nutrient And Oxygen)
NA	Not Applicable: No value exists.
oligotrophic	Oligotrophic (Low Nutrient, High Oxygen)
other	Other. Must be described in the sdsFeatureDescription attribute.
TBD	To Be Determined: A value is required but the value has yet to be determined.
unknown	The nutrient class is unknown.

DOMAIN TABLE NAME: StatusCOE	
ATTRIBUTE NAME: statusCOE	
CODED DOMAIN	DEFINITION
jurisdictional	Under the jurisdiction of the US Army Corps of Engineers.
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
nonJurisdictional	Meets the description of a wetland in the "1987 Corps of Engineers Wetland Delineation Manual" but is not under the jurisdiction of the USACE.
TBD	To Be Determined: A value is required but the value has yet to be determined.
unknown	Unknown.

DOMAIN TABLE NAME: WetlandDescriptor	
ATTRIBUTE NAME: wetlandDescriptor	
CODED DOMAIN	DEFINITION
bogHeath	Temperate/Cold Scrub
mangroveSwamp	Mangrove Swamp
marshBrackWtr	Marsh - Brackishwater
marshFreshWtr	Marsh - Freshwater

DOMAIN TABLE NAME: WetlandDescriptor	
ATTRIBUTE NAME: wetlandDescriptor	
marshSaltyWtr	Marsh - Saltwater
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
swampBrackWtr	Swamp - Brackishwater
swampFreshWtr	Swamp - Freshwater
swampSaltyWtr	Swamp - Saltwater
TBD	To Be Determined: A value is required but the value has yet to be determined..
tidalMudFlt	Tidal Mud Flats
tidalSltMrsh	Tidal Saltwater Marsh
unknown	The wetland descriptor is unknown.

DOMAIN TABLE NAME: WtrRegimeCOE	
ATTRIBUTE NAME: wtrRegimeCOE	
CODED DOMAIN	DEFINITION
irregInunSat	Irregularly Inundated/Saturated
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
regInunSat	Regularly Inundated/Saturated
seaInunSat	Seasonally Inundated/Saturated
semiPermInun	Semi-permanently/Nearly Permanently Inundated
TBD	To Be Determined: A value is required but the value has yet to be determined.

March 01, 2018

Data Layer Specifications for:

Wildland Urban Interface

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	WildlandUrbanInterface Area_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	WildlandUrbanInterface Area_20160623	• Updated "Positional Accuracy" section.
3/9/2017	WildlandUrbanInterface Area_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection.
6/8/2017	WildlandUrbanInterface Area_20170608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	WildlandUrbanInterface _20180301	• Updated Definition, Data Layer Details, Geometry/Topology, Sources and Source Selection, Positional Accuracy, Attributes, and Business Tables sections. • Added Appendix 1 for domain table.

This Data Layer Specification (DLS) defines geospatial data specifications for the WildlandUrbanInterface_A data layer implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

The area or zone where structures and other human development meet or intermix with undeveloped wildland or vegetative fuels. There are two main categories of communities that meet this description: Interface and Intermix Community.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	WildlandUrbanInterface_A
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	None
Geometry Type:	Polygon
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Wildland urban interface areas are represented as closed polygons depicting the outermost extent of the area. • Each individual wildland urban interface area is represented by a single area feature.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996 • Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003

Implementing Program(s):	Driver(s):
	• USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009

Geometry/Topology

Polygon Features:
Polygons must not overlap.
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: data available from the Texas A&M Forest Service Wildfire Risk Assessment Portal or the Southern Group of State Foresters Wildfire Risk Assessment Portal, planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **12 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the WildlandUrbanInterface_A layer will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the WildlandUrbanInterface_A data layer.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	wildlandUrbanInterIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Wildland Urban Interface area.	String (80)	SDSFIE
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Wildland Urban Interface area that is not already included in attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	areaSizeUOM	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize	The value of the measured perimeter.	Recorded to the 1/1000 of a foot.	Double	AF
	perimeterSizeUOM	The perimeter unit of measure.	foot	String (25)	AF
	latitude	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
D	wuiCategory	The type of WUI category the feature represents.	**For a list of domain values, see WUIcategory in Appendix 1.**	String (10)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length	ESRI-generated field.			ESRI
	SHAPE_Area	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business table for WildlandUrbanInterface_A is:

Table Name	Identifier	Source
nr_WildlandUrbanInterface	wildlandUrbanInterIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Wildland Urban Interface

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: WUIcategory	
ATTRIBUTE NAME: wuiCategory	
CODED DOMAIN	DEFINITION
interface	The Interface Community exists where structures directly abut wildland fuels. There is a clear line of demarcation between residential, business, and public structures and wildland fuels. The development density for an interface community is usually 3 or more structures per acre, with shared municipal services.
intermix	The Intermix Community exists where structures are scattered throughout a wildland area. There is no clear line of demarcation; wildland fuels are continuous outside of and within the developed area. The development density in the intermix ranges from structures very close together to one structure per 40 acres.
NA	Not Applicable: No value exists.
TBD	To Be Determined: A value is required but the value has yet to be determined.

