

National Competitive Harmful Algal Bloom Programs

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## ANNOUNCEMENT OF NOTICE OF FUNDING OPPORTUNITY

## EXECUTIVE SUMMARY

Federal Agency Name(s): National Ocean Service (NOS), National Oceanic and Atmospheric Administration (NOAA), Department of Commerce

Funding Opportunity Title: National Competitive Harmful Algal Bloom Programs

Announcement Type: Initial

Funding Opportunity Number: NOAA-NOS-NCCOS-2020-2006219

Catalog of Federal Domestic Assistance (CFDA) Number: 11.478, Center for Sponsored Coastal Ocean Research - Coastal Ocean Program

Dates: The required letters of intent (LOI) sent by e-mail to [nccos.grant.awards@noaa.gov](mailto:nccos.grant.awards@noaa.gov) and must be received by 11:59 p.m. Eastern Time on the specified date:

PCM HAB: Monday, November 11, 2019

HAB Socioeconomics: Monday, November 11, 2019

Full applications must be received and validated by Grants.gov by 11:59 p.m. Eastern Time on the date specified.

PCM HAB: Friday, January 10, 2020

HAB Socioeconomics: Friday, January 10, 2020

Electronic submissions received after the deadline will not be considered.

NOAA will also accept paper applications subject to further details described in this Announcement that are postmarked or provided to a commercial carrier with tracking number and receipt on or before 11:59 pm Eastern Time on the date specified above for each program. Private metered postmarks will not be accepted. Applicants submitting by paper are responsible for tracking their applications and should notify the Program Manager in Section VII of this Announcement that they are submitting by paper.

Investigators are advised to submit full applications well in advance of the deadline as a precaution against unanticipated delays. Applicants must register with Grants.gov before submitting application materials. When developing your submission timeline, keep in mind the

following information regarding application submission on Grants.gov:

1. Grants.gov requires applicants to complete a free annual registration process in the electronic System for Award Management (SAM), which may take between three and five business days or as long as several weeks to process as described in Section IV.G. of this Announcement.
2. If you submit a full application via Grants.gov, you will receive a series of email notifications for up to two business days before learning via validation or rejection whether NOAA has received your application.

Funding Opportunity Description: The purpose of this document is to advise the public that NOAA/NOS/National Centers for Coastal Ocean Science (NCCOS)/Competitive Research Program (CRP) is soliciting proposals for the Prevention, Control and Mitigation of Harmful Algal Blooms (PCMHAB) and HAB Socioeconomics Research Programs. Funding is contingent upon the availability of Fiscal Year 2020 Federal appropriations. It is anticipated that projects funded under this announcement will have a September 1, 2020 start date.

Total funding for this research:

It is anticipated that approximately \$2,500,000 may be available in Fiscal Year 2020 for the first year for all PCMHAB and HAB Socioeconomics projects.

Approximately 4-6 small projects up to 3 years in duration are expected to be funded under PCMHAB and HAB Socioeconomics at a level of approximately \$200,000 to \$400,000 per year per proposal. In addition, 1-2 large projects up to 4 years in duration are expected to be funded under PCMHAB at up to approximately \$500,000 to \$600,000 per year per proposal. NOAA will not accept any proposals submitted with total budgets (across all years) that are greater than \$1,200,000 for small projects and \$2,400,000 for large projects.

Electronic Access: Background information about the PCMHAB Program can be found at <https://coastalscience.noaa.gov/research/stressor-impacts-mitigation/pcmhab/>. Additional information on this Announcement, including Frequently Asked Questions, is available at <https://coastalscience.noaa.gov/research/stressor-impacts-mitigation/pcmhab/>. An information webinar covering PCMHAB and this solicitation, will be offered by a Program Manager within approximately two weeks from the publication date of the FFO.. Information on the date/time can be found at <https://coastalscience.noaa.gov/research/stressor-impacts-mitigation/pcmhab/>.

Proposals should be submitted through Grants.gov, <http://www.grants.gov>. Sign up to receive any potential amendments to this Announcement via [www.grants.gov](http://www.grants.gov).

## FULL ANNOUNCEMENT TEXT

### I. Funding Opportunity Description

#### A. Program Objective

##### 1. Growing Problem of Harmful Algal Bloom (HAB) Occurrence and Impacts

HABs are caused by diverse organisms, including toxic and noxious phytoplankton, some protists, cyanobacteria, benthic algae, and macroalgae. Blooms can extend over large geographic areas, be composed of more than one harmful or toxic species, and cause significant impacts on fisheries, recreation, human health, and the ecology of both marine and freshwater bodies. HABs are now a recurrent and serious problem in many areas of the US. Evidence suggests that the frequency and distribution of HABs are increasing globally, impacting many countries that have commercial and recreational activities in coastal areas.

Increases in HAB frequency and distribution leads to significant HAB impacts to public health and local/regional economies. Costs are attributable to maintenance of toxin monitoring programs; closures of shellfish harvesting; mortality of fish, shellfish, turtles, birds, and mammals; disruptions in tourism; threats to public and coastal resource health; publication of watershed, health, drinking water and seafood advisories; and medical treatments (8). Despite greater public awareness and advisories of bloom events, human illnesses and even fatalities continue to be reported. Additionally, some toxins may cause only a few documented illnesses but result in serious public reaction and temporary aversion to local seafood products and activities. These deleterious impacts have increased public awareness and demand for intervention to reduce or eliminate bloom impacts on coastal resources, local economies, and threats to public health, but appropriate response requires an understanding of the causes and impacts. Over the course of the last decade, numerous reports have described the magnitude of the HAB problem and outlined research plans to systematically address the issue (1, 2, 3, 4, 5, 9, 11, 12, 13, 14, 15, 16).

##### 2. Legislative Mandates and Justification for HAB Programs

The 1998 Harmful Algal Bloom and Hypoxia Research Control Act (HABHRCA) and the Harmful Algal Bloom and Hypoxia Amendments Act of 2004 (2004 HABHRCA Reauthorization) authorized the establishment of three national research programs for HABs: Ecology and Oceanography of HABs (EOHAB), Monitoring and Event Response for HABs (MERHAB), and Prevention, Control, and Mitigation of HABs (PCMHAB). The Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2014 and 2019 require these existing competitive programs be maintained and enhanced. See 33

U.S.C. §§ 4001-4009.

NOAA described each national competitive program in more detail and established a regional rotation in a 2009 Federal Register Notice found at 74 FR 20465 (May 4, 2009). NOAA ended the regional rotation of HAB programs in 2016, as announced at 81 FR 37187 (June 9, 2016). This announcement does not re-establish the regional rotation or counter any language in 81 FRN 37187. Abstracts of previously funded National Competitive HAB Programs projects, including past PCMHAB projects, are available online at <http://www.whoi.edu/redtide/research/projects>.

The National Competitive HAB Programs address multiple interagency, Department of Commerce, and NOAA goals and objectives.

-The Harmful Algal Blooms and Hypoxia Comprehensive Research and Action Plan (14), mandated by the 2014 HABHRCA Reauthorization, calls on all federal agencies to:

^Add to and improve scientific understanding of HABs and hypoxia, and their causes and effects, as well as improve testing and research methods.

^Strengthen and integrate new and existing monitoring programs.

^Improve predictive capabilities by developing and enhancing HAB and hypoxia modeling programs; improve disease surveillance for human and animal exposure, illnesses, and death.

^Improve stakeholder communications, including having more effective and readily-available public advisories, stronger connections with susceptible communities, and a better understanding of the socioeconomic and health-related impacts of HABs and hypoxia.

^Continue and expand collaborations in research, management, and policy-related arenas.

-NOAA's Ecological Forecasting Roadmap 2015-2019 (17) specifies, "NOAA's priority through this Ecological Forecasting Roadmap is to develop ecological forecasts for harmful algal blooms in regions of the country where these are issues of major concern." (p.3).

-NOAA National Marine Fisheries Marine Aquaculture Strategic Plan FY 2016-2020 (18) –supports NOAA internal and extramural research focused on designing and refining scientific "tools for management" including those that promote understanding of how

changing ocean conditions impact aquaculture. A strategy highlighted under Goal 2 (p. 13) is “assessing the impacts of environmental change (including ocean acidification) on marine aquaculture, as well as aquaculture’s role in mitigating environmental change.”

-The U.S. Department of Commerce 2018-2022 Strategic Plan (19) Objective 2.1 calls for NOAA to “support research to advance marine aquaculture” (p. 9). The planned expansion of U.S. aquaculture production coincides with increased threats from HABs. Problems stemming from HABs including costly product loss or recalls and public fears about seafood product safety pose a clear and growing threat. NOAA Competitive HAB programs support research that can “help remove production bottlenecks,” related to HABs. Objective 2.3 to “amplify the economic value of recreational and commercial fisheries,” calls on NOAA to “ensure that fisheries and their habitats are managed to optimize sustainable commercial harvest and recreational opportunities while conserving marine resources for future generations.” Further, Objective 3.3 identifies the need to manage impacts from extreme water events, like HABs, on our nation’s economy. DOC will support efforts to enhance prediction capabilities via better data gathering and modeling technology. DOC also plans to provide expert, timely, and actionable weather information to emergency managers, water resource managers, and other government agencies at the state, local, and tribal levels in partnership with the commercial sector.

-The Interstate Shellfish Sanitation Conference (ISSC) fosters and promotes shellfish sanitation through the cooperation of state and federal control agencies (Food and Drug Administration, NOAA, Environmental Protection Agency), the shellfish industry, and the academic community. One of the HAB research priorities that the ISSC identified is cell and toxin monitoring and prediction for early warning (8). This is in order to address the needs of state managers and the shellfish industry, while assisting these groups with monitoring HAB toxins in seafood.

## B. Program Priorities

This solicitation provides an opportunity for investigators to propose research projects in two focus areas: a) research, development, demonstration, and technology transfer leading to implementation of strategies to prevent, control, and mitigate HABs (PCMHAB) and b) the socioeconomic impacts of HABs, particularly pertaining to PCM (HAB Socioeconomics).

### 1) PCMHAB

#### a) PCMHAB Objectives

NOAA established the PCMHAB program in 2009

(<https://www.federalregister.gov/documents/2009/05/04/E9-10187/implementation-of-new-competitive-prevention-control-and-mitigation-of-harmful-algal-blooms-hab>) to foster the development, demonstration, and transition of existing and promising prevention, control, and mitigations technologies and strategies to end-users, as authorized in HABHRCA (1998, 2004, 2014, and 2019); the first competitively awarded projects were initiated in 2010.

