

ANNOUNCEMENT OF FEDERAL FUNDING OPPORTUNITY

EXECUTIVE SUMMARY

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

Funding Opportunity Title: Joint Hurricane Testbed (JHT) Opportunities for Transfer of Research and Technology Into Tropical Cyclone Analysis and Forecast Operations.

Announcement Type: Initial Announcement

Catalog of Federal Domestic Assistance (CFDA) Number(s): 11.431--Climate and Atmospheric Research

Dates: Letters of Intent (LOIs) submitted by Principal Investigators (PIs) must be received at the Tropical Prediction Center/National Hurricane Center (TPC/NHC) in Miami, Florida no later than 5:00 p.m. Eastern Daylight Time (EDT) on 31 July 2008. *LOIs received after the deadline will not be reviewed, but in such cases PIs are still permitted to submit a full proposal.* Response letters will be sent from NOAA no later than 22 September 2008. For full proposals submitted through Grants.gov, a date and time receipt indication is included and will be the basis of determining timeliness. Hard copy proposals will be date and time stamped when they are received in the program office. Applications with all additionally required forms must be time stamped by Grants.gov or received by the program office no later than 5:00 p.m. Eastern Daylight Time (EDT) on 30 October 2008. *Complete proposal application packages received after the deadline will not be considered for funding.*

Funding Opportunity Description: The Office of Oceanic and Atmospheric Research (OAR), National Oceanic and Atmospheric Administration (NOAA), is soliciting LOIs (Letters of Intent) under the United States Weather Research Program (USWRP), as administrated by the USWRP Joint Hurricane Testbed (JHT). This notice also provides guidelines for the submission of full proposals. This notice describes opportunities and application procedures for the transfer of relevant research and technology advances into tropical cyclone analysis and forecast operations. 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; and Federal agencies. This notice calls for researchers to submit proposals to test and evaluate, and modify if necessary, in a quasi-operational environment, their own scientific and technological research applications. Projects satisfying metrics for success and operational constraints may be selected for operational implementation by the operational center(s) after the completion of the JHT-funded work. The period of the award is from one to two years.

FULL ANNOUNCEMENT TEXT

I. Funding Opportunity Description

A. Program Objective

The NOAA United States Weather Research Program (USWRP), via the USWRP Joint Hurricane Testbed (JHT), seeks to accelerate the rate at which promising and relevant research and technology benefit operational tropical cyclone analysis and forecasting. The goal of this notice is to promote the development and demonstration by government, universities, and other organizations, in coordination with the JHT, of various operational models and applications for the improvement of real-time tropical cyclone analysis and forecasting capabilities determined to be most desirable. Federal assistance is provided to Principal Investigators (PIs – note, in this document "PI" also sometimes refers to co-investigators and other staff) to allow them to tailor their techniques for the operational environment. Depending upon the nature of the proposed research and technology, PIs may need to provide documentation and instructions to facilitate the testing and evaluation of their techniques by operational center staff. Projects satisfying metrics for success and operational constraints may be selected for operational implementation by the operational center(s) after the completion of the JHT-funded work.

JHT Projects: The operational forecast centers where JHT projects could be tested and evaluated include the NOAA Tropical Prediction Center/National Hurricane Center (TPC/NHC), the NOAA Central Pacific Hurricane Center (CPHC), the NOAA Environmental Modeling Center (EMC), the Joint Typhoon Warning Center (JTWC) operated by the United States Navy and Air Force, or the Fleet Numerical Meteorology and Oceanography Center operated by the United States Navy. These will collectively be known as “operational centers” for brevity. Use of other facilities is possible depending on requirements, workload, and opportunity.

