Integrated Research on Coastal and Ocean Acidification and Harmful Algal Blooms

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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: Integrated Research on Coastal and Ocean Acidification and Harmful Algal Blooms

Announcement Type: Initial

Funding Opportunity Number: NOAA-NOS-NCCOS-2022-2006992

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) must be submitted by e-mail to nccos.grant.awards@noaa.gov and received by 11:59 p.m. Eastern Time on October 14, 2021. Applicants will receive an email verification of receipt.

Responses to LOIs should be expected by approximately October 28, 2021.

Full applications must be received and validated by Grants.gov by 11:59 p.m. Eastern Time on January 19, 2022. Electronic submissions received after the deadline will not be considered.

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.

If use of Grants.gov is not feasible, contact the NCCOS Grants Administrator (see section VII for contact information) as soon as possible and no later than a week before the due date to

assess whether alternative arrangements can be made.

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) and the NOAA Ocean Acidification Program (OAP) are soliciting proposals for research that must address the interaction between coastal and ocean acidification and harmful algal blooms.

Funding is contingent upon the availability of Fiscal Year 2022 Federal appropriations. It is anticipated that up to approximately $1,500,000 may be available in Fiscal Year 2022 for the first year for all projects combined. If funds become available for this program, 3-5 targeted projects are expected to be funded at the level of $300,00 to $500,000 per year per proposal (including ship time). Projects are expected not to exceed 3 years in duration. NCCOS/CRP will not accept any proposals submitted with an annual budget that is greater than $500,000 for any year. It is anticipated that projects funded under this announcement will have a September 1, 2022 start date.

NOAA encourages applicants and awardees to support the principles of diversity and inclusion when writing their proposals and performing their work. Diversity is defined as a collection of individual attributes that together help organizations achieve objectives. Inclusion is defined as a culture that connects each employee to the organization. Promoting diversity and inclusion improves creativity, productivity, and the vitality of the research community in which NOAA engages.

The required LOI should be sent by e-mail to nccos.grant.awards@noaa.gov. Full proposals will not be considered if a LOI was not submitted.

Electronic Access: Proposals should be submitted through Grants.gov. Sign up to receive any potential amendments to this Announcement via www.grants.gov.

FULL ANNOUNCEMENT TEXT

I. Funding Opportunity Description

A. Program Objective

1. Growing Concern regarding HAB and OA Co-Occurrence and Impacts

Harmful algal blooms (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 wellbeing, economies, and the ecology of both marine and freshwater bodies. HABs are now a recurrent and serious problem in many areas of the U.S., and HAB impacts on public health and local/regional economies are increasing in some regions. Costs are attributable to maintenance of toxin monitoring programs; closures of shellfish beds; collapse of some fisheries; 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. 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 public health. Appropriate response requires an understanding of HAB 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. These reports are accessible at this site: https://hab.whoi.edu/research/research-publications-reports/research-publications-reports-national/.

The amount of carbon dioxide (CO2) in the atmosphere has been rapidly increasing for over 250 years, since the onset of the industrial revolution. The world's oceans act as a sink for a portion of the carbon dioxide emitted by humans, and this absorption is causing significant changes in ocean chemistry including a reduction in surface ocean pH, known as ocean acidification (OA). A growing number of laboratory experiments have demonstrated that OA adversely affects many marine organisms. However the effects of OA on HABs are largely unknown. OA has the potential to threaten the future health of the world's oceans and the ecosystem services they provide.

Both HABs and OA are threats to marine ecosystems and human communities in the

coastal zone. While research to date has provided insights into the many factors that regulate HAB dynamics, toxicity, and impacts, only a few of these have included OA. Similarly, OA studies have examined ocean biogeochemistry and impacts to marine resources and economies and have started to expand into multi-stressor research studies (e.g., with hypoxia and warming). Recent studies indicate that increased CO2 concentrations support higher phytoplankton densities and that OA parameters (e.g., pCO2 and pH) have variable effects on growth rate and cellular toxin production in different HAB species and strains. There is a growing need to understand OA-HAB interactions and their cascading impacts to coastal ecosystems, communities, and economies to inform management decisions. OA and HABs can impact the same coastal resources (e.g., aquaculture, wild fisheries, and tourism) in different ways and there may be synergistic or antagonistic effects that are not recognized by current research efforts. OA and HABs have some common drivers in coastal areas and often co-occur in space and time, which will likely become more common in the future.

