



NATIONAL SCIENCE FOUNDATION
4201 WILSON BOULEVARD
ARLINGTON, VIRGINIA 22230

NSF 16-030

Frequently Asked Questions (FAQs) for LTER New Site Solicitation (NSF 16-509)

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1. What is the review process that will be followed to select new LTER sites?

A two-stage review process will be used. All proposers must submit a preliminary proposal that outlines the major goals of the project. Preliminary proposals typically will be reviewed by a panel of outside experts. The Program Directors will communicate the decision to Invite/Do Not Invite full proposals via FastLane. The decisions will be based on the panel recommendations and additional portfolio considerations. Invite/Do not Invite decisions are binding. Invited full proposals will receive panel review and ad hoc review. Full proposals that were not invited or that do not address the two ecosystems as defined in the solicitation will be returned without review.

2. What feedback will I receive on my preliminary proposal?

Preliminary proposals will be reviewed by a panel of scientists with appropriate expertise and you will receive a summary of their discussion (a panel summary) as well as individual reviews from the panelists. We strongly advise that you take this feedback into account if you are invited to submit a full proposal.

3. What criteria will panelists use to evaluate preliminary proposals?

Panelists will be instructed to evaluate the intellectual merit and the broader impacts of each proposal during each proposal evaluation stage. Preliminary proposals are brief and lack much of the detail included in a full proposal, so the reviews will necessarily be more general, and perhaps shorter, than those for full proposals. In addition to Intellectual Merit and Broader Impacts, we expect reviewers to focus on the following critical aspects of the research: A) presence of a cohesive conceptual theme that integrates both the questions and the approaches proposed, B) testing core ecological principles, and C) promoting integrated understanding of interacting processes. Additional consideration will be given to justification for the proposed research site, and feasibility of the plans for carrying out the proposed research. While covered above, we again call out the fact that reviewers will be asked to evaluate whether a substantive plan is presented to implement broader impacts of the research.

4. What criteria will be used to make a decision to Invite or Not Invite a full proposal following the preliminary phase?

Program Directors will make decisions to Invite or Not Invite based on the scientific merits and broader impacts of the research, the panel's recommendation, and balance of proposals among sub-disciplines, geographic distribution, types of institutions, and a project's potential to broaden participation by groups under-represented in science. The last four criteria represent the "portfolio balance" that Program Directors must consider when making recommendations.

5. How soon will I learn whether a full proposal is invited?

Invitations to submit full proposals will be issued approximately 3 months after the preliminary proposal deadline.

6. What is the expected invitation rate for preliminary proposals?

Given that we only expect to make three awards, we anticipate inviting 15-20 full proposals.

7. What is the expected success rate for full proposals?

We anticipate a 15-20% success rate.

8. How does the Project Description of the preliminary proposal differ from that of a full proposal?

The two proposals differ in length; a preliminary proposal is restricted to a maximum of 8 pages and a full proposal to a maximum of 32 pages, as described below. They also differ in content.

The first page of the 8-page preliminary proposal project description should provide a list of project personnel plus each person's institutional affiliation. Any individual for whom a biographical sketch is included in the preliminary proposal must be on one of these lists. The remaining 7 pages should 1) present a clear conceptual framework that underlies the research approach; 2) provide adequate information to describe the domain of the project and to justify the site as appropriate for long-term ecological research; 3) articulate key ecological questions that are critical to obtaining an integrated understanding of the targeted ecosystem; 4) describe the general approaches that will be used, including both observational and experimental, if appropriate, to answer the research questions proposed; 5) incorporate collection of long-term data in each of the five core areas outlined in the solicitation; 6) develop models that are predictive; and 7) present a feasible plan for implementing the broader impacts of proposed research.

The Project Description of a full proposal can be a maximum of 25 pages of text in length, with an additional 7 pages allowed for figures. The project description includes Results from Prior NSF Support, a detailed section on the Proposed Research, and a section describing Broader Impacts. Authors should develop and explain the conceptual framework that provides the unifying theme for the proposed research. The section should describe in some detail the long-term experiments, sampling, and sampling protocols that will be used and explain how each fits into the conceptual framework. Methods and data analyses should be described in sufficient detail that they can be critically evaluated by reviewers. Any short-term, mechanistic experiments, empirical studies, sampling programs, or modeling efforts should also be described in adequate detail. Likewise, proposed models or model development must be presented in sufficient detail to enable evaluation, including the model structure and how models account for sources of uncertainty. This section should conceptually integrate shorter-term efforts with proposed long-term studies, and outline any planned regional, cross-site, or other collaborative efforts involving the LTER network if they are not part of your core program. The section should conclude with a synthesis that ties together the proposed research activities.

