

Program Information Sheet

Program Name

Climate and Societal Interactions (CSI)

COCA/SARP: Assessing and Communicating Economic Impacts and Risks Associated with Water Resource Management Challenges Along the Coast

Program Mission

The Climate and Societal Interactions (CSI) Program supports projects to address the needs of decision makers planning and preparing for extremes (i.e., droughts, floods, and heat) in the context of their overall social and economic development objectives. The overarching goals of the CSI Program are the following:

1. Support for innovative, applicable and transferable approaches for decision-making, especially for risk characterization in the context of a variable and changing climate;
2. Establishment of a network of regionally scoped, long-term efforts to inform climate risk management and decision making; and
3. Promotion of the transfer of climate knowledge, tools, products, and services within NOAA, across the federal government, nationally, and internationally.

CSI serves a unique role within NOAA and the Federal system by resourcing a space for interdisciplinary, applied research and capacity building that helps NOAA and its partners bridge the gap between science and the Nation's economies and communities. This partnership brings together members of the external research community with NOAA Regional Climate Services Directors (RCSDs), other NOAA service line offices, and close external partners such as RISA teams, Regional Climate Centers, State Climatologists, Sea Grant and other U.S. Government agencies to help make climate information and products relevant, accessible and actionable to people across the U.S.

CSI works to ensure alignment with the priorities of a number of Federal agency efforts such as the: National Integrated Drought Information System Act (P.L. 109-430); National Climate Assessment; National Ocean Council; Global Framework for Climate Services (GFCS) initiative; the Weather Research and Forecasting Act (P.L. 115-25); and the growing local and regionally-focused information needs that influence agency investments in water, security, infrastructure, and economic resilience.

Focus for FY19

For FY19, the Coastal and Ocean Climate Applications (COCA) and Sectoral Applications Research Program (SARP) programs are collaborating on a priority topic of mutual interest through this competition. The Competition Managers are: Adrienne Antoine (COCA) adrienne.antoine@NOAA.gov and Dr. Nancy Beller-Simms (SARP), nancy.beller-simms@NOAA.gov.

Competition Managers will hold an informational webcast to discuss the background of these programs and expectations for this competition, as well as to address questions related to the development and submission of letters of intent and proposals. For times and accessibility information, please monitor the program websites accessible via this address: <https://cpo.noaa.gov/Meet-the-Divisions/Climate-and-Societal-Interactions>. Potential principal investigators can also contact the competition managers directly.

Funding for FY19

Funding will be for two-year grants in the form of Cooperative Agreements with total project costs not to exceed \$300,000.

Competition Information

Overview

Studies in recent years show that the costs of recovering from extreme weather and climate related events are escalating. Increased expenditures to both the public and private sectors are associated with changes in the frequency and intensity of events as well as population shifts and the assets of the built environment. Planners and decision makers in cities, counties, states, Tribes, and public and private organizations are working to shift from disaster response to planning and preparedness for changing climate conditions. They are looking for data, tools, and information to inform their strategies and actions as well as assess their financial and human investments to better plan for these threats. Many federal government agencies with disaster response and economic planning mandates are responding to this demand. The US Department of Housing and Development's "Rebuild by Design" effort, the Federal Emergency Management Agency's (FEMA) RISK MAP (Risk Mapping Assessment and Planning) and, the US Geological Survey's Coastal Change Hazards Portal are examples of these federal efforts.

NOAA has been a federal leader in providing relevant tools, information, and engagement to characterize risk and inform decisions necessary to reduce the economic strain of extremes and support resilient growth strategies in the coastal zone. Digital Coast, the Coast Smart Program, and the Climate Resilience Toolkit are examples of efforts providing valuable tools and information to decision makers. Interdisciplinary research funded and inspired by OAR's Climate and Societal Interactions (CSI) Program has invested in decision support research and assessments to help further integrate what we know about variability and change into the fabric of social and economic activities.

The research goals of this solicitation are designed to ensure connection with on-going planning and preparation, stimulate service development activities to help society reduce the impacts of extreme events, and adapt to a changing climate in ways that support economic growth. Inspired by work resulting from SARP and COCA projects, this competition focuses on the need to collaboratively identify and specify the economic

impacts of extreme weather and climate related events in specific locations. This will inform the planning and response necessary to support the resilience of the nation's coastal communities and resources valuable to the blue economy.

FY2019 Competition

For FY19, this competition is soliciting proposals for multidisciplinary user-driven research projects to work with a US coastal community(s)¹ grappling with and assessing the risks to water resources management associated with a series of high tide flooding occurrences, extreme precipitation events, and/or sea level rise. Each research project requires engagement with relevant managers, water utilities, and/or community and state planners, etc. to incorporate the best climate science into infrastructure planning and actions in order to inform adaptation strategies.

A major emphasis of this research should be better understanding the benefits, costs, and tradeoffs to help establish the economic case for investments designed specifically to ensure the reliability of water resources. *What are the costs of these investments and how do they compare to the costs of failure to invest?* This competition is particularly looking for innovative approaches beyond traditional cost-benefit analyses as well as compelling approaches that would be easily transferable to communities with similar challenges.