The JHT mission is to facilitate the rapid and smooth transfer of new technology, research results, and observational advances of agencies, the academic community, and other groups into improved tropical cyclone analysis and prediction at operational centers. This mission will be accomplished by funded PIs and their support staffs, in collaboration with operational center forecasters and other staff, and facilitated by JHT staff, via the following activities (as relevant to each project):

- (1) Utilizing a quasi-operational environment to facilitate the testing and evaluation by operational center forecasters and support staff of research products and techniques provided by the PIs, subject to metrics that mandate good scientific performance while meeting forecaster ease-of-use needs and time constraints;
- (2) Funded researchers preparing scientific and technical documentation that is sufficient to facilitate the testing and evaluation of the new product or technique;
- (3) Utilizing advanced statistical and numerical model output and stimulating model improvement in tropical cyclone analysis and forecast applications;
- (4) Completing tests of codes provided by the PIs that preferably follow established and open programming standards for ease of portability; and

(5) Facilitating the transfer of tested and evaluated forecast guidance products, research codes, and observations into the computing, communication, and display systems of the operational forecast center, while incorporating adjustments necessary to generate forecast guidance products that are forecaster-friendly and time-efficient.

Upon acceptance of a proposal, JHT staff will provide project administration and facilitation. The JHT Director will coordinate with each project PI, as soon as possible after acceptance, a time line and well-defined operational metric(s) for success in terms of scientific performance, ease of use, and time constraints. Note that meeting the metric(s) for success does not, after the project is concluded, ensure acceptance for operational implementation, which is at the sole discretion of the operational center(s). The time line and progress toward success will be monitored and updated during the project. Additionally, the appropriate operational center Director will designate for each project the forecaster and/or technical point(s) of contact from their staff.

The JHT will provide to the funded projects access to the JHT IT infrastructure (computer hardware, software, and data) to facilitate the testing and evaluation in an environment that closely matches that of the operational center. An overview of the JHT and TPC/NHC operational IT environments can be found on the JHT website at: <http://www.nhc.noaa.gov/jht/index.shtml>. Copies of operational codes may be made available to prospective applicants as needed, but without guaranteed support.

The PI and his/her research staff, working with JHT personnel, will modify (if necessary) their proposed system so that it may be run during the hurricane season, utilized by the operational center forecasters, and tested and evaluated quantitatively and qualitatively in a quasi-operational environment. In preparation for testing and evaluation, if necessary, the funded researcher must provide documentation and instructions to the JHT staff and operational center forecasters and technical point(s) of contact that are sufficient to enable them to conduct the tests and evaluations. Following any necessary modifications to make the researcher's proposed system functional in the JHT environment, the proposed system is to be configured for quasi-operational, real-time testing and evaluation during hurricane season in the JHT environment. Researchers should anticipate that their funded work period will include their involvement during quasi-operational testing where tuning and adjustment may be required. Experience gained from current and previous JHT projects indicates that the process of testing and evaluation often uncovers opportunities to make modest improvements to a project during its lifetime, and a project advances most rapidly when researchers, the JHT staff, and operational center forecasters and technical points of contact remain flexible and collaborate closely.

A successful JHT project will result in one or both of the following: (1) A guidance product or technique leading to improved tropical cyclone analyses and/or forecasts; and/or (2) operational availability of data from a new observational system that has provided documented evidence of positive diagnostic or forecast impact.

Final testing, validation, and decision on acceptance for operational implementation of the new product will be the responsibility of, and at the sole discretion of, the operational forecast center(s); for example, see section II. B. of this notice for the criteria used by the TPC/NHC Director in making operational implementation decisions

at that operational center. If the project is accepted for operational implementation by an operational center, the JHT staff will then provide materials for the operational center to develop its own documentation and training for the new technique or product. Long-term maintenance and support of the new technique or product will then become the responsibility of the operational forecast center.