9. Do results from prior NSF support have to be included in preliminary proposals?

These are not required, but may be included at the discretion of the investigator.

10. Are institutional approvals for regulated activities (e.g. recombinant DNA work, human subjects, vertebrate animals) needed for preliminary proposals?

These approvals are not needed for preliminary proposals, but are for all full proposals.

11. What are Conflicts of Interest (COIs), why does NSF need to know them, and how do I know if I have any?

Conflicts of Interest are individuals who have potentially biasing relationships (personal,

professional, intellectual, financial) with the investigators involved with a proposal or the submitting institution(s) and thus who could not provide an objective evaluation of a proposal. The most common conflicts identified are 1) Ph.D advisors or advisees, 2) collaborators or co-authors, including postdoctoral researchers, over the past 48 months, 3) co-editors within the past 24 months, 4) spouse or other relatives who might be in a relevant field, and 5) any individuals with whom, or institutions with which, the senior personnel have financial ties, including some advisory committees, boards of directors, or prospective employees.

12. Will reviewers for a full proposal see the reviews I received for the preliminary proposal?

The panelists who review your full proposal will have access to the panel summary written for your preliminary proposal, but will not see the individual reviews.

13. May I add a co-PI or other senior personnel who were not listed in the preliminary proposal to the invited full proposal?

You may add senior personnel to a full proposal, particularly based on advice provided in the preliminary proposal panel summary and following discussion with the cognizant Program Director. Please carefully consider the expertise needed to achieve your research goals before submitting your preliminary proposal for review.

14. Do we need to address all the core research areas? Can we emphasize some, but not others?

It is a requirement of the LTER program that data be collected, at some well justified frequency, in all five core areas. The core areas are described in the solicitation.

15. Must a new LTER site be located within the US or its territories?

The new arid/semi-arid ecosystem LTER must be within the United States, including its territories and protectorates. Preference will be given to proposals developing a new ocean/coastal ocean ecosystem LTER site located within the United States, including its territories and protectorates, but other locations are not precluded.

16. Are LTER projects expected to pursue funds to leverage activities at a LTER site?

This is not a requirement. As LTER projects mature, most sites find that the base LTER support provided is modest. The long-term data collected at an LTER site often makes the site attractive to other researchers, and many of the longest-running sites have leveraged significant support for diverse research activities.

17. How much social science or human dimensions-related work needs to be included?

The inclusion of social science research is not a requirement of the LTER program except for the two urban sites. NSF recognizes that human decisions, behavior, and actions may contribute to LTER research. New LTER projects may elect to include social science research if it helps to advance or to understand key, conceptually motivated ecological questions.

18. Will priority be given to a new site that co-locates with NEON or OOI sites, or that collaborates with other partners?

While interactions with neighboring NEON or OOI sites may enhance an LTER proposal, no priority will be given to projects that co-locate with NEON or OOI sites, or that collaborate with other partners. However, use of existing federal, state, or local facilities and collaboration with other

research sites or programs is encouraged. More information about the status of NEON can be found at www.NEONinc.org.

19. What do I need to do for Education & Outreach and for Information Management?

All proposals to NSF must include plans for broader impacts, which often include education and outreach. Each existing LTER site is provided funds each year to support a Schoolyard LTER program that focuses on K-12 education and supports two undergraduate students to carry out independent research. These activities could be part of the education and outreach plan you prepare. All proposals also must include a data management plan. LTER data should be publicly available as soon as possible within 2 years of collection. The data management plan should include description of how data management will be implemented in the design of research projects, the responsibilities of a data manager, data harvesting, documenting, archiving, and planning for accessibility.