Research topics should:

- identify economic impacts of a series of high tide flooding occurrences, extreme precipitation events, and/or sea level rise,
- determine the feasibility and costs of adaptation options (and/or inaction) to community infrastructure,
- value the use of climate information in economically meaningful ways for planning,
- identify the best ways to communicate risks of these events and their economic implications to best inform effective action by water resource managers (and by public and private sector actors), and/or
- initiate plans/actions/collaborations to use the results of this research before the end of the project.

All projects should:

- Involve stakeholders, resource managers, planners, and/or policy makers
- Demonstrate inclusion of NOAA science, services, and stewardship:
 - Data,
 - Entities and/or partnerships (e.g. Laboratories, Cooperative Institutes, River Forecast Centers, National Estuarine Research Reserves (NERRS), state/territory coastal management programs, Office for Coastal Management (OCM), Regional Climate Service Directors (RCSDs), Regional Climate Centers (RCCs), Sea Grant, National Integrated Drought Information System (NIDIS), etc.),

¹ For this competition, "coastal community" includes cities, towns, counties, tribes etc. along the land/water interface and within coastal watersheds on the east and west coasts of the US as well as the Gulf of Mexico and the US Great Lakes.

- Efforts (e.g., on [extreme events](#), [Coastal Resilience Grants](#), [Ecological Effects of Sea Level Rise](#)) and/or
- Tools (e.g., [Climate Resilience Toolkit](#), [Digital Coast](#)), where possible and/or applicable, to further enhance NOAA's ability to provide critical scientific information to users and/or participation, where relevant.
- Exhibit how the results of the funded work will be useful to the near-term interests of the project location as well as transferable to other locations.
- Include partnerships, where relevant, with larger organizations, foundations, federations, state, tribal, and local governments, and/or the private sector to assure that the results of these studies are stimulating wide involvement and are shared and incorporated in other locales.
- Provide accountable and measurable results along with evaluation method(s) to assess the outcomes of the project.

Expectations

RISA Involvement

Building the capacity of the RISA network to support coastal decision makers and planners dealing with pressing water resource management challenges is a priority of this competition. Research teams must show how the proposed work will expand RISA's capacity to address these issues in their region. Work should be based on previous RISA findings and/or leverage their current directions. Research tools and findings should be shared with the relevant RISA team(s).

Leveraging and Partnering

We encourage research projects that develop new, or enhance existing partnerships that include representatives from relevant sectors of the community and that will contribute to and benefit from the creation and development of such activities. *Ideally, this would include representatives from the public and private sectors, water utilities, academic, governmental, NGOs, environmental groups, citizen groups, etc. in the role of co-PIs collaborating with their industry, academic and/or other governmental partners.* Note that the results of this project are for the public good and must be usable and applicable to other locations.

We also encourage leveraging and partnering, where relevant, with other federal agencies (e.g., DOC (e.g. NIST and Census), FEMA, USACE, USGS, EPA, HUD, etc.), non-governmental organizations, foundations, federations and/or the private sector to assure that the results of these studies are stimulating wide involvement and are shared and incorporated in other locales. We suggest that the statement of work include a description of critical players, their roles, and why they are participating.

Connecting the Community of Practice

At the Start of the Project: two representatives from the research project will come to Washington DC to meet with each other, NOAA, and relevant public and private partners at an orientation to learn more about NOAA products and services and meet NOAA staff with whom they could work on this project.

First Year: PIs will work within their communities to understand the physical, social, and

economic environments in which they will work. At the end of the first year, PIs will take part in or inform the development of a community of practice, with CSI, that will discuss and share methods to address coastal water resources challenges. This will allow the exchange of research methods and results. This meeting will be a virtual meeting.

At the Conclusion of the Project: Research project members will present at a webinar to share their experiences, research results and how the information was used by decision makers.

Data Management Guidance Requirements

Responsible NOAA Official

For questions regarding this guidance and for verifying accessibility of data produced by funding recipients, contact the competition manager.

Data Accessibility

NOAA requires public access to grant-produced data. The use of open-standard formats and methods for data sharing is encouraged. Applicants must describe their approach in the Data/Information Sharing Plan section of their application (see the CPO Federal Funding Opportunity for more information on this requirement). Below are examples of methods to enable public access to grant-produced data:

- Data are submitted to the NOAA National Centers for Environmental Information (NCEI), which will provide public access and permanent archiving.
- Data are to be submitted to one of the following relevant International Council for Science (ICSU) World Data System facilities: <https://www.icsu-wds.org/community/membership/regular-members>)
- Data are submitted to another NOAA facility (other than NCEI), which will operate a publicly accessible online data server for these data.
- An existing publicly accessible online data server at the funded institution is to be used to host these data.
- Data are to be submitted to a public data repository appropriate to this scientific domain.
- Funding recipients will establish their own data hosting capability.
- Proposal may request permission not to make data publicly accessible (the application should include a rationale for lack of public access, and if funded approval will need to be obtained from the Responsible NOAA Official listed above).

Resources

Proposals should include the costs of data sharing or archiving in their budgets.