



Provincetown Center for Coastal Studies

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Overview of the Provincetown Center of Coastal Studies for the North Atlantic Coast Cooperative Ecosystems Studies Unit

Who you are?

The Provincetown Center for Coastal Studies (PCCS) was founded in 1976 as an independent, non-profit organization dedicated to preserving and protecting coastal ecosystems and marine animals in the Gulf of Maine through applied research, education, public policy initiatives and management strategies. PCCS collaborates with non-profit organizations throughout the nation and works with local, state, and federal government agencies to conduct rigorous scientific research and promote environmental stewardship. Our world-renowned disentanglement program and marine animal rescue team operates under a federal permit and coordinates disentanglement activities along the East Coast of the United States.

What is your mission?

The mission of PCCS is:

- To conduct scientific research with emphasis on coastal and marine habitats and resources of the Gulf of Maine and on the marine animals of the western North Atlantic;
- To promote stewardship of coastal and marine ecosystems through directed research and management strategies; and
- To conduct educational activities and to provide educational resources that encourage the responsible use and conservation of coastal and marine ecosystems; and
- To collaborate with other institutions and individuals whenever possible to advance the Center's mission.

Where are your offices located?

The administration building and the Hiebert Marine Lab are at 115 Bradford Street and 5 Holway Avenue, respectively in Provincetown Massachusetts.

What expertise can your agency or University contribute to the NAC CESU consortium?

The expertise at the center is wide ranging in the fields of coastal ecosystems and marine animals but the lead investigators whose research closely mirrors that of the NAS CESU consortium mission are:

Graham S. Giese is a coastal geologist/oceanographer whose professional career began in 1956 as a research assistant assigned to survey Cape Cod shores. His master's thesis (1962) examined coastal

orientations of Cape Cod Bay, and his doctoral dissertation (1966) explored the relationship between wave period and the swash zone energy balance of selected Cape Cod beaches. He is author or co-author of more than 80 reports and publications concerning coastal problems, the majority dealing with the Cape Cod and southern New England coast. Since the late 1980's he has paid close attention to the modes of coastal response to sea level change, and this concern is central to his presently ongoing study for the National Park Service, "Cape Cod Shoreline Change and Resource Protection."

Amy Costa is marine ecologist and the director of the Cape Cod Bay Monitoring Program at the Center. She studies the effects of pollution on coastal marine ecosystems. Her research addresses the physical and anthropogenic stresses on water quality focusing specifically on nutrient loading and tracing these effects through the food web. Her primary study area is Cape Cod Bay but she also conducts research in other areas in Massachusetts Bay. Expanding on this research organic wastewater contaminants (pharmaceuticals, endogenous hormones and personal care products) will be incorporated into the 2010 field season. Other ongoing research includes her studies on eelgrass ecosystems. Because of the close connection between eelgrass health and water quality, she has been conducting baseline studies addressing the distribution, coverage, and productivity of eelgrass within Cape Cod Bay and the physical and biological factors affecting this ecosystem. With this information she will be able to designate potential areas for eelgrass restoration efforts, the first of which is planned for May 2010.

Mark Borrelli is a coastal geologist who has extensive experience with coastal processes in and around the coastal parks of the National Park Service. His master's thesis examined sediment transport, shoreline change and spit growth in Cape Lookout National Seashore and his dissertation looked at inlet evolution and salt march change in Cape Cod National Seashore. He worked for two years in Lakewood, Colorado at the Geologic Resources Division offices of the NPS as a partner through the Gulf Coast CESU and Texas A&M University. He was responsible for the day to day management of a project to assess the storm vulnerability of natural and cultural resources in ocean and coastal parks. Currently, he is managing the seafloor mapping project at the Center.

Lisa Sette is a marine animal biologist and the director of the Seal Studies Program at the Center. She is investigating localized movements, site fidelity and human interactions of gray seals using photographic identification of individuals. Seals are photographed at haul-out sites in and around Cape Cod National Seashore. Profile photographs of the head and neck, unique pelage patterns, scars, wounds, brands and entanglements will be used to match individual animals. Lisa has worked with members of the Cape Cod National Seashore to develop information regarding appropriate behavior for park visitors when viewing seal haul-outs. Past research within the Seashore included a study of the diet of harbor seals (*Phoca vitulina*) that hauled out within park boundaries. Lisa is also a member of the Marine Animal Entanglement Response Program at the Center.

Who are the individuals in your program that you anticipate will be active in NAC CESU projects?

- Graham Giese, Ph.D. Director, Land Sea Interaction Program, Coastal Geologist
- Amy Costa, Ph.D. Director, Cape Cod Bay Monitoring Program, Marine Ecologist
- Mark Borrelli, Ph.D. Manager, Seafloor Mapping Project, Coastal Geologist
- Lisa Sette, Director, Seal Studies Program, Marine Animal Biologist
- Pat Hughes, Marine Policy Coordinator
- Jesse Mechling, Director, Marine Education

- Stacy Rogers, Research Associate
- Taylor Brown, Research Assistant
- Ashley Norton, Research Assistant
- Elizabeth Larson, Research Assistant

How can your institution or University contribute to the NAC CESU Mission and Vision (see <http://www.ci.uri.edu/naccesu/>)?

Scientists at the Center have been involved with understanding the physical, chemical and biological processes at work in coastal ecosystems for decades. Rigorous, science-based investigations with societal and policy implications have been the hallmark of these studies. High quality, peer-reviewed publications along with technical reports for the well-informed stakeholder and educational materials for the general public are central to all of the Center's research.

The Center is currently working with local, state and federal partners to provide technical assistance in a timely manner to multiple issues with regards to coastal erosion, beach and barrier island evolution, salt marsh and estuarine habitats, water quality, submerged aquatic vegetation, appropriate behavior when viewing marine animals and other time-sensitive education and research needs.

Many of the Center's studies have as subtext climate change and related impacts to coastal ecosystems and marine animals. For instance, changing erosion and sediment transport patterns as a result of sea level rise; water quality parameters and increases in ambient water temperatures; potential variations in the migration and feeding pattern of marine animals due to climate change related phenomena; changes in salt marsh vegetation as it relates to sea level rise, nutrient loading or other anthropogenic factors.

As a private non-profit the Provincetown Center for Coastal Studies often times can provide a cost-effective model for conducting rigorous, state-of-the-art research in a unique coastal setting. The Center can leverage its relationships with local, state and federal partners as well as ongoing research to continue it works and contribute to the mission of the NAC CESU.

Who is the NAC CESU point of contact for your agency or University (include email, phone, fax, mailing address)?

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