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Funding Opportunities

U.S. Environmental Protection Agency
National Center for Environmental Research
Science to Achieve Results (STAR) Program

National Oceanic and Atmospheric Administration (NOAA)
Department of Commerce
Center for Sponsored Coastal Ocean Research (CSCOR)/Coastal Ocean Program (COP)
Office of Protected Resources

National Aeronautics Space Administration (NASA)
Science Mission Directorate

Ecology and Oceanography of Harmful Algal Blooms

This is the initial announcement of this funding opportunity.

Funding Opportunity Number: EPA-G2008-STAR-A1

Catalog of Federal Domestic Assistance (CFDA) Number: 66.509 for the Environmental Protection Agency, 11.478 for the Coastal Ocean Program and 11.472 for NOAA/Office of Protected Resources. There is no CFDA number for the National Aeronautics and Space Administration.

Solicitation Opening Date: **July 3, 2007**

Solicitation Closing Date: **October 4, 2007, 4:00 pm Eastern Time**

Electronic Submissions:

[Thomas O'Farrell \(O'Farrell.Thomas@epa.gov\)](mailto:O'Farrell.Thomas@epa.gov);
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Eligibility and Technical Contacts:

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EPA/ORD/NCER; phone: 202-343-9843
Quay Dortch, ECOHAB Coordinator (quay.dortch@noaa.gov);
NOAA/CSCOR/COP; phone: 301-713-3338 ext 157

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SUMMARY OF PROGRAM REQUIREMENTS

Synopsis of Program:

The U.S. Environmental Protection Agency (EPA), as part of its Science to Achieve Results (STAR) program, and its interagency partners, the National Oceanographic and Atmospheric Administration (NOAA) and the National Aeronautics and Space Administration (NASA), are seeking applications proposing targeted research projects of up to 3 years duration and multi-disciplinary regional studies for 3 to 5 years duration for the Ecology and Oceanography of Harmful Algal Blooms (ECOHAB) program. This NOAA-led program provides support for research on algal species whose populations may cause or result in deleterious effects on ecosystems and human health. Studies of the causes of such blooms, their detection, effects, mitigation, and control in U.S. coastal waters (including estuaries and Great Lakes) are solicited. This document details the requirements for applications for

research support that will be considered by this Federal research partnership. All research support is dependent upon individual Agency appropriations.

Award Information:

Anticipated Type of Award: Grant or Cooperative Agreement

Estimated Number of Awards: Approximately 11 awards, including 1 regional project

Anticipated Funding Amount: Approximately \$10 million total for all awards

Potential Funding per Award: Awards of federal funds are typically on the order of \$150,000 per year, total costs, for up to three years for targeted studies. Multi-disciplinary regional studies for 3 to 5 years duration at correspondingly appropriate budgets will also be considered. Cost-sharing is not required.

Eligibility Information:

Public nonprofit institutions/organizations (includes public institutions of higher education and hospitals) and private nonprofit institutions/organizations (includes private institutions of higher education and hospitals) located in the U.S., state and local governments, Federally Recognized Indian Tribal Governments, and U.S. territories or possessions are eligible to apply. Some of the partner Agencies may also be able to provide funding to international institutions, commercial organizations, and federal agencies and laboratories. See full announcement for more details.

Application Materials:

You may submit either a paper application or an electronic application (but not both) for this announcement. The necessary forms for submitting a STAR application will be found on the National Center for Environmental Research (NCER) web site, <http://www.epa.gov/ncer/rfa/forms/>. To apply electronically, you must use the application package available at Grants.gov (see "Submission Instructions for Electronic Applications" in Section IV). If your organization is not currently registered with Grants.gov, you need to allow approximately one week to complete the registration process to apply electronically. This registration, and electronic submission of your application, must be performed by an authorized representative of your organization.

Agency Contacts:

Electronic Submissions:

[Thomas O'Farrell \(O'Farrell.Thomas@epa.gov\)](mailto:O'Farrell.Thomas@epa.gov);
EPA/ORD/NCER; phone: 202-343-9639

Eligibility and Technical Contacts:

[Gina Perovich, Program Manager \(perovich.gina@epa.gov\)](mailto:perovich.gina@epa.gov);
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I. FUNDING OPPORTUNITY DESCRIPTION**A. Introduction**

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

HAB impacts on public health and local/regional economies are also dramatic and increasing. In a recent study, average annual economic losses in the U.S. from HABs were approximated at \$82 million with costs attributable to maintenance of toxin monitoring programs; closures of shellfish beds; marine mammal stranding networks; 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, and seafood advisories; and medical treatments (6). 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 [e.g., \$46 million in lost revenue from the 1997 Maryland fish health/*Pfiesteria* events (1)]. These deleterious impacts have increased public awareness and demand for intervention to reduce or eliminate bloom impacts on coastal resources, local economies, and threats to public health.

B. Background

Over the course of the last decade, numerous national and Agency reports have described the magnitude of the HAB problem and outlined research plans to systematically address the issue (1,3,4,5,7,8,9). The ECOHAB Program was authorized in 1998 by the Harmful Algal Bloom and Hypoxia Research and Control Act and reauthorized in 2004 by the Harmful Algal Bloom and Hypoxia Amendments Act of 2004 as an interagency, scientific program designed to increase the understanding of the fundamental processes underlying the causes and impacts of HABs. Three major research themes encompassing the priorities of national importance on the HAB phenomenon were identified in the ECOHAB Plan (1): 1) Organisms - with a goal towards determining the physiological, biochemical, and behavioral features that influence bloom dynamics; 2) Environmental regulation - with a goal toward determining and parameterizing the factors that govern the initiation, growth, and maintenance of these blooms; and 3) Food-web and community interactions - with a goal toward determining the extent to which food webs and trophic structure affect and are affected by the dynamics of HABs. Information in these areas, in turn, supported a critical goal of the ECOHAB program, the development of reliable models to forecast bloom development, persistence, and toxicity. While considerable progress has been made toward understanding and predicting bloom events and their impacts, the complexity of the problem has also become more apparent (5,7) and new HAB problems have emerged with alarming frequency.

Since its inception, the ECOHAB Program has sponsored more than 100 projects with topics ranging from molecular aspects of HAB detection to large-scale, multi-disciplinary regional studies of bloom formation, maintenance, and dissipation. Projects cover a wide spatial spectrum along the U.S. coastline and its territories. ECOHAB-sponsored projects also address the detection, prevention, control, and mitigation of HABs and their impacts, as well as economic assessments of these recurring events. Project summaries may be viewed at

<http://www.whoi.edu/science/B/redtide/nationplan/ecohabprojectsummaries.html> EXIT Disclaimer.

ECOHAB projects are coordinated with other federal HAB programs, including the NSF Biological Oceanography ECOHAB program, the NOAA Oceans and Human Health Initiative, and the NSF/NIEHS Oceans and Human Health Program.

C. Authority and Regulations

The authorities for this RFA and the resulting awards are contained in the following documents:

NOAA/NOS/NCCOS/CSCOR/COP: 16 U.S.C. 1456C; 33 U.S.C. 883d; 33 U.S.C. 1442; 15 U.S.C. 1540; and/or Pub.L. 105-383, as amended by 108-456.

EPA: Clean Water Act, Section 104, 33 U.S.C. 1254

For research with an international aspect, the above statutes are supplemented, as appropriate, by the National Environmental Policy Act, Section 102 (2)(F).

Applicable regulations include: 40 CFR Part 30 (Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations), 40 CFR Part 31 (Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments) and 40 CFR Part 40 (Research and Demonstration Grants). Applicable OMB Circulars include: OMB Circular A-21 (Cost Principles for Educational Institutions) relocated to 2 CFR Part 220, OMB Circular A-87 (Cost Principles for State, Local and Indian Tribal Governments) relocated to 2 CFR Part 225, OMB Circular A-102 (Grants and Cooperative Agreements With State and Local Governments), OMB Circular A-110 (Uniform Administrative Requirements for Grants and Other Agreements with Institutions of Higher Education, Hospitals and Other Non-Profit

Organizations) relocated to 2 CFR Part 215, and OMB Circular A-122, (Cost Principles for Non-Profit Organizations) relocated to 2 CFR Part 230.

NASA: 42 U.S.C. 2473(c)(5), the National Aeronautics and Space Act. Part 1260 - Grants and Cooperative Agreements, Subpart A - General, Sec. A, 1260.1 Authority: This part 1260 is issued under the authority of 42 U.S.C. 2473(c)(1), Pub. L. 97-258, 96 Stat. 1003 (31 U.S.C. 6301 et seq.), and OMB Circular A-110.