March 01, 2018

Data Layer Specifications for:

Wildlife Management Area

United States Air Force
Environmental GIS Program

Revision History

Date:	Version:	Description of Revision:
12/12/2016	WildlifeManagement Area_20161212	• Removed "the vertical datum shall be Mean Sea Level (MSL_Height)," from the Coordinate System section.
6/23/2016	WildlifeManagement Area_20160623	• Added WildlifeMgtArea_P representation under "Data Layer Details" section. • Added WildlifeMgtArea_P topology under "Geometry/ Topology" section. • Updated "Positional Accuracy" section.
3/9/2017	WildlifeManagement Area_20170310	• Updated all Air Force Standard attribute fields to match August 6, 2015 GeoBase Data Dictionary. • Updated "Positional Accuracy" section. • Updated "For Empty Text Values" subsection. • Updated the "Representation" subsection of the "Data Layer Details" section. • Updated the "Point Features" subsection of the "Geometry/Topology" section.
6/8/2017	WildlifeManagement Area_201700608	• Updated the data layer update frequency in the "Sources and Source Selection" section. • Updated "Data Steward POC"
3/1/2018	WildlifeManagement Area_20180301	• Updated Data Layer Details, Geometry/Topology, Positional Accuracy, Attributes, and Business Tables sections. • Updated domain table in Appendix 1.

Data Layer Specification – Wildlife Management Area

This Data Layer Specification (DLS) defines geospatial data specifications for the WildlifeMgtArea_A and WildlifeMgtArea_P data layers implemented under the United States Air Force Civil Engineer Center (AFCEC) Environmental GIS Program.

Definition

Areas where specific actions have been taken to manage wildlife populations such as, but not limited to: food plots, salt licks, guzzlers, government wildlife management areas (if applicable), etc.

Data Layer Details

SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Class Name:	WildlifeMgtArea_A WildlifeMgtArea_P
SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Feature Dataset:	environmentalNaturalResources
Previous Layer Names:	gov_wildlife_management_area LandManagementZone
Geometry Type:	Polygon, Point
Data Steward Organization (Program Area):	Program Area: Natural Resources
Data Steward POC:	AFCEC/CZTQ Air Force Natural Resources Program SME
Representation:	• Wildlife management areas are represented as closed polygons depicting the outermost extent of the area. • Each individual wildlife management area is represented by a single area feature. • All points developed from areas shall represent the centroid of wildlife management areas.

Implementing Authorities and Regulations

Implementing Program(s):	Driver(s):
HQ AF/A7CAN	• AFI32-10112, Installation Geospatial Information and Services (IGI&S), 19 October 2007 • AFI32-7062, Comprehensive Planning, 27 June 2013 • AFI32-7064, Integrated Natural Resources Management, 18 November 2014 • AFI32-7065, Cultural Resources Management Program, 19 November 2014 • AFH32-9007, Managing Air Force Real Property, 1 May 1999 • AFI32-1084, Facility Requirements; Chapter 11-16, 1 September 1996

Implementing Program(s):	Driver(s):
	• Garrison Mapping Concept of Operations (CONOPS) Version 2.0, 12 June 2003 • USAF Installation Geospatial Information and Services (IGI&S) Data Model, 15 December 2009 • Real Property Inventory Management (RPIM), v2.0 • RPIM 3.0, extracted 4/2009 • 10 USC 2671 • PL 86 - 337 (Hunting, Fishing, and Trapping)

Geometry/Topology

Polygon Features:
Polygons must not overlap.
Polygons must be single part features.
Polygons must be larger than cluster tolerance (.001 meter).
Point Features:
If a point represents a polygon feature, then the point must fall properly inside of the coinciding polygon.

