DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P.O. BOX 17300
FORT WORTH, TX 76102-0300

June 15, 2023

REQUEST FOR STATEMENT OF INTEREST
W9126G-23-2-SOI-3311

This announcement is open to non-federal CESU partners in all CESU regions

Project Title: Understanding Reservoir Sedimentation Sources and Economics in the Kansas River Basin.

A cooperative agreement is being offerred ONLY to members of the Cooperative Ecosystem Studies Units (CESU) Program Region(s) identified above. Award will be made upon mutual agreement and acceptance of the terms and conditions contained in the request for proposal and the of the recipient's CESU Master Agreement. Note the established CESU Program indirect rate is 17.5%.

Responses to this Request for Statements of Interest (RSOI) will be used to identify potential investigators for a project to be funded by the US Army Corps of Engineers (Kansas City District)-Public Assistance to States Program. The work involves comprehensive support of researchers in identifying watershed sources of sediment to reservoirs in the Kansas River Basin and understanding the implications of different economic analysis paradigms for reservoir sedimentation, and USACE support with providing economic input data, and site-visit coordination and support for ground-truthing, all in accordance with 10 U.S.C. § 4001 - Research and Development.

Approximately **$316,000** is expected to be available to support this project, for the 24-month base period. Additional funding may be available for follow-on work in subsequent fiscal years to the successful recipient/awardee.

Additional funding may also be available to the successful recipient for optional tasks and/or follow on work in subsequent years.

NOTE: This project will be awarded under the authority of 10 U.S.C. § 4001 - Research and Development.

Period of Performance. The base period of performance will be twenty-four (24) months from date of award. Three follow-on periods, for 12 months each, are anticipated subject to availability of funds.

Follow-on Periods – Future work available under this agreement (not included in the base award or base funding) may include enhancement to the tool for locating headcuts and other sediment sources, including utilizing additional types of remote sensing data such as the SWOT satellite and/or performing research on headcut speed and volume, integrating the headcut locator with other online geomorphic tools, mapping headcuts and lowhead dams in additional watersheds, performing economic analyses at additional lakes, and presenting the sedimentation results at additional venues.

Description of Anticipated Work: See attached Statement of Objectives

NOTE: At this time we are only requesting that you demonstrate available qualifications and capability for performing similar or same type of work by submitting a Statement of Interest. A full proposal and budget are NOT requested at this time.

Preparation of your Statement of Interest: Provide the following (Maximum length: 2 pages, single-spaced, 12 pt. font):

1. Name, Organization, Cage Code, Unique Entity ID, and Contact Information (Email)
2. Brief Statement of Qualifications (including):

   a. Biographical sketch of the Principal Investigator, to include specific experience and capabilities in areas related to this project's requirements

   b. Relevant past projects and clients with brief descriptions of these projects

   c. Staff, faculty or students available to work on this project and their areas of expertise

   d. Brief description of other capabilities to successfully complete the project: (e.g. equipment, laboratory facilities, greenhouse facilities, field facilities, etc.)

Submission of Your Statement of Interest

1. Statements of Interest are due by 5:00 P.M., Central Time, on **157July 2023**.

2. Submit your Statement of Interest via e-mail attachments or direct questions to:

   Maria Lopez
   Grants Specialist
   USACE, Fort Worth District
   Email: **Maria.E.Lopez@usace.army.mil**
   Office: 817-886-1881
   Brian Hesford
   Project Manager
   USACE, Fort Worth District
   Email: **Brian.D.Hesford@usace.army.mil**
   Office: 402-200-8268

Review of Statements Received: All statements of interest received from a member of the CESU Region(s) identified above will be evaluated by a board comprised of one or more people at the receiving installation or activity, who will determine which statement(s) best meet the program objectives: offer the most highly qualified Principal Investigator, have the most relevant experience and the highest capability to successfully meet the program objectives. Submitters whose statements are determined to best meet the program objectives will be invited to submit a full proposal.