D. Specific Research Areas of Interest

Overall Program Goals and Topic Areas

The primary goal of ECOHAB is to provide support for research on algal species whose populations may cause or result in deleterious effects on human and ecosystem health and coastal economies. Proposed approaches, including tools, data, and models, should contribute to the development of better methods for the detection, monitoring, prediction, control, and mitigation of harmful algae and their impacts in coastal areas, including the Great Lakes and upper reaches of estuaries.

This solicitation provides an opportunity for investigators to propose activities that address the national problem of HABs, as described in the reports and plans referenced in the Background sections of this document. The major areas of interest, as they are discussed in these documents (1, 3, 4, 5, 7, 8, 9), especially HARRNESS (5), can generally be broken down as follows: Bloom Ecology and Dynamics; Toxins and their Effects; Food Webs and Fisheries; and Public Health and Socioeconomic Impacts. ECOHAB proposals can address any of these areas, except those that are directly concerned with human health impacts or involve a substantial amount of routine monitoring.

The ECOHAB program will consider support of studies ranging from relatively small, targeted laboratory or field studies by individual investigators or small teams, to regional studies involving larger teams of investigators conducting coordinated, well-integrated, multi-disciplinary field programs. Details for each type of project are provided below:

1. Targeted studies are individual studies or small interdisciplinary efforts investigating fundamental ecological and oceanographic questions related to HAB events. Support for targeted studies may be requested for up to 3 years duration.
2. Regional studies are large, multi-disciplinary, multi-institutional projects that take an ecosystem approach to determining the linkages between HAB species and their environment, including the ecology, physiology, behavior, and toxin production of the HAB species and the chemistry, physics, bathymetry, and meteorology of the surrounding ecosystem. They may also include cross-regional comparison of a particular HAB problem. These studies may be 3 to 5 years in duration with a team of collaborating investigators. Research proposals must address plans for sharing data and research products with the community in a timely manner and should lead to development of models for management purposes. Participation of potential users of the results in the research is encouraged. Investigators **must** obtain permission to submit a regional or cross-regional study from the NOAA ECOHAB Program Coordinator, identified in this solicitation.

Agency Interests

In order to address HAB research needs, NOAA, EPA and NASA have combined each Agency's unique interests and missions into this coordinated research program. The specific interests of each Agency are defined in the following paragraphs.

NOAA: HABs and related biotoxin risk must be managed if we are to ensure public health, build viable and valuable sustainable fisheries, protect living marine resources including threatened and endangered species and their habitats, and effectively manage coastal activities and resources. NOAA's interest is in developing

1. Quantitative understanding of HABs and, where applicable, their toxins in relation to the surrounding environment with the intent of developing new tools, models, and prevention

- strategies to aid managers in coastal environments,
- 2. Models of trophic transfer of toxins and assessment of impacts on higher trophic levels,
- 3. **Effective techniques for prevention, control, and mitigation to assist in reducing the impacts of HABs and their toxins, and**
- 4. Assessments of the socioeconomic impacts of HABs on coastal communities and identification of opportunities to mitigate these impacts.

Although NOAA has a strong interest in the public health impacts of HABs, funding for research on the human health impacts of HABs is provided by the Oceans and Human Health Initiative (OHHI). Multi-disciplinary regional ecosystem investigations leading to development of operational ecological forecasting capabilities in areas with severe, recurrent blooms along the US coast will continue to be a major priority. These can be either in new areas, areas that have been studied previously but where new or unanswered questions remain, or involve comparisons between ecosystems. Where ECOHAB or other funding has already established a foundation of knowledge, the need for additional research must be clearly articulated. Projects to be funded by NOAA must demonstrate a clear link to management issues and specify outcomes that will provide managers and the public with sound scientific information for making decisions. Articulation of outcome-based management goals is required in proposals (see Section Iv.B.5.A.(3) Expected Results, Benefits, Outputs and Outcomes), and recipients will be expected to report progress toward achieving outcome-based goals annually. NOAA definitions and examples of outputs and outcomes can be accessed at www.cop.noaa.gov.

EPA: In order to protect the integrity of ecosystems affected by HABs, EPA is interested research that will ultimately provide decision makers, the scientific community, and the general public with the information needed to prevent, control and mitigate blooms themselves. Of specific interest to EPA are studies examining relationships between nutrient loading, HABs, and food web dynamics. In particular, integrative approaches to analyzing food webs and key trophic components or pathways altered by HABs, and determining nutrient loading thresholds affecting these alterations, are encouraged. Research supported under this solicitation will support Goal 2 (Clean and Safe Water), Objective 2.3 (Enhance Science and Research), of EPA's Strategic Plan, which can be found at: http://www.epa.gov/ocfo/plan/2006/entire_report.pdf (PDF) (184 pp, 11.56 MB, about PDF). The desired outputs of the proposed EPA projects are research results (tools, publications, methods, etc.) that will further the scientific understanding of the relationships between nutrient inputs, coastal eutrophication, and the occurrence and consequences of HABs. The desired outcomes of the research funded by EPA under this solicitation will: 1) provide information that will enhance HAB forecasting efforts; 2) provide decision makers with the information needed to control and mitigate blooms; and 3) help facilitate bloom prevention through an advanced understanding of the conditions and processes that promote their formation, maintenance, and decline.

NASA: Algal pigments affect optical properties of the water in well-characterized ways. In the open ocean, it is possible to quantify pigment concentration using remote sensing techniques because phytoplankton are mostly responsible for variations in water color. In nearshore, estuarine, and inland waters, suspended sediments and dissolved organic compounds make the optical properties much more complex. The goal of detecting algal blooms in the presence of other colored materials is the subject of ongoing research. NASA is interested in developing remote sensing techniques that could be applied to the detection or tracking of HABs, as well as the physiological status or taxonomic classification of bloom organisms, in nearshore coastal environments, as well as in the open ocean. NASA is also interested in physical processes that affect harmful algal bloom dynamics.

E. References

1. Anderson, D.M. 1995. *ECOHAB, the Ecology and Oceanography of Harmful Algal Blooms*. Woods Hole, MA: Woods Hole Oceanographic Institution.
<http://www.whoi.edu/redtide/nationplan/ECOHAB/ECOHABhtml.html> [EXIT Disclaimer](#)
2. Anderson, D.M. P. Hoagland, Y. Kaoru, A.W. White. 2000. Estimated Annual Economic Impacts from Harmful Algal Blooms (HABs) in the United States. Woods Hole, MA: Woods Hole Oceanographic Institution Technical Report 2000-11.
http://www.whoi.edu/redtide/pertinentinfo/Economics_report.pdf (PDF) (96 pp, 1.08 MB)
[EXIT Disclaimer](#)
3. Bauer, M.(ed.). 2006. *Harmful Algal Research and Response: A Human Dimensions Strategy*.

National Office for Marine Biotoxins and Harmful Algal Blooms. Woods Hole, MA: Woods Hole Oceanographic Institution.

<http://coastalscience.noaa.gov/stressors/extremeevents/hab/HDstrategy.pdf> (PDF) (72 pp, 1.89 MB)

4. Boesch, D.F., Anderson, D.M., Horner, R.A., Shumway, S.E., Tester, P.A. and Whitledge, T.E. 1997. *Harmful Algal Blooms in Coastal Waters: Options for Prevention, Control, and Mitigation*. NOAA/COP/Decision Analysis Series No.10. Silver Spring, MD: NOAA Coastal Ocean Office. <http://www.cop.noaa.gov/pubs/das/das10.pdf> (PDF) (61 pp, 4.28 MB)
5. *Harmful Algal Research and Response: A National Environmental Science Strategy (HARRNESS) 2005-2015*. 2005. Ecological Society of America, Washington, D.C. <http://www.cop.noaa.gov/stressors/extremeevents/hab/current/harness.html>
6. Hoagland, P. and S. Scatasta. 2006. The economic effects of HABs. In *Ecology of Harmful Algae* (E. Graneli and J. Turner, Eds), the Ecology Studies Series. Dordrecht, The Netherlands: Springer-Verlag, pp. 391-402.
7. Jewett, E.B., Lopez, C.B., Dortch, Q., Etheridge, S.M. 2007. *National Assessment of Efforts to Predict and Respond to Harmful Algal Blooms in U.S. Waters, Interim Report*. Interagency Working Group on Harmful Algal Blooms, Hypoxia, and Human Health. Washington, DC: Joint Subcommittee on Ocean Science and Technology. http://www.cop.noaa.gov/stressors/extremeevents/hab/habhrca/Predict_Resp_IntRpt_0107.pdf (PDF) (70 pp, 5.07 MB)
8. *National Assessment of Harmful Algal Blooms in U.S. Waters*. 2000. National Science and Technology Council Committee on Environmental and Natural Resources, 47 pp. http://www.cop.noaa.gov/pubs/habhrca/Nat_Assess_HABs.pdf (PDF) (47 pp, 2.07 MB)
9. *Prevention, Control, and Mitigation of Harmful Algal Blooms: A Research Plan*. 2001. NOAA National Sea Grant College Program, 28pp. http://www.whoi.edu/science/B/redtide/pertinentinfo/PCM_HAB_Research_Plan

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F. Special Requirements

The application **must include a plan** (see "Data Plan" in section IV.B.5.c.) to make available to the public all data generated from observations, analyses, or model development (primary data) and any secondary (or existing) data used under a grant awarded from this solicitation. The data must be available in a format and with documentation such that they may be used by others in the scientific community. Since each Agency has a different data policy, an investigator may be asked to adjust their data plan in accordance with that of the Agency providing the funding (for links see section IV.B.5.c.).