NOAA uses the following definitions:

- HABs are marine and freshwater phytoplankton that have proliferated to high concentrations, resulting in nuisance conditions or harmful impacts on marine and aquatic ecosystems, coastal communities, and human health through the production of toxic compounds or other biological, chemical, and physical impacts of the algae outbreak (33 USC 4008(3)). “High concentrations” of phytoplankton are relative to baseline conditions or abundances observed during non-bloom or non-nuisance conditions, or in the absence of harmful impacts.

- OA is driven predominantly by ocean uptake of atmospheric CO2, resulting in global-scale changes in ocean chemistry with predictions of broad-scale ecosystem impacts. Coastal acidification, which refers to a pH decline over decadal or longer time scales, resulting not only from atmospheric CO2, but also from changes in coastal biogeochemical and hydrographic processes, is recognized as the coastal manifestation of OA. Throughout this Notice of Funding Opportunity, the term "OA" represents both ocean and coastal acidification processes in marine and Great Lakes ecosystems.

2. Legislative Mandates and Justification

The NCCOS Competitive Research Program (CRP), the administrative lead for this Announcement, supports the development of actionable information and tools that improve how the nation protects, manages, and conserves ocean and coastal ecosystems. As authorized under the Harmful Algal Bloom and Hypoxia Research and Control Act (HABHRCA), NCCOS/CRP funds HAB research through a competitive, peer-reviewed

process to: (1) advance a holistic ecosystem understanding of HABs (physiology, dynamics, trophic impacts, and toxin transfer) critical for improved prediction; (2) enhance HAB mitigation capacity through improved observing and detection, early warning and forecasting, and approaches that reduce or eliminate toxic and non-toxic effects; (3) develop and advance HAB control strategies; and (4) support better measures of the social and economic impacts of HABs. Abstracts of projects previously funded under the National Competitive HAB Programs are available online at https://hab.whoi.edu/research/research-projects/.

The Ocean Acidification Program (OAP) was established by the Federal Ocean Acidification Research and Monitoring (FOARAM) Act of 2009. The OAP coordinates OA research, monitoring, and other activities to improve our understanding of how the chemistry of the ocean is changing, how variable that change is by region, and what impacts these changes are having on marine organisms, people, and the local, regional, and national economies that depend on the ocean. NOAA's mission is to understand and predict changes in the world's oceans, share that knowledge, and conserve coastal and marine ecosystems. The OAP plays an integral role in NOAA's mission by monitoring changes in ocean chemistry, measuring the biological response of ecologically and economically important species, assessing the socioeconomic impacts of the ocean chemistry changes and organismal responses, promoting ocean acidification educational opportunities; engaging in national public outreach activities related to ocean acidification and its impacts; and coordinating ocean acidification activities with other agencies and international ocean science bodies.

NCCOS/CRP and OAP have complementary objectives to address multi-stressor research questions in the coastal environment. The need for multi-stressor research has been identified in strategic planning and research prioritization efforts over the past decade, which led to a focused workshop to engage scientists and stakeholders in the identification of research needs and priorities at the intersection of OA and HABs.

The Ocean Acidification and Harmful Algal Blooms: Defining a Research Agenda Workshop was convened in August 2020 to review the state of the science at the intersection of OA and HABs and identify research needs (https://oceanacidification.noaa.gov/HABOA2020.aspx). The workshop determined the need for multi-stressor research to address the following questions:

- How are OA and HAB dynamics linked?

- How does OA influence the growth or toxicity of HABs?

- What are the food web impacts of OA and HABs in concert?

- Are some marine species more vulnerable or more resilient to combined OA and HAB impacts?

- What are the synergistic OA and HAB impacts to fisheries and coastal economies?

- Can future conditions be projected on relevant timescales for both OA and HABs (e.g., nowcasts/days, seasonal forecasts/months, decadal, and climate projections/50-100 years)?

- Can the combined impacts of OA and HABs be incorporated into useful information and products for managers and policymakers (e.g., Are existing HAB models improved with the addition of OA parameters)?