B. Program Priorities

The TPC/NHC of the National Centers for Environmental Prediction (NCEP) has identified its operational forecast improvement needs. The TPC/NHC hurricane forecaster priorities involve the following 14 areas of need (listed in order of priority from highest to lowest – the JTWC priorities of the items are also listed):

(TPC-1 (JTWC-1)) Guidance for tropical cyclone intensity change, with highest priority on the onset, duration, and magnitude of rapid intensification events. Similar guidance is also needed on when rapid over-water weakening (such as had been observed in recent Gulf of Mexico hurricanes) will occur.

(TPC-2 (JTWC-2)) Improved observational systems in the storm and its environment that provide data for forecaster analysis and model initialization

(TPC-3 (JTWC-5)) Statistically-based real-time guidance on guidance for track, intensity and precipitation (e.g., multi-model consensus approaches), provided to forecasters in probabilistic and other formats

(TPC-4 (JTWC-6)) Enhancements to the operational environment to increase forecaster efficiency, by expediting analysis, forecast, coordination, and/or communication activities

(TPC-5 (JTWC-7)) Additional operational guidance on coastal inundation (e.g., storm surge and waves)

(TPC-6 (JTWC-8)) Identification, and then reduction of, the occurrence of guidance and official track outliers, focusing on both large speed errors (e.g., accelerating recurvers and stalling storms) and large direction errors (e.g., loops), and on specific forecast problems, including interactions between upper-level troughs and tropical cyclones, track forecasts near mountainous areas, and extratropical transition

(TPC-7 (JTWC-3)) Guidance for tropical cyclone genesis that exhibits a high probability of detection and a low false alarm rate, and/or provides probability of genesis

(TPC-8 (JTWC-9)) Operational analysis of the surface wind field (including maximum sustained winds) in tropical cyclones. This also includes methods for forecasting the wind field over elevated terrain and high-rise buildings.

(TPC-9 (JTWC-4)) Guidance for changes in tropical cyclone size/wind structure and related parameters, including combined sea heights

(TPC-10 (JTWC-10)) Guidance on the operational utility and relative merits of high-resolution model output compared to lower resolution ensemble model output

(TPC-11 (JTWC-11)) Guidance for tropical cyclone precipitation amount and distribution

(TPC-12 (JTWC-12)) Improved utility of microwave satellite and radar data in tropical cyclone analysis

(TPC-13 (JTWC-13)) Improved techniques for estimating the intensity of tropical cyclones passing over and north of sea-surface temperature gradients (e.g., in the eastern North Pacific Ocean and the Atlantic Gulf Stream)

(TPC-14 (JTWC-14)) Quantitative guidance tools for seasonal tropical cyclone forecasts for the Atlantic and North Pacific basins, using statistical and/or dynamical methodologies

Much of the improvement in tropical cyclone forecasting is attributed to advances in numerical weather prediction (NWP). These advances are mainly the result of improvements in observations, data assimilation techniques, and improved model physics in global forecast systems and high resolution regional models, in addition to the development of ensemble-based model guidance. Most individual proposals directed toward the NWP issues will be expected to be closely coordinated with the Environmental Modeling Center (EMC) of NCEP. For NCEP/EMC's hurricane modeling activities go to a site on NCEP/EMC's web page:

<http://www.emc.ncep.noaa.gov/research/NCEP-EMCModelReview2007/> . Work should be concluded within a two year period. High priority areas of work associated with NWP advancements for tropical cyclone forecasting are the following:

(EMC 1) General model improvements to advance track and intensity forecasts

(EMC 2) Improved parameterizations of microphysics, radiation and oceanic-atmosphere boundary layer for coupled atmosphere/ocean/wave hurricane model

(EMC 3) Model validation techniques suitable for three dimensional high resolution verification for all phases of the tropical cyclone life cycle

(EMC 4) Diagnostic techniques to further increase the utility of global models (e.g., NCEP, UKMO, NOGAPS) in forecasting tropical cyclone genesis

C. Program Authority

Authority: 49 U.S.C. 44720(b), 33 U.S.C. 883d.