Because ECOHAB is a multi-agency program, some requirements, regulations, and policies may differ from Agency to Agency. When these differences are significant, the specific Agency and the issue in question will be noted in this announcement.

EPA policy prevents EPA technical staff and managers from providing individual applicants with information that would provide them with an unfair competitive advantage. Consequently, EPA employees will not review, comment, advise, or provide technical assistance to applicants preparing applications in response to EPA solicitations, or discuss in any manner how the EPA will apply the published evaluation criteria for this competition.

II. AWARD INFORMATION

Funding is contingent upon the availability of appropriated funds in fiscal years 2008-2012. It is anticipated that a total of approximately **\$10 million will be awarded**, depending on the availability of funds and the quality of applications received under this announcement. The Agencies participating in this announcement anticipate awarding a total of **11 funding agreements** under this solicitation, including **1 regional project**. Awards for targeted studies are typically on the order of \$150,000 per year, total costs, for up to three years. Multi-investigator and multi-institutional applications may include correspondingly higher budgets and longer project periods, but may not exceed a 5-year project period.

The ECOHAB Agency partners reserve the right to reject all applications and make no awards under this solicitation, or make fewer awards than anticipated. They also reserve the right to offer partial funding of an award, to delay start dates for awards, or to make additional awards under this solicitation if additional funding becomes available. The length of time that an Agency has to make additional awards varies according to the policies of that Agency. For EPA, any additional selections for awards will be made no later than 4 months after the original selection decisions.

Funding in subsequent years, increases in funding, or extension of the period of the award is based on satisfactory progress and is at the discretion of the funding agencies.

In appropriate circumstances, the agencies reserve the right to partially fund proposals by funding discrete portions or phases of proposed projects. If an agency decides to partially fund a proposal, it will do so in a manner that does not prejudice any applicants or affect the basis upon which the proposal, or portion thereof, was evaluated and selected for award, and therefore maintains the integrity of the competition and selection process. Choice of funding vehicle is at the discretion of the individual Agencies. Information on some specific agency requirements is included below.

EPA intends to fund grants rather than cooperative agreements under this solicitation. Under a *grant*, EPA scientists and engineers will not be substantially involved in the execution of the research. However, EPA encourages interaction between its own laboratory scientists and grant Principal Investigators after the award of an EPA grant for the sole purpose of exchanging information in research areas of common interest that may add value to their respective research activities. This interaction must be incidental to achieving the goals of the research under a grant. Interaction that is "incidental" does not involve resource commitments.

NOAA will review the applications in accordance with the evaluation criteria. In an effort to maximize the use of limited resources, applications from non-Federal, non-NOAA Federal and NOAA Federal applicants will be competed against each other. Research proposals selected for funding from non-Federal researchers will be funded through a project grant or cooperative agreement. Before issuing awards, NOAA will determine whether a grant or cooperative agreement is the appropriate instrument based upon the need for substantial NOAA involvement in the project.

1. **Research Project Grants:** A research project grant is one in which substantial programmatic involvement by the Federal government is not anticipated by the recipient during the project period. Applicants for grants must demonstrate an ability to conduct the proposed research with minimal assistance, other than financial support, from the Federal government.
2. **Cooperative Agreements:** A cooperative agreement implies that the Federal government will assist recipients in conducting the proposed research. The application should be presented in a manner that demonstrates the applicant's ability to address the research problem in a collaborative manner with the Federal government. 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.

Research proposals selected for funding from non-NOAA Federal applicants will be funded through an interagency transfer, provided legal authority exists for the Federal applicant to receive funds from another agency. PLEASE NOTE: Before non-NOAA Federal applicants may be funded, they must demonstrate that they have legal authority to receive funds from another Federal agency in excess of their appropriation. Because this announcement is not proposing to procure goods or services from the applicants, the Economy Act (31 U.S.C. section 1535) is not an appropriate basis. Support may be solely through NCCOS/CSCOR or partnered with other Federal offices and agencies.

III. ELIGIBILITY INFORMATION

A. Eligible Applicants

Public nonprofit institutions/organizations (includes public institutions of higher education and

hospitals) and private nonprofit institutions/organizations (includes private institutions of higher education and hospitals) located in the U.S., state and local governments, Federally Recognized Indian Tribal Governments, and U.S. territories or possessions are eligible to apply. Universities and educational institutions are subject to OMB Circular A-21 (located at 2 CFR Part 220). Eligible nonprofit organizations include any organizations that meet the definition of nonprofit in OMB Circular A-122 (located at 2 CFR Part 230).

Some of the agencies participating in the ECOHAB program are authorized to make awards to international institutions, commercial organizations located in the U.S., and federal agencies and laboratories, either directly or through subcontracts. Applicants from these types of institutions **must** consult with NOAA ECOHAB Program Coordinator before submitting applications to discuss eligibility and application procedures. Federal agencies and laboratories may be considered eligible if they can produce certifications or documentation which clearly shows that they have specific legal authority to receive funds from another Federal Agency in excess of their appropriations. Note that this solicitation is not proposing to procure goods and services from Federal applicants; therefore, the Economy Act (31 U.S.C. 1535) is not an appropriate legal basis. Funding for salaries of full-time Federal employees will not be allowed but travel, equipment, supplies, and contractual personnel costs associated with the proposed work may be considered.

EPA, however, will not fund profit-making firms, Federal Agencies or National laboratories funded by Federal Agencies (Federally-Funded Research and Development Centers, "FFRDCs") or nonprofit organizations described in Section 501(c)(4) of the Internal Revenue Code that lobby, under this program. FFRDC employees may cooperate or collaborate with eligible applicants within the limits imposed by applicable legislation and regulations. They may participate in planning, conducting, and analyzing the research directed by the applicant, but may not direct projects on behalf of the applicant organization. The institution, organization, or governance receiving the award may provide funds through a grant from the EPA to an FFRDC for research personnel, supplies, equipment, and other expenses directly related to the research. However, salaries for permanent FFRDC employees may not be provided through this mechanism. Similarly, although Federal employees are not eligible to serve in a principal leadership role on an EPA grant, or to receive salaries or augment their Agency's appropriations through grants made by this program, the applicant institution may enter into an agreement with a Federal Agency to purchase or utilize unique supplies or services unavailable in the private sector. If this is the case, a written justification for federal involvement will be requested prior to funding, along with an appropriate form of assurance that documents the commitment, such as a letter of intent from the Federal Agency involved.

Potential applicants who are uncertain of their eligibility should consult one of the Eligibility and Technical Contacts listed at the end of this announcement.

Applications are welcome from all qualified applicants, including in particular, those from educational institutions that have significant minority enrollment, women, and members of minority groups.

B. Cost-Sharing

Institutional cost-sharing is not required.

C. Other

Applications must substantially comply with the application submission instructions and requirements set forth in Section IV of this announcement or they will be rejected. In addition, where a page limitation is expressed in Section IV with respect to parts of the application, pages in excess of the page limit will not be reviewed. Applications must be received by the EPA, or Grants.gov, on or before the solicitation closing date and time in Section IV of this announcement or they will be returned to the sender without further consideration. Further, applications that fail to demonstrate a public purpose of support or stimulation (e.g., by proposing research which primarily benefits a Federal program or provides a service for a Federal agency) will not be funded.

The geographic scope of the ECOHAB program encompasses coastal areas, including the Great Lakes and upper reaches of estuaries. Proposals that address HABs outside of these areas will be rejected without review.

