

## ANNOUNCEMENT OF FEDERAL FUNDING OPPORTUNITY

### EXECUTIVE SUMMARY

Federal Agency Name(s): National Weather Service (NWS), National Oceanic And Atmospheric Administration, Department of Commerce

Funding Opportunity Title: Hydrologic Research

Announcement Type: Initial

Funding Opportunity Number: NWS-NWSPO-2008-2001276

Catalog of Federal Domestic Assistance (CFDA) Number: 11.462, Hydrologic Research.

Dates: Proposals are due no later than 3:00 PM Eastern Standard Time January 28, 2008. We anticipate that a review of proposals will be completed during January and February, 2008, and funding should begin during spring 2008 for most approved projects. June 1, 2008, should be used as the proposed start date on proposals. Applicants should be notified of their status within 3 months of the closing date

Funding Opportunity Description: This program represents a NOAA/NWS effort to create a cost-effective continuum of basic and applied research through collaborative research between the Hydrology Laboratory of the NWS Office of Hydrologic Development and academic communities or other private or public agencies which have expertise in the hydrometeorologic, hydrologic, and hydraulic routing sciences, as well as those aspects of social sciences that apply to hydrologic and water resources forecasting and how information on those forecasts is distributed and assimilated by managers and the public. These activities will engage researchers and students in basic and applied research to improve the scientific understanding of river forecasting. Ultimately these efforts will improve the accuracy of forecasts and warnings of rivers and flash floods by applying scientific knowledge and information to NWS research methods and techniques, resulting in a benefit to the public. NOAA's program is designed to complement other agency contributions to that national effort.

## FULL ANNOUNCEMENT TEXT

### I. Funding Opportunity Description

#### A. Program Objective

The overall objective of this program is to improve the general understanding of the science of river and flash flood forecasting, and how probabilistic information can be successfully transmitted and understood by emergency managers, water resource managers, and the public. This objective includes efforts to improve the overall forecast and warning capabilities of the NWS river and flash flood forecast mission by addressing the following national science priorities through collaborative efforts between NOAA/NWS and academic/other institutions: derivation of observed and forecast values of all model forcings including precipitation, temperature, and evaporation; Quantitative precipitation estimation (QPE) and forecasting (QPF), including precipitation type and probabilistic QPF; Flash flood and river prediction (deterministic and probabilistic); Prediction of seasonal-to-inter-annual and decadal climate variability, and the impacts of that variability on extreme weather events. For this announcement, NWS/OHD/HL has science priorities in one specific area, river regulation, described below.

#### B. Program Priorities

NOAA will give sole attention to individual proposals addressing the identified science priority listed below. A goal of this call for proposals is to foster long-term collaborative interactions between academic institutions or other private or public agencies and the NWS. Proposals shall clearly state the role of each PI in the project, including substantial documented involvement in the proposal. Up to two grants may be awarded. However, if the quality of the proposals is not deemed suitable, the Office of Hydrologic Development may decide not to award any grants. The Office of Hydrologic Development encourages the submittal of innovative proposals from researchers with little or no recent funding history from NOAA.

#### Science Priority: NWS/OHD/HL Probabilistic River Regulation Modeling

River regulation (reservoir operations, river diversions for water supply and irrigation, returns, consumptive use, etc.) complicates the forecasting of streamflow, for a number of reasons, such as availability of planned reservoir releases and water derivations, deviations from those plans when available, and the very complex problem of addressing water rights, especially in the Western United States. This science priority seeks proposals that apply a probabilistic approach to river regulation forecasting. The approach must be compatible with existing NWS probabilistic techniques, such as ensemble modeling. Proposals in this area should

lead to the development of deployable techniques and tools that River Forecast Centers can use to create reliable probabilistic streamflow products at locations where the river is affected by upstream regulation. Proposals in this area should assume an annual budget of no more than \$125,000 for a period of 2 years.

#### C. Program Authority

Authority for the Hydrologic Research programs is provided by Weather Service Organic Act, 15 U.S.C. 313, and 33 U.S.C 883d.

#### D. Cost Principles

Not Applicable.

### II. Award Information

#### A. Funding Availability

Because of Federal budget uncertainties, it has not been determined how much money will be available through this announcement. It is also uncertain exactly when the funding from the Federal budget will be available. It is expected that up to two awards will be made, depending on availability of funds and quality of the proposals.