Multiple interagency and HAB community reports and plans provide guidance for the PCMHAB Program. The HAB Research, Development, Demonstration, and Technology Workshop Report: A Plan for Reducing HABs and HAB Impacts (2008) (5) and the Harmful Algal Bloom Management and Response: Assessment and Plan (2008) (8) provide recommendations to advance research on prevention, control and mitigation of HABs, which forms the basis for the PCMHAB program. Additional guidance is provided by Prevention, Control, and Mitigation of Harmful Algal Blooms: A Research Plan (15), and Harmful Algal Blooms in Coastal Waters: Options for Prevention, Control, and Mitigation (4).

The PCMHAB program moves promising HAB technologies through three phases (development, demonstration, and transfer) and culminates with the expectation of widespread stakeholder use. The technologies may arise from HAB research conducted by the two existing national HAB programs or from other research programs. Abstracts of previously funded National Competitive HAB Programs projects, including past PCMHAB projects, are available online at <http://www.whoi.edu/redtide/research/projects>.

#### b) PCMHAB Priorities

The focus of PCMHAB is to develop, demonstrate, and make widely available new socially and environmentally acceptable strategies and methods for preventing, controlling, and mitigating HABs and their impacts. For FY2020, NOAA seeks to emphasize control and mitigation approaches by supporting projects in these two categories. Examples of research needs under these two categories – derived from recent reports (5,8) – are below, but additional related topics as well as prevention-focused proposals may also be considered.

#### Control

-Research on technologies or approaches that eliminate or reduce the levels of harmful algae and their toxins through the following approaches:

^Biological controls (e.g. bacterial compounds, viruses) [must call Program Manager before submitting a Letter of Intent],

^Chemical controls (e.g., algicides, algistatic compounds, coagulants, electrocoagulation) that are either targeted or widespread in application, or

^Physical (e.g., destratification, flushing, ultrasound, skimming) removal mechanisms.

### Mitigation

-Research on technologies or approaches that mitigate HABS and their impacts by developing or improving methods for:

^HAB cell and toxin detection

^Relocating or modifying aquaculture practices

^Fishing and processing practices

^Making decisions on harvesting bans and closures

^Intervening to reduce wildlife mortality

^Education and outreach

PCMHAB projects are typically conducted in three phases, as described below. The Research in the Development phase (phase 1) will advance and evaluate unproven but promising PCM technologies and strategies. Evaluation of control methods must include assessment of possible environmental impacts in the laboratory. The Demonstration phase (phase 2) will test, validate, and evaluate promising technologies in the field across broad temporal and spatial scales. The Technology Transfer phase (phase 3) will facilitate the transition of technologies and strategies to end-user application and/or commercialization.

A single proposal can cover one or more phases, depending on the magnitude of the project. In general, however, it is anticipated that projects will not combine all three phases in one proposal, especially if phase 2 or 3 involves field trials. Phase 2 and 3 projects are highly encouraged, but will likely require an environmental review or assessment in accordance with the National Environmental Policy Act (NEPA), 42 U.S.C. 4321 et seq., as implemented by the Council on Environmental Quality (CEQ) Regulations (40 CFR Parts 1500 through 1508) (see Section VI.B.6.). Therefore, applicants submitting projects in phase 2 or 3 that include field trials must contact the PCMHAB Program Manager prior to



submission of a letter of intent to determine the possible scale of required environmental review. It is highly recommended that all proposals consider how environmental and social risks will be addressed through the proposed project. A programmatic environmental assessment ([https://cdn.coastalscience.noaa.gov/page-attachments/about/pcm\\_hab\\_pea\\_finaldoc.pdf](https://cdn.coastalscience.noaa.gov/page-attachments/about/pcm_hab_pea_finaldoc.pdf)) for the PCMHAB program can provide a guide for the types of environmental risks to consider. Proposals submitted for phase 2 or 3 may request funds to complete a detailed environmental review at the project start.

Proposals can be submitted for any phase (i.e., a project does not have to start in the first phase). All projects must specify the phase or phases of the research to be conducted for the project period. If not all three phases are covered by the proposal, the proposal must outline how additional phases were, or will be, conducted. Target end-users (including local, state, and Federal resource and public health managers, nonprofit organizations, and a variety of businesses as appropriate) must be identified and will normally be involved in all three stages (see Section I.B.4.c. for exceptions). Projects in phase 3 will also need to demonstrate secured end-user support for either long-term operations and/or application, or a market analysis of demand for the developed tool or technology. Examples of end-user support include, but are not limited to, matching funds or demonstrated commitment of in-kind support for the technology transfer. The market analysis for projects in phase 3 focused on commercialization should include, to the extent possible, an outline of the anticipated target customers' market demand, costs of purchase and ownership, potential barriers to use, and/or likely competition.

## 2) HAB Socioeconomics

The HAB program also supports socioeconomic research that assesses the societal impacts of HAB events and the costs and benefits of mitigation strategies. The recent increase in number, frequency, and type of HABs are resulting in more impacts that have increased society's concerns about the safety of our seafood, drinking water, the health of endangered species, fish, and other animals, the sustainability of beach and lakeside communities, losses to aquaculture enterprises, increased strain on shrinking state and local resources, and long-term aquatic ecosystem changes. Significant economic costs are associated with HAB impacts to public health, fisheries, recreation, and tourism, as well as the use of scarce funds for monitoring and management can be significant for local communities (7). The research needed to understand the socioeconomic effects of HABs has been the focus of national level planning efforts that include HARRNESS (6), and HARR-HD (3), and more recently the HAB RDDTT Workshop Report (5) Chapter 2 Section 2.B.3.c.

### a) HAB Socioeconomic Objectives

The second focal area of this funding opportunity is an assessment of the social and economic costs of HAB events as well as the costs and benefits of prevention, control, and mitigation efforts. These assessments will guide future research and aid in the selection of the most appropriate management strategies and methods. Information from socioeconomic research will allow resource management and public health agencies, affected sectors and communities, and biophysical scientists to develop and implement coordinated, effective responses to HAB events at local and regional scales.

#### b) HAB Socioeconomics Priorities

Studies are needed to determine the extent to which HABs and management responses (such as fisheries closures) directly or indirectly result in economic impacts or in family disruption, community conflict, disruption to or shifts in livelihoods, threats to subsistence, increased reliance on social services, degradation of cultural practices and values, loss of recreational opportunities, and/or other sociocultural impacts. While it may not be possible to place a dollar value on all of these impacts, it is important to document them so that appropriate mitigation strategies can be funded, planned, and implemented.

Applicants to HAB Socioeconomics are encouraged to consult national level HAB research needs reports that include gaps in socioeconomic research when identifying the topics of their proposal. National level planning efforts such as HARRNESS (6), HARR-HD (3), and more recently the HAB RDDTT Workshop Report (5) Chapter 2 Section 2.B.3.c. have focused on the research needed to understand the socioeconomic effects of HABs.

The following are examples called from these reports that are applicable to the goals of HAB Socioeconomics:

-Research that helps:

^identify the data needed to assess the economic, public health, and sociocultural impacts of HAB events on local and regional scales, and facilitates comprehensive and coordinated data collection and storage across affected sectors and communities;

^assess the sociocultural impacts of HAB events at local and regional scales;

^determine the economic impacts of HAB events at local and regional scales;

^quantify the vulnerability of actual and potential HAB-affected communities to

sociocultural and economic impacts of HAB events;

^measure the economic benefits of forecasts.

Proposed research on socioeconomic impacts can be submitted either as stand-alone proposals under HAB Socioeconomics or as part of a larger PCMHAB proposal if related to that proposal's goals and objectives.

### 3) Important information about HAB Programs Criteria

The following guidance clarifies the scope of PCMHAB in relation to the ECOHAB and MERHAB programs:

a) Developing methods of measuring and monitoring HAB cells and toxins.

i. ECOHAB will fund method development only when it is necessary to conduct research.

ii. MERHAB will fund the improvement or testing of existing methods to facilitate use in monitoring HAB cells, toxins or environmental conditions that foster blooms.

iii. PCMHAB Development phase will fund novel method development where the concept is so new to the HAB community that it is unknown whether it will be suitable for research or monitoring.

iv. PCMHAB will also fund efforts to develop sufficiently proven HAB methods to translate them into products that are widely available to potential end-users, including obtaining approval for regulatory use for measuring biotoxins in shellfish through the National Shellfish Sanitation Program (see the Interstate Shellfish Sanitation Conference Priorities to Improve Shellfish Monitoring for Harmful Algal Bloom Toxins at [http://www.issc.org/Data/Sites/1/media/issc%20lmrc%20priorities%20ver%208%20final%20\(2\).pdf](http://www.issc.org/Data/Sites/1/media/issc%20lmrc%20priorities%20ver%208%20final%20(2).pdf)).

b). Use of models for forecasting and prediction.

i. HAB forecasting and prediction through the development of models, is covered by ECOHAB.

ii. Development of partnerships to test and utilize models for forecasting, as part of

specific monitoring programs, is under the purview of MERHAB.

iii. Transfer of models for HAB forecasting and prediction to end users will be covered by PCMHAB.

iv. Modification or use of models to develop prevention strategies will be funded by PCMHAB, although this is not a priority of this FFO.

#### 4) Examples of Non-Applicable Research Topics

Some HAB research is conducted by other programs within NOAA or within other state or federal agencies. To avoid duplication of effort, ECOHAB, MERHAB, and PCMHAB will not fund research in the following areas:

a) Prevention of HABs by implementation of nutrient reductions or hydrodynamic modifications as a possible strategy. Numerous other programs in other agencies address implementation issues. PCMHAB will not fund, for example, research to develop new methods of nutrient removal or develop land use practices that may reduce nutrient inputs. However, if actual nutrient reductions or hydrodynamic changes are implemented, PCMHAB may fund research to monitor and model the consequences of those activities if they will be transferable to other situations;

b) Direct human health impacts of HABs, such as disease surveillance, clinical characterization, and therapeutic guidance in humans, are the purview of other programs, such as the National Science Foundation/National Institute of Environmental Health Sciences Centers of Oceans and Human Health, Centers for Disease Control and Prevention and U.S. Food and Drug Administration;

c) Freshwater bodies (e.g. ponds, lakes, and reservoirs) other than the Great Lakes (see Section I.A. 3 for specific definition);

d) Routine monitoring for HABs, HAB toxins, and water quality.