Proposals previously submitted to ECOHAB and not recommended for funding must be revised and reviewer or panel concerns addressed before resubmission, or they will be rejected without review.

ECOHAB will not fund proposals that are directly concerned with human health impacts or that focus primarily on monitoring. These types of proposals will be rejected without review. However, projects that seek to develop and test the methodology, especially as part of an integrated research program, are appropriate.

Investigators must obtain permission to submit a regional or cross-regional study from the NOAA ECOHAB Program Coordinator identified in this solicitation. Proposals submitted without obtaining this permission will be rejected without review.

Applications deemed ineligible for funding consideration will be notified within fifteen calendar days of the ineligibility determination.

IV. APPLICATION AND SUBMISSION INFORMATION

You may submit either a paper application or an electronic application (but not both) for this announcement. Instructions for both types of submission follow. If not otherwise marked, instructions apply to both types of submissions.

A. Internet Address to Request Application Package

For paper applications, forms and instructions can be found on the NCER web site:
<http://www.epa.gov/ncer/rfa/forms/>.

Use forms found here to complete the application package, but be sure to follow the instructions contained within this solicitation.

For electronic applications, use the application package available at Grants.gov (see "Submission Instructions for Electronic Applications"). Note: With the exception of the Budget form (available at <http://www.epa.gov/ncer/rfa/forms/>) and the UNOLS ship use form (available at <http://www.gso.uri.edu/unols/ship/shiptime.html> EXIT Disclaimer), all necessary forms are included in the electronic application package.

For both paper and electronic applications, an email will be sent by NCER to the Principal Investigator and the Administrative Contact (see below) to acknowledge receipt of the application and transmit other important information. The email will be sent from receipt.application@epa.gov; emails to this address will not be accepted. *If you do not receive an email acknowledgment within 30 days of the submission closing date, immediately inform the Eligibility Contact shown in this solicitation. Failure to do so may result in your application not being reviewed.* See "Submission Instructions for Electronic Applications" for additional information regarding acknowledgment of receipt of electronically submitted applications. **Please note:** Due to often-lengthy delays in delivery, it is especially important that you monitor NCER's confirmation of receipt of your application when using regular mail.

B. Content and Form of Application Submission

The application is made by submitting the materials described below. **Applications must contain all information requested and be submitted in the formats described.**

1. Standard Form 424

The applicant must complete Standard Form 424. This form will be the *first page(s)* of the application. Instructions for completion of the SF424 are included with the form. (However, note that the entire requested dollar amount must appear on the 424, not simply the proposed first year expenses.) The form must contain the original (or electronic) signature of an authorized representative of the applying institution. Please note that both the Principal Investigator and an Administrative Contact must be identified on the SF424.

Applicants are required to provide a "Dun and Bradstreet Data Universal Numbering System" (DUNS) number when applying for federal grants or cooperative agreements. Organizations may receive a DUNS number by calling 1-866-705-5711 or by visiting the web site at <http://www.dnb.com> [EXIT Disclaimer](#).

Executive Order 12372, "Intergovernmental Review of Federal Programs," applies to most EPA programs and assistance agreements, unless the program or assistance agreement supports tribal, training/fellowships (other than Wastewater and Small Water Systems Operator training programs), and research and development (with some exceptions). The SF424 refers to this Executive Order requirement. National research programs are generally exempt from review unless the proposals (a) require an Environmental Impact Statement (EIS), or (b) do not require an EIS but will be newly initiated at a particular site and require unusual measures to limit the possibility of adverse exposure or hazard to the general public, or (c) have a unique geographic focus and are directly relevant to the governmental responsibilities of a State or local government within that geographic area. To determine whether their state participates in this process, and how to comply, applicants should consult <http://www.whitehouse.gov/omb/grants/spoc.html>.

If the applicant intends to cost-share, dollar amounts must be included in the appropriate area on the SF424.

2. **Key Contacts**

The applicant must complete the "Key Contacts" form as the second page of the application: a Key Contacts continuation page is also available at <http://www.epa.gov/ncer/rfa/forms>. A separate Key Contacts form should also be completed for major sub-agreements (i.e., primary co-investigators). Please make certain that all contact information is accurate.

3. **Table of Contents**

Provide a list of the major subdivisions of the application indicating the page number on which each section begins.

4. **Abstract (1 page)**

The abstract is a very important document in the review process. Therefore, it is critical that the abstract accurately describes the research being proposed and conveys all the essential elements of the research. Also, the abstracts of applications that receive funding will be posted on individual Agency and program-related web sites, such as: <http://www.who.edu/redtide/nationplan/ecohabprojectsummaries.html> [EXIT Disclaimer](#).

The abstract should include the information described below (a-h). Examples of abstracts for current grants may be found on the NCER web site. The font size and margins should be the same in as the Research Plan.

- a. Funding Opportunity Title and Number for this proposal.
- b. Title: Use the exact title of your project as it appears in the application. The title must be brief yet represent the major thrust of the project. Because the title will be used by those not familiar with the project, strike a balance between highly technical words and phrases and more commonly understood terminology. Do not use general phrases such as "research on."
- c. Investigators: List the Principal Investigator, then the names and affiliations of each co-investigator who will significantly contribute to the project. Provide a web site URL or an email contact address for additional information.
- d. Institution: In the same order as the list of investigators, list the name, city and state of each participating university or other applicant institution. The institution applying for assistance must be clearly identified.
- e. Project Period and Location: Show the proposed project beginning and ending dates

- and the geographical location(s) where the work will be conducted.
- f. Project Cost: Show the total dollars requested, including direct and indirect costs for all grant years (i.e.; the entire project period).
 - g. Project Summary: Begin with a paragraph that provides an overall description of the project, including any relevant background. Next, provide three subsections as follows: a) Objectives - state the objectives of the study and include any hypotheses that will be tested, b) Approach - describe the experimental approach to be used and any pertinent methodology, and c) Expected Results - describe the expected results of the project and how it addresses the research needs identified in this solicitation, including the estimated improvement in ecosystem assessment or ecosystem management that will result from successful completion of the proposed work.
 - h. Supplemental Keywords: Without duplicating terms already used in the text of the abstract, list keywords to assist database searchers in finding your research. A list of suggested keywords may be found at: <http://www.epa.gov/ncer/rfa/forms>.

5. **Research Plan, Quality Assurance Statement, Data Plan and References**

a. Research Plan

The proposed project must be completely described, including identification of the problem, scientific objectives, proposed methodology, and relevance to the ECOHAB program goals and scientific priorities. Applications should focus on a limited number of research objectives that adequately and clearly demonstrate that they meet the RFA requirements. Explicitly state the main hypotheses that you will investigate, the data you will create or use, the analytical tools you will use to investigate these hypotheses or analyze these data, and the results you expect to achieve. Research methods must be clearly stated so that reviewers can evaluate the appropriateness of your approach and the tools you intend to use. A statement such as: "we will evaluate the data using the usual statistical methods" is not specific enough for peer reviewers.

This description must not exceed fifteen (15) consecutively numbered (bottom center), 8.5x11-inch pages of single-spaced, standard 12-point type with 1-inch margins. In the case of proposals describing multi-disciplinary, multi-institutional regional studies, up to 20 pages are allowed, but only with the prior permission of the NOAA ECOHAB Program Coordinator. While these guidelines establish the minimum type size requirements, applicants are advised that readability is of paramount importance and should take precedence in selection of an appropriate font for use in the proposal. Page limits are inclusive of figures, other visual materials and letters of support.

The description must provide the following information:

1. Objectives: List the objectives of the proposed research and the hypotheses being tested during the project, and briefly state why the intended research is important and how it fulfills the requirements of the solicitation. This section should also include any background or introductory information that would help explain the objectives of the study. For applicants with prior HAB funding, a section outlining the results of the prior work and its connection, if any, with the proposed work must be included **within the page limits described above** (one to two pages recommended).
2. Approach/Activities: Outline the research design, methods, and techniques that you intend to use in meeting the objectives stated above (five to ten pages recommended).
3. Expected Results, Benefits, Outputs and Outcomes: Clearly describe the results you expect to achieve during the project (outputs) and the benefits of the results (outcomes). Discuss the utility of the research proposed for addressing the objectives described in this solicitation. A clear, concise description will help agencies understand the merits of the research (one to two pages recommended). Proposed projects may contribute directly or indirectly to

training, education, and outreach. Where appropriate, investigators are encouraged to summarize or highlight such activities as a short section in this part of the project description.