The following list of cross-regional research needs emerged from the workshop:

(1) Continued basic research on OA impacts on HABs across ecological levels (species, population, community, food web, and ecosystem).

(2) Evaluation of OA as a multi-stressor with multiple potentially co-varying chemical drivers (e.g., pH, pCO2, calcium carbonate saturation state), each of which may have different impacts and/or interactions; i.e., research should take a holistic approach to OA by focusing on carbonate chemistry as a system rather than one carbon species.

(3) Experimental designs that account for the co-occurrence of OA with other environmental conditions, such as eutrophication and hypoxia, which each may have separate or interactive effects on HABs; i.e., proposed research that includes field experiments should incorporate concurrent measurements of confounding environmental conditions (e.g., nutrients and dissolved oxygen).

(4) Research which is maximally relevant to important resource species, coastal economies, and social systems (e.g., combined impacts of OA and HABs on shellfish production).

(5) Improved modeling for prediction, attribution, and sensitivity testing.

(6) Efforts to leverage existing monitoring assets to add OA and HAB parameters

measured simultaneously to address a specific research question.

(7) Data management to foster integration of disparate data types and data from independent projects and sources.

(8) Data product development, with data available in near real time for integration and synthesis; augmentation of existing data products is encouraged.

(9) Continued and enhanced communication and outreach efforts, both as a delivery mechanism for research results and to identify the needs of stakeholders.

The full workshop report, including regional research priorities, is available at URL https://repository.library.noaa.gov/view/noaa/30908. In addition, a suite of strategic planning and research documents listed below have emphasized the need for multi-stressor research, including evaluating the interactions between OA and HABs.

- The U.S. Strategic Plan for Federal Research and Monitoring of Ocean Acidification (2014) calls for research to understand how OA will interact with other stressors, as well as the development of new and enhanced models to project how combined stressors will affect marine ecosystems and the socioeconomic and cultural impacts to communities (https://oceanacidification.noaa.gov/Portals/42/Images/IWGOA%20Strategic%20Plan.pdf).

- The NOAA Ocean Coastal and Great Lakes Acidification Research Plan: 2020-2029 overarching goal is to understand and predict ecosystem response and adaptive capacity of ecologically and economically important species to acidification and co-stressors, and throughout the research plan, HABs are called out as an important co-stressor (https://oceanacidification.noaa.gov/ResearchPlan2020/Download.aspx).

- The Harmful Algal Blooms and Hypoxia Comprehensive Research Plan and Action Strategy (2016) calls for comprehensive monitoring programs to determine the effects of climate change on HABs, including the potential impacts of increased OA on HAB toxicity (https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/NSTC/final_habs_hypoxia_research_plan_and_action.pdf).

- The HABs and Hypoxia in the United States: An Interagency Progress and Implementation Report (2018) has emphasized that research on “understanding of the influence of climate change, atmospheric deposition of nutrients, and other contributing

factors on the occurrence, frequency, and severity of HABs and hypoxia" is one of the six greatest challenges moving forward (https://cdn.coastalscience.noaa.gov/page-attachments/research/FINAL_USEC%20signed%20-%20Progress%20and%20Implementation%20Report_HABHRCA.pdf).

B. Program Priorities

NCCOS/CRP and OAP are soliciting proposals to address the science needs identified in the Ocean Acidification and Harmful Algal Blooms: Defining a Research Agenda Workshop (Section I.A.2, above). Proposals must directly address research questions/needs involving both OA and HABs, but other coastal stressors (e.g., warming, hypoxia) may also be included. We encourage the use of existing datasets and augmentation of existing data products.

Projects must include at least one of the following approaches:

- Analysis of new or existing OA and HAB observational data in combination with other environmental parameters to assess potential relationships and inform meaningful experiments to improve model predictions.

- Lab and field studies that target OA effects on toxin-producing HABs that affect human health or HABs that directly affect important marine resources (e.g., fish and shellfish).

- Studies of OA and HAB interactions across different ecological levels, such as species, population, community, and food web.