#### 5) PCMHAB and HAB Socioeconomic Programs Project Requirements

a) All the NOAA HAB programs support the needs of Federal, state, local, and tribal resources, public health managers, and other end users. However, the degree of management focus and end user involvement varies depending on the program and project. Investigators are urged to confer with the Program Manager to ensure that they have included the

appropriate level of end user participation. In the demonstration and technology transfer phases of the PCMHAB program projects must involve end users in the project and include a specific plan to transition the project to applications. While most projects in the development phase will include end users, it is possible that some developmental projects will be too exploratory to include end users. In that case, end users must still be identified and a plan to transition the project to applications must be outlined. Permission of the program managers is required to submit a proposal without end user involvement, and proposals should explain why end users are not involved in the project. Instructions for obtaining Program Manager permission are given in Section III.C.

b) All proposals are required to articulate outcome-based goals. Funding recipients will be expected to report project outputs and their progress toward achieving outcome-based goals annually. NOAA definitions and examples of outputs and outcomes can be accessed at <https://coastalscience.noaa.gov/about/funding-opportunities/outputs-and-outcomes/>.

c) All projects must undergo environmental reviews pursuant to the National Environmental Policy Act (NEPA) 42 U.S.C. 4321 et seq. (see Section VI.B.) Any project proposed to PCMHAB seeking to conduct field based research or demonstration of prevention, control, or mitigation strategies, must contact the program manager prior to submitting a letter of intent to determine potential NEPA issues.

d) All NOAA HAB projects are required to have a Transition Advisory Committee (TAC) whose purpose is to provide advice to the investigator team. For PCMHAB, the TAC is expected to assist with project design and ensure technology/information transfer. For HAB Socioeconomics, the TAC is expected to help with HAB scientific expertise and identification of critical HAB management and policy issues in the relevant community and business sectors perspectives. The structure, size, and activities of the TAC will be designed by the investigators and described in the proposal, including a plan for how the TAC will provide advice to the investigators. Members of the TAC must be named and letters included in the proposal indicating that they have agreed to serve on the TAC; these letters do not count towards the page limit. The TAC must include some members that are independent of the project (not funded investigators), who will typically have expertise in the research area and/or be potential end users. CRP employees cannot be TAC members. Projects that are national in scope or involve multiple regions should include TAC members that are representative of the scale of the proposed effort, with TAC representation from each region for multi-regional proposals and national TAC representation for proposals focused on the nation as a whole. The TAC for HAB Socioeconomics projects must include at least one HAB science expert and one representative from a relevant impacted community and/or business sector. The PCM Program Manager may request additional members during the

project negotiation stage. Funding can be requested for TAC activities such as participation in project investigator meetings, observation of field tests, or participation in technology/information transfer events. Travel funds for the TAC should be included within the budget. If the TAC member is a Federal employee and needs travel assistance to attend some TAC activities, they must obtain approval from their agency before receiving travel funds. When travel by TAC members to TAC functions is not practical or feasible, virtual TAC meetings and/or virtual participation of TAC members is allowed.

## 6. References

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16) NOAA National Sea Grant College Program. 2001. Prevention, Control, and Mitigation of Harmful Algal Blooms: A Research Plan. 28pp.  
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17) NOAA - A Strategic Vision for NOAA's Ecological Forecasting Roadmap 2015-2019. 14 pp. <https://oceanservice.noaa.gov/ecoforecasting/noaa-ecoforecasting-roadmap.pdf>

18) NOAA Fisheries Marine Aquaculture Strategic Plan FY 2016-2020. 33pp. 2016.  
<https://www.afdf.org/wp-content/uploads/8h-NOAA-Marine-Aquaculture-Strategic-Plan-FY-2016-2020.pdf>

19) U.S. Department of Commerce, 2018–2022 Strategic Plan: Helping the American Economy Grow Washington, DC. 36 pp.  
[https://www.decsocal.org/NewsEvents/us\\_department\\_of\\_commerce\\_2018-2022\\_strategic\\_plan.pdf](https://www.decsocal.org/NewsEvents/us_department_of_commerce_2018-2022_strategic_plan.pdf)

### C. Program Authority

33 U.S.C. §§ 4001-4009, The Harmful Algal Bloom and Hypoxia Research and Control Act of 1998 (HABHRCA), as amended; Public Law 102-567, § 201(c), Coastal Ocean Program.

## II. Award Information

### A. Funding Availability

Funding is contingent upon availability of Federal appropriations. It is anticipated that approximately \$2,500,000 may be available in Fiscal Year 2020 for the first year for all PCMHAB and HAB Socioeconomics projects.

Approximately 4-6 small projects up to 3 years in duration are expected to be funded under PCMHAB and HAB Socioeconomics at a level of \$200,000 to \$400,000 per year per proposal. In addition, 1-2 large projects up to 4 years in duration are expected to be funded under PCMHAB at up to approximately \$600,000 per year per proposal. NOAA will not accept any proposals submitted with total budgets (across all years) that are greater than



\$1,200,000 for small projects and \$2,400,000 for large projects.

#### B. Project/Award Period

Full proposals for PCMHAB may cover a project/award period up to 3 years for small projects and up to 4 years for large projects. Full proposals for HAB Socioeconomics may cover a project/award period up to 3 years.

Awards may be funded incrementally, generally on an annual basis, but once awarded, those awards will not compete for funding in subsequent years. This multi-year funding is often appropriate for projects to be funded for two to four years. Once approved, full applications are not required for the continuation out years. While applicants are not required to divide Federal assistance project activities into annual increments based on appropriations law, this approach may be constructive given the possibility that funding may not be available in subsequent years.

Funding for each year's activity is contingent upon the availability of appropriations, satisfactory performance, and is at the sole discretion of the agency.

During the implementation phase of research projects funded under this announcement, regardless of the funding mechanism used, CRP Program Managers will analyze financial statements and progress reports for each continuing award, and will have dialogue with the Principal Investigators and Authorized Representatives of the recipient institutions to discuss research progress and expected time lines for the remaining award period. If NOAA experiences budget reductions in future fiscal years, the amount of funding provided in any given fiscal year will be determined on a project-specific basis by the remaining tasks to be completed, the overall pace of the research and the length of time remaining on the award and/or across the board reductions based on the overall funds available.

Regardless of the budget for any given fiscal year, CRP Program Managers will consider the length of time remaining for each project, the amount of funds available, the tasks to be completed in the upcoming fiscal year, the pace of research, and any delayed progress relative to that originally proposed, before determining the funding amount in any given fiscal year.

#### C. Type of Funding Instrument

In an effort to maximize the use of limited resources, applications from non-Federal, non-NOAA Federal and NOAA Federal applicants will be evaluated in the same competition, with different funding instruments applicable to the type of applicant.

The funding instrument for a research application selected for funding from a non-Federal researcher is expected to be a cooperative agreement. A cooperative agreement is appropriate when substantial Federal government involvement is anticipated. This means that the recipient can expect substantial agency collaboration, participation, or intervention in project performance. Substantial involvement exists when: responsibility for the management, control, direction, or performance of the project is shared by the assisting agency and the recipient; or the assisting agency has the right to intervene (including interruption or modification) in the conduct or performance of project activities. "Substantial involvement" will be coordinated and communicated by CRP Program Managers, and can include collaboration and participation by NOAA (including NCCOS) researchers, as well as CRP Program Manager involvement in Principal Investigator (PI) meetings, setting up management advisory groups, development of management transition plans, and communication of project results.

If the non-Federal applicant is at an institution that has a NOAA Cooperative Institute (CI), <https://ci.noaa.gov/> it is allowed to submit applications that reference the CI by attaching a cover letter to the application stating its desire to have the application associated with the CI. This letter should specify the name of the cooperative institute, the CI cooperative agreement number, and the NOAA-approved research theme and task that applies to the proposal. The application will use the Facilities & Administrative (F&A, or indirect cost) rate associated with the main CI agreement. If the application is selected for funding, NOAA will notify the university that a separate award will be issued with its own award number. However, the award will include two Special Award Conditions (SACs): (1) the existing University/NOAA Memorandum Of Agreement (MOA) would be incorporated by reference into the terms of the competitive award, and (2) any performance report(s) for the competitive project must follow the timetable of the funding program and be submitted directly to the funding program.

Report(s) will be copied to the CI's administrator when due, to be attached to the main cooperative agreement progress report as an appendix. This will allow the CI to coordinate all the projects submitted through the CI, since the terms of these awards will specify that this is a CI project via the MOA.

If the non-Federal applicant is at an institution that has a NOAA approved Cooperative Ecosystem Studies Unit (CESU), <http://www.cesu.psu.edu/>. and meets the criteria described below for using that status, they may include a cover letter with their application stating their desire to have the application associated with that CESU. This letter should specify the name of the CESU. Of the 17 CESUs across the nation, NOAA is a member of 10: North and West Alaska, California, Hawaii-Pacific Islands, South Florida-Caribbean, Gulf Coast, Piedmont-

South Atlantic Coast, Chesapeake Watershed, North Atlantic Coast, Pacific Northwest, and Great Plains. The following criteria must be met for NOAA to use the established partnerships with CESUs:

1. The proposed project must fit within the objectives of the National CESU Network Program, which are to provide research, technical assistance, and education to federal land management, environmental, and research agencies and their partners in biological, physical, social, cultural, or engineering disciplines needed to address natural and cultural resource management issues at multiple scales and in an ecosystem context.

2. The proposed project must fit the intent of the CESU's existing Cooperative and Joint Agreement, which means (1) the research partnership will carry out or stimulate an activity (e.g., data, products, or services) for a public purpose, and (2) NOAA will be significantly involved in the work.

The funding instrument for a selected application from an eligible NOAA Federal applicant will be an intra-agency transfer of funds.

The funding instrument for a selected application from a non-NOAA Federal applicant will be through an inter-agency transfer of funds, provided legal authority exists for the Federal applicant to receive funds from another agency. Non-NOAA Federal applicants that intend to be the lead institution must call Laura Golden/240-533-0285 to discuss how to structure budgets and prepare required documentation. PLEASE NOTE: Before non-NOAA Federal applicants may be funded, they must demonstrate that they have applicable legal authority for an inter-agency transfer of funds.

Support may be solely through CRP or partnered with other Federal offices and agencies.

