FY21 Program Information Sheet

Program Name

Climate and Societal Interactions Division
Adaptation Sciences (AdSci) Program
Advancing Climate Adaptation and Coastal Community Resilience

Program Mission

Climate and Societal Interactions Division

The NOAA Climate Program Office's (CPO) Climate and Societal Interactions (CSI) Division has traditionally been a home for high impact science, catalyzing some of the earliest U.S. government investments in regionally scaled, societally relevant, interdisciplinary climate research and engagement focused on reducing vulnerability and risk through the use of climate knowledge and information. Today, CSI continues to work with partners to enhance community and national resilience in the face of climatic changes, through research and engagement activities designed to connect innovative science directly to complex and dynamic preparedness, adaptation and resilience challenges. Programs managed by CSI are a key component of NOAA's cutting edge research enterprise, contributing to its efforts to engage a modern climate research landscape, which has evolved over time to include the private sector, NGOs, interdisciplinary teams and the social sciences at large. Moving forward, the CSI Division is reorganizing in order to streamline, expand and build upon past investments, and address cutting edge topics in adaptation science - a critical cornerstone to a more resilient future.

Beginning in FY 2021, NOAA's CSI Division will support two core research portfolios:

- The Regional Integrated Sciences and Assessments (RISA) Program; and
- The newly established Adaptation Science (AdSci) Program.

This research competition is for the AdSci Program only. The Regional Integrated Sciences and Assessments (RISA) program will be publishing a separate call for proposals in Fall 2020. The call will be available on the CPO website at cpo.noaa.gov. General information about the RISA program and the regions currently covered can be found at **cpo.noaa.gov/RISA.**

The Adaptation Sciences (AdSci) Program

In response to rapidly increasing demand for methods to advance climate adaptation and resilience strategies, and leverage NOAA sciences and services, CSI is launching a new Adaptation Science (AdSci) research program. The AdSci Program will help advance the knowledge, methods and frameworks needed to move society beyond incremental adaptation toward more widespread, connected, adaptive pathways, and resilience strategies with clear economic and societal co-benefits. Research will focus on the integration of acute and chronic stressors that occur over multiple timescales. NOAA Research, in the context of its commitment to improved service development, delivery, and integrated information services through innovative science, is well placed to advance science in support of adaptation.

The AdSci Program goal is to foster widespread, science-based adaptation by: (a) developing an understanding of key drivers and conditions that shape and enable adaptation across multiple temporal and spatial scales (e.g., socioeconomic considerations and adaptive behaviors, risk perception, public awareness and education); and (b) identifying key aspects of and promoting opportunities for the use of scientific information to best support preparedness and planned adaptation of high value to social and economic goals.

Focus for FY21

For FY21, the Adaptation Science Program is soliciting proposals focused on U.S. coastal communities[1] planning for the future impacts of flooding in the context of climate variability and change and other stressors. Specifically, the program seeks to advance the science of adaptation by soliciting proposals for interdisciplinary and social science research projects that accelerate, expand and enhance the effectiveness and scale of adaptation and resilience planning and implementation in the face of complex challenges in coastal settings through collaborative science, engagement, and innovation. These advances will also support the goals of CPO's initiative to apply its core capabilities and align investments with partners in a set of climate-related risk areas including coastal inundation. The program is particularly interested in proposals focused on the complex

[1] "Coastal" includes all US coastal jurisdictions (e.g. watersheds) that border the Pacific and Atlantic Oceans, Gulf of Mexico, Caribbean Sea, and Great Lakes.

challenges of climate-sensitive flooding and related impacts in areas with vulnerable populations.

Funding for FY21

Depending on the availability of funds and the quality of proposals, AdSci will seek to fund a combination of 1 and 2 year projects in FY 21. Proposals should not exceed $300,000 total.

Competition Information

Overview

As highlighted in the Fourth National Climate Assessment, coastal communities and ecosystems are already experiencing impacts from increased coastal flooding and these impacts disproportionately affect more vulnerable populations along the coast.[2] Efforts to identify and reduce societal risk, advance climate information systems and adaptation actions, and build more resilient systems, infrastructure, and policies using climate information and decision support tools have emerged in recent decades.[3] These endeavors are shaped by many forces, some of which are better understood than others.[4] Many communities face economic, social and institutional barriers to implementing new strategies that begin to address climate-related risks and vulnerabilities in a cross-sectoral, comprehensive manner. Extreme events, and evolving conditions, such as those associated with the potential transformative effect of the global Covid-19 pandemic, demonstrate the need to understand and design climate adaptation strategies around compound risks, recognizing that there are other conditions and approaches taken in the near term that may support or hinder adaptation, and ultimately, longer-term resilience[5].

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[2] Fleming, E., J. Payne, W. Sweet, M. Craghan, J. Haines, J.F. Hart, H. Stiller, and A. Sutton-Grier, 2018: Coastal Effects. In *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II* [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 322–352. doi: 10.7930/NCA4.2018.CH8.

[3] Lempert, R., J. Arnold, R. Pulwarty, K. Gordon, K. Greig, C. Hawkins Hoffman, D. Sands, and C. Werrell, 2018: Reducing Risks Through Adaptation Actions. In *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II*[Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 1309–1345. doi: 10.7930/NCA4.2018.CH28

[4] van Valkengoed, A.M., Steg, L. Meta-analyses of factors motivating climate change adaptation behaviour. Nature Clim Change 9, 158–163 (2019). https://doi.org/10.1038/s41558-018-0371-y

[5] Phillips, C.A., Caldas, A., Cleetus, R. et al. Compound climate risks in the COVID-19 pandemic. Nat. Clim. Chang. (2020). https://doi.org/10.1038/s41558-020-0804-2

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Proposed projects are encouraged to:

1. Leverage the research and engagement capacity of key coastal partners (e.g. Federal, state, local, tribal, NGO and community-based organizations) to identify and share methods, capacities and conditions needed to effectively utilize and incorporate interdisciplinary climate information science and services for coastal decision makers, practitioners, and planners, and assure that the results of these studies are stimulating wide involvement and are shared and incorporated in other locales.
2. Generate insight and networks that could support communities that are new to planning for climate change and/or tribal, indigenous, rural, or socioeconomically disadvantaged areas.
3. Advance consideration of planning and preparedness across multiple timescales and complex risks (e.g. how do planning, preparedness and adaptation efforts intersect with emerging risks such as COVID-19?).
4. Explore opportunities to engage with organizations engaged in economic and community development, and connect with efforts to support the financing and/or evaluation of adaptation actions or strategies in order to foster more evidence-based policies.
5. Integrate NOAA science, services, and stewardship in the context of science of adaptation:
    a. Data,
    b. Entities and/or partnerships (e.g. Laboratories, Cooperative Institutes, Sea Grant, Regional Integrated Sciences and Assessments (RISA), National Estuarine Research Reserves (NERRS), Office for Coastal Management (OCM) River Forecast Centers, Regional Climate Service Directors (RCSDs), etc.),

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c. Efforts (e.g., on extreme events, Coastal Resilience Grants, Ecological Effects of Sea Level Rise) and/or
d. 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.

Competition Manager: Adrienne Antoine (Adrienne.Antoine@noaa.gov)

Data Archiving

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, Adrienne Antoine (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.icsuwds.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.