Sources and Source Selection

Information for this geospatial data layer must be obtained and/or validated at the installation level. The Data Steward will have overall responsibility for completing and updating the spatial, attribute and metadata features of this geospatial data layer in accordance with this DLS. The data layer will be updated on an annual (yearly) basis at a minimum. More frequent updates may be performed if new data has been developed prior to the annual update. Additionally a bi-annual (every 6 months) Quality Control (QC) check will be performed on all data housed in GeoBase. Updates and QC will be performed on any new data prior to uploading it to GeoBase.

Possible sources for the data layer are: planimetric data extracted from stereo or ortho-imagery, differential GPS survey, conventional surveys using a survey grade GPS, computer aided design (CAD), imagery, hardcopy documents, attribute or tabular data.

Positional Accuracy

Horizontal Accuracy: Data developed within this layer should be within **12 meters** of the actual location at the **95% confidence level**. Accuracy reported at the 95% confidence level means that 95% of the positions in the dataset would have an error with respect to true ground position that is equal to or smaller than the stated accuracy threshold value.

Vertical Accuracy: Not Applicable.

Note: Horizontal accuracy should be recorded within the "Quality" element of the metadata. Where positional accuracy cannot be determined, this section should be populated with "Not Recorded" and a brief statement explaining why it cannot be determined should be provided.

Coordinate System

The bounding coordinates to capture the north, south, east, and west most spatial extents of the WildlifeMgtArea_A and WildlifeMgtArea_P layers will be based on the Universal Transverse Mercator (UTM) Zone, meters. Datasets within the database should have a spatial reference with a precision of 1000. The horizontal datum to be utilized for all data is World Geodetic System 1984 (WGS84), and the projection is the Universal Transverse Mercator (UTM) zone for the installation.

Attributes

The following table lists the attributes for the WildlifeMgtArea_A and WildlifeMgtArea_P data layers.

SDSFIE 3.1.1 Air Force AFCEC/CZ Adaptation Attributes

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	wildlifeMgtAreaIDPK	The unique identifier for each feature in the feature class. The value should be calculated as follows: INST_SITE00010000001, where INST is the 4 character installation ID, SITE0001 is the 4 character 4 digit site ID, followed by a 7 digit unique number starting with 0000001.		String (20)	AF
	sdsID	A unique identifier for all features and objects in the SDSFIE.		GUID	SDSFIE
	sdsFeatureName	The common name of the feature.	Any common name used to describe the Wildlife Management Area.	String (80)	SDSFIE

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	sdsFeatureDescription	A narrative describing the feature.	Any descriptive information about the Wildlife Management Area that is not already included in the attribute table.	String (255)	SDSFIE
	sdsMetadataID	The foreign key to a metadata record.		String (80)	SDSFIE
	areaSize *(Polygon geometry)*	The value of the measured area.	Recorded to the 1/1000 of an acre.	Double	AF
D	areaSizeUOM *(Polygon geometry)*	The unit of measure for the area of the calculated area.	acre	String (20)	AF
	perimeterSize *(Polygon geometry)*	The value of the measured perimeter.	Recorded to the 1/1000 of a foot	Double	AF
D	perimeterSizeUOM *(Polygon geometry)*	The perimeter unit of measure.	foot	String (25)	AF
	latitude *(Polygon geometry)*	The latitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	longitude *(Polygon geometry)*	The longitude coordinate of the "centroid" of the polygon in decimal degrees.	decimal degrees	Double	AF
	MGRScentroid *(Polygon geometry)*	Military Grid Reference System for the centerpoint of the (area) critical infrastructure. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	latitude *(Point geometry)*	The latitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF
	longitude *(Point geometry)*	The longitude coordinate in decimal degrees to sub foot precision.	decimal degrees	Double	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	MGRS *(Point geometry)*	Military Grid Reference System for the coordinate point. MGRS is calculated from the Latitude and Longitude values.		String (20)	AF
	elevation *(Point geometry)*	The elevation of the subject item in relation to a datum.		Double	AF
D	elevationUOM *(Point geometry)*	The unit of measure for elevation dimension.	foot	String (25)	AF
	dateDesig	Date the area was designated. Format for date is YYYYMMDD (i.e., September 15, 1994 = 19940915).		Integer (Long)	AF
D	mgtLevel	Discriminator. The governmental level of management for the area.	**For a list of domain values, see GovMgt in Appendix 1.**	String (10)	AF
	restriction	Any restrictions associated with the management area, including special rules or notes.		String (240)	AF
	restrictPeriod	Range of dates or description of restriction period.		String (30)	AF
D	installationID	Installation identifier assigned to the Installation by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (16)	AF
D	installationName	The actual name of the installation that is associated with the installation ID defined by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (100)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	siteID	Installation identifier assigned to the Site by real property.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (36)	AF
D	majorCommand	Service Major Command of the installation.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
D	realPropertySiteUniqueID	The unique identifier (UID) used to permanently identify a Site. This UID will be a Real Property Site Unique Identifier (RPSUID). Source: RPIM, v3.0, extracted 4/2009.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	wacInnrCode	The NGA World Airfield Identifier.	The NGA World Airfield Identifier Code: List of codes can be accessed at the following site: https://www.extranet.nga.mil/	String (10)	AF
	dataSteward	The data steward is the entity that oversees the data content, context, and associated business rules of the feature class.		String (20)	AF
D	country	The country code is an abbreviation for the country that owns the specific feature class.	**For the list of domain values see ISO ALPHA-2 Code / FIPS 10-4 standard.**	String (5)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
D	owner	The military service, country, government that owns that specific feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (10)	AF
	createDate	Date the feature was originally acquired, created or generated. If the day is unknown, default to the first day of the month. If only the year is known, default to the first day of the year.		Date	AF
	creator	Person who created the feature. Last name of the person and first initial. Example: Jane Smith would be attributed as "SmithJ."		String (30)	AF
D	dataCollection	Coded domain value which identifies the collection methodology used to calculate, create or record the feature.	**For the list of domain values see the Air Force GeoBase Data Working Group AF Adaptation 3.1.1 Data Dictionary.**	String (20)	AF
	dataSource	Identifies the installation office, government agency, contractor or vendor that acquired, created or generated the feature.		String (100)	AF
	editor	Contractor or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.		String (30)	AF