The intra- and inter-agency transfers of funds are not Federal assistance (grants or cooperative agreements), and the policies described in this Announcement applicable to Federal assistance awards do not apply to Federal entities receiving intra- and inter-agency transfers of funds. In the agreements implemented in these situations, NOAA will be substantially involved in the projects in a manner similar to the cooperative agreements with non-federal parties. Contact the NCCOS Grants Administrator for more information (refer to Section VII for contact information).

### III. Eligibility Information

#### A. Eligible Applicants

Eligible applicants for Federal financial assistance in this competition are institutions of higher education, other non-profits, state, local, Indian Tribal Governments, U.S. Territories, and for-profit organizations. Federal agencies that possess the statutory authority to receive transfers of funds are eligible to submit applications for intra- or inter-agency funds transfers through this competition. DOC/NOAA supports cultural and gender diversity and encourages women and minority individuals and groups to submit applications to the CRP programs. In addition, DOC/NOAA is strongly committed to broadening the participation of historically black colleges and universities, Hispanic serving institutions, tribal colleges and universities, and institutions that work in underserved areas. DOC/NOAA encourages applications involving any of the above institutions to apply.

Please note that:

- (1) Principal Investigators must be employees of an eligible entity listed above; and applications must be submitted through that entity. Non-Federal researchers should comply with their institutional requirements for application submission.
- (2) Non-Federal researchers affiliated with NOAA-University Cooperative/Joint Institutes will be funded through cooperative agreements.
- (3) Foreign researchers must apply as subawards or contracts through an eligible US entity.
- (4) Federal applicants are eligible to submit applications for intra- or inter-agency funds transfers through this competition. Non-NOAA Federal applicants will be required to submit certifications or documentation showing that they have specific legal authority to accept funds for this type of research.
- (5) An eligible U.S. entity may propose Federal agency researchers as funded or unfunded collaborators. If Federal agency researchers are proposed as funded collaborators, the applicant should present the collaborator's funding request in the application in the same way documentation is provided for a subrecipient for purposes of project evaluation, even though intra- or inter-agency funding transfers will generally be used if the project is selected.
- (6) NCCOS researchers may apply through an eligible U.S. entity as funded or unfunded collaborators, but cannot be the lead PI on the application. NOAA federal salaries will not be paid.

## B. Cost Sharing or Matching Requirement

Requirement None

## C. Other Criteria that Affect Eligibility

Letters of intent are required for both the PCMHAB and HAB Socioeconomics programs. A full proposal that did not submit a LOI will not be considered and will be returned to the proposer without review.

Each application must substantially comply with the sixteen elements listed under Content and Form of Application, Required Elements, (1) - (16), or it will be returned to sender without further consideration. A checklist with the required and requested application elements can be found in Section VIII.

## IV. Application and Submission Information

### A. Address to Request Application Package

Laura Golden  
1305 East West Hwy  
SSMC 4 Station 8219  
Silver Spring, MD 20910

### B. Content and Form of Application

#### 1. Letter of Intent (LOI)

Submission of a LOI within the timeframe specified in section D below is required before submission of a full proposal. Proposals submitted without a prior timely LOI submission will not be considered. The purpose of the LOI process is to provide information to potential applicants on the relevance of their proposed project and the likelihood of it being competitive in advance of preparing a full application. Full applications will be encouraged only for LOIs deemed relevant; however, the final decision to submit a full proposal is made by the investigator. The LOI should provide a concise description of the proposed work and its relevance to the PCMHAB or HAB Socioeconomics Programs. The LOI should be no more than two pages (front only) in length, single spaced in 12-point font with 1-inch margins and should include in order the components listed below. If all these components are not included, the LOI will not be considered.

a) Tentative project title.

b) Program (PCMHAB or HAB Socioeconomics)

c) Name phone number, email address and institution of all Principal Investigators and specification of which individual is the Lead Principal Investigator.

d) Approximate cost of the project.

e) Statement of the problem and its management relevance.

f) Brief summary of work to be completed, methodology to be used and the plan for transition results to management application

CRP Program Managers will review each LOI to determine whether it is responsive to the Program's goals, as advertised in this notice. Letters or emails to encourage or discourage a full application are scheduled to be sent out two weeks after the LOI due date.

Late LOIs will not be considered and any associated full applications will not be considered.

## 2. Full Application

a) Example Application

An example application and other guidance can be found under “Information for Applicants” located on the NCCOS webpage at:  
[https://cdn.coastalscience.noaa.gov/page-attachments/funding/sample\\_application%202019.pdf](https://cdn.coastalscience.noaa.gov/page-attachments/funding/sample_application%202019.pdf)

b) Collaborative Proposals

If more than one institution is collaborating in a project awarded funds, the lead institution will be the only institution to directly receive funds from NOAA unless a federal agency is a funded collaborator. Federal agencies may be funded directly by NOAA. Only one full proposal per project must be submitted via grants.gov. Collaborating institutions expected to receive funds must be budgeted as subawards or contracts in the submitted proposal and provide the lead institution with their documents for submission by the lead. Unfunded collaborators may also participate.

c) Required Elements

Each application must substantially comply with the following sixteen elements to be forwarded for merit review. The Summary, Title page, Abstract, Project Description, References, Biographical Sketch, and Budget Narrative must be single spaced in 12-point font with 1- inch margins. The Collaborators List must be an Excel spreadsheet. The sixteen elements are as follows:

(1) Standard Form 424. The applicant must submit the Standard Form, SF-424, “Application for Federal Assistance,” to indicate the total amount of funding proposed for the whole project period. This form is to be the cover page for the original application and is the first required form in the grants.gov application package.

(2) Summary title page. One-page maximum. The Summary title page identifies the project's title, starting with the acronym: PCMHAB20 or HAB Socioeconomics20 and the Principal Investigator’s (PI) name and affiliation, complete address, phone and email information. The requested funding amounts for each fiscal year with and without ship funding should be included on the Summary title page. If this proposal is a resubmission from a previous NCCOS competition, indicate that information on the Summary title page.

(3) One-page abstract/project summary. The summary (abstract) should appear on a separate single page, headed with the proposal title, institution(s), investigator(s), total proposed cost (with and without ship funds), and budget period. It should be written in the third person. The summary is used to help compare proposals quickly and allows the respondents to summarize their key points in their own words. Project summaries of applications that receive funding may be posted on program-related websites. The project summary should include an introduction of the problem, rationale, scientific objectives and/or hypotheses to be tested, and a brief summary of work to be completed.

(4) Project Description. – The description of the proposed project must include three narrative sections on the Proposed Research, its Application to Management, and a Data Management Plan. The proposal shall not exceed more than 15 pages for the description of the Proposed Research and Application to Management and 2 pages for the Data Management Plan. These three sections must include the information as described below

a. Proposed Research

The Proposed Research narrative section should be thorough and explicitly indicate its relevance to the program goals and scientific priorities by:

i. Identifying the topic that is being addressed by the proposal;

ii. Describing the proposed scientific objectives and research activities in relation to the present state of knowledge in the field and in relation to previous and current work by the proposing principal investigator(s).

iii. Discussing how the proposed project lends value to the program goals;

iv. Identifying the function of each PI. The Lead PI (s) will be responsible for communicating with the Federal Program Manager on all pertinent verbal or written information.

b. Application to Management

The Applications to Management Narrative should establish the connection to relevant resource management needs by explicitly identifying the end user group(s) including evidence of the linkage between the scientific questions and management needs. This narrative should provide the management justification for the research through:

i) Articulating the coordination with one or more management entities;

ii) Discussing the expected significance of the project to management priorities and needs. Specific management targets, with proposed outputs and outcomes, should describe how this project will improve management capabilities. For PCMHAB, particular attention should be given to showing end-user support and how the proposed PCM strategies will be sustained long-term. Outputs are defined as products (e.g. publications, models) or activities that lead to outcomes (changes in management knowledge or action). Definitions and examples of outputs and outcomes can be accessed at <http://coastalscience.noaa.gov/funding/recipients/outcomes>. The timeline for achieving outcomes should be included in the Milestone Chart (below).

iii) Describing specific activities, such as workshops or development of outreach materials that will enhance information transfer from project scientists to relevant management entities, other end-users, or the public.

iv) Describing the structure, size, and activities of the TAC, particularly by including a plan for how the TAC will provide advice to the investigators. Members of the TAC must be named and letters included in the proposal indicating that they have agreed to serve on the



TAC; these letters do not count against the page limits.

c. Data Management Plan

Proposals must provide a detailed Data Management Plan that describes how metadata and data collected as part of the project will be disseminated to the broader community, and plans for longer term archiving of these data. PIs that propose to collaborate with data centers or networks, except the National Center for Environmental Information, are advised to obtain letters of commitment that affirm the collaboration. Where possible, all PIs are strongly encouraged to use existing data centers and data portals to archive and disseminate their data. Costs associated with use of data centers, or data archiving, should be included in the application budget. See the section on the NOAA Data Reporting requirements in section VI.C. below.

[Note: If the proposal is a resubmission from a previous competition, any concerns identified with the Project Description in the previous review process and provided to the applicant(s) should be addressed in the resubmitted proposal.]

(5) References cited. Reference information is required. Each reference should include the names of all authors in the same sequence they appear in the publications, the article title, the journal or book title, volume number, page numbers, and year of publications. While there is no established page limitation, this section should include bibliographic citations only and should not be used to provide parenthetical information outside of the Project Description.

(6) Milestone chart. Provide time lines of major tasks covering the duration of the proposed project.

(7) Biographical sketch. All principal and co-investigators must provide summaries of up to 2 pages that include the following:

(a) A listing of professional and academic credentials and mailing address;

(b) A list of up to five publications most closely related to the proposed project and five other significant publications.

(8) Current and pending support. Describe all current and pending Federal financial/funding support for all principal and co-investigators. Continuing grants must also be included. A current and pending support form is available on the NCCOS web site for your use: <https://coastalscience.noaa.gov/about/application-forms> Please download and save the

form. You should respond to this element whether or not you have any current and/or pending support, e.g., by indicating “not applicable.”

(9) A list of all known applicable permits that will be required to perform the proposed work. You should respond to this requirement element whether or not permits are required.

(10) Accomplishments from Prior Federal Support addressing HAB research – If any PI or co- PI identified on the project has received Federal funding in the past five years for HAB research, information on the award(s) is required. Each PI and co-PI who has received more than one award (excluding amendments) must report on the award most closely related to the proposal. This section should not exceed two pages (in total, NOT per investigator) in addition to the Project Description.

