

ANNOUNCEMENT OF FEDERAL FUNDING OPPORTUNITY

EXECUTIVE SUMMARY

Federal Agency Name(s): Oceanic and Atmospheric Research (OAR), National Oceanic and Atmospheric Administration (NOAA), Department of Commerce

Funding Opportunity Title: Social Science Weather Research

Announcement Type: Initial

Funding Opportunity Number: NOAA-OAR-OWAQ-2012-2003256

Catalog of Federal Domestic Assistance (CFDA) Number: 11.459, Weather and Air Quality Research

Dates: Applications must be submitted to Grants.gov by 11:59:59 pm Eastern Daylight Time April 27, 2012. Applications received after this time will not be reviewed or considered for funding.

Funding Opportunity Description: This research funding opportunity is being jointly issued by the U.S. Weather Research Program in the National Oceanic and Atmospheric Administration's (NOAA) Office and Weather and Air Quality (OWAQ) in NOAA Research and the National Weather Service (NWS). It seeks to stimulate research and develop collaborations between social and physical scientists that can help build a Weather Ready Nation. (See <http://www.nws.noaa.gov/com/weatherreadynation/> for more information about NOAA's Weather Ready Nation activities.) This research will help to better understand human behavior and positively affect decision-making during weather-related events and the formulation and communication of forecast uncertainty, or forecast confidence. The results of this research are expected to improve the communication within the weather community and to the public to invoke a response that will help protect life and property during dangerous weather events.

FULL ANNOUNCEMENT TEXT

I. Funding Opportunity Description

A. Program Objective

The objective of this opportunity is to stimulate research and develop collaborations between social and physical scientists that can help build a Weather Ready Nation. This announcement is in response to the need to incorporate social science and physical science research activities that will help develop a Weather Ready Nation through improved translations and communication of weather forecasts and warnings.

B. Program Priorities

The loss of life and property damage caused by recent weather disasters have demonstrated the Nation's vulnerability to these kinds of events. The integration of social and behavioral sciences with the physical sciences can help reduce this vulnerability. As described in the 2009 report "Integrating Social Science into NOAA Planning, Evaluation and Decision Making", by NOAA's Science Advisory Board, "Social science provides the basis for understanding how NOAA products and services affect decisions and outcomes related to human safety and health and to the economy. Natural science can be better integrated into NOAA decision making if consideration is first given to the users of information, the translation and communication of that information, the processes by which information is used to make decisions, and the level at which decisions will be made; e.g. policy, emergency response, or households." (A copy of that report is available at http://www.sab.noaa.gov/Reports/2009/SAB_SSWG_Report_FINALtoNOAA_041609.pdf). For these reasons, NOAA is accepting proposals to conduct research that integrates social, behavioral, and physical science to improve the effectiveness of high-impact weather forecasts and warnings, where effectiveness includes the usefulness of forecast and warning information in decision making by the general public, emergency managers, businesses, and other decision makers. This research should bring together social, behavioral, and physical scientists (including engineering) to design research that will generate results that can lead to actionable improvements in the provision and communication of weather data by different members of the weather community (e.g., weather forecasters, broadcasters, emergency managers). This research must include a component that can be tested in a NOAA weather facility, such as, but not limited to, a NOAA weather-related testbed (<http://www.esrl.noaa.gov/research/uswrp/testbeds/>), a NWS forecast office, or one of the National Centers for Environmental Prediction.

Examples of research topics include, but are not limited to:

1) Study the complete warning process from issuance to response and help improve severe weather warning response and risk communication, mitigate user complacency and better support effective decision making. This evolution should utilize an information structure that promotes credibility and empowers individuals to quickly make appropriate decisions in the face of adverse conditions. Such an information structure should:

- * Lessen the number of risk signals received before protective action is taken;
- * Provide a warning mechanism that prompts people to take immediate life-saving action in extreme events like strong to violent tornadoes;
- * Be impact-based more than phenomenon-based for clarity on risk assessment;
- * Be compatible with NWS technological, scientific, and operational capabilities and be compatible with external local warning systems and emerging mobile communications technology;
- * Be easily understood and calibrated by the public to facilitate decision-making;
- * Maintain existing "probability of detection" for severe weather events;
- * Understand what false alarm rate is "acceptable" to the general public and likely to elicit appropriate responses and actions to protect lives; and
- * Use enhanced wording that conveys a sense of urgency.

