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LONG-TERM ECOLOGICAL RESEARCH (LTER): SPECIAL COMPETITION FOR CROSS-SITE RESEARCH

Program Announcement

NSF 00-61

DIRECTORATE FOR BIOLOGICAL SCIENCES
DIVISION OF ENVIRONMENTAL BIOLOGY

DEADLINE DATE: MAY 25, 2000



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SUMMARY OF PROGRAM REQUIREMENTS

GENERAL INFORMATION

Program Title: Long-Term Ecological Research: Special Competition for Cross-Site Research

Synopsis of Program:

This Special Competition is being sponsored by the Ecological Studies Cluster which includes the Long-Term Ecological Research (LTER), Ecology and Ecosystem Studies programs. In addition, this special competition will consider proposals for field-based research that fall within the purview of the Population Biology and the Ecological and Evolutionary Physiology programs that can take advantage of the large-scale field experiments at multiple LTER sites. Within this context, projects are expected to examine questions or hypotheses that can best be addressed through comparative or synthesis studies using combinations of LTER, non-LTER and International LTER sites.

Cognizant Program Officer:

- Dr. Scott L. Collins, Program Director, Room 640, Division of Environmental Biology, telephone (703) 306-1479, e-mail: scollins@nsf.gov.

Applicable Catalog of Federal Domestic Assistance (CFDA) No.:

- 47.074 — Biological Sciences

ELIGIBILITY INFORMATION

- **Organization Limit:** None
- **PI eligibility limitations:** None
- **Limitation on the number of proposals:** None

AWARD INFORMATION

- **Anticipated Type of Award:** Standard Grant
- **Estimated Number of Awards:** up to 12
- **Anticipated Funding Amount:** Approximately \$3.6 million will be available for this special competition in FY00 contingent upon the availability of funds.
- **Anticipated Date of Award:** August 2000

PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

- **Proposal Preparation Instructions: Supplemental Preparation Guidelines**
 - The program contains supplements to the standard GPG proposal preparation guidelines. Please see the full program announcement for further information.

B. Budgetary Information

- **Cost Sharing Requirements:** None
- **Other Budgetary Limitations:** Maximum award size will be \$300,000 for two to five years.

C. Deadline/Target Dates:

- **Letter of Intent Deadline:** None
- **Preproposal Deadline:** None
- **Full Proposal Deadline:** 5/25/00

D. FastLane Requirements

- **FastLane Submission:** Full Proposal Required
- **FastLane Contact:** For questions related to the use of FastLane, contact, the Directorate for Biological Sciences, Information and Automation Resources Unit at biofl@nsf.gov.

PROPOSAL REVIEW INFORMATION

- **Merit Review Criteria:** Standard NSF Merit Review Criteria applies.

AWARD ADMINISTRATION INFORMATION

- **Award Conditions:** Standard NSF Award Conditions apply.
 - **Report Requirements:** Additional reporting requirements apply. Please see the full program announcement for further information.
 - **Future Funding:** One time competition in FY '00
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I. INTRODUCTION

Long-term site-based research can provide detailed, integrated information on a large range of ecological phenomena. In some cases, broader generalizations may require that comparable data be gathered from multiple research sites. The Directorate for Biological Sciences at the National Science Foundation views the sites in the Long-Term Ecological Research (LTER) Network as a set of research platforms that potentially can serve as foci for cross-site research activities leading to broader generalizations. In order to (a) facilitate more comprehensive research

syntheses, (b) test novel hypotheses that require data from multiple sites, (c) enhance research activities at existing LTER sites, and (d) increase the number of ecologists using LTER sites, the Ecological Studies Cluster in the Division of Environmental Biology (DEB) at NSF announces an LTER Cross-Site Research Special Competition in Fiscal Year 2000.

II. PROGRAM DESCRIPTION

This Special Competition is being sponsored by the Ecological Studies Cluster, which includes the LTER, Ecology and Ecosystem Studies programs. In addition, this special competition will consider proposals for field-based research that fall within the purview of the Population Biology and the Ecological and Evolutionary Physiology programs that can take advantage of the large-scale field experiments at multiple LTER sites. Within this context, projects are expected to examine questions or hypotheses that can best be addressed through comparative or synthesis studies using combinations of LTER, non-LTER and International LTER sites.