The following information on accomplishments should be provided:

- a. the award number, amount and period of support;
- b. the title of the project;
- c. a summary of the results of the completed work;
- d. publications resulting from the award;
- e. a brief description of outputs and outcomes; and
- f. as appropriate, a description of the relation of the completed work to the proposed work.

When applicable, this information will be considered by reviewers in the evaluation of overall qualifications of applicants. You should respond to this element even if the applicant has no accomplishments from prior Federal support on HABs by stating “no prior Federal research on HABs.”

(11) Budget narrative. In order to allow reviewers to fully evaluate the appropriateness of costs, all applications must include a detailed budget narrative to support all proposed budget categories for each fiscal year. Provide a separate budget narrative for each year. Each subaward should be listed as a separate item in the lead’s budget narrative.

Refer to the NOAA Grants Management Division budget guidance found here:

[https://www.ago.noaa.gov/grants/docs/gmd\\_budget\\_narrative\\_guidance\\_-\\_05-24-2017\\_final.pdf](https://www.ago.noaa.gov/grants/docs/gmd_budget_narrative_guidance_-_05-24-2017_final.pdf)

Any ship time needs must be clearly identified in the proposed budget. The applicant is responsible for requesting ship time through appropriate channels and for meeting all requirements to ensure the availability of requested ship time. Copies of relevant ship time request forms should be included with the proposal.

If any NOAA personnel will be present during ship operations, vessel safety clearances must be obtained through the NOAA Office of Marine and Aviation Operations (OMAO) in advance of the cruise. Required information and procedures are detailed in a Charter Vessel Acquisition and Safety NOAA Administrative Order which can be accessed via the OMAO website at <http://www.oma.noaa.gov/learn/headquarters/safety-environmental-compliance/vessel-chartering-info>.

If more than one institution is collaborating in a project awarded funds, the lead institution will be the only institution to directly receive funds from NOAA unless a federal agency is a funded collaborator. Federal agencies may be funded directly by NOAA. The lead institution is responsible for sending funds to their other subaward institutions. A separate budget narrative is required for each subaward (including federal collaborators) and must be provided to the lead institution for submission. Signed approval from each identified subaward institution is also required. For acquisition contracts, the purpose and cost or price must be fully justified and the contract must fully comply with 2 C.F.R. 200.317-.326.

Applications are permitted to include the costs of project-level data management, including: coordinating, organizing, documenting, formatting, or otherwise preparing datasets for submission to NOAA or non-NOAA data facilities; establishing and maintaining data access tools and services and related metadata; managing non-digital data that are not required to be made publicly accessible, including laboratory notebooks, preliminary analyses, drafts of scientific papers, plans for future research, peer review reports, communications with colleagues, or physical objects, such as laboratory specimens.

An applicant requesting funds for indirect costs in its proposal budget that has a current Federally approved rate should submit documentation of the indirect cost rate agreement as an attachment to its application submission. An applicant without a Federally approved rate should refer to Section IV.F. of this Announcement regarding options.

(12) CD 511. Certification Regarding Lobbying. Lead institutions can submit these forms through the grants.gov CD511 document placeholder without a hard signature because

electronic signatures are allowed on documents from the submitting institution.

(13) SF 424B. Assurances - Non-Construction Programs. Lead institutions can submit these forms through the grants.gov SF 424B document placeholder without a hard signature because electronic signatures are allowed on document from the submitting institutions.

(14) Standard Form 424A. The lead and the collaborators requesting funds are each required to provide a SF-424A Budget Form that identifies the budget for each fiscal year of the proposal. Place each fiscal year in separate columns in Section B of page 1 on the SF424A by filling in the fiscal years 1 to 5 in Section A Budget Summary - Grant Program Function or Activity column. (Note that this revised 424A Section B format is a NOAA requirement that is not reflected in the Instructions for the SF 424A). The budget figures must correspond with the descriptions contained in the proposal.

Provide separate budgets for each subaward and indicate the basis for the cost estimates. Describe project activities for subawards and products/services to be obtained for acquisitions, and indicate the applicability or necessity of each to the project. List total subaward cost under line item 6.h.other and contractor costs under line item 6.f. contractual on the SF-424A. Signed approval from the institution of each identified subaward and contractor should be provided.

All ship costs belong in the “other” category and are not subject to indirect.

(15) List of Collaborators. Provide one list that includes all (U.S. and Foreign) collaborators, advisors, and advisees for each investigator (principal and co-principal investigators, post-docs, and subawardees), complete with corresponding institutions. This list must include the names of each PI and Co-PI. Submit only one, combined and alphabetized list per application in an excel spreadsheet using First Name, Last Name and Institution for the column headings. Collaborators are individuals who have participated in a project or publication within the last 48 months with any investigator, including co-authors on publications in the resumes. Collaborators also include those persons with which the investigators may have ongoing collaboration negotiations. Advisees and Advisors do not have a time limit. Advisees are persons with whom the individual investigator has had an association as thesis advisor or postdoctoral sponsor. Advisors include an individual’s own graduate and postgraduate advisors. Unfunded participants in the proposed study should also be listed (but not their collaborators). This information is critical for identifying potential conflicts of interests and avoiding bias in the selection of reviewers.

(16) Key Contacts form. All lead and sub applicants must submit the Key Contacts form.

This form can be found on the NCCOS website:  
<https://coastalscience.noaa.gov/about/application-forms>. Please download and save this form. This form identifies the official applicant contacts.

d) Application format and assembly.

Workspace is the standard way for organizations or individuals to apply for federal grants in Grants.gov. Workspace allows a grant team to simultaneously access and edit different forms within an application. Plus, the forms can be filled out online or offline—your choice.

Grants.gov Workspace also allows applicants and organizations to tailor their application workflow. Please refer to Grants.gov to determine which of the three approaches your institution should take when completing a Workspace application. This page also contains resources to aid in setting up the workspace and the application submission process.

If you experience submission problems that may result in your application being late, send an e-mail to [support@grants.gov](mailto:support@grants.gov) and call the Grants.gov help desk (800-518-4726). The federal program officer for this Announcement will use programmatic discretion in accepting applications due to documented electronic submission problems. NOTE: If more than one submission of an application is performed, the last application submitted before the due date and time will be the official version.

In addition to the sixteen required elements, applicants may provide the following:

- (1) A list of potential peer reviewers on a page after the Summary Title Page.
- (2) Letters from unfunded collaborators, verifying their contribution to the project. These letters do not count against the page limit for the Project Description. Letters of support may also be included, but they count against the page limit for the Project Description.

Applications containing known subawards must provide - SF424A, Budget Narrative, Current and Pending Support, and Key Contacts. Signed approval from the institution of each subaward and contractor should be provided. We also request submission of the indirect rate agreement for subawards, if applicable. Applicants should provide Key Contacts for acquisition contracts and may provide additional information similar to that requested in this section for an acquisition contract if it may help NOAA assure compliance of the contract with 2 C.F.R. 200.317-.326.

Permits, accomplishments, Biographical sketches and the collaborators lists should be supplied to the lead institution in order for them to be combined within the lead application information.

Applicants to be recommended for funding will be required to answer relevant questions from the "Environmental Compliance Questionnaire for NOAA Federal Financial Assistance Applicants": <https://www.nepa.noaa.gov/docs/NOAA-Grants-Questionnaire-final.pdf>. The Program Manager will determine which questions are relevant to each specific proposal. Answers must be provided before the application can be submitted for final funding approval.

#### C. Unique Entity Identifier and System for Award Management (SAM)

Unique Entity Identifier and System for Award Management (SAM): To enable the use of a universal identifier and to enhance the quality of information available to the public as required by the Federal Funding Accountability and Transparency Act, 31 U.S.C. 6101 note, to the extent applicable, any proposal awarded in response to this announcement will be required to use the System for Award Management (SAM), which may be accessed online at <https://www.sam.gov/portal/public/SAM/>. Applicants are also required to use the Dun and Bradstreet Universal Numbering System, as identified in OMB guidance published at 2 CFR Parts 25, which may be accessed at <https://go.usa.gov/xPTZg>.

Applicants and recipients are required to continue to maintain an active SAM registration with current information at all times during which it has an active Federal award or an application or plan under consideration by a Federal awarding agency. The Federal awarding agency may not make a Federal award to an applicant until the applicant has complied with all applicable unique entity identifier and SAM requirements and, if an applicant has not fully complied with the requirements by the time the Federal awarding agency is ready to make a Federal award, the Federal awarding agency may determine that the applicant is not qualified to receive a Federal award and use that determination as a basis for making a Federal award to another applicants.

See Section IV.G. of this Announcement for more information.

#### D. Submission Dates and Times

The required letters of intent (LOI) must be sent by e-mail to [nccos.grant.awards@noaa.gov](mailto:nccos.grant.awards@noaa.gov) and must be received by 5:00 p.m. Eastern Time on the specified date:

PCMHAB: Monday, November 11, 2019

HAB Socioeconomics: Monday, November 11, 2019

Full applications must be received and validated by Grants.gov by 11:59 p.m. Eastern Time on the date specified.

PCMHAB: Friday, January 10, 2020

HAB Socioeconomics: Friday, January 10, 2020

Full applications should be submitted electronically to Grants.gov and must be received and validated by Grants.gov by the deadline.

NOAA will also accept paper applications subject to further details described in this Announcement that are postmarked or provided to a commercial carrier with tracking number and receipt on or before 11:59 pm Eastern Time on the date specified above for each program.

If use of Grants.gov is not feasible, an applicant is concerned about possible problems associated with the Grants.gov system, or Grants.gov is unable to accept an application electronically in a timely fashion, an applicant may submit a paper copy of their application. Paper applications must include all application elements described in this Announcement, including an SF-424 form with original ink or valid electronic signature and date from an Authorized Organization Representative, and must be stamped with an official U.S. Postal Service postmark or provided to a commercial carrier with tracking number and receipt before 11:59 p.m., Eastern Time on the dates listed above. Private metered postmarks will not be accepted. Applicants submitting by paper are responsible for tracking their applications and should notify the federal program officer for this Announcement (refer to Section VII) that they are submitting by paper. The federal program officer will notify applicants within 48 hours of receipt of paper applications. Due to facilities access restrictions, an applicant seeking to hand deliver an application should contact the federal program officer for this Announcement (refer to Section VII) to make advance arrangements to receive the application by 3 p.m. on the application closing date. Advance notice of at least 24 hours is recommended to assure that such arrangements can be made.