Timeline for Review of Statements of Interest: RSOI's are required to be posted on www.Grants.gov for 30 days prior to the Government making a decision and requesting full proposals.

Thank you for your interest in our Cooperative Agreements Program.

AUSTIN.ALICE.MIL Date: 2023.06.15
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ALICE AUSTIN
Contracting Officer

Attachment: Statement of Objectives

STATEMENT OF OBJECTIVES

Understanding Reservoir Sedimentation Sources and Economics in the Kansas River Basin for US Army Corps of Engineers Kansas City District

1.0 PURPOSE

1.1 Sediment accumulation in reservoirs is a national problem. In USACE reservoirs in the Kansas River Basin, sediment accumulation is projected to shrink available multipurpose pool storage by an additional 407,000 ac-ft over the next 100 years. Tuttle Creek, one the largest and most important reservoirs in the Kansas River Basin, is currently 49% full of sediment and is projected to be 75% full of sediment by 2074. Over 40% of the population of Kansas, including the urban areas of Manhattan, Topeka, Lawrence, and Kansas City depend on the flood control and water supply benefits of Tuttle Creek Reservoir and many more utilize the recreational and environmental benefits.

1.2 Kansas City District efforts are underway to pilot innovative dredging technologies to remove sediment from Tuttle Creek Lake. However, prior to making decisions on long-term sediment management, we need to be able to quantify sediment sources and to sensibly compare the economic consequences of sediment load reduction, sediment removal, and the damages and lost benefits of doing nothing. The research in this proposal meets these objectives.

1.3 The Kansas City District is in the final stages of compiling significant information on the recreational, water supply, and flooding impacts of reservoir sedimentation as part of the Kansas River Reservoir Flood and Sediment Study (KRRFSS). This information has not been combined into a single economic indicator of cost vs. benefit for sediment management. A growing number of researchers have indicated that the traditional USACE project economic analysis that heavily discounts future benefits may not be the most applicable to an essentially irreplaceable resource such as a large reservoir. The World Bank, the US Bureau of Reclamation, and various academic researchers have indicated the need for a different economic paradigm for analyzing the economics of reservoir sustainability.

2.0 AUTHORITY

2.1 In agreement with the above stated purpose, the recipient/cooperator agrees to provide the necessary personnel, equipment, and materials required to implement, in part, the USACE Kansas City District objectives pursuant to the authority 10 U.S.C. § 4001 - Research and Development.

2.2 In accordance with section 6305 – Using cooperative agreements of the Federal Grant and Cooperative Agreements Act of 1977 (31 U.S.C. § 6301 et seq.), all CESU projects must carry out a public purpose of support or stimulation, instead of acquiring goods or services for the exclusive direct benefit of the United States Government. Examples of carrying out a public purpose may include, but are not limited to, the following:

- Project results are made available to a wide audience (including nonfederal entities)
- Project results/outputs add to the scientific literature/knowledge base, with applicability and utility beyond the scope of the project footprint/study area
- Academic and other nonfederal partner institutions (and their personnel) gain professional experience, increase knowledge, and develop skills and abilities
- Students benefit from direct interaction with federal scientists, program and technical staff, and field unit managers

2.3 In accordance with section *6305 – Using cooperative agreements* of the *Federal Grant and Cooperative Agreements Act of 1977* (31 U.S.C. § 6301 et seq.), substantial involvement is expected between the Kansas City District and the recipient when carrying out the activity contemplated by the cooperative agreement. The USACE agrees to participate at a national level in support of the Cooperative Ecosystem Studies Units (CESU) program as accepted in the Master Memorandum of Understanding (MOU) for the establishment and continuation of the CESU program Article II 1-4 and Article VI 1-7.