II. Award Information

A. Funding Availability

The estimate for total JHT funding that will be available in FY 2009 is \$1,250,000, which will likely be used to fund 10-15 new projects. Award amounts for previous JHT grants have been mostly between \$50,000 and \$200,000 per year. A similar range is expected for this announcement. Initial and renewal funding of any JHT 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 from one 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. The due dates for these reports will be coordinated with the JHT Director upon project initiation. Two-year projects will be reviewed by the JHT Steering Committee, and/or other designated reviewers, and the JHT and operational center Directors near the end of the first year for suitability for continuation into the second year. The due date for renewal proposals will be established by the JHT Director and will usually be soon after the date for the first semiannual report. The renewal proposal must provide updates to the project work plan, deliverables, time line, IT requirements, budget, documentation and training plans, etc. This review is also based upon the semiannual reports and upon feedback received from the operational center's point(s) of contact. The criteria upon which the renewal review are based are the following: (1) The progress toward milestones in the original time line, (2) the potential for completing the testing and evaluation process and providing the stated deliverables by the end of the second year, and (3) appropriateness and reasonableness of the budget with respect to available JHT funds. Given a favorable review, each project may be funded for a second year.

A JHT project reaches its completion in one of two ways. A two-year project may end after approximately one year, if the JHT Director and the JHT Steering Committee (and/or other designated reviewers) decide, as described above, that insufficient progress has been made to justify continuation of the project into year two. A JHT project ends more conventionally with the submission by the principal investigator(s) of a final report at the conclusion of the original agreed-upon project duration. Based upon this report, and reports from the JHT staff and from project points of contact at the operational center, the operational center Director will subsequently make a decision on whether or not operational implementation of the project deliverables will occur. Decisions on operational implementation are at the sole discretion of the operational center Director. Operational implementation may or may not occur, irrespective of whether metrics for success defined during the JHT-funded project period have been met. For example, the TPC/NHC Director's decision to implement the new science or technology at the end of the operational demonstration period is based on a cost-benefit analysis that includes consideration of the following four criteria:

1. Forecast or analysis benefit: expected improvement in operational forecast and/or analysis accuracy
2. Efficiency: adherence to forecaster time constraints and ease of use needs
3. Compatibility: IT compatibility with operational hardware, software, data, communications, etc.
4. Sustainability: availability of resources to operate, upgrade, and/or provide support

Note that these criteria are not identical to those used in the evaluation of the proposals.

C. Type of funding instrument

The funding instrument for non-Federal applicants will be a Cooperative Agreement based on the envisioned substantial involvement of NOAA scientists in

projects funded by this notice. NOAA collaborates on cooperative research activities and provides financial support to enhance the public benefits to be derived from these research activities. NOAA envisions that JHT project testing and evaluation will involve close collaboration, facilitated by the JHT staff, between JHT-funded researchers and operational center forecasters and point(s) of contact. 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.

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; and Federal agencies. 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 cooperative agreement as described above in section II. C. of this notice. Proposals from NOAA scientists selected for funding shall be effected by an intra-agency fund transfer. Proposals from a non-NOAA Federal agency selected for funding 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. The only exception to this is governmental research facilities for awards issued under the authority of 49 USC 44720(b). 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

No cost sharing is required under this program.

IV. Application and Submission Information

A. Address to Request Application Package

There is no application package for LOIs. Applications for full proposals are available through <http://grants.gov/Apply>. If an applicant does not have Internet access, applications can be requested from Dorothy Fryar, DOC/NOAA, Office of Weather & Air Quality Research, Routing Code R/WA, 1315 East-West Highway, Room 11209, Silver Spring, MD 20910, phone (301) 734-1179, e-mail Dorothy.Fryar@noaa.gov.

B. Content and Form of Application Submission

The guidelines for preparation of LOIs and full proposals provided below are mandatory (except where otherwise noted). Failure to adhere to these guidelines will result in LOIs and/or full proposals being returned without review.