Note that late-arriving hard copy applications will be accepted for review only if the applicant can document with tracking number and receipt that:

1. The application was provided to a delivery service with delivery to the National

Oceanic and Atmospheric Administration, 1305 East-West Highway, SSMC4, Mail Station 8219, Silver Spring, Maryland 20910;

2. The application was postmarked or provided to a commercial carrier with a tracking number and receipt by 11:59 p.m., Eastern Time on the specified closing date; and

3. The application was received at the specified address by 11:59 p.m., Eastern Time no later than five business days following the closing date. The applicant is responsible for notifying the federal program officer for this Announcement (refer to Section VII) of its submission. If an applicant is not notified of receipt of its application by NOAA, the applicant is responsible for contacting the federal program officer for this Announcement and providing documentation that demonstrates the application was provided to the delivery service ahead of the deadline.

Important: All applicants, both electronic and paper, should be aware that adequate time must be factored into applicant schedules for delivery of the application. Electronic applicants are advised that volume on Grants.gov is currently extremely heavy, and if Grants.gov is unable to accept applications electronically in a timely fashion, applicants are encouraged to exercise their option to submit applications in paper format. Paper applicants should allow adequate time to ensure a paper application will be received on time, taking into account that guaranteed overnight carriers are not always able to fulfill their guarantees.

Facsimile transmissions and electronic mail (“email”) submission of full applications will not be accepted.

#### E. Intergovernmental Review

Applications under this program are not subject to Executive Order 12372, "Intergovernmental Review of Federal Programs." It has been determined that this notice is not significant for purposes of Executive Order 12866. Pursuant to 5 U.S.C. 553(a) (2), an opportunity for public notice and comment is not required for this notice relating to grants, benefits and contracts. Because this notice is exempt from the notice and comment provisions of the Administrative Procedure Act, a Regulatory Flexibility Analysis is not required, and none has been prepared. It has been determined that this notice does not contain policies with Federalism implications as that term is defined in Executive Order 13132.

#### F. Funding Restrictions

Indirect Costs: If an applicant has not previously established an indirect cost rate with a Federal agency it may choose to use the de minimis indirect cost rate of 10% of Modified



Total Direct Cost as allowable under 2 C.F.R. §200.414 or negotiate a rate with the Department of Commerce. The negotiation and approval of such a new rate is subject to the procedures required by NOAA and the Department of Commerce Standard Terms and Conditions, Section B.06. The NOAA contact for indirect or facilities and administrative costs is: Lamar Revis, Grants Officer NOAA Grants Management Division 1325 East West Highway 9th Floor Silver Spring, Maryland 20910, [lamar.revis@noaa.gov](mailto:lamar.revis@noaa.gov).

CRP will not fund start up or operational costs for private business ventures and neither fees nor profits will be considered as allowable costs. Ship costs may not be included in indirect cost calculations unless specified within the indirect cost rate agreement of the institution. CRP will not pay for ship overhead expenses otherwise. If indirect costs are applied, an approved indirect cost agreement or budget revision will be required before an application can be recommended for funding.

#### G. Other Submission Requirements

Applications previously submitted to NCCOS FFOs and not recommended for funding must be revised to address any reviewer or panel concerns before resubmission.

Resubmitted applications that have not been revised to address identified concerns may be returned without review.

Applications submitted in response to this announcement are strongly encouraged to be submitted through the Grants.gov web site. The full funding announcement for this program is available via the Grants.gov web site: <http://www.grants.gov>. You will be able to access, download and submit electronic grant applications for NOAA Programs in this announcement at <http://www.grants.gov>. NOAA strongly recommends that you do not wait until the application deadline date to begin the application process through Grants.gov.

Applicants must register with Grants.gov before any application materials can be submitted. To use Grants.gov, applicant must have a Dun and Bradstreet Data Universal Number System (DUNS) number and be registered in the System for Award Management (SAM), and periodic renewals are required. Applicants can receive a DUNS number at no cost by calling the dedicated toll-free DUNS Number request line at 1-866-705-5711 or online at <http://fedgov.dnb.com/webform>. Allow a minimum of five days to complete the SAM registration. (Note: Your organization's Employer Identification Number (EIN) will be needed on the application form). An organization's one time registration process may take up to three weeks to complete. In addition, it may take two days until the applicant is notified as to whether NOAA received the application, so allow sufficient time to ensure applications are submitted before the closing date.

After electronic submission of the application through Grants.gov, the person submitting the application will receive within the next 24 to 48 hours two email messages from Grants.gov updating them on the progress of their application. The first email will confirm receipt of the application by the Grants.gov system, and the second will indicate that the application has either been successfully validated by the system before transmission to the grantor agency or has been rejected because of errors. Only validated applications are sent to NOAA for review. After the application has been validated, this same person will receive a third email, generally within two days, when the application has been downloaded by NOAA.

In addition to Grants.gov, this announcement will also be available by contacting the program official identified in Section VII. The closing dates for electronic and paper applications are the same. Please refer to important information in Submission Dates and Times (Section IV.D.) to help ensure your application is received on time.

Applicants must contact the Program Manager for non-electronic submission instructions.

## V. Application Review Information

### A. Evaluation Criteria

1) Importance and/or relevance and applicability of proposed project to the program goals: This ascertains whether there is intrinsic value in the proposed work and/or relevance to NOAA, Federal, regional, state, or local activities. Does the research address respectively the priorities of the PCMHAB (Section I.B.1) or HAB Socioeconomics (Section I.B.2.)

What is the management relevance of the proposed work? (35 percent)

2) Technical/scientific merit: This assesses whether the approach is technically sound and/or innovative, if the methods are appropriate, whether there are clear project goals and objectives. Does the proposal include an acceptable Data Management Plan that includes details on the types of environmental data and information expected and how and when the data will be shared? (35 percent)

3) Overall qualifications of applicants: This ascertains whether the applicant possesses the necessary education, experience, training, facilities, and administrative resources to accomplish the project. This includes the capability of the investigator and collaborators to complete the proposed work as evidenced by past research accomplishments, previous cooperative work, timely communication, and the sharing of findings, data, and other research products (as described in the Accomplishments from Prior Federal Support). (15 percent)

4) Project costs: The Budget is evaluated to determine if it is realistic and commensurate with the project needs and timeframe. (10 percent)

5) Outreach and education: NOAA assesses whether this project provides a focused and effective education and outreach strategy regarding NOAA's mission to protect the Nation's natural resources. The applicant must include plans for communicating and disseminating the results of research in ways that are appropriate to inform the relevant management entities that will use the results of the proposed work, including specific products, outcomes, and timing of the proposed work that will be used in achieving this goal. (5 percent)

#### B. Review and Selection Process

Once an application has been received by NOAA, an initial administrative review is conducted to determine compliance with requirements and completeness of the application. Ineligible, incomplete, and/or non-responsive applications may be eliminated from further review. NOAA, in its sole discretion, may continue the review process for applications with non-substantive issues that can easily be rectified or cured. All applications that pass this initial review will be evaluated and scored individually by independent peer mail review and/or by independent peer panel review.

Both Federal and non-Federal experts may be used in this process. The peer mail reviewers will be several individuals with expertise in the subjects addressed by particular applications. Each mail reviewer will see only certain individual applications within his or her area of expertise, and score them individually on a scale of one to five, where scores represent respectively: Excellent (5), Very Good (4), Good (3), Fair (2), Poor (1). Both whole and ½ scores will be acceptable. Reviewers will consider the relative weighting of the evaluation criteria in providing an overall proposal score.

The peer panel will comprise several individuals, with each individual having expertise in a separate area, so that the panel, as a whole, covers a range of relevant scientific expertise.

The panel will have access to all mail reviews of proposals and will use the mail reviews in discussion and evaluation of the entire slate of proposals. The peer panel shall rate the proposals using the evaluation criteria and scoring method provided above. Individual peer panel reviewers will consider the relative weighting of the evaluation criteria in providing their individual score. The individual peer panelists' scores shall be combined, using one or more methods, to obtain a numerical ranking of the proposals. If a full review (mail and panel) is conducted, only the panel scores shall be used to rank each proposal. If more than one non-Federal reviewer is used, no consensus advice will be given by the independent

peer mail review or the review panel.

The Program Manager will neither vote or score applications as part of the independent peer review panel nor participate in discussion of the merits of the applications other than to ask questions. Those applications receiving an average panel score of "Fair" or "Poor" will not be given further consideration, and applicants will be notified of non-selection.

For the applications scored by the reviewers as either "Excellent," "Very Good," or "Good", the Program Manager will (a) create a ranking of the applications to be recommended for funding using the panel scores; (b) recommend the total duration of funding for each application; and (c) recommend the amount of funds available for each application subject to the availability of fiscal year funds. Recommendations for funding are forwarded from the Program Manager to the CRP Director for development of the final recommendation to the Director of NCCOS or designee, (Selecting Official) for the final funding recommendation decision. Recommendations will be made using the rank order generated by the peer-review process unless justification is provided to select a proposal out of rank order. Justification must be based on one or more of the selection factors listed below in Section V.C.

NOAA reserves the right to negotiate the budget with the applicants that have been selected to receive awards, which may include requesting that the applicant remove certain costs, combine budgets into a single application, or change the lead institution. Additionally, NOAA may request that the applicant modify objectives or work plans and provide supplemental information required by the agency prior to award. NOAA may select some, all, or none of the applications, or part(s) of any particular application, and may request that applicants combine projects. In addition, applications rated by the panel as either "Excellent," "Very Good," or "Good" that are not funded in the current fiscal period, may be considered for funding in another fiscal period without having to repeat the competitive review process.

The Selecting Official will make recommendations to the NOAA Grants Management Division, and the final approval of selected applications and issuance of awards will be by the NOAA Grants Officer.

The NOAA Grants Officer will review financial and grants administration aspects of a proposed award, including conducting an assessment of the risk posed by the applicant in accordance with 2 C.F.R. 200.205. In addition to reviewing repositories of government-wide eligibility, qualifications or financial integrity information, the risk assessment conducted by NOAA may consider items such as the financial stability of an applicant, quality of the applicant's management systems, an applicant's history of performance, previous audit

reports and audit findings concerning the applicant and the applicant's ability to effectively implement statutory, regulatory, or other requirements imposed on non-Federal entities. See also "Review of Risk" in Section VI. of this Announcement.