Information on the Ecology and Ecosystem Studies programs, as well as abstracts of funded proposals, can be found at <http://www.nsf.gov/bio/deb/debecological.htm>. In general, the *Ecosystem Studies Program* supports mechanistic or empirical investigations of whole-system ecological processes and relationships in the following areas: (1) biogeochemistry, such as studies of decomposition, global and regional elemental budgets, and biotic versus abiotic controls of nutrient cycles; (2) primary productivity, particularly ecophysiology within an ecosystem framework; and (3) landscape dynamics with an emphasis on quantitative models of disturbances, ecosystem resilience, and successional patterns. The *Ecology Program* supports community ecology and population interactions in such areas as (1) dynamics and processes within specific communities or habitats; (2) pattern and control of biological diversity at multiple spatial scales, (3) food-web structure and landscape patterns formed by community dynamics; (4) paleoecology; and (5) organismal interactions such as mutualism, plant-animal interactions, competition, predation, co-evolution, and chemical or evolutionary ecology. Information on the *Population Biology Program* can be found at <http://www.nsf.gov/bio/deb/debsysbio.htm>. Relevant focus areas in population biology include (1) field based studies of population and quantitative genetics directed at understanding the genotypic and phenotypic variation of populations during microevolution; geographical differentiation; organismal adaptation to changing environments; natural hybridization; and speciation; and (2) studies from an ecological and evolutionary perspective of the life history and life cycle phenomena of terrestrial, freshwater, and wetland organisms; animal and plant demography of age- and stage-structured populations; and population dynamics. Information on the Ecological and Evolutionary Physiology Program can be found at <http://www.nsf.gov/bio/ibn/ibnphysio.htm>. The Program supports research on ecological or evolutionary questions related to comparative physiology, functional morphology, and physiological ecology of plants, animals, protists, fungi, and bacteria.

Detailed information on the U.S. LTER Network and a listing of LTER sites with contact information can be found at <http://lternet.edu>. Similar information on the International LTER (ILTER) Network can be found at <http://ilternet.edu>. Although each proposal must involve a minimum of one U.S. LTER site (use of multiple sites is encouraged), *the Principal Investigator on the cross-site proposal does not have to be a current LTER investigator*. Non-LTER

investigators are encouraged to contact the appropriate LTER Principal Investigator for collaboration and cooperation opportunities. All proposals submitted must contain documentation affirming the LTER site endorsement of the project.

III. ELIGIBILITY INFORMATION

Proposals under the Long-Term Ecological Research: Special Competition for Cross-Site Research are accepted from U.S. institutions that are eligible for awards from the National Science Foundation, including colleges, universities, and other non-profit research institutions, such as botanical gardens, freshwater institutes and natural history museums (see Grant Proposal Guide (GPG) NSF-00-2, Chapter I, Section D). The GPG is available on the NSF Documents Online system located at <http://www.nsf.gov/cgi-bin/getpub?nsf002>. Proposals that subcontract with researchers and facilities in other countries are welcome, provided support is requested only for the U.S. portion of the cooperative effort. When appropriate, collaborating scientists at national laboratories and other federal agencies can be accommodated through subcontract mechanisms administered by the submitting U.S. institution, within the limits imposed by applicable legislation and regulations. Federal employees may not receive salaries or in other ways augment their agency's appropriations through grants made by this Special Competition.

IV. AWARD INFORMATION

Under this announcement, proposals may be submitted for any funding amount up to \$300,000 for two to five years. Grants may be awarded in a wide variety of sizes and durations. NSF expects to fund up to 12 standard research awards depending on the quality of submissions and the availability of funds. Approximately \$3.6 million will be available for this initiative in FY 2000. Anticipated date of awards: August 2000

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

Proposals submitted in response to this program announcement should be prepared and submitted in accordance with the general guidelines contained in the *Grant Proposal Guide* (GPG), NSF 00-2. The complete text of the GPG (including electronic forms) is available electronically on the NSF web site at: <http://www.nsf.gov>. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone 301.947.2722 or by e-mail from pubs@nsf.gov.

