

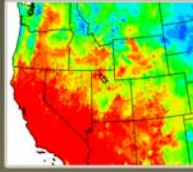
**Nevada Infrastructure for
Climate Change Science, Education, and Outreach**



Policy,
Decision Making,
Outreach



Cyberinfrastructure



Climate Modeling



Education



Ecological Change



Water Resources

REQUEST FOR PROPOSALS:

**NSF EPSCoR Climate Change
Interdisciplinary Science Teams
2009-2010**



Nevada NSF EPSCoR Office
Nevada System of Higher Education
755 E. Flamingo Road
Las Vegas, NV 89119-7363

SUBMISSION DEADLINE
May 22, 2009

Introduction

The Nevada System of Higher Education (NSHE) recently received a Research Infrastructure Improvement (RII) Award from the National Science Foundation's Experimental Program for the Stimulation of Competitive Research (NSF EPSCoR) for Climate Change research in Nevada. This award creates a statewide interdisciplinary program focused on understanding the effects of regional climate change on ecosystems, improving communication between researchers and policy makers, and better educating the public on climate change in Nevada. The program has six areas of interest: Climate modeling; Ecological change; Water resources; Education; Cyberinfrastructure; and Policy, decision making and outreach. The project encompasses a wide range of disciplines, including (but not limited to) Biology, Civil Engineering, Climatology, Computer Science, Ecology, Education, Environmental Studies, Geography, Hydrology, Journalism, Natural Resources, and Political Science. The goal is to build capacity in interdisciplinary climate change research to detect and measure environmental changes, develop climate models, translate climate-change science for decision makers, create computer systems to make climate data more accessible, and develop new ways to teach about climate change. For more information on Nevada's NSF EPSCoR Climate Change Program, visit <http://www.nevada.edu/epscor/programs-nsf.html>.

Interdisciplinary Science Team Competition Details

As part of the NSF EPSCoR Climate Change award, \$200,000 per year has been allocated for fiscal years 2010-2013 to support the formation of interdisciplinary science teams and foster the development of new collaborative efforts among two or more researchers that will integrate the six main infrastructure building components of this project and address the two main science questions posed by the award:

How will climate change affect water resources and linked ecosystem resources and human systems?

How will climate change affect disturbance regimes (e.g., wildland fires, invasive species, insect outbreaks, droughts) and linked natural and human systems?

Research needs that have been identified include (1) improved knowledge of past and present climate variability to provide a baseline against which to evaluate future changes; (2) modeling and visualization of interacting effects of climate change and ecosystem resources; (3) observations of regional climate, ecosystems, and hydrology to provide data to calibrate models, understand responses, and detect change; and (4) development of policy and management tools for decision makers.

The first competition will fund two teams for a period of up to two years (provided on an annual basis; subject to satisfactory progress). Maximum funding for each team will be \$100,000 per year, starting July 1, 2009. Because these awards will be funded with State funds there will be no indirect cost. Successful Teams whose funding is renewed for a

second year in 2010 will be eligible to apply for continued funding as part of a second competition to be held in Spring 2011.

Teams should propose research, education, and/or outreach activities that will: (1) utilize the new infrastructure developed as part of the NSF EPSCoR project; (2) address cross-cutting issues related to the two broad interdisciplinary science questions and research needs above; (3) involve faculty and students from at least two institutions (DRI, UNLV, and UNR), with participation from the Nevada State College and NSHE community colleges as appropriate; and (4) lead to follow-on proposals to NSF or other granting agencies. Teams are encouraged to include graduate and undergraduate students and their faculty mentors who are supported with NSF EPSCoR or other funds.

Funds may be used for:

- Support for additional graduate students
- Faculty support (up to two months per year)
- Materials and supplies
- Equipment (items >\$5000 must be fully justified)
- US Travel (e.g. fieldwork and conferences)

Example of an interdisciplinary team (*NOTE: this is just an example and not meant to limit the makeup of teams*)

The team addressing question #1 (How will climate change affect water resources and linked ecosystem resources and human systems?) might include a climate modeler conducting downscaling experiments of GCM data linking with a hydrologist performing water resource modeling. Both of these modeling efforts could be supported by ecologists and/or atmospheric scientists conducting field measurements as part of the NSF EPSCoR observational network, with these data being used to calibrate the models. A computer scientist or visualization expert could work to make the models run efficiently and facilitate advanced visualization of results. A policy expert could work with all the scientists and stakeholders in determining policy maker needs and translating model output to a useful form for decision making. Finally, undergraduate and graduate students could work with the faculty and staff in these teams. High school students may participate in field studies and have access to data and model output.

Pre-proposal workshops

In order to expose a broad cross-section of NSHE faculty to the potential of these awards, as well as to facilitate the formation of interdisciplinary teams, and thereby expedite the proposal development process, workshops for interested faculty will be held utilizing the Access Grid Node (AGN) facilities on:

Wednesday **March 11, 2009**, from 3 - 5 pm at:
DRI North (ACES Vislab) and UNLV (Lied Library - Eureka Room)
And
Thursday **March 12, 2009** from 3 - 5 pm at:
(UNR (SEM 201) and UNLV (Lied Library - Eureka Room)).

