

**Office of Science  
Financial Assistance  
Funding Opportunity Announcement  
DE-PS02-09ER09-15**

***Climate Modeling: Simulating Climate at Regional Scale***

The Office of Biological and Environmental Research (BER) of the Office of Science (SC), U.S. Department of Energy (DOE), hereby announces interest in receiving applications for research grants on the topic of simulating climate at regional scales.

Simulation of global and large-scale features of climate change has improved considerably over the past decade; however, climate models do not yet accurately simulate important features of regional climate variability and change. Applications should describe research projects supporting the development of climate models for getting high fidelity simulations of regional climate.

High risk, high pay-off research ideas that explore innovative new directions are encouraged; they should clearly describe how the proposed ideas have the potential to lead to breakthroughs in modeling of climate at ultra-high spatial resolutions.

In order to facilitate the review process in a timely manner and to determine conflicts-of-interests, Dr. Anjuli S. Bamzai, Program Manager, recommends submitting a title page and abstract via email to [anjuli.bamzai@science.doe.gov](mailto:anjuli.bamzai@science.doe.gov). Please include in the subject line "DE-PS02-09ER09-15 Abstract." This should be submitted by mid-April 2009, ahead of the full application submission deadline of April 27, 2009.

**APPLICATION DUE DATE: April 27, 2009, 8:00 pm, Eastern Time**

**ATTENTION - CHANGE IN SUBMISSION REQUIREMENT EFFECTIVE March 12, 2009**

The Office of Science is now requiring all financial assistance applications be submitted through the Department of Energy e-Center (IIPS) <http://doe-iips.pr.doe.gov/>. Applicants will still need to visit the Grants.gov website <http://www.grants.gov/> to download the required Application Package (forms), by clicking on "Apply for Grants" and searching for the Funding Opportunity Announcement.

For Instructions on the Use of IIPS visit this web page, IIPS Instructions.  
<http://www.sc.doe.gov/grants/iips-Instructions.html>

**Registration Requirements:** There are several one-time actions you must complete in order to submit an application (e.g., obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number, register with the Central Contract Registry (CCR), register with the credential provider, and register with Grants.gov). See <http://www.grants.gov/GetStarted>. Use the

Grants.gov Organization Registration Checklist at <http://www.grants.gov/assets/OrganizationRegCheck.doc> to guide you through the process. Designating an E-Business Point of Contact (EBiz POC) and obtaining a special password called an MPIN are important steps in the CCR registration process. Applicants, who are not registered with CCR and Grants.gov, should allow at least 21 days to complete these requirements. It is suggested that the process be started as soon as possible.

## **Program Funding**

It is anticipated that approximately \$2,500,000 will be available in Fiscal Year 2009. The number of awards will be contingent on satisfactory peer review, programmatic relevance and the availability of appropriated funds. Requests should be commensurate with the level of work involved; requests may range from \$ 250K/yr to 350K/yr. Applications should request project support for up to two years in a single budget request. The requested start/end dates (project period) should be September 1, 2009 through August 31, 2011. It is anticipated that a total of about 6 awards will be made. Funds for this research will come from the BER Climate Change Prediction Program.

DOE is under no obligation to pay for any costs associated with the preparation or submission of an application. DOE reserves the right to fund, in whole or in part, any, all, or none of the applications submitted in response to this Announcement.

## **GENERAL INQUIRIES ABOUT THIS FUNDING OPPORTUNITY ANNOUNCEMENT SHOULD BE DIRECTED TO:**

### **Scientific/Technical Program Contact:**

#### **Agency Contact:**

Dr. Anjali S. Bamzai  
**Phone:** (301) 903-0294  
**Email:** anjali.bamzai@science.doe.gov

## **SUPPLEMENTARY INFORMATION:**

Applications are solicited on the following topics:

(i) **Development and applicability of advanced numerical formulations for ultra high-resolution modeling.** Examples are non-hydrostatic dynamical cores, unstructured grids with properties needed in hydrostatic models but are also suitable for resolved convection and other non-traditional approaches to achieving regional scale simulations;

(ii) **Improved simulations by the addition of better representations of cloud, aerosol, or biogeochemical processes at high spatial resolution.** There is a crucial need for development of parameterizations for the inherently sub-grid processes involved in aerosol and cloud microphysics in a single integrated framework. Unification of atmospheric microphysics should,

in principle, produce much more accurate simulations of the principal effects of clouds on the Earth's radiative energy budget and hydrologic cycle; and

**(iii) Intercomparison and evaluation of regional climate simulations with observational data sets.** Such applications must clearly describe the pathway from intercomparison and evaluation to improvements of physical formulations in models.

The proposed work should articulate how it is relevant to the BER LTM "to deliver improved scientific data and models about the potential response of the Earth's climate and terrestrial biosphere to increased greenhouse gas levels for policy makers to determine safe levels of greenhouse gases in the atmosphere."

### **Merit Review**

Applications will be subjected to scientific merit review (peer review) and will be evaluated against the following evaluation criteria which are listed in descending order of importance codified at 10 CFR 605.10(d):

1. Scientific and/or Technical Merit of the Project;
2. Appropriateness of the Proposed Method or Approach;
3. Competency of Applicant's Personnel and Adequacy of Proposed Resources; and
4. Reasonableness and Appropriateness of the Proposed Budget.

The evaluation process will include program policy factors such as the relevance of the proposed research to the terms of the announcement and the agencies' programmatic needs. Note that external peer reviewers are selected with regard to both their scientific expertise and the absence of conflict-of-interest issues. Both Federal and non-Federal reviewers may be used, and submission of an application constitutes agreement that this is acceptable to the investigator(s) and the submitting institution.

The Catalog of Federal Domestic Assistance (CFDA) number for this program is 81.049, and the solicitation control number is ERFAP 10 CFR Part 605.

Posted on the Office of Science Grants and Contracts Web Site  
March 26, 2009.