Proposers are reminded to identify the program announcement number (NSF 00-61) in the program announcement/solicitation block on the NSF Form 1207, "*Cover Sheet for Proposal to the National Science Foundation*." Compliance with this requirement is critical to determining the relevant proposal processing guidelines. Failure to submit this information may delay processing.

The following exceptions and additions apply to proposals submitted to this Program:

- In addition to the guidelines found in the GPG Instructions for Proposal Preparation, Chapter II, section C. the type size of proposals submitted to this competition must be 12-point font type size. No smaller point font size will be accepted.
- **BIO Proposal Classification Form (PCF):** Complete the BIO PCF, available on the NSF FastLane system. The PCF is an on-line coding system that allows the Principal Investigator to characterize his/her project when submitting proposals to the Directorate for Biological Sciences. Once a PI begins preparation of his/her proposal in the NSF FastLane system and selects a division, cluster, or program within the Directorate for Biological Sciences as the first or only organizational unit to review the proposal, the PCF will be generated and available through the Form Preparation screen. Additional information about the BIO PCF is available in FastLane at <https://www.fastlane.nsf.gov/a1/BioInstr.htm>.

B. Deadline/Target Dates

The proposal **MUST** be submitted by 5:00 PM, submitter's local time, 5/25/00.

C. FastLane Requirements

Proposers are required to prepare and submit all proposals for this Program Announcement through the FastLane system. Detailed instructions for proposal preparation and submission via FastLane are available at: <https://www.fastlane.nsf.gov/a1/newstan.htm>.

Submission of Signed Cover Sheets. The signed copy of the proposal Cover Sheet (NSF Form 1207) must be postmarked (or contain a legible proof of mailing date assigned by the carrier) within five working days following proposal submission and be forwarded to the following address:

Dr. Scott L. Collins
National Science Foundation
Division of Environmental Biology
Room 635
4201 Wilson Boulevard
Arlington, VA 22230

VI. PROPOSAL REVIEW INFORMATION

A. NSF Proposal Review Process

Reviews of proposals submitted to NSF are solicited from peers with expertise in the substantive area of the proposed research or education project. These reviewers are selected by Program Officers charged with the oversight of the review process. NSF invites the proposer to suggest at the time of submission, the names of appropriate or inappropriate reviewers. Care is taken to ensure that reviewers have no conflicts with the proposer. Special efforts are made to recruit reviewers from non-academic institutions, minority-serving institutions, or adjacent disciplines to that principally addressed in the proposal.

Proposals will be reviewed against the following general review criteria established by the National Science Board. Following each criterion are potential considerations that the reviewer may employ in the evaluation. These are suggestions and not all will apply to any given proposal. Each reviewer will be asked to address only those that are relevant to the proposal and for which he/she is qualified to make judgements.

What is the intellectual merit of the proposed activity?

How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields? How well qualified is the proposer (individual or team) to conduct the project? (If appropriate, the reviewer will comment on the quality of the prior work.) To what extent does the proposed activity suggest and explore creative and original concepts? How well conceived and organized is the proposed activity? Is there sufficient access to resources?

What are the broader impacts of the proposed activity?

How well does the activity advance discovery and understanding while promoting teaching, training, and learning? How well does the proposed activity broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.)? To what extent will it enhance the infrastructure for research and education, such as facilities, instrumentation, networks, and partnerships? Will the results be disseminated broadly to enhance scientific and technological understanding? What may be the benefits of the proposed activity to society?

Principal Investigators should address the following elements in their proposal to provide reviewers with the information necessary to respond fully to both of the above-described NSF merit review criteria. NSF staff will give these elements careful consideration in making funding decisions.

Integration of Research and Education

One of the principal strategies in support of NSF's goals is to foster integration of research and education through the programs, projects, and activities it supports at academic and research institutions. These institutions provide abundant opportunities where individuals may concurrently assume responsibilities as researchers, educators, and students and where all can engage in joint efforts that infuse education with the excitement of discovery and enrich research through the diversity of learning perspectives.