The USACE agrees to provide substantial involvement as directed under Article II (A) of the above listed CESU Master Agreement # to include, but are not limited to, the following:

- The Kansas City District is involved in development of study methodology, data gathering, analysis, and/or report writing
- The Kansas City District actively participates and collaborates in carrying out the project plan of work, reviews and approves activities, helps train or select project staff or trainees
- The Kansas City District incurs in-kind or direct expenditures in carrying out the activities specified in the project agreement. Examples include, but are not limited to, the following:
  - Providing computing services
  - Providing staff time to work on the project

3.0 DESCRIPTION OF OBJECTIVES

I- **Assess the economics of reservoir sedimentation and sustainability at Tuttle**

Creek Lake, Kanopolis Lake, and Perry Lake. Combine economic data from the Kansas River Reservoir Flood and Sediment Study and other existing studies into economic analyses using different methods, including both the USACE standard economic analysis and alternative economic formulations appropriate to reservoir sedimentation and sustainability.

II- **Locate low-head dams and estimate the sediment contribution that failure of these dams would have on downstream reservoirs in Kansas.**

III- **Create an automated method and tool based on remote-sensing data for locating headcuts and apply the method/tool to the Tuttle Creek Lake watershed.**

3.1 Base Period Task 1 (Mandatory): Combine economic data from the KRRFSS and other existing studies into economic analyses using different methods, including both the USACE standard economic analysis and alternative economic formulations appropriate to reservoir sedimentation and sustainability. Perform this analysis at Tuttle Creek Lake, Kanopolis Lake, and Perry Lake. Generate reasonable estimates for any missing data or categories of data. For example, the bed and bank degradation downstream from each dam is known and projections for future degradation are available in the KRRFSS, but the economic implications of that degradation has not been quantified.

3.2 Base Period Task 2 (Mandatory): Propose and defend an economic analysis method and metric for reservoir sediment management at Tuttle Creek Lake, Kanopolis Lake, and Perry Lake. Document the findings in (1) a project report, which will become an appendix in an overall USACE report; (2) a peer-reviewed journal article with appropriate NWK personnel as co-authors; and (3) in-person presentation at the Kansas Governors Water Conference.

3.3 Base Period Task 3 (Mandatory): Create a comprehensive map of the in-line low-head dams in Kansas.

3.4 Base Period Task 4 (Mandatory): Provide an estimate for the sediment load that would result from the failure of the in-line low-head dams. Estimates should be based on remotely sensed data with ground truthing to describe the error and uncertainty in the estimates.

3.5 Base Period Task 5 (Mandatory): Document the findings in (1) a project report, which will become an appendix in an overall USACE report, (2) a peer-reviewed journal article with appropriate NWK personnel as co-authors, and (3) in-person presentation at the Kansas Governors Water Conference.

3.6 Base Period Task 6 (Mandatory): Research methodologies for locating headcuts based on readily-available (i.e. accessible via API) remotely-sensed data and public databases. Either select or combine methods from available literature, or else invent a new method from available remotely-sensed data, to automatically locate headcuts in large watersheds. Method must differentiate between headcuts

and manmade transportation features such as bridges and culverts. Include appropriate ground-truthing of headcut locations in Kansas, and leave all research tools in a useable form that does not require special software to utilize.

3.7 Base Period Task 7 (Mandatory): Document the findings in (1) a project report, which will become an appendix in an overall USACE report, (2) a peer-reviewed journal article with appropriate NWK personnel as co-authors, and (3) in-person presentation at the Kansas Governors Water Conference.

3.8 Follow-on Period Tasks: Future work available under this agreement (not included in the base award or base funding) may include enhancement to the methodology for locating headcuts and other sediment sources, including utilizing additional types of remote sensing data such as the SWOT satellite and/or performing research on headcut speed and volume, integrating the headcut locator with other online geomorphic tools, mapping headcuts and lowhead dams in additional watersheds, performing economic analysis at additional lakes, and presenting the sedimentation results at additional venues.

4.0 CONSIDERATION

4.1 Some tasks may require working in rivers, in boats, and in variable weather conditions. Applicant is responsible for personal gear and safety. NWK can provide field support, surveyors with equipment, boat support, etc. Applicant should clearly delineate what support is needed from NWK.

