

ANNOUNCEMENT OF FEDERAL FUNDING OPPORTUNITY
EXECUTIVE SUMMARY

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

Funding Opportunity Title: Meteotsunami Warning Project

Announcement Type: Initial

Funding Opportunity Number: NOAA-NWS-NWSPO-2011-2002833

Catalog of Federal Domestic Assistance (CFDA) Number: 11.467, Meteorologic and Hydrologic Modernization Development

Dates: Full proposals must be received and validated by Grants.gov, postmarked, or provided to a delivery service on or before 6:00 p.m. ET, February 7, 2011. Please note: Validation or rejection of your application by Grants.gov may take up to 2 business days after submission. Please consider this process in developing your submission timeline. Applications received after the deadline will be rejected/returned to the sender without further consideration. Use of U.S. mail or another delivery service must be documented with a receipt. No facsimile or electronic mail applications will be accepted.

Funding Opportunity Description: NOAA's Tsunami Program's mission is to provide reliable tsunami forecasts and warnings and to promote community resilience. The Tsunami Warning System is designed to warn coastal residents of tsunamis generated by impulsive displacement of the sea floor through earthquakes and/or sub-sea landslides triggered by earthquakes. Approximately 85% of tsunamis are triggered by earthquakes. However, in some locations of the country meteorologically-generated waves with the same characteristics as tsunamis (or, "meteotsunamis") have historically posed a greater threat than the well-known earthquake-generated tsunami. Presently, no system is in place in the U.S. which monitors for the phenomena and alerts coastal residents to the threat. The NOAA Tsunami Program recognizes the need to research the possibility of developing a meteotsunami warning capability. This RFA requests research to address four primary objectives:

- 1) Identify the causative forces and pre-cursor environmental conditions which have generated meteotsunamis historically;
- 2) Define the observational systems, communications, and processing systems necessary to evaluate meteotsunami formation prior to impact along a coast; and
- 3) Develop a protocol for issuing meteotsunami warnings along the U.S. coast.

FULL ANNOUNCEMENT TEXT

I. Funding Opportunity Description

A. Program Objective

The objectives of the Meteotsunami Warning Project include:

Objective 1: Identify the causative forces and pre-cursor environmental conditions conducive to meteotsunami formation.

To forecast when meteorologically-generated tsunamis may impact a coast, the basic causes and environmental conditions which generate such waves must be well understood. Several instances of meteotsunamis impacting the U.S. east coast are well documented (such as Booth Bay, Maine in 2008 and Daytona Beach, Florida in 1992). Meteotsunamis are well-known phenomena in the Mediterranean Sea and many studies have been undertaken to identify their causes. The U.S. Great Lakes have also experienced meteorologically-generated tsunami-like waves. The specific meteorological events and bathymetric conditions which lead to the formation of these events must be identified.

A successful project will address this first objective by:

1. Explaining the meteorological conditions necessary for meteotsunamis to form.
2. Explaining the bathymetric and shoreline configurations necessary for meteotsunamis to form.
3. Applying these conditions to explain historic meteotsunamis.
4. Explaining the basic relations necessary to forecast both the timing and impact level of meteotsunamis based on the causative factors.

Project timeframe: June 1, 2011 to January 31, 2012

Objective 2: Define the observational systems, communications, and processing systems necessary to forecast meteotsunamis.

Natural hazard warning centers perform three basic functions: acquire observational data, process the data, and disseminate information. To successfully issue information about potential meteotsunamis, the proper observational systems must be in place which indicates that meteotsunami generation factors are prevalent. These observational systems should leverage, as much as possible, existing environmental observing systems. Data from these systems must be accessible in a time frame that allows a facility to issue the proper forecasts. Processing capabilities necessary to analyze the observational data in real-time

must be available to on-duty scientists.

A successful project will address this second objective by:

1. Identifying observational systems which provide data necessary to recognize conditions that will generate a meteotsunami dangerous to certain coasts. This will include a summary of systems already in place for other potential hazards and which systems need to be added.

2. Specifying the communications routes needed to transmit observational data to the appropriate facility(s). Acceptable latency and approximate bandwidth required should be noted. Existing communications from observational networks already in place should be noted whether or not they are suitable for meteotsunami warning operations.

3. Designing a processing flow and modules necessary to ingest data and forecast meteotsunamis given the observational networks and communications capabilities listed in 1 and 2.

4. Working with the appropriate NWS facility(s) to determine existing capabilities.

Project timeframe: December 1, 2011 to November 30, 2012

Objective 3: Develop a protocol for issuing meteotsunami warnings.

To provide meteotsunami warnings, a facility must have set procedures and protocols to respond to environmental variables. It is anticipated that the variables which will control meteotsunami formation will include water depth, shoreline configuration, and meteorological variables such as atmospheric pressure variations, direction of frontal movements, and wind speeds. Important environmental variables should be identified by this study and included in protocol for issuing meteotsunami warnings.