Note to applicant: The term "output" means an environmental activity or effort, and associated work products, related to a specific environmental goal(s), (e.g., testing a new methodology), that will be produced or developed over a period of time under the agreement. The term "outcome" means the result, effect, or consequence that will occur from the above activit(ies) that is related to an environmental, behavioral, or health-related objective.

4. General Project Information: Discuss other information relevant to the potential success of the project. This should include facilities, personnel expertise/experience, project schedules, proposed management, interactions with other institutions, etc. Applications for multi-investigator projects must identify project management and the functions of each investigator in each team and describe plans to communicate and share data (one to two pages recommended).
5. Letters verifying the participation of unfunded collaborators or participation in subcontracts (see Section IV.B.6.a.) must be attached, but limited to one brief paragraph stating availability of a resource (e.g., use of a person's time or equipment) as described in the Research Plan, and are exclusive of the Project Description page limits. Other letters of support are considered part of the Research Plan and included in the Research Plan page limits described above.
6. Appendices may be included but must remain within the stated page limits.

b. Quality Assurance Statement

For any project involving data collection or processing, conducting surveys, environmental measurements, modeling, or the development of environmental technology (whether hardware-based or via new techniques), EPA will require a quality assurance statement on the processes that will be used to assure that results of the research satisfy the intended project objectives. This is not required for application submission, but will be required for any proposals that EPA chooses to recommend for funding. More detailed information on requirements can be found at <http://www.epa.gov/ncer/guidance/qa.html>.

c. Data Plan (2 pages in addition to the Research Plan page limits)

Provide a plan to make all data resulting from an agreement under this RFA available in a format and with documentation/metadata such that they may be used by others in the scientific community. This includes both primary and secondary or existing data, i.e., from observations, analyses, or model development collected or used under the agreement. Applicants who plan to develop or enhance databases containing proprietary or restricted information must provide, within the two pages, a strategy to make the data widely available, while protecting privacy or property rights.

Since each Agency has a different data policy, an investigator may be asked to adjust their data plan in accordance with that of the Agency providing the funding.

d. References

Reference information is required. References cited are in addition to the Research Plan page limits described above. Each reference must include the name(s) of all authors in the same sequence in which they appear in the publication, the article title, volume number, page numbers, and year of publication. This section is for bibliographic

citations only and is not to be used to provide parenthetical information outside of the Project Description.

6. **Budget and Budget Justification**
a. Budget

Note: A subaward is a financial agreement between the lead institution and another institution for members of the research team (co-PIs) while a contract involves a procurement purchase for services/analyses or consultants.

Prepare a budget table using the guidance and format found at <http://www.epa.gov/ncer/rfa/forms/>, and select "All required forms." If a subaward, such as a subagreement with an educational institution, is included in the application, provide a separate budget and budget justification for the subaward in the same format. Include the total amount for the subaward under "Other" in the master budget. Any project containing subawards or subcontracts that constitute more than 40% of the total direct cost of the grant will be subject to special review. Additional justification for use of such a subaward or subcontract must be provided, discussing the need for this agreement to accomplish the objectives of the research project. All subaward budgets must be approved by the cognizant authority at each institution, as indicated by a signed letter or cover sheet. Investigators on proposals that include Federal and non-Federal investigators or multi-institutional Federal investigators must contact the NOAA ECOHAB Coordinator identified in this solicitation for instructions on formulating the budgets.

Support of ships required for field studies are a significant cost and need to be adequately justified within the project description. The funding mechanism for ship time is Agency specific. All ship costs, including UNOLS ships, must be included on the budget form. If the ship requested is a UNOLS vessel, a NSF-UNOLS Ship Time Request Form must be submitted to the UNOLS office and a copy appended to the proposal (see section IV.B.10. below).

Please note that institutional cost-sharing is not required. However, if voluntary cost-sharing is proposed, a brief explanatory statement concerning cost-sharing should be added to the budget justification, and estimated dollar amounts must be included in the appropriate categories in the budget table and on the SF424.

b. Budget Justification [2 pages in addition to the Section IV.B.5. page limitations, not including additions under Nos. (6) and (7) below to support contracts and subawards]

Describe the basis for calculating the personnel, fringe benefits, travel, equipment, supplies, contractual support, and other costs identified in the itemized budget. The budget justification should not exceed two consecutively numbered (bottom center), 8.5x11-inch pages of single-spaced, standard 12-point type with 1-inch margins.

Budget information should be supported at the level of detail described below:

1. Personnel: List all staff positions by title. Give annual salary, percentage of time assigned to the project, and total cost for the budget period.
2. Fringe Benefits: Identify the percentage used and the basis for its computation.
3. Travel: Specify the estimated number of trips, locations, and other costs for each type of travel. Explain the need for any travel, paying particular attention to travel outside the United States. Include travel funds for one program progress review and/or a final workshop to report on results.
4. Equipment: Identify all tangible, non-expendable personal property to be purchased that has an estimated cost of \$5,000 or more per unit and a useful life of more than one year. (Personal property items with a unit cost of less than \$5,000 are considered supplies.)

5. **Supplies:** "Supplies" means tangible property other than "equipment." Identify categories of supplies to be procured (e.g., laboratory supplies or office supplies). **Specifically identify computers to be purchased or upgraded.**
6. **Contractual:** Identify each proposed contract for services/analyses or consultants and specify its purpose and estimated cost. Contracts greater than \$25,000 must have a separate itemized budget and budget justification, not to exceed one additional page each, included as part of the application. They must also include a letter or cover page signed by a cognizant authority at that institution/organization. For contracts less than \$25,000 where a subcontractor has been selected, the selection must be justified and a letter of intent from the subcontractor must be provided.
7. **Other:** List each item in sufficient detail for the partner Agencies to determine the reasonableness of its cost, relative to the research to be undertaken. Note that subawards, such as those with other universities for members of the research team, are included in this category. All subawards must have a separate itemized budget and budget justification, not to exceed one additional page each, included as part of the application. They must also include a letter or cover page signed by a cognizant authority at that institution/organization.
8. **Indirect Costs:** If indirect costs are included in the budget, indicate the approved rate and base with an explanation of how the indirect costs were calculated.

7. **Resumes**

Provide resumes for each investigator and important co-worker. The resume for each individual must not exceed two consecutively numbered (bottom center), 8.5x11-inch pages of single-spaced, standard 12-point type with 1-inch margins. Each resume should include the following information:

1. A listing of professional and academic essentials, including courtesy appointments, and mailing address, telephone number, fax number, and e-mail address;
2. A list of up to five publications most closely related to the proposed project and five other significant publications, within the last five years. Additional lists of publications, lectures, etc., should not be included.

8. **Current and Pending Support**

Complete a current and pending support form (provided at <http://www.epa.gov/ncer/rfa/forms>) for each investigator and important co-worker. Identify any current and pending financial resources that are intended to support research related to the proposal or that would consume the principal investigator's time.

9. **Collaborator List**

Provide one list that includes all collaborators, advisors, and advisees for each investigator (principal and co-principal investigators, post-docs, and subawardees), complete with corresponding institutions. Submit only one, combined and alphabetized list per application. 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 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.

10. **Ship Use Form**

NOAA requests information on ship requirements in order to schedule time on University-

National Oceanographic Laboratory System (UNOLS). If UNOLS ship time is required, the investigator is responsible for sending copies to the UNOLS office and ship operators and **appending a copy to the proposal**. A UNOLS Ship Time Request Form and instructions are available at <http://www.gso.uri.edu/unols/ship/shiptime.html> [EXIT Disclaimer](#).

11. **Guidelines, Limitations, and Additional Requirements**

a. Letters of Intent/Letters of Support

Letters of intent to provide resources for the proposed research or to document intended interactions are limited to one brief paragraph committing the availability of a resource (e.g., use of a person's time or equipment) or intended interaction (e.g., sharing of data, as-needed consultation) that is described in the Research Plan. Letters of intent are to be included as an addition to the budget justification documents.

All letters that do not commit a resource vital to success of the proposal (such as letters from local constituencies) are considered *letters of support*. Letters of support, and letters of intent that exceed one brief paragraph, are considered part of the Research Plan and are included in the Research Plan page limit.