Possible research products and outputs may include: (1) Vulnerability and/or risk assessments of combined OA-HAB impacts for coastal resources and communities; such assessments can also include social or economic impacts; (2) Maps of OA and HAB "hot spots" that are both static and forward-looking and overlap resource maps with monitoring assets; (3) Dashboards offering data access for OA and HAB parameters; (4) Warnings and bulletins with identification of important OA and HAB thresholds; (5) Evaluation of recovery/mitigation strategies including scenario analyses of management actions; (6) Coordinated monitoring plans and guidance for multi-stressor monitoring to facilitate collaboration between OA and HAB research communities; (7) Integration of data from multiple sources (e.g., research, monitoring, resource management agencies, citizen science) to answer a research question or inform/validate models; or (8) Communication and outreach efforts that identify stakeholder needs and effectively deliver results.

Application of research results for use by managers, policy-makers, and other end users through a highly integrated and collaborative approach is a central objective of NCCOS/CRP and OAP. Proposals should clearly articulate outcome-based management goals of the project (more information can be found in Section IV.B. and at https://coastalscience.noaa.gov/about/fundingopportunities/outputs-and-outcomes/) and a continuous engagement process with relevant end users. Engagement activities with end users may include, but are not limited to, annual meetings, workshops, training sessions on how to apply information or tools, and inclusion on coordination calls.

The applicant will be expected to work with the NCCOS/CRP and OAP Program Managers and relevant staff to develop outreach and education materials (e.g., materials for websites, handouts, and social media; incorporating research into the classroom; and highlighting research findings/discoveries as they emerge). The NCCOS/CRP and OAP Program Managers will work closely with the Lead Principal Investigator (PI) to ensure that the appropriate management representatives (as end users of the program outputs) are engaged as advisors to the project. This may involve establishing a Management Transition Advisory Group (MTAG) to ensure effective collaboration between the project PI(s) and end users and successful transfer of research results to the intended end user(s). Proposers are encouraged to work with one or more of the U.S. Integrated Ocean Observing System (IOOS) Regional Associations (https://ioos.noaa.gov/) and their stakeholders to take advantage of existing observations, data management infrastructures, and data/information portals.

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; 33 U.S.C. Chapter 50, Sec. 3701-3708, Federal Ocean Acidification Research and Monitoring Act (FORAM).

II. Award Information

A. Funding Availability

Funding is contingent upon availability of Federal appropriations. If funds become available for this program, it is anticipated that up to approximately $1,500,000 may be available in Fiscal Year 2022 for the first year for all projects. Approximately 3-5 targeted projects are expected to be funded at the level of $300,000 to $500,000 per year per proposal (including ship time). Projects are expected not to exceed 3 years in duration. NCCOS/CRP will not accept any proposals submitted with an annual budget that is greater than $500,000

for any year.

B. Project/Award Period

Full proposals may cover a project/award period from 1 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. Once approved, full applications are not required for continuation in the 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, NCCOS/CRP and OAP Program Managers will analyze financial statements and progress reports for each continuing award, and will have dialogue with the PIs and Authorized Representatives of the recipient institutions to discuss research progress and expected timelines for the remaining award period. If NOAA experiences budget fluctuations 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 or increases based on the overall funds available.

Regardless of the budget for any given fiscal year, NCCOS/CRP and OAP 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 the NCCOS/CRP and OAP Program Managers, and can include collaboration and participation by NOAA (see Section III.A.5-6), as well as NCCOS/CRP and OAP Program Manager involvement in PI meetings, setting up MTAGs, 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 CI, 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 should contact the NCCOS Grants Administrator (refer to Section VII) 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. Because the nature of the funding under this competition is assistance, the Economy Act (33 USC 1535) would not be applicable.

Support may be solely through NCCOS/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).

III. Eligibility Information

A. Eligible Applicants

Eligible applicants for Federal financial assistance in this competition are U.S. 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. Department of Commerce (DOC)/NOAA supports cultural and gender diversity and encourages women and minority individuals and groups to submit applications to its 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) PIs 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 U.S. 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 researchers from other entities can be lead PIs.

(7) Federal salaries are allowed under an interagency agreement, but cannot exceed 7

months per year.

B. Cost Sharing or Matching Requirement

None.