Integrating Diversity into NSF Programs, Projects, and Activities

Broadening opportunities and enabling the participation of all citizens - women and men, underrepresented minorities, and persons with disabilities - is essential to the health and vitality of science and engineering. NSF is committed to this principle of diversity and deems it central to the programs, projects, and activities it considers and supports.

A summary rating and accompanying narrative will be completed and signed by each reviewer. In all cases, reviews are treated as confidential documents. Verbatim copies of reviews, excluding the names of the reviewers, are mailed to the Principal Investigator/Project Director by the Program Director. In addition, the proposer will receive an explanation of the decision to award or decline funding.

B. Review Protocol and Associated Customer Service Standard

All proposals are carefully reviewed by at least three other persons outside NSF who are experts in the particular field represented by the proposal. Proposals submitted in response to this announcement will be reviewed by mail and panel review.

Reviewers will be asked to formulate a recommendation to either support or decline each proposal. The Program Officer assigned to manage the proposal's review will consider the advice of reviewers and will formulate a recommendation.

NSF will be able to tell applicants whether their proposals have been declined or recommended for funding within six months for 95 percent of proposals. The time interval begins on the proposal deadline or target date or from the date of receipt, if deadlines or target dates are not used by the program. The interval ends when the Division Director accepts the Program Officer's recommendation.

In all cases, after programmatic approval has been obtained, the proposals recommended for funding will be forwarded to the Division of Grants and Agreements for review of business, financial, and policy implications and the processing and issuance of a grant or other agreement. Proposers are cautioned that only a Grants and Agreements Officer may make commitments, obligations or awards on behalf of NSF or authorize the expenditure of funds. No commitment on the part of NSF should be inferred from technical or budgetary discussions with a NSF Program Officer. A Principal Investigator or organization that makes financial or personnel commitments in the absence of a grant or cooperative agreement signed by the NSF Grants and Agreements Officer does so at its own risk.

VII. AWARD ADMINISTRATION INFORMATION

A. Notification of the Award

Notification of the award is made to the submitting organization by a Grants Officer in the Division of Grants and Agreements. Organizations whose proposals are declined will be advised as promptly as possible by the cognizant NSF Program Division administering the program. Verbatim copies of reviews, not including the identity of the reviewer, will be provided automatically to the Principal Investigator. (See section VI. A, for additional information on the review process).

B. Award Conditions

An NSF award consists of: (1) the award letter, which includes any special provisions applicable

to the award and any numbered amendments thereto; (2) the budget, which indicates the amounts, by categories of expense, on which NSF has based its support (or otherwise communicates any specific approvals or disapprovals of proposed expenditures); (3) the proposal referenced in the award letter; (4) the applicable award conditions, such as Grant General Conditions (NSF-GC-1)* or Federal Demonstration Partnership (FDP) Terms and Conditions * and (5) any NSF brochure, program guide, announcement or other NSF issuance that may be incorporated by reference in the award letter. Cooperative agreement awards also are administered in accordance with NSF Cooperative Agreement Terms and Conditions (CA-1). Electronic mail notification is the preferred way to transmit NSF awards to organizations that have electronic mail capabilities and have requested such notification from the Division of Grants and Agreements.

*These documents may be accessed electronically on NSF's web site at http://www.nsf.gov/home/grants/grants_gac.htm. Paper copies may be obtained from the NSF Publications Clearinghouse, telephone 301.947.2722 or by e-mail from pubs@nsf.gov.

More comprehensive information on NSF Award Conditions is contained in the NSF Grant Policy Manual (GPM) Chapter II, (NSF 95-26) available electronically on the NSF web site at <http://www.nsf.gov/cgi-bin/getpub?gpm>. The GPM is also for sale through the Superintendent of Documents, Government Printing Office (GPO), Washington, DC 20402. The telephone number at GPO for subscription information is 202.512.1800. The GPM may be ordered through the GPO web site at <http://www.gpo.gov>.