Note: Letters of intent or support must be part of the application; letters submitted separately will not be accepted. Any transactions between the successful applicant and parties providing letters of support or intent financed with EPA grant funds are subject to the funding restrictions described in Section IV. D.

b. Funding Opportunity Number(s) (FON)

At various places in the application, applicants are asked to identify the FON.
The Funding Opportunity Number for this RFA is:

Ecology and Oceanography of Harmful Algal Blooms (ECO HAB), EPA-G2008-STAR-A1

c. Confidentiality

By submitting an application in response to this solicitation, the applicant grants the sponsoring agencies permission to make limited disclosures of the application to technical reviewers both within and outside the Agency for the express purpose of assisting the Agency with evaluating the application. Information from a pending or unsuccessful application will be kept confidential to the fullest extent allowed under law; information from a successful application may be publicly disclosed to the extent permitted by law.

In accordance with 40 CFR 2.203, applicants may claim all or a portion of the application as confidential business information (for example, hypotheses or methodologies contained in the research narrative that the applicant wishes to protect from possible public disclosure). EPA will evaluate confidentiality claims in accordance with 40 CFR Part 2. Applicants must clearly mark applications or portions of applications they claim as confidential. If no claim of confidentiality is made, the EPA is not required to make an inquiry to the applicant as otherwise required by 40 CFR 2.204 (c) (2) prior to disclosure.

C. Submission Dates and Times

For paper copy submissions, the original and two (2) copies of the complete application (3 in all, see E. below), **must be received by NCER no later than 4:00 pm Eastern Time** on the solicitation closing date. Electronic applications **must be transferred to Grants.gov no later than 4:00 pm Eastern Time** on the solicitation closing date. Applications received after the closing date and time will be returned to the sender without further consideration.

It should be noted that this schedule may be changed without prior notification because of factors not anticipated at the time of announcement. In the case of a change in the solicitation closing date, a **new date will be posted on the NCER web site (<http://www.epa.gov/ncer/>) and a modification posted on www.grants.gov.**

Solicitation Closing Date: October 4, 2007, 4:00 pm Eastern Time for paper applications, 4:00 pm Eastern Time for electronic submissions.

NOTE: Customarily, applicants are notified about evaluation decisions within six months of the solicitation closing date. Awards are generally made 9-12 months after the solicitation closing date.

D. Funding Restrictions

The funding mechanism for all awards issued under this solicitation to non-Federal applicants will consist of assistance agreements from the funding Agency. All award decisions are subject to the availability of funds. In accordance with the Federal Grant and Cooperative Agreement Act, 31 U.S.C. 6301 et seq., the primary purpose of a grant is to accomplish a public purpose of support or stimulation authorized by federal statute, rather than acquisition for the direct benefit or use of the Agency. In issuing a funding agreement, the funding Agency anticipates that there will be no substantial involvement by said funding Agency in the design, implementation, or conduct of the research. However, the funding Agency will monitor research progress through annual reports provided by grantees and other contacts, including site visits, with the Principal Investigator.

If you wish to submit applications for HAB research to more than one funding Agency, you must ensure that the research proposed in each application is significantly different from any other that has been submitted or from any other financial assistance you are currently receiving from other federal government agencies.

Collaborative applications involving more than one institution must be submitted as a single administrative package from one of the institutions involved.

Funds will be awarded to one eligible applicant as the "recipient" even if other eligible applicants are named as "partners" or "co-applicants" or members of a "coalition" or "consortium". The recipient is accountable for the proper expenditure of funds.

Each proposed project must be able to be completed within the project period and with the amount of funds initially requested. Applicants should request the entire amount of money needed to complete the project. Recipients should not anticipate additional funding beyond the initial award of funds for a specific project.

EPA funding may be used to provide subgrants or subawards of financial assistance to fund partnerships provided the recipient complies with applicable requirements for subawards or subgrants including those contained in 40 CFR Parts 30 or 31, as appropriate. Successful applicants must compete contracts for services and products and conduct cost and price analyses to the extent required by the procurement provisions of these regulations. The regulations also contain limitations on consultant compensation. Applicants are not required to identify contractors or consultants in their proposal. Moreover, the fact that a successful applicant has named a specific contractor or consultant in the proposal EPA approves does not relieve it of its obligations to comply with competitive procurement requirements. Please note that applicants may not award sole source contracts to consulting, engineering or other firms assisting applicants with the proposal based solely on the firm's role in preparing the proposal.

Successful applicants to EPA cannot use subgrants or subawards to avoid requirements in EPA grant regulations for competitive procurement by using these instruments to acquire commercial services or products from for-profit organizations to carry out its assistance agreement. The nature of the transaction between the recipient and the subawardee or subgrantee must be consistent with the standards for distinguishing between vendor transactions and subrecipient assistance under Subpart B Section .210 of OMB Circular A-133, and the definitions of "subaward" at 40 CFR 30.2(ff) or "subgrant" at 40 CFR 31.3, as applicable. EPA will not be a party to these transactions.

E. Submission Instructions and Other Submission Requirements

You may submit either a paper application or an electronic application (but not both) under this announcement.

1. Submission Instructions for Paper Applications

The three (3) copies of the application package must be submitted as follows: 1) an original, signed copy; 2) a single-sided copy on plain white paper for scanning (please label this copy); and 3) another photocopy for administrative purposes. Do not permanently bind or staple any of these copies; please use either binder or paper clips to secure them.

Because of security concerns, paper applications cannot be personally delivered. They must be sent through regular mail, express mail, or a major courier.

The following address must be used for regular mail:

U.S. Environmental Protection Agency
Peer Review Division (8725F)
Funding Opportunity Number: (applicant: place the appropriate number here)
1200 Pennsylvania Avenue, NW
Washington, DC 20460

The following address must be used for express mail and couriers:

U.S. Environmental Protection Agency
Peer Review Division (8725F)
Funding Opportunity Number: (applicant: place the appropriate number here)
1025 F Street, NW (Room 3500)
Washington, DC 20004
Phone: (202) 233-0686

2. Submission Instructions for Electronic Applications

Please read this entire section before attempting an electronic submission through Grants.gov. Note: Submission instructions are updated on an as-needed basis. Please provide your AOR with a copy of the following instructions to avoid submission delays that may occur from the use of outdated instructions.

- a. Preparing for Submission. The appropriate electronic application package available through the <http://www.grants.gov> site must be used for electronic submissions. Note: With the exception of the Budget form (available at <http://www.epa.gov/ncer/rfa/forms>) and the UNOLS ship use form (available at <http://www.gso.uri.edu/unols/ship/shiptime.html> [EXIT Disclaimer](#)), all necessary forms are included in the electronic application package. In order to view the application package, download the PureEdge viewer (click on "Apply for Grants", then see "Apply Step 1"). The application package may be quickly accessed from https://apply.grants.gov/forms_apps_idx.html using the appropriate FON. *Be sure to download the electronic application package for the appropriate FON.* Please register for announcement change notification emails.

The electronic submission of your application package must be made by an official representative of your institution who is registered with Grants.gov and authorized to sign for Federal assistance. For more information, go to <http://www.grants.gov> and click on "Get Registered". *Note that the registration process may take a week or longer to complete.* If your organization is not currently registered with Grants.gov, please encourage your office to designate an Authorized Organization Representative (AOR) and begin the registration process as soon as possible. Most submission problems can be avoided by communicating with the AOR well before the solicitation closing date and

allowing sufficient time for following the guidance provided below.

- b. **Acknowledgement of Receipt.** The complete application must be transferred to Grants.gov no later than 4:00 pm Eastern Time on the solicitation closing date (see "Submission Dates and Times"). Grants.gov provides acknowledgements of application receipt that include an on-screen notification of successful initial transfer as well as an e-mail notification of successful transfer from Grants.gov to EPA. While it is advisable to retain copies of these Grants.gov acknowledgements to document submission, *the only official documentation that the application has been received by NCER is the e-mail acknowledgement sent by NCER to the Principal Investigator and the Administrative Contact.* This email will be sent from receipt.application@epa.gov; emails to this address will not be accepted. **If an email acknowledgment from NCER (not support@grants.gov) has not been received within 30 days of the solicitation closing date, immediately inform the Eligibility Contact shown in this solicitation. Failure to do so may result in your application not being reviewed.**
- c. **Application Package Preparation.** The application package consists of 1 through 4 below.
1. On the initial electronic Grant Application Package page, complete the "Application Filing Name" field by entering the Principal Investigator's name, starting with the last name. Note: Applicants do not need to complete the "Competition ID" field.
 2. Application for Federal Assistance (SF 424): Complete the form.
 3. EPA Key Contacts Form 5700-54: Complete the form. If additional pages are needed, see (4) below.
 4. Project Narrative Attachment Form (click on "Add Mandatory Project Narrative"): Attach a single electronic file labeled "Application" that contains the items described in Section IV.B.4. through IV.B.11.a. of this solicitation. *In order to maintain format integrity, this file must be submitted in Adobe Acrobat PDF.* Please review the PDF file for conversion errors prior to including it in the electronic application package; requests to rectify conversion errors will not be accepted if made after the solicitation closing date and time. If Key Contacts Continuation pages (see <http://www.epa.gov/ncer/rfa/forms>) are needed, place them before the Abstract (IV.B.4.).