C. Other Criteria that Affect Eligibility

Applications that did not submit an LOI are not eligible and will be rejected. Each application must substantially comply with the 15 elements listed under Section IV.B(b) Content and Form of Application: Full Proposal Required Elements (1) - (15), 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

Proposal materials are available at http://www.grants.gov as part of the electronic proposal package. Please contact the NCCOS Grants Administrator (see section VII) should you have an issue accessing the materials.

B. Content and Form of Application

(a) Letter of Intent (LOI)

LOIs are required. Any full 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 program priorities. 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.

(1) Tentative project title.

(2) Name phone number, email address, and institution of all PIs and specification of which individual is the Lead PI.

(3) Approximate cost of the project.

(4) Statement of the problem and its management relevance.

(5) Brief summary of work to be completed, methodology to be used and the plan for transitioning results to management application.

NCCOS/CRP and OAP Program Managers will review each LOI to determine whether it is responsive to the Program's goals, as advertised in this Announcement. Letters or emails to encourage or discourage a full application are scheduled to be sent out approximately two weeks after the LOI due date. Late LOIs will not be considered and any associated full applications will not be considered.

(b) Example Application

A sample application package and other guidance can be found under “Information for Applicants” located on the NCCOS website at: https://coastalscience.noaa.gov/about/funding-opportunities/application-forms/.

(c) 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 and will be responsible for distributing funds to the partner institutions with the exception of Federal agency partners. Federal agencies will be funded with either intra- or inter-agency agreements initiated by NCCOS. 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.

(d) Full Proposal Required Elements

Each application must substantially comply with the following 15 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 one-inch margins. The Collaborators List must be an Excel spreadsheet. The 15 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 HAB-OA 2022) and the PI’s name, affiliation, complete address, phone, and email information. The requested funding amounts for each fiscal year should be included on the Summary Title Page. If this proposal is a resubmission from a previous NCCOS or OAP 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, and budget period. It should be written in the third person. The project summary should include an introduction of the problem, rationale, scientific objectives and hypotheses to be tested, and a brief summary of work to be completed. 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.

(4) Project Description. The description of the proposed project must include four narrative sections: the Proposed Research, its Application to Management, a Data Management Plan, and a Statement of Diversity and Inclusion. The proposal shall not exceed more than 15 pages for the description of the Proposed Research and Application to Management; two pages for the Data Management Plan; and one page for the Statement of Diversity and Inclusion. These four 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 PI(s);

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

iv. Identifying the function of each PI. The Lead PI will be responsible for communicating with the NCCOS/CRP and OAP Program Managers on all pertinent verbal or written information.

[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.]

b. Application to Management

The Application 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. The format and role of MTAG (see Section I.B.), if applicable, should be included in this section. The narrative should provide the management justification for the research by:

i) Articulating the coordination with one or more end users, if applicable.

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. Outputs are defined as products (e.g., publications and models) or activities that lead to outcomes (changes in management knowledge or action). Definitions and examples of outputs and outcomes can be accessed at https://coastalscience.noaa.gov/about/funding-opportunities/outputs-and-outcomes/. The timeline for achieving outputs 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 MTAG, if applicable, particularly by including a plan for how the MTAG will engage with project PIs. Members of the MTAG should be named, when possible. Letters may be included, but are not required, to indicate that they have agreed to serve on the MTAG; 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 (NCEI), 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. All ocean acidification data must be archived and accessible through NCEI (http://www.nodc.noaa.gov/oads/index.html). 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.

d. Statement of Diversity and Inclusion

NOAA recognizes that it has a particular and unique opportunity to support NOAA's commitment to diversity and inclusion by taking an intentional step that encourages program applicants to consider diversity and inclusion as part of their scientific projects. This action has the potential to make an impact on not only the diversity and inclusion in science at NOAA, but also beyond the agency. In this section, describe how the proposed activity broadens the participation of underrepresented groups in science, technology, engineering, and mathematics (STEM).

(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 timelines of major tasks covering the duration of the proposed project.

