

# Climate and Societal Interactions FY17 Information Sheet

## Overview

The Climate and Societal Interactions (CSI) Division's mission is to inform improvements in resilience and preparedness in diverse socio-economic regions and sectors throughout the US and abroad through the use of climate knowledge and information. Our research advances the nation's understanding of climate-related risks and vulnerabilities across sectors and regions, and the development of tools to foster more informed decision making. These efforts support NOAA's vision to create and sustain enhanced resilience in ecosystems, communities, and economies.

CSI-supported research seeks to generate the knowledge, tools, and institutional networks that enhance society's capacity to anticipate, plan for, and adapt to climate impacts. By supporting partnerships between scientists and stakeholders, CSI enhances the capacity of decision makers to effectively co-produce and utilize climate information in risk management, adaptation, and sustainable development. Our focus complements the work of the physical science research and development portfolio across NOAA by using insights from social science research to interpret, synthesize, and apply climate data, analysis, and observations.

CSI ensures alignment with the priorities of a number of interagency efforts such as the: President's Climate Action Plan (E.O. 13653), National Climate Assessment; Interagency Climate Change Adaptation Task Force; National Integrated Drought Information System Act (P.L. 109-430); National Ocean Council; National Fish, Wildlife, and Plants Climate Adaptation Strategy; and Global Framework for Climate Services (GFCS).

## Fiscal Year 2017

Under this Federal Funding Opportunity (FFO), the Coastal and Ocean Climate Applications (COCA) program is soliciting proposals for the "*Supporting Resilient Coastal Communities in a Changing Climate*" competition.

CSI will release the following competitions under separate FFOs:

- COCA - Understanding Climate Impacts on Fish Stocks and Fisheries to Inform Sustainable Management
  - Contact: Adrienne Antoine, [Adrienne.Antoine@noaa.gov](mailto:Adrienne.Antoine@noaa.gov)
- Regional Integrated Sciences and Assessment (RISA)
  - Contact: Caitlin Simpson, Chelsea Combest-Friedman, and Sarah Close ([oar.cpo.risa@noaa.gov](mailto:oar.cpo.risa@noaa.gov))

Please contact the Program Manager for more information.

## Coastal and Ocean Climate Applications (COCA) FY17: Supporting Resilient Coastal Communities in a Changing Climate

### Contacts

Adrienne Antoine (adrienne.antoine@noaa.gov)

Sarah Close (sarah.close@noaa.gov)

### Overview

The Coastal and Ocean Climate Applications (COCA) program addresses the needs of decision-makers dealing with pressing climate-related issues in coastal and marine environments. The program is designed to support interdisciplinary teams of researchers in the development and transition of climate-related research and information to advance decision-making in coastal communities and coastal and marine ecosystems. For the FY17 competition, we define “coastal communities” as one or more coastal counties, cities, towns, neighborhoods, tribes, etc. Tribes or indigenous communities do not need to be federally recognized in order to be eligible for this funding opportunity. Outcomes of COCA projects inform the response and coping capacity of decision-making and management communities to climate variability and change. In addition, projects must have a clear plan for dissemination of the findings to relevant audiences.

In the United States, over half of the national gross domestic product comes from the coast and more than 50% of the US population lives in coastal watershed counties.<sup>12</sup> Human pressures, such as coastal development, pollution, and habitat destruction, are impacting the health and sustainability of coastal built and natural systems. As human pressures on the coast continue to increase, the coastal built and natural environment is expected to experience, and in some cases is already experiencing, impacts from climate variability and/or change (e.g. drought, flooding, sea level rise, heat waves, etc.).<sup>34</sup> To address these many challenges, communities along the coast from major urban centers to smaller rural areas are seeking assistance to understand their vulnerabilities, risks and impacts to climate variability and change. Coastal decision-makers are particularly interested in understanding mechanisms to address both climatic and non-climatic stressors (e.g. education, infrastructure, etc.) on their communities and surrounding ecosystems. Supporting resilient coastal communities in a changing climate is a priority for NOAA as identified in the NOAA Next Generation Strategic Plan<sup>5</sup> and the Climate Program Office Strategic Plan<sup>6</sup>.

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<sup>1</sup> U.S. Census Bureau. 2010: Population of U.S. Cities. <http://www.census.gov>.

<sup>2</sup> Global Climate Change Impacts in the United States. Thomas R. Karl, Jerry M. Melillo, and Thomas C. Peterson, (eds.). Cambridge University Press, 2009.

<sup>3</sup> The National Coastal Population Report: Populations Trends from 1970 to 2020, <http://oceanservice.noaa.gov/facts/coastal-population-report.pdf>.

<sup>4</sup> Global Climate Change Impacts in the United States. Thomas R. Karl, Jerry M. Melillo, and Thomas C. Peterson, (eds.). Cambridge University Press, 2009.

