

# NATIONAL SCIENCE FOUNDATION

## Long-term Ecological Research (LTER) Program

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TO: Steward Pickett (BES), Phil Robertson (KBS), Tim Fahey (HBR), Mark Williams (NWT), Terry Chapin (BNZ), John Hobbie (ARC), Russell Schmitt (MCR), Mark Ohman (CCE), Nancy Grimm (CAP), Mike Antolin (SGS), Ann Giblin (PIE), Andrew Fountain (MCM)

FROM: Todd Crowl and Henry L. Gholz (BIO/DEB), David Garrison (GEO/OCE), Roberta Marinelli (OPP/ANT), and Tom Baerwald (SBE/BSCS)

CC: Diedre King-Woodward, Nicola Cunningham

RE: Preparation Guidelines for LTER 2011 Renewal Proposals

This letter contains the formal instructions for preparation of your LTER renewal proposals that will be due at NSF on **1 February 2009** via Fastlane. The instructions are the same as those used for the past three renewal competitions and your last mid-term site reviews. The budget targets (Section 7) reflect your current budget level plus an expected inflationary step increase.

Pay particular attention to the page restrictions for each section. There are no substitutions allowed of extra text pages for graphics pages in any section (e.g., the 20 page limit for Section 2 will be strictly enforced for both the text and the graphics portions separately). The Fastlane page limits for normal proposals will be suspended to enable your submissions. Specific formatting and other compliance guidelines should be followed as per the NSF Proposal and Award Policies and Procedures Guide, April 2009

<[http://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=papp](http://www.nsf.gov/publications/pub_summ.jsp?ods_key=papp)>

NSF utilizes two main criteria in the review process. **Criterion 1** addresses the intellectual merit of the proposed research and **Criterion 2** addresses the broader impacts of the research; both must be addressed in the Project Summary. You are encouraged to read guidelines for review on the NSF web site, but please note that for the LTER program, these criteria are further developed into five areas:

The primary review criterion will be **scientific merit** (NSF's Criterion 1). **Information management** and technology, **site management** (including personnel, fiscal, administrative, institutional and logistical issues), **network participation** (including cross-site, non-LTER, or international research, and involvement in other network activities) and **outreach/education** (training of undergraduate and graduate students, K-12 Schoolyard, application of results to policy and management, etc.) are also important aspects of all LTER projects that will be addressed during the review. Each of these five criteria are evaluated with respect to quality,

productivity and impact. Research both within and across sites essentially comprises Criterion 1. The “education and outreach” portion is essentially Criterion 2. IM and site management (including non-research aspects of network participation) are part of the review criteria for all NSF Centers, including LTER.

The sections of your proposal should be developed according to the guidelines below:

**Section 1.** ( $\leq 5$  pages of narrative; total of 5 pages maximum\*). Describe results of prior LTER support. In addition to the five maximum text pages, provide a table that lists all publications from LTER research since the last renewal, sorted into the following categories: (1) journal articles, (2) books, (3) book chapters, (4) dissertations and theses, and (5) other publications. Include a second table that lists data sets from your site that are currently available electronically and provide documentation of the use of on-line data sets by investigators and others not directly associated with your LTER program. Be sure to include important results of supplemental support.

\* The two lists of publications and data sets for Section 1 may be put into the **Supplementary Documentation** part of Fastlane (be sure to follow the format requirements).

**Section 2.** ( $\leq 20$  pages of narrative *plus*  $\leq 15$  pages of illustrations, tables and figures; 35 pages total maximum, but no substitution is allowed of narrative pages for graphics pages). Develop and explain the conceptual framework that provides the unifying ecological theme for your site. Next, describe in some detail the long-term experiments, sampling protocols and monitoring that you are doing or propose to do, and explain how these relate to your conceptual framework. Describe methods and data analyses so that the quality of long-term efforts can be evaluated critically by reviewers. In addition, describe short-term mechanistic experiments, empirical studies, sampling programs and other approaches, such as modeling, that will be conducted. Again, describe the methods and planned analyses in detail and explain how these short-term studies relate to your conceptual framework. Conceptually integrate these efforts with your long-term studies. Because budgets normally increase at the time of renewal, there is an expectation that some new activities will be proposed.

Modeling efforts are important and should be discussed in detail as appropriate. Outline any regionalization, cross-site, or other collaborative efforts involving the LTER network that are planned, if they are not part of your core program as already described (network activities).

Finally, close this section with a synthesis that shows how your major activities will lead to a deeper understanding of the ecosystem and its relationship to other biomes represented within the LTER network.

There is no need to include detailed methodologies in the proposal text for projects that are on-going at the site. The best approach is to provide a general description of the methods in the proposal, and to give a web site address where the detailed methods manual is located. For new research efforts, more detail on methods should appear in the proposal.

**Section 3.** ( $\leq 2$  pages of narrative *plus*  $\leq 1$  page for figures/tables; 3 pages maximum). Describe how you manage your site. How are funding and research decisions made and actions implemented? What efforts are made to encourage non-LTER scientists from your institution or other institutions to use your site as a research platform? How are you involving a diversity of scientists at the site? Include any plans for enhancing diversity of scientists at your site. Discuss relevant institutional relations issues. Detail any major changes anticipated during the next grant phase.

**Section 4.** ( $\leq 3$  pages narrative *plus*  $\leq 1$  pages of tables/figures; 4 pages maximum). One of the recognized strengths and pioneering aspects of the LTER network relates to information management and technology. Describe your data and information management system. How is the data manager involved in the design of research projects? What mechanisms do you employ to get researchers to contribute their data to the LTER database? How quickly are data sets made available to other researchers? What criteria are used to limit or provide access of LTER data sets to other researchers? How often are data sets updated on the WWW? Detail anticipated major changes and why these changes are necessary or desirable. *Please refer to and utilize the associated attachments to this message.*

**Section 5.** ( $\leq 2$  pages text *plus*  $\leq 1$  page of tables/figures; 3 pages maximum). Describe your outreach program, including educational activities at all levels, public activities, media interactions, implications/applications of your research to policy and management, etc. Then discuss the development of your outreach program over the next grant phase. If it differs substantially from past years, describe why you have taken this new approach.

**Section 6.** (pages as required). Literature Cited.

**Section 7.** Budget pages and detailed budget descriptions. The budget for the next six years should total \$940,000. Any increases over current levels are subject to availability of funds in the FY 11 NSF budget. In your proposals, provide sufficient Budget Justification as required. Also describe other sources of funding, how LTER funds are leveraged at your site, and what other in-kind services are provided and by whom. Please do not include formal cost-sharing as part of the proposal.

**Section 8.** Provide one-page CVs for each PI and other senior scientist listed on your proposal. List only 5 publications per investigator on each CV; note accomplishments related to both NSF review criterion as appropriate.

**Separate from the individual CVs, provide a cumulative, alphabetized list of all collaborators and other potential conflicts-of-interest for all of the PIs and other senior scientists for whom CVs appear in the proposal.**

**Section 9.** Current and Pending support of each investigator.

Please contact Todd Crowl if you have further questions.