A successful project will address this third objective by:

1. Identifying which environmental variables should be used to develop protocol for issuing meteotsunami alerts.

2. Developing protocol to issue meteotsunami alerts.

3. Providing at least one test case based on a real historical meteotsunami which shows the entire warning process: observational network data acquisition, data transfer, processing modules used, and an application of the protocol discussed in this Objective.

4. Working with the appropriate NWS facility(s) to determine existing and potential

operational constraints.

Project timeframe: December 1, 2011 to February 28, 2013

B. Program Priorities

NOAA will give sole attention to individual proposals addressing the objectives of this project. Proposals must clearly specify the activities that will be carried out to reach these objectives. Please write the grant application with this in mind.

C. Program Authority

33 U. S. C. 3205

II. Award Information

A. Funding Availability

The total funding amount available to the applicants over the course of the project is anticipated to be \$350,000.00. It is anticipated there will be one recipient of this award. Individual awards are limited to a maximum of \$200,000 for the first year, and \$150,000 for the remaining time period. The entire project duration is expected to be approximately 21 months.

B. Project/Award Period

The project will be awarded as a competitive grant. Your proposal must indicate distinct task descriptions and budgets for each task. This program announcement is for projects to be conducted by Project Directors/Principal Investigators. The award start date that should be entered on the SF424 is June 1, 2011.

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 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 NOAA. Applications must include a scope of work and a budget for the entire award period.

C. Type of Funding Instrument

The funding instrument for awards will be a grant.

III. Eligibility Information

A. Eligible Applicants

Eligible applicants are institutions of higher education, other nonprofits, commercial organizations, and 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

The proposal should include information on the capacity to meet the required outcomes of this request. Regional partnerships are encouraged.

Well documented previous experience with the expertise mentioned above, as well as regional partnership experience, will be factored into making the award decision.

IV. Application and Submission Information

A. Address to Request Application Package

The standard application package is available at <http://www.grants.gov> . For applicants without internet access, an application package may be received by contacting Jenifer Rhoades, NOAA/NWS, 1325 East West Highway, Room 13118, Silver Spring, Maryland 20910, Phone: 301-713-1677 x102, e-mail: jenifer.rhoades@noaa.gov .

B. Content and Form of Application

The proposals should total no more than 20 pages in length. Longer proposals will not be reviewed. Federally mandated forms and tables of contents are not included within the page count, but all other information is considered in the page count.

The items listed below are required before an award can be made. Failure to comply with the submission of items (1) through (4) by the application date will result in the application not being reviewed. Funding beyond the first year will be dependent upon satisfactory performance and the availability of funds.

June 1, 2011, is to be used as the proposed start date on proposals unless otherwise directed by the NOAA Program Officer. All proposals must include the following elements: (1) Title Page. The title page should be officially authorized by the PD/PIs and the institutional representative, and should clearly indicate which project area is being addressed. The PD/PIs and institutional representative should be identified by full name,

title, organization, telephone number, and address. The total amount of Federal funds being requested should be listed for each budget period. (2) Abstract Page. An abstract must be included and should contain an introduction of the problem, rationale, and a brief summary of work to be completed. The abstract should appear on a separate page, headed with the proposal title, institution's investigators, total proposed cost, and budget period. (3) Project description. The proposed project must be completely described, including identification of the outcomes of the project, and their applicability to developing a meteotsunami warning capability for the United States. Benefits of the proposed project to the general public and the emergency management community should be discussed. A year-by-year summary of proposed work must be included. (4) Budget and Proposed Budget Justification. 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 available on www.grants.gov. The proposal must include total and annual budgets (for multi-year applications) corresponding with the descriptions provided in the project description. Additional text to justify expenses should be included as necessary.

There are no additional NEPA questions requested for this application.

C. Submission Dates and Times

Full proposals must be received and validated by Grants.gov, postmarked, or provided to a delivery service on or before 6:00 p.m. ET, February 7, 2011. Please note: Validation or rejection of your application by Grants.gov may take up to 2 business days after submission. Please consider this process in developing your submission timeline. Applications received after the deadline will be rejected/returned to the sender without further consideration. Use of U.S. mail or another delivery service must be documented with a receipt. No facsimile or electronic mail applications will be accepted.

D. Intergovernmental Review

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

E. Funding Restrictions

Funding beyond the first year will be dependent upon satisfactory performance and the continued availability of funds.

F. Other Submission Requirements

Applications must be submitted through www.grants.gov unless an applicant does not have internet access. In that case, hard copies with original signatures may be sent to: Jenifer Rhoades, NOAA/NWS, 1325 East West Highway, Room 13118, Silver Spring, Maryland 20910, Phone: 301-713-1677 x102, e-mail: jenifer.rhoades@noaa.gov . E-mail and fax submissions will not be accepted.