5.0 QUALIFICATIONS

5.1 Biographical sketches are required for each of the personnel/project delivery team (PDT) members supporting this project and will coordinate with USACE before any key personnel changes or hiring.

6.0 GOVERNMENT FURNISHED MATERIALS OR PROPERTY

6.1 Physical Data: Data sets and information furnished by the government for this project are the property of the USACE. No release of information or data is allowed without a written approval from the USACE. The USACE has exclusive right to all Data produced from the funding of this project

6.2 Title to any Materials developed with CESU funds vests with the Awardee Institution, with the USACE getting royalty-free, nonexclusive, irrevocable license to use, publish or distribute all such copyrighted, trademarked, patented Materials, or inventions, trade secrets or other intellectual property rights. The word “Materials” may include, but is not limited to reports, studies, photographs (and negatives), computer programs, drawings, writings or other similar works or documents, along with all supporting data and material, produced under this Agreement. The Awardee Institution agrees to provide the USACE with copies of the Materials at no cost.

6.3 Equipment, Supplies, and Materials:
Government furnished materials or property is governed by 2 C.F.R. Part 200.312 which states that a) Title to federally-owned property remains vested in the Federal government. The non-Federal entity must submit annually an inventory listing of federally-owned property in its custody to the Federal awarding agency. Upon completion of the Federal award or when the property is no longer needed, the non-Federal entity must return the property to the Federal awarding agency for further Federal agency utilization.

7.0 PERIOD OF PERFORMANCE.

7.1 Base Period (Mandatory Tasks) will be for a 24-month period from the award date.

7.2 Follow-on work: The Government intends to consider follow-on work under this agreement based on results of the work performed in the initial/previous period of performance. A maximum of *three 12-month follow-on periods* with an estimated maximum cost of *$500,000* will be considered. Award will be based upon satisfactory performance, Government need, and funds availability.

The recipient or the Government may prepare a follow-on SOO. If the Government prepares it, a request for proposal with the amount of funding available will be sent to the recipient. If the recipient prepares the SOO, the Government must review and approve it along with the proposal.

8.0 COORDINATION

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Laura Totten
Planning Branch
Kansas City District
U.S. Army Corps of Engineers
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9.0 DELIVERABLES

9.1 Awardee is to submit three separate reports, corresponding to objectives I, II, and III respectively. For each report, awardee is to submit a draft report for USACE review and comment and is responsible to address all comments in a final version of the report to be included as an appendix in an overall USACE report. Awardee will submit the draft reports to USACE no later than 60 days before the end of the

base award period. USACE POC staff will review and provide comments, if any, within fifteen (15) calendar days after receipt. Awardee will address/ incorporate comments and submit a final report within 15 days. This final report will become part of an appendix in a larger USACE project report.

9.2 Awardee is to provide clean electronic versions of all data, spreadsheets, GIS data, etc. used or developed with the project.

9.3 Awardee is to re-format/re-write the final reports and submit to a peer-reviewed technical journal as three separate open-access journal articles. Appropriate USACE personnel will serve as co-authors and the awardee will be the first author.

9.4 Awardee is to present the study at the Kansas Governor's Water Conference, which typically occurs each November. The PI will present the economic analysis (Objective 1, tasks 3.1 and 3.2). The research on the low-head dams and the headcut locations may be presented by any member of the research team (PI, graduate student, sub-contractor, USACE collaborator.)

9.5 Awardee will host virtual check-ins with the USACE and the Kansas Water Office consisting in a kickoff meeting, quarterly check-ins, and a meeting coinciding with the draft report submittal. More frequent informal communication for specific questions and issues is expected.

10.0 This cooperative agreement may be administered through a CESU only upon mutual agreement and official authorization by both parties of the acceptance of the application of the CESU Network Indirect Cost Rate (17.5%).

Any resulting cooperative agreement will be subject to and recipient/cooperator shall comply with 2 CFR 200.313 "Equipment", 200.314 "Supplies", and 200.315 "Intangible Property" which includes use of research data.

[End of SOO]