#### B. Project/Award Period

NOAA/NWS believes its warning and forecast mission will benefit significantly from a strong partnership with outside investigators. Current program plans assume the total resources provided through this announcement will support extramural efforts through the broad academic community. Because of Federal budget uncertainties, it has not been determined how much money will be available through this announcement. It is also uncertain exactly when the funding from the Federal budget will be available. It is expected that up to two awards will be made, depending on availability of funds and quality of the proposals. When a proposal for a multi year award is approved, funding will initially be provided for only the first year of the program. If an application is selected for initial funding, NOAA/NWS has no obligation to provide additional funding in connection with that award in subsequent years. Funding for each subsequent year of a multi year proposal is at the discretion of the NOAA/NWS. It will be contingent upon satisfactory progress in relation to the

stated goals of the proposal to address specific science needs and priorities of the NWS and the availability of funds. Applications must include a scope of work and a budget for the entire award period. Each funding period must be discrete and clearly distinguished from any other funding period.

### C. Type of Funding Instrument

The funding instrument for extramural awards will be a cooperative agreement since NOAA/NWS/OHD/HL will be substantially involved in the work. Examples of substantial involvement may include, but are not limited to, data sharing, work on specific tasks in the scope of work, publication of results, and proposals for collaboration between NOAA/NWS/OHD/HL scientists and a recipient scientist and/or contemplation by NOAA of detailing Federal personnel to work on proposed projects. Contractual arrangements for services and products for delivery to NOAA are not available under this announcement.

## III. Eligibility Information

### A. Eligible Applicants

Eligible applicants are Federal agencies; institutions of higher education; other nonprofits; commercial organizations; foreign governments; organizations under the jurisdiction of foreign governments; international organizations; state, local and Indian tribal governments. Applications from non-Federal and Federal applicants will be competed against each other. Proposals selected for funding from non-Federal applicants will be funded through a project grant or cooperative agreement under the terms of this notice. Proposals selected for funding from NOAA scientists shall be effected by an intra-agency fund transfer. Proposals selected for funding from a non NOAA Federal agency will be funded through an inter agency transfer.

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 applicants, the Economy Act (31 USC 1535) is not an appropriate legal basis.

### B. Cost Sharing or Matching Requirement

A matching share is not required by this program

### C. Other Criteria that Affect Eligibility

N/A

## IV. Application and Submission Information

### A. Address to Request Application Package

Applications are available through [www.grants.gov](http://www.grants.gov). For applicants without internet access, or Federal agencies without access to [www.grants.gov](http://www.grants.gov), contact Pedro Restrepo, NOAA/NWS 1325 East-West Highway, Room 8176; Silver Spring, Maryland 20910-3283, or by phone at 301-713-0640 x210

### B. Content and Form of Application

#### A) General

Proposals must adhere to the requirements under "Required Elements." Failure to follow these requirements will result in proposals being returned to the submitter without review. In addition, applicants shall note those provisions under "Other Requirements/Information" that must be complied with before an award can be made. Proposals not submitted electronically must include the original and two unbound copies of the proposal. Investigators are not required to submit more than three copies of the proposal. Investigators are encouraged to submit sufficient proposal copies for the full review process, if they wish all reviewers to receive color, or otherwise unusual materials submitted as part of the proposal. Only an original version of the federally required forms and two copies are needed. Facsimile transmissions and electronic mail submission of full proposals will not be accepted.

#### B) Required Elements

All proposals shall include the following elements:

(a) Signed title page. The title page shall be signed by the Principal Investigators (PIs) and the institutional representative and shall clearly indicate which project area is being addressed. The PIs and institutional representative shall be identified by full name, title, organization, telephone number, and address. The PIs shall have substantial documented involvement in the proposal, and the proposal shall clearly state the role of each PI in the project. PIs must clearly address the science and technology transfer process contained within the proposal. This includes their

interactions with operational NWS units, including Weather Offices, River Forecast Centers, NCEP service centers, and regional offices, with the specific goal of improving operational services. The total amount of Federal funds being requested shall be listed for each budget period.

(b) Abstract: An abstract must be included and shall contain an introduction of the problem, rationale, and a brief summary of work to be completed. The abstract shall appear on a separate page, headed with the proposal title, institution's investigators, total proposed cost, and budget period.

(c) Results from prior research. The results of related projects supported by NOAA and other agencies shall be described, including their relation to the currently proposed work. Reference to each prior research award shall include the title, agency, award number, PIs, period of award, and total award. The section shall be a brief summary and shall not exceed two pages total.

(d) Project description. The proposed project must be defined within the context of one of the program priorities listed above, and must be completely described, including identification of the program priority problem; scientific objectives; proposed methodology; relevance to the priorities of the NWS/OHD/HL; operational applicability; scientific merit; proposed technology transfer; past collaborations, cost effectiveness of research; and the program priorities listed above. Benefits of the proposed project to the general public and the scientific community shall be discussed. A year-by-year summary of proposed work must be included.