2) Social science research and the application of that research to improve the understanding of vulnerabilities and behavior (adaptation, risk perception) associated with users of current NWS products and services, and the overall utility of those products during severe weather events. Research could explore likely public acceptance and improved response to applications that provide, but are not limited to:

- * "Pathcast" information in tornado warnings;
- * "Call-to-Action" statements in severe thunderstorm and tornado warnings;
- * Location information as expressed by polygons in severe thunderstorm and tornado warning events, including geographic details; and
- * The extension of the short-term prediction of severe convective storms out to 30 minutes to an hour incorporating uncertainty.

3) Study and identify improved methods for communicating observed and expected severe weather events to the general public and other decision makers, such

as emergency managers. Such methods could include, for example:

- * Incorporation of uncertainty information into weather forecasts, watches and warnings of high-impact weather;
- * Use of emerging dissemination technologies and new product formats to provide clear and concise information on severe weather events to the public;
- * Use of new technologies/formats to improve communication with government partners in the media and emergency management communities; and
- * Explore potential alternatives to existing weather hazards messaging systems (e.g., watch, warning, advisory) to assess potential enhancements to message clarity and ability to cause the decision maker, include the general public, to take some protective action.

C. Program Authority

15 U.S.C. 1540; 49 U.S.C. 44720(b)

II. Award Information

A. Funding Availability

The estimate for total funding that will be available in FY 2012 is expected to be approximately \$400,000, which will likely be used to fund 2-4 new projects. Initial and renewal funding of any proposals is contingent upon availability of these funds. In no event will NOAA or the Department of Commerce be responsible for proposal preparation costs.

B. Project/Award Period

The period of awards is up to two years. All funded PIs are required to submit written semiannual reports during the project to describe the progress made toward the goals and deliverables established in the original proposal and agreed-upon time line. A final report must also be submitted at the conclusion of the project.

C. Type of Funding Instrument

The funding instrument for selected projects will be a cooperative agreement based on the envisioned substantial involvement of NOAA scientists in projects funded by this notice. For selected projects involving investigators from multiple institutions, a separate cooperative agreement will be issued to each institution that

submits a proposal. NOAA envisions that research projects and evaluation will involve close collaboration between researchers and NOAA meteorologists and scientists. For example, operational forecasters may actually run or utilize output from the experimental technique during their operational shifts or at other times, and they may then provide direct feedback to the researchers for possible modifications that will benefit the broader community. Other examples include NOAA scientists educating principal investigators about the current NOAA forecast/watch/warning process or discussing/sharing current information products that are distributed by NOAA.

III. Eligibility Information

A. Eligible Applicants

Eligible applicants are 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.

B. Cost Sharing or Matching Requirement

No cost sharing is required under this program.

C. Other Criteria that Affect Eligibility

N/A

IV. Application and Submission Information

A. Address to Request Application Package

Application packages are available through <http://grants.gov> and can be searched for using Funding Opportunity Number NOAA-OAR-OWAQ-2012-2003256. If an applicant does not have Internet access, application packages can be requested from Dorothy Fryar, DOC/NOAA, Office of Weather & Air Quality Research, Routing Code R/WA, 1315 East-West Highway, Room 10312, Silver Spring, MD 20910, phone (301) 734-1179, e-mail Dorothy.Fryar@noaa.gov.

B. Content and Form of Application

(1) The application must include a title page signed by the PI(s) and the appropriate representatives(s) of their home institution(s). Each PI and institutional representative should be identified by full name, title, organization, telephone number, mailing address, and e-mail address.

(2) A one-page abstract must be included and must contain a brief summary of the proposed work to be completed. The abstract must appear on a separate page, headed with the proposal title and the name(s) of the PI(s) and their home institution(s).

(3) All proposals must provide a Statement of Work that includes:

(a) The proposed duration of the project, from one to two years;

(b) A proposed work plan for the project, the testing and evaluation approach, a description of which NOAA facility will be used to evaluate the research and how that evaluation will be conducted, metric(s) for success, project deliverables, a time line with key milestones, and any real-time operational data needs. Final work plans for approved projects will be reached by agreement between the PI(s) and the OWAQ director;

(c) A time line for conducting the research and delivering the scientific and technical results over the course of the project. If the proposal is funded, researchers are will be asked to coordinate with the OWAQ director to formalize this time line;

(d) Schedule and needs for expected travel. PIs are strongly encouraged to plan and budget during each year of the project to describe their work at national conferences and workshops and with a website. Additionally, visits by PIs and/or their support staff to the NOAA facility may be beneficial for coordinating with NOAA staff in preparation for project testing and evaluation; and

(e) All applicants must submit a budget, the Standard Form SF 424A, Budget Information-Non Construction Program, that is contained in the standard NOAA Grants and Cooperative Agreement Package, and a Budget Justification that includes the PIs scientific and technical support staff salaries and fringe benefits, facility requirements, computing and communications, equipment (provide a lease vs purchase for items \$5,000.00 or more), supplies and travel. If indirect charges are included in the budget, applicant must have an approved negotiated Indirect Cost Rate Agreement. The information on the SF 424A should only include the amount of funding that will be provided to the institution submitting the proposal, not co-PI's at other institutions that will be submitting a separate proposal for their portion of the funding.