Domain (D)	Attribute Name	Definition	Allowed Values	Data Type (Length)	Advocate
	dateEdited	Date that the feature was edited from its original or previous value.		Date	AF
	metaNotes	Describes other details about what was created or edited and why.		String (255)	AF
	mediaLink	Used to link the record to associated multimedia records that reference data such as imagery, video, audio, scanned documents, drawings, and other digital media.		String (255)	AF
	narrative	Any additional comments or notes.		String (255)	AF
	GEOLOC	JOPES geolocator code.		String (4)	AF
	SHAPE_Length (Polygon geometry)	ESRI-generated field.			ESRI
	SHAPE_Area (Polygon geometry)	ESRI-generated field.			ESRI

Business Tables

The business table will contain information that goes beyond the attribute table information, which will be related to the data layer using a Feature Key or other Identifier found in both the attribute table and business table. Additional attributes to be determined by the Program Area Manager. The business tables for WildlifeMgtArea_A and WildlifeMgtArea_P are:

Table Name	Identifier	Source
nr_WildlifeMgtArea_A	wildlifeMgtAreaIDFK	Program Area Manager
nr_WildlifeMgtArea_P	wildlifeMgtAreaIDFK	Program Area Manager

"No Data" Value in Attributes

Directions for populating required attributes for which no data/information is available. Use the appropriate values below:

For Empty Text Values	
TBD	(To Be Determined) – A value is required but the value has yet to be determined.
unknown	The value cannot be reasonably determined.
NA	(Not Applicable) No value exists.

For Empty Integer Values	
99999	(To Be Determined) – A value is required but the value has yet to be determined.
88888	The value cannot be reasonably determined.
77777	(Not Applicable) No value exists.

For Empty Date Values	
9/9/9999	(To Be Determined) – A value is required but the value has yet to be determined.
8/8/8888	The value cannot be reasonably determined.
7/7/7777	(Not Applicable) No value exists.

Extent

The data layer's extent will be to the installation boundary, unless otherwise noted by the program area manager.

Metadata

Complete Federal Geographic Data Committee (FGDC) compliant metadata for the data layer using the *Procedures for Creating Metadata* document. Update the metadata Lineage section as edits are made or as necessary.

Theme Keywords: Natural Resources, Wildlife Management Area

Appendix 1: SDSFIE 3.1.1 AF AFCEC/CZ Adaptation Attribute Domain Tables

DOMAIN TABLE NAME: GovMgt	
ATTRIBUTE NAME: mgtLevel	
CODED DOMAIN	DEFINITION
city	City Government
county	County Government
federal	Federal Government
local	Local
NA	Not Applicable: No value exists.
other	Other. Must be described in the sdsFeatureDescription attribute.
state	State Government
TBD	To Be Determined: A value is required but the value has yet to be determined.