Individuals seeking to either join or build a team are encouraged to attend these workshops or contact the PIs for possible contacts.

Proposal Guidelines

Proposals shall be limited to 7 pages of text and figures, plus references, and include a budget for each of the two years of the project using the template provided. In addition, please submit a NSF-style biosketch and list of relevant publications for all investigators. The proposal must: (1) clearly show how the project will address the two science questions (see above); (2) show how the project will utilize the infrastructure being created by the NSF EPSCoR Climate Change Project (3) state the roles of the included faculty and students; and (4) address the NSF criteria of intellectual merit, broader impacts, and transformative research.

Proposals must conform to the following requirements:

- Cover Sheet (1 page, see attached)
- Project description (7 pages)
 - Single space, 10 (Arial) or 11 (Times Roman) point font, 1 inch margins
 - List of team members including names, titles and affiliations, e-mail addresses
 - Statement (e.g., email to team leader) from each team member that he/she has agreed to participate in the team and is aware of the project scope and the stated roles of team members
 - Background of research topic (including appropriate background literature and relevance to Nevada NSF EPSCoR project objectives, goals, and infrastructure)
 - Research questions or hypotheses
 - Intellectual Merit and Transformative Research
 - Description of research tasks and timeline (limited to 2 years)
 - Roles of project participants, including identification of team leader
 - Summary of the major deliverables expected (e.g. proposals, publications; websites)
 - Broader Impacts
- Budget (2 pages total)
 - One page Budget Summary for the proposed project
 - Personnel (salary and fringe benefits)
 - Materials and Supplies
 - Equipment
 - Travel
 - Other Costs
 - Total Amount Requested
 - One page Budget Justification
 - Identify and provide a brief description of each item requested in the budget
- 2 page, NSF style biosketch for each faculty member of the research team

See section II.C.2.f in NSF's Grant Proposal Guide for biosketch format:
http://www.nsf.gov/pubs/policydocs/pappguide/nsf09_1/gpg_2.jsp#IIC2f

Proposal submission

Proposals must be submitted electronically to the Nevada EPSCoR Office by **COB, Friday May 22, 2009**.

Required Format for submission of application materials:

All application materials are to be submitted as a single PDF document attached to an e-mail sent to Alice Ward at alice_ward@nshe.nevada.edu. The "subject" line of the email should r: <Interdisciplinary Science Team AP>

Proposal Review

Proposals will be reviewed by an external panel comprised of representatives from the project's External Research and Technical Advisory Board (ERTAB). The external review panel will evaluate and rate the proposals received and make recommendations to the project management team (Dana, Lancaster, Piechota, Mensing), who will make the final decision. Successful proposals will be funded starting July 1, 2009.

Proposals will be evaluated based on their potential for transformative research, intellectual merit, and broader impacts following NSF merit review criteria; contribution to overall NSF EPSCoR project goals (including use of infrastructure being developed and interdisciplinary science questions); clarity of team objectives, research questions or hypotheses; clarity of methodology and tasks; appropriateness of deliverables; appropriateness of budget; inclusion of faculty and students from different institutions, and interdisciplinary backgrounds; and qualifications of research team.

Please view the NSF merit review criteria at:

http://www.nsf.gov/pubs/policydocs/pappguide/nsf09_1/gpg_3.jsp#IIIA

Reporting Requirements

Team leaders must submit an annual progress report by June 30 of the first project year and a final report within 30 days of the end of the second year. Team leaders will also be expected to provide additional information for project evaluation as requested.

Further Information

Potential applicants with programmatic questions are strongly encouraged to contact the Co-PIs of the NSF EPSCoR Climate Change Project:

Dr. Nick Lancaster (775-673-7304; Nicholas.Lancaster@dri.edu)

Dr. Thomas Piechota (702-895-4412; Thomas.Piechota@unlv.edu),

Dr. Scott Mensing (775-784-6346; smensing@unr.edu)

Potential applicants are strongly encouraged to contact the Co-PIs and or Co-PI's of the NSF EPSCoR Climate Change Project:

NSF ESPCoR Climate Change Program:

Nevada NSF EPSCoR Project Director and Lead PI

Dr. Gayle Dana 775-674-7538 Gayle.Dana@dri.edu

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Ecological Change Component Lead

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Policy, Decision-making and Outreach Component Lead

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Education Component Lead

Dr. David M. Hassenzahl 702-895-4457 david.hassenzahl@unlv.edu

Direct questions regarding applications to Ms. Alice Ward, Nevada NSF EPSCoR Outreach Research Administrator (702-862-5590; alice_ward@nshe.nevada.edu).

Further information regarding on-going NSF EPSCoR research activities, as well as further information on the program, can be found at

<http://www.nevada.edu/epscor/programs-nsf.html>