Once the application package has been completed, the "Submit" button should be enabled. If the "Submit" button is not active, please contact Grants.gov for assistance (Telephone: 1-800-518-4726). Investigators should save the completed application package with two different file names before providing it to the AOR to avoid having to re-create the package should submission problems be experienced or a revised application needs to be submitted. Note: Revised applications must be submitted before the solicitation closing date and time.

- d. **Submitting the application.** The application package must be transferred to Grants.gov by an AOR. The AOR should close all other software before attempting to submit the application package. Click the "submit" button of the application package. Your Internet browser will launch and a sign-in page will appear. *Note: Minor problems are not uncommon with transfers to Grants.gov. It is essential to allow sufficient time to follow all trouble-shooting instructions, including contacting Grants.gov, before 4:00 pm Eastern Time on the solicitation closing date.*

A successful transfer will end with an on-screen acknowledgement. For documentation purposes, print or screen capture this acknowledgement. If a submission problem occurs, reboot the computer – turning the power off may be necessary – and re-attempt the submission. If submission problems continue, contact Grants.gov for assistance (Telephone: 1-800-518-4726). Note: Grants.gov issues a "case number" upon a request for assistance.

- e. **Transmission Difficulties.** If transmission difficulties that result in a late transmission, no

transmission, or rejection of the transmitted application are experienced and not resolved by following the above instructions, follow the guidance below. NCER may decide to review the application if it is clearly demonstrated that transmission difficulties were due solely as a result of problems associated with the transfer to Grants.gov. The decision regarding acceptance of the application for review will be made by NCER management and provided to the applicant within ten working days of the request. All e-mails, as described below, are to be sent to Thomas O'Farrell (O'Farrell.Thomas@epa.gov) with the FON in the subject line.

1. Late transfer due to electronic submission problems: Should electronic submission problems result in the application being transferred to Grants.gov after 4:00 pm but before 5:00 pm Eastern Time on the solicitation closing date, send an e-mail documenting the problem and include the Grants.gov case number.
2. Unsuccessful transfer of application package: If a successful transfer of the application cannot be accomplished even with assistance from Grants.gov due to electronic submission issues, send an e-mail before 5:00 pm Eastern Time on the solicitation closing date. Document the problem, include the Grants.gov "case number," and attach the entire application.
3. Grants.gov rejection of application: If a notification is received from Grants.gov stating that the application has been rejected for reasons other than late submittal, immediately send an email which includes any materials provided by Grants.gov with the entire application attached.

V. APPLICATION REVIEW INFORMATION

A. Peer Review

All applications are reviewed by an appropriate external technical peer review panel and other external reviewers by mail, using the criteria below. In general, each peer review group is composed of scientists, engineers, social scientists, and economists, as well as state resource and public health managers, who are experts in their respective disciplines and proficient in the technical subjects they are reviewing. Reviewers are asked to assign a summary score of excellent, very good, good, fair, or poor to each application. The average of these individual scores is then translated into the final panel review score by the Agencies. This review is designed to evaluate each proposal according to its scientific merit.

Individual external peer review panel members consider an application's merit based on the criteria below. Criteria 1-5 are listed in descending order of importance.

1. Research Proposal (criteria "1a" through "1f" are essentially equal):
 - a. The originality and creativity of the proposed research and the appropriateness and adequacy of the proposed research methods.
 - b. Is the research approach practical and technically defensible, and can the project be performed within the proposed time period?
 - c. Will the research contribute to scientific knowledge in the topic area?
 - d. What are the projected benefits of the proposed activity to society, such as improving the environment or promoting ecosystem health?
 - e. Will the results be disseminated broadly to enhance scientific and technological understanding?
 - f. Is the proposal well prepared with supportive information that is self-explanatory or understandable?
2. Investigators: The qualifications of the Principal Investigator(s) and other key personnel, including research training, demonstrated knowledge of pertinent literature, experience, and publication records. Will all key personnel make a significant time commitment to the project?
3. Responsiveness: The responsiveness of the proposal to the ECOHAB program goals. Does the proposal adequately address the objectives and special considerations specified by the solicitation?

4. Facilities and equipment: The availability and/or adequacy of the facilities and equipment proposed for the project. Are there any deficiencies that may interfere with the successful completion of the research?
5. Budget: Although budget information does not reflect on the application's scientific merit, the reviewers are asked to provide their view on the appropriateness and/or adequacy of the proposed budget and its implications for the potential success of the proposed research. Input on requested equipment is of particular interest.

B. Programmatic Review and Proposal Selection

Except as noted below, only applications that receive scores of excellent and very good from the peer reviewers are subjected to a programmatic review [for purposes of developing funding recommendations] by the sponsoring agencies' program officials. In some cases, however, a partner Agency may choose to include proposals rated good if the proposal addresses major data gaps or emerging HAB species with significant potential impacts. In general, Agency program officials will evaluate applications that received scores of excellent and very good (and in some cases "good" as described above) on the basis of peer review ratings, relevancy to the stated Agency Interests (as stated in Section I), program balance, budget, and available funds (see information below for Agency-specific review procedures). In evaluating an applicant's technical capability to successfully conduct the proposed project, agencies will consider information provided by the applicant and may consider information from other sources including Agency files. **Applicants who are recommended for funding may be required to provide additional information.** Applications are then recommended for funding by the appropriate program managers to the sponsoring agencies for final award in accordance with the procedures of that Agency.

Applications from non-Federal and Federal applicants will be evaluated under the same review/selection process as described above. Proposals from non-Federal applicants that are selected for funding will be funded through assistance agreements under the terms of this solicitation. Proposals from Federal agencies or laboratories deemed acceptable and selected for funding will be funded through a medium other than an assistance agreement such as inter- or intra-agency transfers, where legal authority exists for such funding.

For NOAA awards, the selection factors for applications are published in the NOAA Fiscal Year 2007 Omnibus Federal Register Notice (FR Vol. 71, no. 112, June 12, 2006, pp. 33898-33929) and will be used in conjunction with the program and policy factors as stated above.

For purposes of EPA awards, EPA will only perform a programmatic review on those applications receiving scores of excellent or very good from the peer review panel. The EPA programmatic review will be conducted by technical experts from the EPA, including individuals from the Office of Research and Development (ORD) and program and regional offices involved with the science or proposed research.

EPA will ask those applicants who received scores of excellent or very good as a result of the peer review process to provide additional information for the programmatic review pertaining to the proposed Lead Principal Investigator's (PI) "Past Performance and Reporting History." The applicant must provide the EPA Project Officer with information on the proposed Lead PI's past performance and reporting history under prior Federal agency assistance agreements in terms of: (i) the level of success in performing each agreement, and (ii) how progress towards achieving the results intended under each agreement was reported. This information is required only for the proposed Lead PI's performance under Federal assistance agreements initiated within the last three years that were similar in size and scope to the proposed project. In the event this information is requested, further detail will be provided by the EPA program manager.

The purpose of the programmatic review is to assure an integrated research portfolio for the Agency and help determine which applications to recommend for award. In conducting the programmatic review, the EPA will consider information provided by the applicant and may consider information from other sources, including prior and current grantors and agency files.

The internal programmatic review panel will assess:

1. The relevance of the proposed science to EPA research priorities.
2. The proposed Lead PI's past performance (under Federal agency assistance agreements initiated within the last three years that were similar in size and scope to the proposed project) in two areas: First, in successfully performing these prior Federal assistance projects, including whether there is a satisfactory explanation for any lack of success. Second, in reporting progress towards achieving results under these agreements, including the proposed Lead PI's history of submitting timely progress/final technical reports that adequately describe the progress toward achieving the expected results (outputs/outcomes) under the agreements. Any explanation of why progress towards achieving the results was not made will also be considered. Applicants whose proposed Lead PI has no relevant past performance and/or reporting history, or for whom this information is not available, will be evaluated neither favorably nor unfavorably on these elements.
3. The applicant's organizational experience.