Applicants should be in compliance with the terms of any existing NOAA grants or cooperative agreements and otherwise eligible to receive Federal awards, or make arrangements satisfactory to the Grants Officer, to be considered for funding under this competition. All reports due should be received and any concerns raised by the agency should be timely addressed in order to receive a new award. Upon review of these factors, if appropriate, specific award conditions that respond to the degree of risk may be applied by the NOAA Grants Officer pursuant to 2 C.F.R. 200.207. In addition, NOAA reserves the right to reject an application in its entirety where information is uncovered that raises a significant risk with respect to the responsibility or suitability of an applicant. The final approval of selected applications and issuance of awards will be by the NOAA Grants Officer.

When a decision has been made (whether an award or declination), verbatim anonymous copies of reviews and summaries of review panel deliberations, if any, will be made available to the applicant. Declined applications will be held in CRP for three years in accordance with current retention policies, and then destroyed.

#### C. Selection Factors

Proposals may be selected out of rank order based upon one or more of the following factors:

1. Availability of funding.
2. Balance/distribution of funds.
  - a. Geographically.
  - b. By type of institutions.
  - c. By type of partners.
  - d. By research areas.
  - e. By project types.

3. Whether this project duplicates other projects funded or considered for funding by NOAA or other Federal agencies.
4. Program priorities and policy factors. Refer to section I.B.
5. Applicant's prior award performance.
6. Partnerships and/or participation of targeted groups.
7. Adequacy of information necessary for NOAA to make a NEPA determination and draft necessary documentation before recommendations for funding are made to the grants officer.

Awards may also be modified for selected projects depending on budget availability or according to the selection factors listed above.

#### D. Anticipated Announcement and Award Dates

Subject to the availability of funds, review of the HAB applications will begin upon receipt. Applicants may be notified of award or declination by September 2020, and applicants should use a start date of September 1, 2020.

## VI. Award Administration Information

### A. Award Notices

The notice of award is signed by the NOAA Grants Officer and is the authorizing document. It is provided electronically through NOAA's Grants Online system to the appropriate business office of the recipient organization. The award cover page, i.e., CD-450, Financial Assistance Award, is available at <http://go.usa.gov/SNMR>. The Internet Explorer browser should be used with Grants Online.

### B. Administrative and National Policy Requirements

#### 1. Department of Commerce Pre-Award Notification Requirements for Grants and Cooperative Agreements

The Department of Commerce Pre-Award Notification Requirements for Grants and Cooperative Agreements contained in the Federal Register notice of December 30, 2014 (79 FR 78390) are applicable to this solicitation and may be accessed online at <http://www.gpo.gov/fdsys/pkg/FR-2014-12-30/pdf/2014-30297.pdf>.

## 2. Uniform Administrative Requirements, Cost Principles, and Audit Requirements

Through 2 C.F.R. § 1327.101, the Department of Commerce adopted Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards at 2 C.F.R. Part 200, which apply to awards in this program. Refer to <http://go.usa.gov/SBYh> and <http://go.usa.gov/SBg4>.

## 3. Department of Commerce Financial Assistance Standard Terms and Conditions

Successful applicants who accept a NOAA award under this solicitation will be bound by Department of Commerce Financial Assistance Standard Terms and Conditions. A current version of this document is available at <https://go.usa.gov/xVmMZ>. NOAA will also add administrative terms for which a current version is found at <https://go.usa.gov/xVmMP>. In addition, award documents provided by the NOAA Grants Management Division in the Grants Online award package may contain special award conditions unique to a project, including conditions that may limit the use of funds for activities that have outstanding environmental compliance requirements and/or stating other compliance requirements for the award as applicable.

## 4. Limitation of Liability

Funding for programs listed in this notice is contingent upon the availability of appropriations. Applicants are hereby given notice that funds may not have been appropriated yet for the programs listed in this notice. NOAA or the Department of Commerce are not responsible for direct costs of proposal preparation. Publication of this announcement does not oblige NOAA to award any specific project or to obligate any available funds.

## 5. Unpaid Tax Liability and Recent Felony Conviction Certification

When applicable under appropriations law, NOAA will provide certain applicant organizations a form to be completed by the applicant's authorized representative making a certification regarding federally-assessed unpaid or delinquent tax liability or recent felony criminal convictions under any federal law by the organization. A copy of this form may be viewed at [https://www.ago.noaa.gov/grants/docs/unpaid\\_tax\\_liability\\_form.pdf](https://www.ago.noaa.gov/grants/docs/unpaid_tax_liability_form.pdf).

## 6. National Environmental Policy Act (NEPA)

The National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. 4321 et seq., as

implemented by the Council on Environmental Quality (CEQ) Regulations (40 CFR Parts 1500 through 1508), requires that Federal agencies include in their decision-making processes appropriate and careful consideration of all environmental effects of proposed actions, analyze potential environmental effects of proposed actions and their alternatives, avoid or minimize adverse effects of proposed actions, and restore and enhance environmental quality to the extent practicable. Therefore, NOAA must analyze the potential environmental impacts, as required by the National Environmental Policy Act (NEPA), for applicant projects or proposals which are seeking NOAA federal funding opportunities to ensure applicant projects or proposals are in compliance with NEPA and all policies and procedures in NOAA Administrative Order (NAO) 216-6A and the NAO 216-6A Companion Manual and all applicable federal, state, and local environmental laws, regulations, and Executive Orders (EOs) aimed at protecting human health, the environment, natural resources, and cultural resources.

Detailed information on NOAA compliance with NEPA can be found at the following NOAA NEPA website: <http://www.nepa.noaa.gov/>, and in the NAO 216-6A; [http://www.corporateservices.noaa.gov/ames/administrative\\_orders/chapter\\_216/216-6A.html](http://www.corporateservices.noaa.gov/ames/administrative_orders/chapter_216/216-6A.html) and the associated companion manual; <http://www.nepa.noaa.gov/docs/NOAA-HQ-2016-0145%20NAO%20216-6A%20Companion%20Manual.pdf>.

Examples of existing Environmental Assessments include the Programmatic Environmental Assessment (PEA) for the PCMHAB program and the Supplemental Environmental Assessment (SEA) to the PCMHAB program for the Nano-bubble Ozone Technology that can be found on this website: <https://coastalscience.noaa.gov/research/stressor-impacts-mitigation/pcmhab/>

Consequently, as part of an applicant's package, and under their description of their program activities, applicants are required to provide detailed information on the activities to be conducted, locations, sites, species and habitat to be affected, possible construction activities, and any environmental concerns that may exist (e.g., the use and disposal of hazardous or toxic chemicals, introduction of non-indigenous species, impacts to endangered and threatened species, aquaculture projects, and impacts to coral reef systems). Applicants to be recommended for funding will may also be required to answer relevant questions from the "Environmental Compliance Questionnaire for NOAA Federal Financial Assistance Applicants" (OMB Control No. 0648-0538) or other questionnaires to fulfill compliance with NEPA and all other environmental laws, regulations, and Executive Orders (EOs) aimed at protecting human health, the environment, natural resources, and cultural resources. The Program Manager will determine which questions are relevant to each specific proposal. Answers must be provided before the application can be submitted for final funding



approval.

In addition to providing specific information that will serve as the basis for any required impact analyses, applicants may also be requested to assist NOAA in drafting an environmental assessment, if NOAA determines an assessment is required. Applicants will also be required to cooperate with NOAA in identifying feasible measures to reduce or avoid any identified adverse environmental impacts of their proposal. Failure to do so shall be grounds for not selecting an application. In some cases if additional information is required after an application is selected, funds can be withheld by the Grants Officer under a special award condition requiring the recipient to submit additional environmental compliance information sufficient to enable NOAA to make an assessment on any impacts that a project may have on the environment. See also Section IV.B. of this announcement.

#### 7. Review of Risk

After applications are proposed for funding by the Selecting Official, the Grants Office will perform administrative reviews, including an assessment of risk posed by the applicant under 2 C.F.R. 200.205. These may include assessments of the financial stability of an applicant and the quality of the applicant's management systems, history of performance, and the applicant's ability to effectively implement statutory, regulatory, or other requirements imposed on non-Federal entities. Special conditions that address any risks determined to exist may be applied. Applicants may submit comments to the Federal Awardee Performance and Integrity Information System (FAPIIS) about any information included in the system about their organization for consideration by the awarding agency.

#### 8. Minority Serving Institutions

The Department of Commerce/National Oceanic and Atmospheric Administration (DOC/NOAA) is strongly committed to increasing the participation of Minority Serving Institutions (MSIs), i.e., Historically Black Colleges and Universities, Hispanic serving institutions, Tribal colleges and universities, Alaskan Native and Native Hawaiian institutions, and institutions that work in underserved communities.

#### 9. Permits

It is the applicant's responsibility to obtain all permits and approvals from federal, state, and local governments and private landowners where necessary for the proposed work to be conducted. If applicable, documentation of requests or approvals of environmental permits must be received by the federal program office prior to release of funding. Failure to apply

for and obtain federal, state, and local permits, approvals, or letters of agreement may delay the award of funds if a project is otherwise selected for funding. In some cases if additional permits and approvals are required after an application is selected, funds may be withheld by the Grants Officer under a Special Award Condition requiring the recipient to submit required permits and approvals.

#### 10. Access to Information

Patentable ideas, trade secrets, privileged or confidential commercial or financial information, disclosure of which may harm the proposer, should be included in proposals only when such information is necessary to convey an understanding of the proposed project. Such information should be clearly marked in the proposal or included as a separate statement accompanying the proposal and should be appropriately labeled with a legend such as, "The following is [proprietary or confidential] information that [name of proposing organization] requests not be released to persons outside the Government, except for purposes of review and evaluation." As an alternative example in the event that an application contains information or data that you do not want disclosed prior to award for purposes other than the evaluation of the application, mark each page containing such information or data with the words "Privileged, Confidential, Commercial, or Financial Information - Limited Use" at the top of the page to assist NOAA in making disclosure determinations. While NOAA will make every effort to prevent unauthorized access to such material, it is not responsible or in any way liable for the release of such material.