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

a. A listing of professional and academic credentials and mailing address; and

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 PIs and co-PIs. Continuing grants must also be included. A current and pending support form is available on the NCCOS website for your use: https://coastalscience.noaa.gov/about/application-forms. You should respond to this element if you do not have any current and/or pending support 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. If any PI or co-PI identified on the project has received Federal funding in the past five years for research on harmful algal blooms and/or ocean acidification, 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 ONE 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 research on harmful algal blooms, and/or ocean acidification by stating "no prior Federal research on research on harmful algal blooms, and/or ocean acidification."

(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. For additional budget guidance, see https://coast.noaa.gov/data/coasthome/funding/_pdf/forms/budget-narrative-guidance-for-NOAA-grants.pdf.

Personnel costs should be broken out by named PI, number of months, and percentage of time requested per year per PI. Support for each PI should be commensurate with their stated involvement each year in the milestone chart (see Required Elements: (6) Milestone Chart). Any unnamed personnel (graduate students, post-doctoral researchers, technicians) should be identified by their job title and their personnel costs explained similar to PI personnel costs. The contribution of any personnel to the project goals should be explained.

Travel costs should be broken out by number of people traveling, destination and purpose of travel, and projected costs per person (i.e., hotel rate, meals and incidentals, and transportation). Registration fees belong in the “h. Other” category in the SF424A and budget justification.

Equipment costs should describe the equipment to be purchased, and its contribution to the achievement of the project goals.

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. 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.omao.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 the 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 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-.327.

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 CD-511 document placeholder without a hard signature because electronic signatures are allowed on documents from the submitting institution.

(13) Standard Form (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 documents from the submitting institutions.

(14) Standard Form 424A. All applicants are 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 one on the SF-424A by filling in the fiscal years 1-5 in Section A Budget Summary - Grant Program Function or Activity column. (Note that this revised SF-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 Budget Narrative.

Each subaward should provide a SF-424A listing each year of funding being requested. List total subaward costs under line item 6.h. Other category and contractor costs under line item 6.f. Contractual category 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 costs.

(15) List of Collaborators. Provide one list that includes all (U.S. and Foreign)

collaborators, advisors, and advisees for each investigator (PI, co-PIs, 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. Applicants are advised to revise this list annually to minimize false conflicts of interest that may adversely affect review of proposals (i.e., cannot find sufficient reviewers with relevant expertise).

(c) 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 https://www.grants.gov/web/grants/applicants/workspace- overview.html 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 and call the Grants.gov help desk (800-518-4726). The NCCOS/CRP and OAP Program Managers 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 15 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 elements can be uploaded into the Optional Form box under Other Attachments in Grants.gov.

Applications containing known subawards must provide an SF-424A, Budget Narrative, and Current and Pending Support for each subaward. 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 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-.327.

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. It is the applicant’s responsibility to obtain all necessary Federal, state, and local government permits and approvals where necessary for the proposed work to be conducted.

Applicants are expected to design their proposals so that they minimize potential adverse impacts on the environment. If applicable, documentation of requests or approvals of environmental permits should be received by the NCCOS/CRP and OAP Program Managers prior to funding. Applications will be reviewed to ensure that they have sufficient environmental documentation to allow program staff to determine whether the proposal is categorically excluded from further National Environmental Policy Act (NEPA) analysis, or whether an Environmental Assessment is necessary in conformance with requirements of NEPA. For those applications needing an Environmental Assessment, affected applicants will be informed after the peer-review stage, and will be requested to assist in the preparation of a draft assessment (prior to award). Failure to apply for and/or obtain Federal, state, and local permits, approvals, letters of agreement, or failure to provide environmental analysis where necessary (e.g., NEPA Environmental Assessment) may delay the award of funds if a project is selected for funding.

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 NCCOS/CRP and OAP Program Managers 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)

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 SAM, which may be accessed online at https://www.sam.gov/SAM/. Applicants are also required to use the Dun and Bradstreet Universal Numbering System, as identified in OMB guidance published at 2 C.F.R. Part 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 applicant.

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

D. Submission Dates and Times

The required LOIs must be sent by e-mail to nccos.grant.awards@noaa.gov and must be received by 11:59 p.m. Eastern Time on October 14, 2021. Applicants will receive an email verification of receipt.