<sup>5</sup> NOAA Next Generation Strategic Plan: [http://www.ppi.noaa.gov/wp-content/uploads/NOAA\\_NGSP.pdf](http://www.ppi.noaa.gov/wp-content/uploads/NOAA_NGSP.pdf)

<sup>6</sup> Climate Program Office Strategic Plan: <http://cpo.noaa.gov/sites/cpo/News/2014/CPO%20Strategic%20Plan.pdf>

Coastal communities recognize the need to better understand potential climate-related risks and vulnerabilities, and while some have made progress and demonstrated success in adaptation planning and implementation, that is not, by and large, the norm. Some coastal communities have started to assess their adaptation needs and options and have the financial and institutional capacity - as well as the voice in governance processes and position - to address the cross-cutting climate-related challenges they face. However, not all have the capacity to support implementation. In addition, even within those communities that have assessed their adaptation needs and options, certain neighborhoods or groups may not be represented in planning or decision-making processes.<sup>7</sup> Many more communities face economic, social and institutional barriers to implement new strategies that begin to address climate-related risks and vulnerabilities. These communities may lack the capacity (financial, institutional) or means to access and use relevant information and expertise and to plan and implement new strategies for climate adaptation.

### **FY17 COCA Priorities**

For FY17, COCA will support interdisciplinary applied research projects that 1) identify and assess key coastal community and ecosystem risks and vulnerabilities to climate variability and change, and 2) support the development of approaches to address intersecting climatic and non-climatic stressors to enhance coastal community resilience and sustainability in a changing climate. In this competition, COCA is specifically targeting coastal communities that have had difficulty integrating climate information in the past due to insufficient financial, institutional, or human capacity to access, understand and use climate information, as well as undertake significant climate adaptation efforts in their jurisdiction. COCA is focused on applied research on coastal adaptation in a changing climate. Projects seeking funding to implement adaptation options should consider other funding opportunities such as the NOS Coastal Resilience Grants.

Projects should address one or more of the following research topics at the spatial and temporal scales relevant to a specific coastal community, its planning and implementation needs and/or set of coastal decision-makers:

- Identify and assess the key science, data and information needs as well as barriers, limitations, and opportunities to access and use climate information products and expertise.
- Identify or develop a methodology to determine costs/benefits of adaptation options and/or inaction.
- Develop tools, methodologies, guidance, and/or training to build the capacity of coastal communities to prepare for and respond to the impacts of changing climate conditions.
- Develop methods to monitor and/or evaluate the effectiveness of adaptation actions.
- Identify pathways to transfer relevant science, approaches, lessons learned, and/or tools developed beyond the region of study.

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<sup>7</sup> Shi, L., et al. 2016. Roadmap towards justice in urban climate adaptation research. *Nature Climate Change*. 6: 131-137.

All projects must:

1. Assist coastal communities with the application and integration of climate-related information into their planning and management decisions.
2. Build an understanding of the unique social, institutional, and economic barriers to action and, where feasible, recommend strategies to overcome these barriers.
3. Promote the collaboration and establishment of sustained partnerships between interdisciplinary scientists (e.g. physical, ecological, social, economic, etc.), and coastal decision makers (e.g. natural resource managers, sustainability practitioners, Federal/state/local officials, community leaders, etc.).
4. Collaborate with and/or leverage relevant institutions in the area of study – e.g. NOAA entities (e.g. Sea Grant, National Ocean Service, National Weather Service, National Marine Fisheries Service); non-governmental organizations; academic institutions; state, local, and tribal governments; private sector organizations; and other federal agencies (e.g. Department of Housing and Urban Development, Department of the Interior, Environmental Protection Agency).

**COCA intends to support projects up to \$300,000 for up to two years.** *The number of projects funded and funding amount of all projects are subject to the availability of funding.*

## **Data Management Guidance Requirements**

### *Responsible NOAA Official*

For questions regarding this guidance and for verifying accessibility of data produced by funding recipients: Adrienne Antoine, [Adrienne.Antoine@noaa.gov](mailto:Adrienne.Antoine@noaa.gov)

### *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.

## **Additional Information for the COCA Program**

### *Specifics about the Proposal*

Proposals that can show that they are building on, but does not replicate, what is already known from the published literature about the proposed topic prove that the principal investigators (PIs) have a comprehension of the topic and that their proposed work will augment existing science and applications capacity.

### *Nature of Investigator Teams*

Multidisciplinary teams of investigators are often best suited for addressing the complex issues related to climate, society and enhanced adaptation through the use of science and technology. Previous successful projects/teams have integrated social with natural and/or physical science components to form a more comprehensive analysis of the dynamics of climate-human-natural interactions. The proposal should include an explanation of the roles of the investigators and how the team will interact and integrate the multiple components. Investigators who will not be requesting funds for salaries must also be listed, along with their estimated time of commitment.

### *Partners*

We encourage partnerships and collaborations between researchers and critical decision-making institutions in the region of study (see bullets 2 and 5 above). Any in-kind time should be reported within the proposal. Letters of support, or commitment, from partners are encouraged to accompany the proposals.

### *Cost-sharing*

Cost, leveraging, and in-kind sharing of resources is encouraged and should be reported within the proposal.

### *Interaction with NOAA*

Applicants whose proposals are chosen for funding will be expected to undertake an ongoing dialogue with the NOAA Climate Program Office and program managers and will be expected to submit annual reports and respond to periodic data requests, including information about the climate information needs of decision makers involved in their projects.