



## LTER Intranet

Serving the LTER Community

Education Committee Report  
Submitted by Robert Bohanan, Committee Chair  
18 August 2004

### Activities

The education committee and education representatives have been involved in several activities following the 2003 ASM meeting. These include participation in: development of the network planning grant, revision of the network and education strategic planning, planning for the support and coordination of LTER education activities, creation of an LTER education handbook, and development of three NSF K-12 education preproposals,

Several members of the education committee and individual LTER education representatives participated in the development of preproposals to the Education and Human Resources (EHR) Directorate of NSF. Two of the preproposals resulted from a follow-up workshop to the ASM 2003 meeting. A third preproposal was submitted as part of coordinated planning with several LTER education site representatives in 2002 and has been resubmitted in 2004. Two of the three preproposals have been encouraged to submit full proposals to the Teacher Professional Continuum program in NSF's Division of Elementary, Secondary and Informal Science Education (ESIE). Each of these proposals are multi-site development projects that will provide new and innovative education materials, resources, and tools for the LTER network and will involve research on the efficacy of LTER models in K-12 education. A summary of each of these is included below:

Virtual Professional Development Resources Center (vPDRC) for Middle and High Science and Mathematics  
Dr. Robert E. Bohanan PI  
University of Wisconsin-Madison and North Temperate Lakes LTER

Efforts of projects like the Long Term Ecological Research (LTER) network and Global Learning and Observations to Benefit the Environment (GLOBE) have produced a wealth of ecological data that are online and available to be used in educational outreach programs. Significant challenges remain, however, in coupling primary data sources, scientific inquiry, and educational standards effectively so that these data can be meaningfully incorporated into professional development. This project targets this need for data-rich, inquiry-based learning by seeking to develop a shared set of integrated resources that provide access to online data, statistical and graphical analysis tools, and application design components. A final product of the project (2005-2010) will be a virtual professional development center to which these collaboration teams can contribute and share resources in an open, community-based environment.

Intellectual Merit: We propose to create a model for collaborations of data specialists, ecology researchers, education specialists, and teaching professionals to draw upon these resources to design professional development programs. Programs will empower middle and high school science and mathematics teachers with access to primary data, and understanding of the scientific questions that can be addressed with them, and an articulation with the standards that define their specific educational goals.

Broader Impact: The vPDRC will create and provide professional development materials and resources in a newly developed framework that can be used in the 24 US LTER sites and by other national professional development organizations and professional societies (e.g. GLOBE, National Science Teachers Association, Ecological Society of America).

Marion Dresner  
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The primary goal of this program is to build awareness among high school science teachers that science is a process, not just a body of facts that were revealed

in the past. By emphasizing the process of science, we can better understand that what we do not yet know about the functioning of ecosystems far exceeds what we do know. This will be achieved in three ways. The first is through providing teachers with practical experiences working with scientists at Long Term Ecological Research (LTER) Sites, Universities, in a two-week training program to provide teachers with opportunities to participate in ecological research studies. These activities will reaffirm the learners' skills and enable them to see themselves as active contributors towards building the body of what we do understand. Through an emphasis on studies that provide insight into human Impacts to ecosystems, learners will develop an enhanced understanding about the impacts of human practices to biological diversity. The second method will be Through the development of supporting materials to facilitate the process of guiding their own students through field research experiences. Lastly, we will provide training to more local regional environmental education providers in the use of the program and supporting materials.

#### Next Steps

We will be discussing and refining each of these at the education rep meeting in Portland, OR August 29-September 1. We will also review and provide input on the third preproposal for resubmission to NSF. In addition to working on proposals, we plan to:

- 1) Continue planning for implementation of education goals and objectives outlined in the LTER planning grant
- 2) Identify science and education themes for upcoming meetings including ASM
- 3) Discuss plans of ways to support the continuation of education initiatives following the departure of Sonia Ortega from LTER network office and her return to NSF
- 4) Discuss ways of continuing coordination of education efforts that effectively led by Sonia Ortega after her departure from the Network Office
- 5) Set policies and procedures for the composition and functioning of the education committee
- 6) Discuss and begin the development of new LTER education projects and proposals
- 7) Completion and dissemination of an LTER education handbook

Brett McMillan, a graduate student from Old Dominion University will be joining the education committee as a graduate student representative on the education committee.

McOwiti Thomas, Public Information Specialist from the Network Office will also attend the education representatives meeting to learn about education activities and to assist the education community with the dissemination of information especially through the LTER website.

The education committee and the LTER education community wish Sonia Ortega the very best as she leaves the Network Office and returns to NSF in DC. She was a very important catalyst and led the development of the education committee and community within LTER. Her efforts during her tenure in the Network Office have resulted in coordinated education activities within LTER and collaborations with LTER and other agencies and organizations. These include several multi-site development projects and network-wide participation in initiatives that have and will continue to benefit the LTER network in the future . Sonia's passion for ecology, education, and research has helped develop and improve models within LTER for integrating LTER research in education. She will be greatly missed, but we hope to draw upon her considerable experience and advice where possible in the future.

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