Full applications must be received and validated by Grants.gov by 11:59 p.m. Eastern Time on January 19, 2022. Full applications should be submitted electronically to Grants.gov and must be received and validated by Grants.gov by the deadline. Applications received after the deadline will be rejected and returned to the sender without further consideration.

Important: All applicants should be aware that adequate time must be factored into applicant schedules for delivery of the application. Applicants are advised that volume on Grants.gov is currently extremely heavy, and if use of Grants.gov is not feasible, contact the NCCOS Grants Administrator (see section VII for contact information) as soon as possible and no later than a week before the due date to assess whether alternative arrangements can be made.

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 DOC. The negotiation and approval of such a new rate is subject to the procedures required by NOAA and the DOC 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.

NCCOS/CRP and OAP 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. NCCOS/CRP and OAP 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/CRP or OAP Federal Funding Opportunities 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 website. The full funding Announcement for this program is available via the Grants.gov website: 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, applicants must have a Dun and Bradstreet Data Universal Number System (DUNS) number and be registered in 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, up to three 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 NOAA 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.

If use of Grants.gov is not feasible, contact the NCCOS Grants Administrator (see Section VII for contact information) as soon as possible and no later than a week before the due date to assess whether alternative arrangements can be made. Please refer to Section IV.D. Submission Dates and Times to help ensure your application is received on time.

V. Application Review Information

A. Evaluation Criteria

1) Importance and/or relevance and applicability of proposed project to the research initiative goals as detailed in the program priorities of this NOFO: 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 the priorities stated in Section I.B of this Announcement? Are the expected research products clearly identified, including how they will be used to improve management outcomes? (30 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. The proposed work should have focused objectives and a complete and technically sound strategy for project design, methodologies, data management, data analysis, and development of products and outcomes in support of the 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, the sharing of findings, data, and other research products (as described in the Accomplishments from Prior Federal Support) for 10 percentage points, and the Statement of Diversity and Inclusion (described in Section IV.B.(c)4d) for 5 percentage points. (15 percent)

4) Project costs: The Budget is evaluated to determine if it is realistic and commensurate with the project needs and timeframe. Are costs reasonable? Are there any unexplained costs? (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. For the purposes of this review, the applicant must demonstrate how they will interact with end users to ensure that collaboration is maximized between PIs and end users and that the research results are optimized for utility by end users. (10 percent)

B. Review and Selection Process

A LOI is required as described in Section IV.B. NCCOS/CRP and OAP Program Managers will review each LOI to determine whether it is responsive to the Program's goals, as advertised in this Announcement. PIs will be notified to encourage or discourage a full application approximately two weeks after the LOI due date.

Subsequently, once NOAA has received a full application, 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 their 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 each 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 proposals. The peer panel shall rate the proposals using the evaluation criteria and scoring method provided above (and used by the mail reviewers). 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 any non-Federal reviewer is used, no consensus advice will be given by the independent peer mail review or the review panel.

NCCOS/CRP and OAP Program Managers 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/answer 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 NCCOS/CRP and OAP Program Managers will (a) create a ranking of the applications to be recommended for funding using the average panel scores; (b) recommend the total duration of funding for each application; and (c) recommend the amount of funds available subject to the availability of fiscal year funds. Recommendations for funding are forwarded from the NCCOS/CRP and OAP Program Managers to the Program Directors for

development of the final recommendation to the Selecting Official, the Director of NCCOS or designee, 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, add/subtract expertise, or change the lead or subaward 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 award decisions of the NOAA Grants Officer are final.

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. 200.206. 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 NOAA 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. 200.208. 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 NCCOS/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 NOAA 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 applications will begin upon receipt. Applicants may be notified of award or declination by September 2022, and applicants should use a start date of September 1, 2022.

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.

B. Administrative and National Policy Requirements

1. DOC Pre-Award Notification Requirements for Grants and Cooperative Agreements

The DOC 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 DOC 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 DOC Financial Assistance Standard Terms and Conditions. A current version of this document is available at https://www.commerce.gov/oam/policy/financial-assistance-policy.