C. Submission Dates and Times

Complete application packages must be submitted no later than 11:59 p.m. Eastern Time (EDT) on April 27 2012. For applications submitted through Grants.gov, a date and time receipt indication is included and will be the basis of determining timeliness. For those without internet access, hard copy applications will be date and time stamped when they are received in the program office. Applications received after that time will not be reviewed. Anticipated Award Start Date will be September 1, 2012

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

Complete application packages should be submitted through the <http://grants.gov> website. If there are co-PIs from different institutions, the statement of work must describe the contributions by each PI and include a budget that clearly describes the exact amount being requested by each institution. The same proposal must be submitted separately by each institution, but the SF-424 forms should only list the amount being requested by the specific institution.

If the applicant is a university that has a NOAA Joint or Cooperative Institute (CI), the institution is encouraged to submit a proposal that will be associated with the CI. The proposal must specify the name of the CI, its most recent award number, and the NOAA-approved research theme applicable to the work to be performed in the proposal's project narrative. The proposal will use the facilities and administrative rate (F&A or Indirect cost rate) associated with most recent CI award.

If the proposal is selected for funding, NOAA will notify the university that a separate competitive award will be issued with its own award number. However, the competitive award will include a Special Award Condition (SAC) that evidences the link between it and the CI award. The SAC would provide (1) that the university has submitted the proposal to be associated with the CI; (2) that any existing University/NOAA MOA will be incorporated by reference into the terms of the competitive award, and (3) that any progress report(s) for the competitive award must follow the timetable of and be submitted by the CI directly to the funding program. Copies of these progress reports will be attached to the CI's performance report as an appendix.

V. Application Review Information

A. Evaluation Criteria

At least three reviewers will evaluate each application on the following NOAA standardized evaluation criteria that are used for all competitive assistance announcements (listed with assigned weights). Applicants are required to adhere to all the noted submission requirements and address the criterion described in this section.

1. Importance/relevance and applicability of proposal to the program goals (30 points)

This criterion ascertains whether there is intrinsic value in the proposed work and/or relevance to NOAA, federal, regional, state, or local activities. The reviewers will consider the following questions in their assessment of this criterion:

How does the proposed activity enhance NOAA's strategic plan and mission goals? Does the study address an important problem?

How will scientific knowledge be advanced?

Will this activity improve concepts or methods that drive the field of study?

Does the project employ novel concepts, approaches or methods?

2. Technical merit (35 points)

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. The reviewers will consider the following questions in their assessment of this criterion:

Is the conceptual framework, design, methodology, and proposed analysis adequately developed, well-integrated, and appropriate for the goal of the project?

Has the applicant adequately proposed a process for evaluating and testing the concepts in a NOAA testbed?

Does the applicant acknowledge potential problem areas and consider alternatives?

Does the proposal include metrics that evaluate the success or failure of the project?

Does the proposal include appropriate milestones for this project?

3. Overall qualifications of applicants (20 points)

This ascertains whether the applicant possesses the necessary education, experience, training, facilities, and administrative resources to accomplish the project. The reviewers will consider the following questions in their assessment of this criterion:

Does the environment in which the work will be done contribute to the probability of success?

Do the proposed activities take advantage of unique features of the intended environment or employ useful collaborative arrangements?

Is there at least one social or behavioral scientist and one physical scientist

identified to work on this project?

4. Project costs (10 points)

The project's budget is evaluated to determine if it is realistic and commensurate with the project needs and time-frame. The reviewers will consider the following questions in their assessment of this criterion:

Are the requested costs realistic, reasonable, allowable, allocable, necessary and commensurate with the project needs and time period?

Has the applicant proposed cost-efficient ways of accomplishing the project and collaborating with other project participants?

5. Outreach and education (5 points)

This assesses whether the project provides a focused and effective education and outreach strategy regarding NOAA's mission to protect the Nation's natural resources. The reviewers will consider the following questions in their assessment of this criterion:

Does the proposal include a plan for sharing project progress and results with the general public through a web site?