Department of Commerce regulations implementing the Freedom of Information Act (FOIA), 5 U.S.C 552, are found at 15 C.F.R. Part 4, which sets forth rules for DOC to make requested materials, information, and records publicly available under FOIA. The contents of funded applications may be subject to requests for release under the FOIA. Based on the information provided by the applicant, the confidentiality of the content of funded applications will be maintained to the maximum extent permitted by law.

A proposal that results in an award will be available to the public on request, except for privileged information or material that is personal, proprietary or otherwise exempt from disclosure under law. Appropriate labeling in the proposal aids identification of what may be specifically exempt. Such information will be withheld from public disclosure to the extent permitted by law, including the Freedom of Information Act, referenced in the paragraph above. Without assuming any liability for inadvertent disclosure, NOAA will seek to limit disclosure of such information to its employees and to outside reviewers when necessary for merit review of the proposal or as otherwise authorized by law. Portions of proposals resulting in grants that contain descriptions of inventions in which either the Government or

the grantee owns a right, title, or interest (including a nonexclusive license) will not normally be made available to the public until a reasonable time has been allowed for filing patent applications. NOAA will notify the grantee of receipt of requests for copies of funded proposals so the grantee may advise NOAA of such inventions described, or other confidential, commercial or proprietary information contained in the proposal.

In addition, applicants are also reminded that under 2 C.F.R. § 200.303(e) they must take reasonable measures to safeguard protected personally identifiable information and other confidential or sensitive personal or business information created or obtained in connection with a Department of Commerce financial assistance award. By submitting an application, an applicant (1) agrees to cooperate with Department of Commerce and external project and program evaluators and submit required financial and performance information and data in an accurate and timely manner, and (2) acknowledges and understands that information and data contained in applications for financial assistance, as well as information and data contained in recipient financial, performance and other reports, may be used by the Department of Commerce in conducting reviews and evaluations of its financial assistance projects and programs.

Applicants are notified that Department of Commerce and other Federal employees, Federal agents and contractors, and/or non-Federal personnel who enter into appropriate confidentiality and nondisclosure agreements may access, review, and evaluate applicant and recipient information and data.

#### 11. Scientific Integrity

The Science Program adheres to the principles of scientific integrity. This policy can be found at:

[https://www.corporateservices.noaa.gov/ames/administrative\\_orders/chapter\\_202/202-735-D.html](https://www.corporateservices.noaa.gov/ames/administrative_orders/chapter_202/202-735-D.html).

#### C. Reporting

All performance (i.e. technical progress) reports shall be submitted electronically through NOAA's electronic Grants Online system unless the recipient does not have electronic access. In that case, performance (technical) reports are to be submitted to the NOAA Program Manager. All financial reports shall be submitted in the same manner. All ship time use must be reported by the PI or Chief Scientist on each cruise within the performance reports.

The Federal Funding Accountability and Transparency Act, 31 U.S.C. 6101 note, includes a

requirement for awardees of applicable Federal grants to report information about first-tier subawards and executive compensation under Federal assistance awards. All awardees of applicable grants and cooperative agreements are required to report to the Federal Sub-award Reporting System (FSRS) available at <https://www.fsrs.gov/> on all sub-awards over \$25,000. Refer to 2 CFR Parts 170.

### Data Reporting Requirement

1. Environmental data and information collected or created under NOAA grants or cooperative agreements must be made discoverable by and accessible to the general public, in a timely fashion (typically within two years), free of charge or at no more than the cost of reproduction, unless an exemption is granted by the NOAA Program. Data should be available in at least one machine-readable format, preferably a widely-used or open-standard format, and should also be accompanied by machine-readable documentation (metadata), preferably based on widely used or international standards.

Proposals submitted in response to this Announcement must include a Data Management Plan of up to two pages describing how these requirements will be satisfied. The Data Management Plan should be aligned with the Data Management Guidance provided by NOAA in the Announcement (see Data Management Guidance to Proposal Writers below). The contents of the Data Management Plan (or absence thereof), and past performance regarding such plans, will be considered as part of proposal review. A typical plan should include descriptions of the types of environmental data and information expected to be created during the course of the project; the tentative date by which data will be shared; the standards to be used for data/metadata format and content; methods for providing data access; approximate total volume of data to be collected; and prior experience in making such data accessible. The costs of data preparation, accessibility, or archiving may be included in the proposal budget unless otherwise stated in the Guidance. Accepted submission of data to the NOAA National Centers for Environmental Information (NCEI) is one way to satisfy data sharing requirements; however, NCEI is not obligated to accept all submissions and may charge a fee, particularly for large or unusual datasets.

2. NOAA may, at its own discretion, make publicly visible the Data Management Plan from funded proposals, or use information from the Data Management Plan to produce a formal metadata record and include that metadata in a Catalog to indicate the pending availability of new data.

3. Proposal submitters are hereby advised that the final pre-publication manuscripts of scholarly articles produced entirely or primarily with NOAA funding will be required to be

submitted to NOAA Institutional Repository after acceptance, and no later than upon publication. Such manuscripts shall be made publicly available by NOAA one year after publication by the journal. Environmental data and information collected or created under NOAA grants or cooperative agreements must be made discoverable by and accessible to the general public, in a timely fashion (typically within two years), free of charge or at no more than the cost of reproduction, unless an exemption is granted by the NOAA Program. Data should be available in at least one machine-readable format, preferably a widely-used or open-standard format, and should also be accompanied by machine-readable documentation (metadata), preferably based on widely used or international standards.

#### Data Management Guidance to Proposal Writers

1. Responsible NOAA Official for questions regarding this guidance and for verifying accessibility of data produced by funding recipients: Laurie Golden, Grant Coordinator, NOAA NCCOS, [laurie.golden@noaa.gov](mailto:laurie.golden@noaa.gov), 240-533- 0285. Responsible NOAA Data Manager for questions regarding data management and implementing this guidance: Jessica Morgan, Responsible NOAA Data Manager, NOAA NCCOS, 240-533-0300.

2. Data Accessibility: The CRP Program requires that public access to grant- produced data be enabled as follows; Data Management Plans (see Section IV.B.2.) submitted with Proposals should reflect one or more of the option(s) provided by CRP.

Option A: For the majority of oceanographic and ecological data, except those listed below, funding recipients are expected to submit data to the NOAA National Centers for Environmental Information (NCEI) for long-term preservation, which will provide public access, archiving, discovery metadata meeting NOAA standards and formats, and a Digital Object Identifier (DOI). CRP has held preliminary consultation with NCEI regarding these pending data.

Option B: For any other data not appropriate for submission to NOAA NCEI, funding recipients are expected to submit data to an appropriate data facility (i.e., NIH GenBank for genomics data) that preserves data, properly manages archived data to assure their quality, mints DOIs, and makes archived data and related information available to users in a timely and efficient manner. Funding recipients should submit discovery metadata meeting NOAA standards and formats documenting these non-NOAA data archives to the Responsible NOAA Data Manager listed above.

Option C: For limited-release data that are limited by law, regulation, policy, security requirements, commercial or international agreements, or valid technical considerations,

funding recipients may request permission not to make data publicly accessible from the Responsible NOAA Official listed above.

3. Technical recommendations: The NOAA Program is not offering specific technical guidance. Proposals are to describe their proposed approach. Use of open-standard formats and methods is encouraged. Definitions of data management terms are included here:

Environmental data are recorded and derived observations and measurements of the physical, chemical, biological, geological, and geophysical properties and conditions of the oceans, atmosphere, space environment, sun, and solid earth, as well as correlative data such as socio-economic data, related documentation, and metadata. Digital audio or video recordings of environmental phenomena (such as animal sounds or undersea video) are included in this definition. Numerical model outputs are included in this definition, particularly if they are used to support the conclusion of a peer-reviewed publication. Data collected in a laboratory or other controlled environment, such as measurements of animals and chemical processes, are included in this definition.

Sharing data means making data publicly visible and accessible in a timely (see below) manner at no cost (or no more than the cost of reproduction), in a format which is machine-readable and based on open standards, along with metadata necessary to find and properly use the data. Data are to be made available in a form that would permit further analysis or reuse: data must be encoded in a machine-readable format, preferably using existing open-standard formats; data must be sufficiently documented, preferably using open metadata standards, to enable users to independently read and understand the data. Data should undergo quality control (QC) and a description of the QC process and results should be referenced in the metadata.

Machine-readable means the data are stored on a computer in a digital format whose structure is well described and which can be read without the aid of a human. An open-standard format is one which does not require proprietary software to be read. Metadata is documentation that is machine-readable and structured according to an open-standard format and which describes the data so that users can search for, access, read, understand, and use the data. International Organization for Standardization (ISO) EXtensible Markup Language (XML) is an acceptable metadata format.

Timely means no later than publication of a peer-reviewed article based on the data, or two years after the data are collected and verified, or two years after the original end date of the grant (not including any extensions or follow-on funding), whichever is soonest, unless a delay has been authorized by the NOAA funding program.

NCCOS/CRP resources for data archiving at NOAA NCEI have already been identified; proposals should not include such costs. Proposals are permitted to include the costs of additional project-level data management, including: coordinating, organizing, documenting, formatting, or otherwise preparing datasets for submission to NOAA or non-NOAA data facilities; establishing and maintaining data access tools and services and related metadata; managing non-digital data that are not required to be made publicly accessible, including laboratory notebooks, preliminary analyses, drafts of scientific papers, plans for future research, peer review reports, communications with colleagues, or physical objects, such as laboratory specimens.

## VII. Agency Contacts

Technical Information: Felix Martinez, PCMHAB Program Manager, CRP, 734-741-2254, felix.martinez@noaa.gov

Grants Administration Information: Laura Golden, NCCOS Grants Administrator, 240-533-0285, Laurie.Golden@noaa.gov

## VIII. Other Information

Check List for Required and Requested Documents:

- (1) SF-424
- (2) Title Page
- (3) Abstract
- (4) Project Description
- (5) References
- (6) Milestone Chart
- (7) Bio Sketch
- (8) Current and Pending Support

- (9) Permits (if none, say so)
- (10) Accomplishments (if none, say so)
- (11) Budget Narrative (One for the lead institution and each subaward/subcontract).
- (12) CD-511
- (13) SF-424B
- (14) SF-424A (One for the lead institution and each subaward/subcontract)
- (15) Alphabetized Collaborator List (ONE excel spreadsheet for all)
- (16) Key Contact form

Indirect Rate Agreement (requested).

If Applicable: Signed Approval from subaward/subcontractor institutes; Ship Request form