1. LOIs

- (a) Prior to submitting a full proposal, PIs are strongly encouraged to submit a LOI for each planned proposal. However, PIs who do not submit a LOI will not be precluded from submitting a full proposal.
- (b) The LOI must be no more than two pages in length, using a 12-point font and one inch margins, and it must include the name(s) of the PI(s) and their home institution(s).
- (c) The LOI must contain a brief description of the intended project.
- (d) The LOI must include a brief budget which summarizes how resources will be allocated [e.g., salaries, computing and communications, equipment (provide justification), indirect charges, and travel]. Note that funding for secretarial support and IT improvements at the PI's home institution is not generally available.
- (e) Each LOI will be reviewed, following the criteria specified below in Section V.A. of this notice, by members of the JHT Steering Committee, and/or other designated reviewers, who will make their recommendations to the JHT Director.
- (f) All PIs will be notified whether a full proposal is encouraged or discouraged based on the review of their LOI. Even though a full proposal may be discouraged, a PI will not be precluded from submitting a full proposal. All PIs will receive a short synthesis of the factors that led to the recommendation regarding their own reviewed LOI(s).

2. Full Proposals

- (a) The proposal 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.
- (b) 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).
- (c) All proposals must provide a Statement of Work that includes:
 - (1) The proposed duration of the project, from one to two years;
 - (2) A brief description of the project, with prior research results (including references) to demonstrate sufficient maturity and potential for a successful transition to operations at operational centers;
 - (3) A proposed work plan for the project, including hardware and software needs, the testing and evaluation approach, metric(s) for success, project deliverables, a time line with key milestones, real-time operational data needed as input, and a plan to port necessary codes to the operational environment of the operational center. An overview of the JHT and

TPC/NHC operational IT environments can be obtained from the JHT website: http://www.nhc.noaa.gov/jht/tpc_JHT_IT_structure_2008.pdf. For applicants without Internet access, this information can be obtained by contacting: Dr. Jiann-Gwo Jiing, Director, Joint Hurricane Testbed, Tropical Prediction Center, 11691 SW. 17th Street, Miami, FL 33165, phone (305) 229-4443, or via e-mail at Jiann-Gwo.Jiing@noaa.gov. Final work plans for approved projects will be reached by agreement between the PI and the JHT Director;

(4) A time line for delivering scientific and technical documentation and training materials over the course of the project that will enable testing and evaluation of the proposed techniques. If the proposal is funded, researchers are expected to coordinate with the JHT Director to formalize this time line;

(5) 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 the annual Interdepartmental Hurricane Conference (IHC), sponsored by the Office of the Federal Coordinator for Meteorological Services and Supporting Research. Additionally, visits by PIs and/or their support staff to the operational center(s) as necessary, may be beneficial for training JHT staff and the forecaster and technical point(s) of contact in preparation for project testing and evaluation; and

(6) Estimates of JHT staff requirements in terms of on-site (or off- site) JHT facilitator efforts, and estimated computational, communication, and/or display requirements at the researcher's home institution and/or at JHT via remote access and data transfer.

(d) All applicants must submit a budget that includes PI and scientific and technical support staff salaries, JHT facility requirements, computing and communications funding, equipment funding (provide justification), indirect charges, and travel. Note that funding for secretarial support, journal publications, and IT improvements at the PI's home institution is not generally available. Non-federal applicants must use Standard Form 424A, Budget Information--Non-Construction Programs that is contained in the standard NOAA Grants and Cooperative Agreement Application Package.

(e) Non-federal applicants must submit additional forms included in the standard NOAA Grants and Cooperative Agreement Application Package (see section IV.A above).

(f) An abbreviated Curriculum Vita for the PI must be included. Reference lists should be limited to all publications in the last three years with up to five other relevant papers.

(g) Current and pending Federal support: Each investigator must submit a list that includes project title; supporting agency with grant number, investigator months, dollar value and duration. Requested amounts should be listed for pending Federal support.