NOAA will also add to any award Agency-Specific Administrative Terms with

requirements related to payment processing, reporting, and related matters. A current version of NOAA's Administrative Terms is available at (https://www.noaa.gov/sites/default/files/legacy/document/2021/Mar/Administrative%20Standard%20Award%20Conditions%20for%20NOAA%20Financial%20Assistance%20Awards%2002.18.2021.pdf). These terms may be updated by the time of award. In addition, award documents provided by the NOAA Grants Management Division in the Grants Online award package may contain SACs 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 DOC 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. 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 Regulations (40 C.F.R. Parts 1500-1508), 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 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 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: https://www.noaa.gov/organization/administration/nao-216-6a and the associated companion manual: http://www.nepa.noaa.gov/docs/NOAA-HQ-2016-0145%20NAO%20216-6A%20Companion%20Manual.pdf.

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 ecosystems). Applicants to be recommended for funding 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 aimed at protecting human health, the environment, natural and cultural resources. The NCCOS/CRP and OAP Program Managers 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 on any required impact analyses, applicants may also be requested to assist NOAA in drafting an Environmental Assessment or Environmental Impact Statement, if NOAA determines further NEPA compliance 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 NOAA Grants Officer under a SAC 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.

6. 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. 200.206. 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.

7. Minority Serving Institutions

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.

8. 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 NCCOS/CRP and OAP Program Managers 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 NOAA Grants Officer under a SAC requiring the recipient to submit required permits and approvals.

9. 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.

DOC 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 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 FOIA. 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 DOC financial assistance award. By submitting an application, an applicant (1) agrees to cooperate with DOC 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 DOC in conducting reviews and evaluations of its financial assistance projects and programs. Applicants are notified that DOC 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.

10. Scientific Integrity

NCCOS/CRP and OAP adhere to the principles of scientific integrity. This policy can be found at: https://www.noaa.gov/organization/administration/nao-202-735d-2-scientific-integrity.

C. Reporting

All performance (i.e., technical progress) reports shall be submitted electronically through NOAA's Grants Online system unless the recipient does not have electronic access. In that case, performance (technical) reports are to be submitted to the NCCOS/CRP and OAP Program Managers. 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 Subaward Reporting System (FSRS) available at https://www.fsrs.gov/ on all sub-awards over $25,000. Refer to 2 C.F.R. Part 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.

2. 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 this 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, and/or archiving may be included in the proposal budget unless otherwise stated in the Guidance. Accepted submission of data to 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.

3. 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.

4. 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 the 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.

Data Management Guidance to Proposal Writers

1. For questions regarding data management and implementing this guidance: refer to Section VII. for Grants Administrator contact information.

2. Data Accessibility: NOAA 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 NCCOS/CRP and OAP.

Option A: For the majority of oceanographic and ecological data, except those listed below, funding recipients are expected to submit data to the NOAA/NCEI for long-term preservation, which will provide public access, archiving, discovery metadata meeting NOAA standards and formats, and a Digital Object Identifier (DOI). NCCOS/CRP and OAP have held a preliminary consultation with NCEI regarding these pending data. All ocean acidification data must be archived and accessible through NCEI with the Ocean Carbon Data System (OCADS; http://www.nodc.noaa.gov/oceanacidification/index.html).

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., National Institutes of Health's 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 NCCOS/CRP and OAP Program Manager s (see Section VII.).

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 NCCOS/CRP and OAP Program Managers (see Section VII).

3. Technical recommendations: NCCOS/CRP and OAP are 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 NCCOS/CRP and/or OAP Program Managers.

NCCOS/CRP and OAP 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: Maggie Broadwater, NCCOS/CRP Program Manager, 843-670-8994, maggie.broadwater@noaa.gov; Erica Ombres, OAP Program Manager, 301-734-1072, erica.h.ombres@noaa.gov.

Grants Administration Information: Jennifer Hinden, NCCOS Business Support Branch, 240-533-0197, jennifer.hinden@noaa.gov.

VIII. Other Information

Checklist for Required and Requested Documents:

(1) SF-424

(2) Summary Title Page

(3) Abstract

(4) Project Description

(5) References

(6) Milestone Chart

(7) Biographical Sketch (for each PI and co-PI)

(8) Current and Pending Support (for each PI and co-PI)

(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)

Indirect Rate Agreement (requested).

If Applicable: Signed Approval from subaward/subcontractor institutes; SF LLL.