(e) Budget. Applicants must submit a Standard Form 424 "Application for Federal Assistance," including a detailed budget using the Standard Form 424a, "Budget Information--Non-Construction Programs." The form is included in the standard NOAA application kit for cooperative research agreements. The proposal must include total and annual budgets corresponding with the descriptions provided in the project description. Additional text to justify expenses shall be included as necessary.

(f) Vitae. Abbreviated curriculum vitae are sought with each proposal. Reference lists shall be limited to all publications in the last 3 years with up to five other relevant papers.

(g) Current and pending support. For each investigator, submit a list which includes project title, supporting agency with grant number, investigator months, dollar value, and duration. Requested values shall be listed for pending support.

The sections on prior research, project description, and all appendices related to these sections must be no more than 15 letter-size (8-1/2" by 11") pages and must be limited to funding requests for 1- to 2-year duration. The cover page, abstract, vitae, budget and Federally mandated forms are not included within the page count. All sections must be written on type size no less than 12 points, and the paper margins must be no less than 1".

(h) No NEPA questions need to be addressed in the proposal

### C. Submission Dates and Times

Proposals are due no later than 3:00 PM Eastern Standard Time January 28, 2008. The submission date on proposals submitted through grants.gov will be the time and date indicator in the grants.gov submission. For proposals submitted by hard copy, the submission date will be the time stamp on the received document.

We anticipate that a review of proposals will be completed during January and February, 2008, and funding should begin during spring 2008 for most approved projects. June 1, 2008, should be used as the proposed start date on proposals. Applicants should be notified of their status within 1 months of the closing date. All proposals must be submitted in accordance with the guidelines under "2) Content and Form of Application Package," above. Failure to follow these guidelines will result in proposals being returned to the submitter.

Proposals submitted after the deadline, even if accepted by Grants.gov, will be rejected.

### D. Intergovernmental Review

Applications under this program are not subject to Executive Order 12372, "Intergovernmental Review of Federal Programs."

### E. Funding Restrictions

None

### F. Other Submission Requirements

Applications should be submitted through <http://www.grants.gov>. For applicants without internet access, or Federal agencies without access to [www.grants.gov](http://www.grants.gov), please submit three copies to:

Pedro Restrepo, NOAA/NWS 1325 East-West Highway, Room 8176; Silver Spring, Maryland 20910-3283.

No facsimile or email copies will be accepted.

## V. Application Review Information

### A. Evaluation Criteria

The evaluation criteria and weighting of the criteria are as follows:

1. Importance/relevance and Applicability of proposal to the program goals (35%).  
This criterion ascertains whether there is intrinsic value in the proposed work and/or relevance to NOAA, federal, regional, state, or local activities. For the Hydrologic Research competition this includes:  
How important and relevant is the proposal to the specified science priority? What is the likelihood of the proposed science activities to improve the general scientific understanding of river and flash flood forecasting, or the communication of probabilistic information? Does the proposal suggest a new analysis or theory, or just an application of previously accepted approaches? What is the likelihood of the proposed science activities to improve the simulation and forecasting of rivers and flash floods?
2. Technical/scientific merit (30%)  
This criterion assesses whether the approach is technically sound and/or innovative, if the methods are appropriate, and whether there are clear project goals and objectives. For the Hydrologic Research competition this includes:  
What is the intrinsic scientific value and maturity of the subject and the study proposed as they relate to the specific science priorities? Were focused scientific objectives and strategies, including data management considerations, project milestones, and timelines, used?
3. Overall qualifications of applicants (25%)  
This criterion ascertains whether the applicant possesses the necessary education, experience, training, facilities, and administrative resources to accomplish the project. For the Hydrologic Research competition this includes:  
Are researchers likely to maintain effective and consistent interactions with operational forecasters throughout the course of the proposed research program? Have researchers demonstrated the ability to conduct successful research? Do the researchers have the requisite educational background and skills to conduct the proposed work?
4. Project costs (10%)  
This criterion evaluates the budget to determine if it is realistic and commensurate with the project needs and time frame. For the Hydrologic Research competition this includes: Do researchers demonstrate the ability to leverage other resources without overlapping current or pending research? Is there a high ratio of operationally useful results versus proposed costs?
5. Outreach, training and education (0%)



This criterion assesses whether the project provides a focused and effective education and outreach strategy regarding NOAA's mission to protect the Nation's natural resources. This criterion will not be used in the current announcement.

## B. Review and Selection Process

An initial administrative review is conducted to determine compliance with requirements and completeness of the application. Merit review is conducted by peer panel reviewers. Each reviewer will individually evaluate and rank proposals using the evaluation criteria provided above. Three to seven Federal and non-Federal experts may be used in this process. The merit reviewers' ratings are used to produce a rank order of the proposals. In making the final selections, the Selecting Official will consider the peer panel reviews and recommendations, and award in rank order unless the proposal is justified to be selected out of rank order based upon one or more of the selection factors below. The Selecting Official may negotiate the funding level of the proposal. The Selecting Official makes final recommendations for award to the Grants Officer who is authorized to obligate the funds.