EPA funding decisions are made by the NCER Director based on the results of the peer review and internal programmatic review. In addition, in making the final funding decisions, the NCER Director may also consider program balance, available funds, and the Congressionally-mandated Experimental Program to Stimulate Competitive Research (EPSCOR) (see <http://www.epa.gov/ncer/other/>). Applicants selected for funding will be required to provide additional information listed below under "Award Notices." The application will then be forwarded to EPA's Grants Administration Division for official notification of award in accordance with the EPA's procedures. Applicants are cautioned that only a grants officer is authorized to bind the Government to the expenditure of funds; preliminary selection by the NCER Director in the Office of Research and Development does not guarantee an award will be made.

VI. AWARD ADMINISTRATION INFORMATION

A. Award Notices

At the conclusion of the review process, program managers from participating agencies will make their funding recommendations based on the review and selection criteria stated in Section V of this announcement. This process varies among the ECOHAB agencies. The ECOHAB Coordinator will serve as the contact point for investigators wishing to determine application status. Applications still under consideration by one of the agencies will be considered pending until the completion of the selection process. For applications where an award recommendation is anticipated, investigators will be notified by an Agency program manager directly, who, if necessary, will negotiate revisions in the proposed work and budget. The ECOHAB Coordinator will notify all other applicants of the decision not to recommend support. Final awards will be issued by the Agency responsible for a specific project after receipt and processing of any specific materials required by the Agency.

Customarily, applicants are notified about evaluation decisions within six months of the solicitation closing date. An anonymous copy of the summary statement of the scientific review by the peer panel and anonymous copies of mail reviews will be provided to each applicant with the award or declination letter. The appropriate Agency grant officer is responsible for providing recipients with notification of their grant awards.

Applicants to be recommended for funding will be required to submit additional certifications and an electronic version of the revised project abstract. They may also be asked to provide responses to comments or suggestions offered by the peer reviewers, a revised budget, and/or to resubmit their proposal. The applicant may also be asked to provide additional quality assurance documentation as described in IV.B.5.b. The sponsoring Agency will contact Principal Investigators to obtain these materials. Grant administration procedures will be in accordance with the policies of the awarding Agency.

Non-profit applicants that are recommended for funding by EPA under this announcement are subject to pre-award administrative capability reviews consistent with Section 8b., 8c. and 9d. of EPA Order 5700.8 - Policy on Assessing Capabilities of Non-Profit Applicants for Managing Assistance Awards (http://www.epa.gov/ogd/grants/award/5700_8.pdf (PDF) (9 pp, 31 K)). In addition, non-profit applicants that qualify for funding may, depending on the size of the award, be required to fill out and submit to the Grants Management Office the Administrative Capabilities Form with supporting

documents contained in Appendix A of EPA Order 5700.8.

B. Disputes

Disputes related to any decisions made by EPA under this assistance agreement competition will be resolved in accordance with the dispute resolution procedures set forth in 70 FR 3629, 3630 (January 26, 2005) which can be found at <http://www.epa.gov/ogd/competition/resolution.htm>. Questions regarding EPA disputes may be referred to the EPA Eligibility Contact identified below.

Decisions made by other partner agencies will be subject to the dispute policies and procedures of that Agency.

C. Administrative and National Policy Requirements

Expectations and responsibilities of ECOHAB awardees are summarized in this section. Additional instructions will be provided in the terms and conditions for each Agency upon award, including which activities require prior approval from the awarding Agency.

1. **Meetings:** Each applicant must include in the budget funds for meetings with sponsoring Agency personnel and other awardees to discuss research progress. For projects of up to 3 years in duration, budget for one meeting during the project period. For regional studies of 3 to 5 years in duration, budget for two meetings during the project period. For planning purposes, assume that each meeting will be held in Washington, DC, and will require the attendance of principal investigator(s) and co-principal investigator(s). Each meeting will be up to three days in length, as appropriate to the project size, exclusive of travel time.
2. **Approval of Changes after Award:** Prior written approval is required from the granting Agency if there will be a significant change from the work described in the application. Examples of such changes as recognized by EPA are contained in 40 C.F.R. 30.25. Note: prior written approval is also required from the EPA for incurring costs more than 90 calendar days prior to award.
3. **Human Subjects:** A grant recipient funded by the EPA must agree to meet all EPA requirements for studies using human subjects prior to implementing any work with these subjects. These requirements are given in 40 C.F.R. § 26. For observational studies involving children or pregnant women or nursing mothers please refer to Subparts B & D of 40 C.F.R. § 26. U.S. Department of Health and Human Services regulations at 45 CFR § 46.101(e) have long required "... compliance with pertinent Federal laws or regulations which provide additional protection for human subjects." EPA's regulation 40 C.F.R. Part 26 is such a pertinent Federal regulation. Therefore, the applicant's Institutional Review Board (IRB) approval must state that the applicant's study meets the EPA's regulations at 40 CFR § 26. No work involving human subjects, including recruiting, may be initiated before the EPA has received a copy of the applicant's IRB approval of the project and the EPA has also provided approval. Where human subjects are involved in the research, the recipient must provide evidence of subsequent IRB reviews, including amendments or minor changes of protocol, as part of annual reports.
4. **Animal Welfare:** An award recipient must agree to comply with the Animal Welfare Act of 1966 (P.L. 89-544), as amended, 7 U.S.C. 2131-2156. The recipient must also agree to abide by the "U.S. Government Principles for the Utilization and Care of Vertebrate Animals used in Testing, Research, and Training" (50 Federal Register 20864-20865. May 20, 1985).
5. **Data Access and Information Release:** After award, all data (including primary and secondary or existing data) must be made available to the funding Agencies without restriction and be accompanied by comprehensive metadata documentation adequate for specialists and non-specialists alike to be able to understand how and where the data were obtained and to evaluate the quality of the data. If requested, the data products and their metadata must be provided in a standard exchange format no later than the due date of the grant's final report or the publication of the data product's associated results, whichever comes first.

Congress, through OMB, has instructed each federal agency to implement Information Quality Guidelines designed to "provide policy and procedural guidance...for ensuring and maximizing the quality, objectivity, utility, and integrity of information, including statistical information, disseminated by Federal agencies." The EPA's implementation may be found at <http://epa.gov/quality/exmural.html#genreqts>. These procedures may apply to data generated by grant recipients if those data are disseminated as described in the Guidelines.

The Office of Management and Budget (OMB) Circular A-110 has been revised to provide public access to research data through the Freedom of Information Act (FOIA) under some circumstances. Data that are (1) first produced in a project that is supported in whole or in part with federal funds and (2) cited publicly and officially by a federal agency in support of an action that has the force and effect of law (i.e., a regulation) may be accessed through FOIA. If such data are requested by the public, the funding Agency must ask for it, and the recipient must submit it, in accordance with A-110 and the EPA regulations at 40 C.F.R. 30.36.

6. **Reporting:** As a result of the award, the recipient will agree to provide to the program manager Agency-specific annual progress reports with associated summaries and a final report with an executive summary. The recipient will be required to provide copies of any peer reviewed journal article(s) resulting from the research during the project period and continue to notify the Project Officer of any papers based on the research supported that are published after termination of the assistance agreement. Investigators are requested to obtain ECOHAB publication numbers from the ECOHAB Coordinator. The funding Agency's full or partial support should be acknowledged in journal articles, oral or poster presentations, news releases, interviews with reporters and other communications, per the specifications of the individual funding Agency.
7. **Exchange Network (for EPA awards):** EPA, states, territories, and tribes are working together to develop the National Environmental Information Exchange Network, a secure, Internet- and standards-based way to support electronic data reporting, sharing, and integration of both regulatory and non-regulatory environmental data. States, tribes and territories exchanging data with each other or with EPA, should make the Exchange Network and the Agency's connection to it, the Central Data Exchange (CDX), the standard way they exchange data and should phase out any legacy methods they have been using. More information on the Exchange Network is available at www.exchangenetwork.net
[EXIT Disclaimer](#).

VII. AGENCY CONTACTS

Further information, if needed, may be obtained from the Agency Contacts indicated below. Information regarding this RFA obtained from sources other than these may not be accurate. Email inquiries are preferred.

Electronic Submissions:

[Thomas O'Farrell \(O'Farrell.Thomas@epa.gov\)](mailto:O'Farrell.Thomas@epa.gov);
EPA/ORD/NCER; phone: 202-343-9639

Eligibility and Technical Contacts:

[Gina Perovich, Program Manager \(perovich.gina@epa.gov\)](mailto:perovich.gina@epa.gov);
EPA/ORD/NCER; phone: 202-343-9843
[Quay Dortch, ECOHAB Coordinator \(quay.dortch@noaa.gov\)](mailto:quay.dortch@noaa.gov);
NOAA/CSCOR/COP; phone: 301-713-3338 ext 157

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