(h) Additional proposal requirements include:

(1) For applications submitted in hard copy, one signed original and two additional hard copies of the complete proposal must be submitted.

Submission of an electronic copy in PDF format of the proposal document via the <http://grants.gov/Apply> website (abstract, Statement of Work, and budget) is strongly encouraged to facilitate the review process.

(2) Each proposal must be dated and contain page numbers;

(3) Items 2b and 2c above must be contained within **no more than ten pages**, using a 12-point font and one-inch margins.

3. Submission Dates and Times

LOIs submitted must be received no later than 5:00 p.m. Eastern Daylight Time (EDT) on 31 July 2008. TPC/NHC determines whether an LOI has been submitted before the deadline by the date and time indication on the email or by date and time stamping the applications as they are physically received in the TPC/NHC office. *LOIs received after the deadline will not be reviewed, but in such cases PIs are still permitted to submit a full proposal.*

Full proposal packages must be submitted no later than 5:00 p.m. Eastern Daylight Time (EDT) on 30 October 2008. 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 proposals will be date and time stamped when they are received in the program office. Applications received after that time will not be reviewed.

4. Intergovernmental Review

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

5. Funding Restrictions

None.

6. Other Submission Requirements

LOIs are to be submitted to the JHT Director – Dr. Jiann-Gwo Jiing – preferably by email at: Jiann-Gwo.Jiing@noaa.gov. Those without email access should send a printed copy to: Dr. Jiann-Gwo Jiing, Director, Joint Hurricane Testbed, Tropical Prediction Center, 11691 SW. 17th Street, Miami, FL 33165.

Full proposal packages should be submitted through the <http://grants.gov/Apply> website. For those without internet access, hard copy proposals should be addressed to Dorothy Fryar, DOC/NOAA, Office of Weather & Air Quality Research, Routing Code R/WA, 1315 East-West Highway, Room 11209, Silver Spring, MD 20910.

V. Application Review Information

A. Criteria

The JHT Steering Committee, and/or other designated reviewers, will base their recommendations regarding each LOI and each full proposal upon the extent to which the following criteria (listed with assigned weights) are satisfied:

1. Importance/relevance and applicability of proposal to the program goals (40 points)

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 JHT, this includes the following questions:

Research maturity (10 points) - If the proposed transition is for a new analysis or forecast tool at one of the operational centers is the research/science at a sufficiently mature level that implementation and testing can occur during the proposed timetable? If the proposed transition is for an extension of existing analysis or forecast tool at one of the operational centers, or for continued improvement of an operational modeling system, is the scientific basis for the proposed extension sufficiently established that a successful implementation and testing can occur during the proposed timetable?

Priority-to-payoff factors (25 points) - Is the proposal directed toward an operational center priority item listed in section I.B and is there potential for improving operational tropical cyclone analysis and forecast accuracy?

Other agency use (5 points) - Is the technique likely to be used at more than one operational forecast center?

2. Technical merit (40 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. For the Joint Hurricane Testbed, this includes the following questions:

Risk-to-payoff factors (10 points) - If the proposed transition is relatively straightforward technically, is the likely impact on operations sufficiently high to merit support? If the proposed transition has unresolved technical issues, is the likely payoff so high as to justify the risk?

Testing (10 points) - Has the technical merit of the research been established by testing with appropriate prototype (including operational) data sets?

Operational usage (10 points) - Will this transition lead to an analysis or forecast tool that is practical or beneficial for the operational forecast environment in terms of timeliness and forecaster-friendliness?

Technical compatibility (10 points) - Is the project compatible with the communications, computing, data, and display environments of one of the operational centers? (Note that in cases where the technological advances of the project require cutting-edge hardware or software not yet in place at the JHT and at one of the operational centers, support for such enhancement from the NOAA USWRP may be considered.)