## C. Selection Factors

The merit review ratings shall provide a rank order to the Selecting Official for final funding recommendations. The Selecting Official shall award in the rank order unless the proposal is justified to 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. Duplication of other projects funded or considered for funding by NOAA/federal agencies
4. Program priorities and policy factors, including recent NOAA funding considerations as expressed in "Program Priorities," above.
5. Applicant's prior award performance

6. Partnerships with/Participation of targeted groups
7. Adequacy of information necessary for NOAA staff to make a NEPA determination and draft necessary documentation before recommendations for funding are made to the Grants Officer.

Selection Factor 4 includes recent NOAA funding considerations as expressed in "Program Priorities," above.

#### D. Anticipated Announcement and Award Dates

Award dates are anticipated within 130 days from the publication of this announcement.

### 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 by electronically or by postal mail to the appropriate business office of the recipient organization. NOAA/NWS will notify unsuccessful applicants, electronically, or in writing, by postal mail. NOAA/NWS shall dispose of all applications that are not awarded.

#### B. Administrative and National Policy Requirements

Administrative and National Policy Requirements. Administrative and national policy requirements for all Department of Commerce awards are contained in the Department of Commerce Pre-Award Notification Requirements for Grants and Cooperative Agreements published in the Federal Register on December 30, 2004 (69 FR 78389). You may obtain a copy of these by notices by contacting the agency contact(s) below.

Limitation of Liability. In no event will NOAA or the Department of Commerce be responsible for proposal preparation costs if these programs are cancelled because of other agency priorities. Publication of this announcement does not oblige NOAA to award any specific project or to provide special fishing privileges.

National Environmental Policy Act (NEPA): NOAA must analyze the potential environmental impacts, as required by the National Environmental Policy Act

(NEPA), for applicant projects or proposals which are seeking NOAA federal funding opportunities. Detailed information on NOAA compliance with NEPA can be found at the following NOAA NEPA website: <http://www.nepa.noaa.gov/>, including our NOAA Administrative Order 216-6 for NEPA, [http://www.nepa.noaa.gov/NAO216\\_6\\_TOC.pdf](http://www.nepa.noaa.gov/NAO216_6_TOC.pdf), and the Council on Environmental Quality implementation regulations, [http://ceq.eh.doe.gov/nepa/regs/ceq/toc\\_ceq.htm](http://ceq.eh.doe.gov/nepa/regs/ceq/toc_ceq.htm). Consequently, as part of an applicant's package, and under their description of their program activities, applicants are required to provide detailed information on the activities to be conducted, locations, sites, species and habitat to be affected, possible construction activities, and any environmental concerns that may exist (e.g., the use and disposal of hazardous or toxic chemicals, introduction of non-indigenous species, impacts to endangered and threatened species, aquaculture projects, and impacts to coral reef systems). In addition to providing specific information that will serve as the basis for any required impact analyses, applicants may also be requested to assist NOAA in drafting of an environmental assessment, if NOAA determines an assessment is required. Applicants will also be required to cooperate with NOAA in identifying feasible measures to reduce or avoid any identified adverse environmental impacts of their proposal. The failure to do so shall be grounds for not selecting an application. In some cases if additional information is required after an application is selected, funds can be withheld by the Grants Officer under a special award condition requiring the recipient to submit additional environmental compliance information sufficient to enable NOAA to make an assessment on any impacts that a project may have on the environment.

### C. Reporting

Financial reports are to be submitted to the NOAA Grants Officer and Performance (technical) reports are to be submitted either electronically or in hard copy to the NOAA program officer. Financial and performance reports are semi-annual.

## VII. Agency Contacts

The point of contact is Pedro Restrepo, NOAA/NWS/W-OHD1; 1325 East-West Highway, Room 8176; Silver Spring, Maryland 20910-3283, or by phone at 301-713-0640 ext. 210, or fax to 301 713-0963, or via internet at [Pedro.Restrepo@noaa.gov](mailto:Pedro.Restrepo@noaa.gov).

## VIII. Other Information

In accordance with Federal statutes and regulations, no person on grounds of race, color, age, sex, national origin, or disability shall be excluded from participation in, denied benefits of, or subjected to discrimination under any program or activity

receiving financial assistance from the NOAA/NWS. The NOAA/NWS does not have a direct telephonic device for the deaf (TDD capabilities can be reached through the State of Maryland-supplied TDD contact number, 800 735 2258, between the hours of 8 a.m.-4:30 p.m.)