Does the proposal include the publication of the results in a peer-reviewed publication and presenting results at a national conference or workshop?

B. Review and Selection Process

All full proposals will receive an independent, objective review in accordance with the criteria specified above in Section V.A. of this notice. Such review will be conducted by designated reviewers, consisting of at least three experts (which can be federal and/or non-federal). NOAA selects evaluators on the basis of their professional qualifications and expertise as related to the unique characteristics of the application. The application(s) will be individually scored (i.e., a consensus is not reached) unless all reviewers are Federal employees. If all of the reviewers are Federal employees, the program office has the discretion to authorize a score based on consensus. The members' scores will be used to produce a rank ordering of the projects by overall total scores. The NOAA program officer will assess the evaluations and make a fund or do-not-fund recommendation to the OWAQ director, who is the selecting official. Any application considered for funding may be required to address the issues raised in the evaluation of the application by the reviewers, program officer, selecting official, and/or grants officer before an award is issued. Successful and unsuccessful applicants will be notified of the final selection upon completion of the review and selection process. All applicants will receive their average scores regarding their application. Funded projects become an OWAQ activity with a duration of one to two years. Note that two-year applications are

initially funded for one year, with funding for a second year contingent upon a favorable review near the end of the first year and upon available NOAA funds.

C. Selection Factors

The OWAQ director shall recommend awards in the rank order unless the applications are 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. Whether this project duplicates other projects funded or considered for funding by NOAA or other federal agencies.
4. Program priorities and policy factors (see section I. B.).
5. Applicant's prior award performance.
6. Partnerships and/or Participation of targeted groups.
7. National Environmental Policy Act (NEPA) determination and draft of necessary documentation before recommendations for funding are made to the Grants Officer.

D. Anticipated Announcement and Award Dates

Funding is anticipated to begin during the early fall of 2012 for most approved projects. Projects should not be expected to begin prior to September 1, 2012.

VI. Award Administration Information

A. Award Notices

Successful applicants will receive notification that the application has been approved for funding by the NOAA Grants Management Division with the issuance of an award signed by a NOAA Grants Officer. This is the authorizing document that

allows the project to begin.

The award will be issued to the Authorizing Official either electronically or in hard copy. Unsuccessful applicants will be notified that their projects were not selected for recommendation by the Program Office.

To enable the use of a universal identifier and to enhance the quality of information available to the public as required by the Federal Funding Accountability and Transparency Act of 2006, to the extent applicable, any proposal awarded in response to this announcement will be required to use the Central Contractor Registration and Dun and Bradstreet Universal Numbering System and be subject to reporting requirements, as identified in OMB guidance published at 2 CFR Parts 25, 170 (2010), http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=/ecfrbrowse/Title02/2cfr25_main_02.tpl, http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=/ecfrbrowse/Title02/2cfr170_main_02.tpl.

B. Administrative and National Policy Requirements

The Department of Commerce Pre-Award Notification Requirements for Grants and Cooperative Agreements contained in the Federal Register notice of February 11, 2008 (73 FR 7696) are applicable to this solicitation. <http://www.gpo.gov/fdsys/>.

Limitation of Liability. In no event will NOAA or the Department of Commerce be responsible for application preparation costs. Publication of this announcement does not oblige NOAA to award any specific project.

National Environmental Policy Act (NEPA). NOAA must analyze the potential environmental impacts, as required by the 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, and the Council on Environmental Quality implementation regulations, 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.

No NEPA information is required with the application. NEPA information may be requested after review of the application if NOAA determines such information is required (as discussed above).

C. Reporting

Award recipients will be required to submit semi-annual performance (technical) reports and must be submitted no later than 30 days following the end of each 6-month period from the start date of the award. A comprehensive final report is due 90 days after the award ends.

The Federal Funding Accountability and Transparency Act of 2006 includes a requirement for awardees of applicable Federal grants to report information about first-tier subawards and executive compensation under Federal assistance awards issued in FY 2011 or later. All awardees of applicable grants and cooperative agreements are required to report to the Federal Subaward Reporting System (FSRS) available at www.FSRS.gov on all subawards over \$25,000.

VII. Agency Contacts

Contact Dr. John Cortinas, Director of the Office of Weather and Air Quality Research, United States Research Program, Routing Code R/WA, 1315 East West Highway, Silver Spring MD. 20910, phone number is 301-734-1198, or via e-mail at John.Cortinas@noaa.gov.

VIII. Other Information

N/A