3. Overall qualifications of applicants (10 points)

This ascertains whether the applicant possesses the necessary education, experience, training, facilities, and administrative resources to accomplish the project. For the Joint Hurricane Testbed, this includes the following questions: Has the PI and his/her team accomplished similar transition projects successfully in the past? Has the PI demonstrated research excellence in the peer-reviewed journals on topics closely related to the transition project being proposed?

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. For the Joint Hurricane Testbed, this includes the following questions: What is the appropriateness and reasonableness of the budget with respect to the proposed transition tasks and the benefit to be gained? Would investment in this project require an inappropriate fraction of the available JHT funds?

5. Outreach and education (0 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. For the Joint Hurricane Testbed, this criterion does not apply for the technical transition projects considered here.

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 the JHT Steering Committee, and/or other designated reviewers, consisting of at least three experts (which can be federal and/or non-federal). Each member of the independent review panel will individually evaluate and score the proposals. The Steering Committee members' scores will be used to produce a rank ordering of the projects by overall mean total scores, after normalizing by individual reviewer's mean total scores. The reviewers will provide their scores and any comments to the JHT Director. The reviewers may include in their comments a recommendation of "Do not fund" along with the reason(s) for that conclusion based on their overall assessment of the proposal when the review criteria, other proposals, and JHT objectives are considered.

C. Selection Factors

Merit review ratings shall be provided from the JHT Steering Committee in rank order based on normalized scoring to the JHT Director for final funding recommendations. The JHT Director shall recommend awards in the rank order unless the proposals are justified to be selected out of rank order based upon one or more of the following factors:

1. Availability of funding (for the Joint Hurricane Testbed this includes operational center resources).
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.
8. Whether the Steering Committee recommended "do not fund".

Successful applicants are then notified. Funded projects become a JHT activity with a duration of one to two years. Note that two-year proposals 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. Unsuccessful applicants will be notified of the final selection upon completion of the review and selection process. All applicants will receive their normalized average scores and rankings (by criteria and total) regarding their application. Copies of all submitted LOIs and proposals will be retained by the JHT staff and will become the property of the U.S. Government.

D. Anticipated Award Dates

Funding is anticipated to begin during summer 2009 for most approved projects. Projects should not be expected to begin prior to August 1, 2009, unless otherwise directed by the JHT Director.

VI. Award Administration Information

A. Award Notices

Although 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, signed by a NOAA Grants Officer, is the authorizing document that allows the project to begin. Notifications will be issued to the JHT Director and the Principal Investigator of the project. Unsuccessful applicants will be notified that their proposal was not selected for recommendation. Unsuccessful applications will be kept on file by the JHT Director for a period of 12 months, then destroyed.

B. Administrative and National Policy Requirements

The Department of Commerce, Pre-Award Notification of Requirements for Grants and Cooperative Agreements contained in the Federal Register notice of December 30, 2004 (69 FR 78389) is applicable to this solicitation.

Limitation of Liability. In no event will NOAA or the Department of Commerce be responsible for proposal 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.

C. Reporting

Award recipients will be required to submit performance (technical) reports. Performance reports should be submitted to the JHT Director. Electronic submission of performance reports is preferred. All reports will be submitted on a semi-annual schedule

and must be submitted no later than 30 days following the end of each 6-month period from the start date of the award. The comprehensive final report is due 90 days after the award expiration.

VII. Agency Contact(s)

A. The Joint Hurricane Testbed

Please visit the Joint Hurricane Testbed website for further information at: <http://www.nhc.noaa.gov/jht/index.shtml> or contact Dr. Jiann-Gwo Jiing, Director, Joint Hurricane Testbed, Tropical Prediction Center, 11691 SW. 17th Street, Miami, FL 33165, phone (305) 229-4443, or via e-mail at Jiann-Gwo.Jiing@noaa.gov. Any technical questions addressed by Dr. Jiing (or his authorized representative) about this JHT funding opportunity and the answers will be posted on the JHT website.