20. How important is research collaboration across LTER sites? Should this be emphasized?

The current LTER program comprises a collaborative network of over 1,000 researchers and students, many of whom investigate common ecological processes. This collaboration expands opportunities to promote synthesis and comparative research across sites. New sites may include comparative research with other LTER or non-LTER projects, but this is not a requirement. These broader-scale activities, if included, should extend the conceptual framework proposed for innovative site-based research. NSF expects all LTER researchers to participate in network-wide activities (meetings, working groups, etc.). We acknowledge that cross-site activities may require additional funding, and that they may increase as a particular site matures.

21. We're proposing oceanographic research. Do we need to address the mainstream ecology community?

The research proposed should emphasize major ecological processes and questions or hypotheses that advance understanding of ocean or coastal ocean ecological systems. The new awardee would become part of the Long Term Ecological Research Program, which has the goal of understanding long-term ecological dynamics, processes, and phenomena and of obtaining an integrated, holistic understanding of populations, communities, and ecosystems that is not possible through individual, short-term awards.

22. I've heard that a guiding conceptual model for the site research is really important. Is there a good example or model of what it should be like?

A convincing conceptual framework for your project is essential. There are no generic examples, as each LTER site poses site-specific questions that are key to developing an integrated and cohesive understanding how a particular ecosystem is structured and functions. The conceptual framework should identify key components of the ecosystem, pose questions to understand how these components interact, and lead to predictive models.

23. What is the optimum balance between observations vs experiments?

This balance should reflect the conceptual theme or framework presented, based on key ecological theories; this framework should integrate both the questions and the approaches (observation, experiment, models) proposed. Please keep in mind that all LTER projects must collect long-term data in five core areas, as described in the solicitation.

24. Our proposed site doesn't have a strong pre-existing legacy of long term observations. Is

that a problem?

A proposal may be submitted for a site for which long-term data exist or for a site that requires an entirely new effort. Preliminary data collected previously at a particular site may contribute positively to a proposal.

25. There are already 5 coastal marine sites on the East Coast. Will this influence the selection of new marine sites?

NSF will not prescribe (beyond the specifics in the solicitation) whether new sites should fill gaps in biomes that are currently supported or prescribe whether complementary sites would be desirable. However, supporting additional salt marsh ecosystems on the East Coast is not a high priority.

26. Is the Gulf of Mexico defined as part of the East Coast?

For purposes of this solicitation, the Gulf of Mexico is not considered part of the East Coast.

27. Can we have 2 Co-Lead PIs? Do they need to be at the same home institution?

Up to five individuals can be listed as principal investigators on the cover sheet of a proposal. NSF considers all of these individuals as having responsibility for carrying out the research proposed; designation of the first as the lead PI is primarily convenience. The individuals can come from different institutions, but only a single institution can be the awardee institution.

28. Some existing LTER projects include a large number of investigators from multiple institutions. Is there an expectation that the research team be of a certain size or disciplinary breadth?

NSF has no a priori expectations about the size or breadth of the initial research team. This team should have the expertise required to address core components of the conceptual framework and to carry out the proposed research. NSF expects that each of the main investigators has a record of research that supports their ability to contribute productively to the project.

29. Would NSF consider a project that is regional in nature - that is, that carries out research at several locations that represent a particular biome?

This kind of project is likely to be competitive only if the full complement of research needed to address the conceptual framework presented can be accomplished at all locations. Depending on the number of locations involved, a regional study might not be feasible given the modest support provided by LTER awards.

30. What sort of guidance or advice could be provided by ongoing LTER sites?

Prospective investigators may wish to contact current LTER principal investigators to learn more about the structure and management of an LTER site. Current sites range in age from 10 to over 30 years, and NSF's expectations about the sophistication of the guiding conceptual framework, research integration, and overall productivity vary considerably depending upon the maturity of the site. While active LTER researchers may provide valuable advice, NSF does not expect a new site to be of the size or scope of a long-running site, or to have developed as sophisticated an understanding of how components of an ecosystem are integrated, or how results from ongoing research might inform broader ecological processes. A group of LTER researchers has developed three presentations for potential applicants for new ocean sites; this presentation can be found at: <http://www.nsf.gov/geo/oce/programs/biores.jsp#Opportunities>.

31. May proposals be submitted for new sites in the Arctic region?

The solicitation neither encourages nor discourages developing new Arctic sites.

32. What if my question is not addressed by these FAQs?

Please ask us! Contact information for Program Directors can be found in the solicitation.