V. Application Review Information

A. Evaluation Criteria

The evaluation criteria are as follows:

1. Importance/Relevance and Applicability of Proposal (Weight: 20%): This criterion ascertains whether there is value in the proposed project and/or relevance to NOAA, federal, regional, state, or local activities. For this program competition this includes:

a. What is the likelihood of the proposed project to result in a meteotsunami warning capability?

b. Are proposed study results easily transferred to operations in a reasonable time frame and supportable?

c. Does the proposed project address known meteotsunamis, their cause, and how they could be forecast by a meteotsunami warning capability?

d. Does the proposed project identify observational networks, communications, and processing systems necessary to support a meteotsunami warning capability?

e. Does the proposed project address the skills necessary by warning facility personnel to forecast meteotsunamis?

f. Does the proposed project include consideration of NWS facilities' operational capabilities?

2. Technical/Scientific Merit (Weight 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. This includes:

a. Are the methods and processes considered for the meteotsunami warning capability realistic and achievable?

b. Is the scientific basis for developing a meteotsunami warning capability sound?

3. Overall Qualification of Applicants (20%): This criterion ascertains whether the applicant possesses the necessary experience, qualifications, and administrative resources to accomplish the project. This includes:

a. Do PD/PIs clearly document past experience and qualification of the organizations proposing the project?

b. Are there any existing or past interactions/experiences?

c. Does the organization have adequate resources to monitor, track, and report information and documentation required for the proposed program?

d. Does the organization have expertise in meteotsunami generation and tsunami and weather warning protocols, and knowledge of appropriate observational networks?

e. Does the organization have regional partnership expertise?

4. Project Costs (Weight 15%): This criterion evaluates the budget to determine if it is realistic and commensurate with the project needs and time-frame. This includes:

a. Are the project costs realistic and reasonable?

b. Is the project schedule reasonable as compared with the cost to complete the proposed project?

5. Outreach and Education (Weight 15%): 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.

a. How will the project facilitate public outreach and education in order to create a meteotsunami warning capability?

b. What outreach and education aspects of the project will increase public awareness and understanding of the meteotsunami hazard?

B. Review and Selection Process

An initial administrative review/screening will be conducted to determine compliance with requirements/completeness. All proposals will be evaluated and individually ranked in accordance with the assigned weights of the evaluation criteria. A panel of Federal and non-Federal experts may be used in the evaluation process. The reviewers will develop ratings to produce a rank order of the proposals. A Selection Official will select proposals after considering the panel reviews and selection factors listed below. In making the final selections, the Selecting Official will 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.

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 institution.

c. By type of partners.

d. By research area.

e. By project types.

3. Whether this project duplicates other projects funded or considered for funding by NOAA/Federal agencies.

4. Program priorities and policy factors.

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.

D. Anticipated Announcement and Award Dates

Subject to the availability of funds, review of proposals will occur during March and April 2011. June 1, 2011, should be used as the proposed start date on proposals, unless otherwise directed by the Program Officer.

VI. Award Administration Information

A. Award Notices

Successful applicants will receive notification that the application has been recommended for funding to the NOAA Grants Management Division. This notification is

not an authorization to begin performance of the project. Official notification of funding from the NOAA grants Officer is the authorization that allows the project to begin. Notification will be issued to the Authorizing Official and the PD/PI of the project either electronically or in hard copy. Unsuccessful applicants will be notified that their proposals were not selected for recommendation.

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

1. The Department of Commerce Pre-Award Notification Requirements for Grants and Cooperative Agreements: 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 contained in the Federal Register notice of February 11, 2008 (73 FR 7696). A copy of the notice may be obtained at <http://www.gpoaccess.gov/fr/search.html> .

2. Limitation of Liability: In no event will NOAA or the Department of Commerce be responsible for application preparation costs if these programs fail to receive funding or are cancelled because of other agency priorities. Publication of this announcement does not oblige NOAA to award any specific project or to obligate any available funds.

3. 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.corporateservices.noaa.gov/~ames/NAOs/Chap_216/naos_216_6.html , and the Council on Environmental Quality implementation regulations, http://ceq.hss.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

Award recipients will be required to submit financial and performance (technical) reports. These reports are to be submitted electronically through the NOAA Grants Online system on a semi-annual basis unless the recipient does not have internet access, in which case hard copy submissions will be accepted. All financial reports are routed directly to the NOAA Grants Officer. Performance reports are routed to the NOAA Program Officer.

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

Lewis Kozlosky, NOAA/NWS, 1325 East West Highway, Room 13123, Silver Spring, Maryland 20910, Phone: 301-713-1677 x108, e-mail: lewis.kozlosky@noaa.gov.

VIII. Other Information

To use grants.gov, applicants must have a Dun and Bradstreet Data Universal Numbering System (DUNS) number and be registered in the Central Contractor Registry (CCR). Allow a minimum of five days to complete the CCR registration. [Note: Your organization's Employer Identification Number (EIN) will be needed on the application

form.] Applicants are strongly encouraged not to wait until the application deadline date to begin the application process through grants.gov.