C. Reporting Requirements

For all multi-year grants (including both standard and continuing grants), the PI must submit an annual project report to the cognizant Program Officer at least 90 days before the end of the current budget period.

Within 90 days after the expiration of an award, the PI also is required to submit a final project report. Approximately 30 days before expiration, NSF will send a notice to remind the PI of the requirement to file the final project report. Failure to provide final technical reports delays NSF review and processing of pending proposals for that PI. PIs should examine the formats of the required reports in advance to assure availability of required data.

NSF has implemented an electronic project reporting system, available through FastLane. This system permits electronic submission and updating of project reports, including information on: project participants (individual and organizational); activities and findings; publications; and other specific products and contributions. PIs will not be required to re-enter information previously provided, either with a proposal or in earlier updates using the electronic system.

Following LTER Network data policy (<http://lternet.edu>), all research data collected with funding from this LTER Cross-Site Special Competition must be carefully documented and made freely available via the appropriate LTER web site no later than two years after the final project report is submitted.

VIII. CONTACTS FOR ADDITIONAL INFORMATION

General inquiries should be made to the **Long-Term Ecological Research: Special Competition for Cross-Site Research**: Dr. Scott Collins, Program Director, telephone (703) 306-1479, e-mail: scollins@nsf.gov.

For questions related to the use of FastLane, contact, the Directorate for Biological Sciences, Information and Automation Resources Unit at biofl@nsf.gov.

IX. OTHER PROGRAMS OF INTEREST

The NSF Guide to Programs is a compilation of funding for research and education in science, mathematics, and engineering. The NSF Guide to Programs is available electronically at <http://www.nsf.gov/cgi-bin/getpub?gp>. General descriptions of NSF programs, research areas, and eligibility information for proposal submission are provided in each chapter.

Many NSF programs offer announcements concerning specific proposal requirements. To obtain additional information about these requirements, contact the appropriate NSF program offices listed in Appendix A of the GPG. Any changes in NSF's fiscal year programs occurring after press time for the Guide to Programs will be announced in the NSF Bulletin, available monthly (except July and August), and in individual program announcements. The Bulletin is available electronically via the NSF web site at <http://www.nsf.gov/home/ebulletin>. Subscribers can also sign up for NSF's Custom News Service (<http://www.nsf.gov/home/cns/start.htm>) to be notified of new funding opportunities that become available.

ABOUT THE NATIONAL SCIENCE FOUNDATION

The National Science Foundation (NSF) funds research and education in most fields of science and engineering. Grantees are wholly responsible for conducting their project activities and preparing the results for publication. Thus, the Foundation does not assume responsibility for such findings or their interpretation.

NSF welcomes proposals from all qualified scientists, engineers and educators. The Foundation strongly encourages women, minorities and persons with disabilities to compete fully in its programs. In accordance with Federal statutes, regulations and NSF policies, no person on grounds of race, color, age, sex, national origin or disability shall be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving financial assistance from NSF (unless otherwise specified in the eligibility requirements for a particular program).

Facilitation Awards for Scientists and Engineers with Disabilities (FASED) provide funding for special assistance or equipment to enable persons with disabilities (investigators and other staff, including student research assistants) to work on NSF-supported projects. See the program announcement or contact the program coordinator at (703) 306-1636.

The National Science Foundation has Telephonic Device for the Deaf (TDD) and Federal

Information Relay Service (FIRS) capabilities that enable individuals with hearing impairments to communicate with the Foundation about NSF programs, employment or general information. TDD may be accessed at (703) 306-0090, FIRS at 1-800-877-8339.

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PRIVACY ACT AND PUBLIC BURDEN STATEMENTS

The information requested on proposal forms and project reports is solicited under the authority of the National Science Foundation Act of 1950, as amended. The information on proposal forms will be used in connection with the selection of qualified proposals; project reports submitted by awardees will be used for program evaluation and reporting within the Executive Branch and to Congress. The information requested may be disclosed to qualified reviewers and staff assistants as part of the proposal review process; to applicant institutions/grantees to provide or obtain data regarding the proposal review process, award decisions, or the administration of awards; to government contractors, experts, volunteers and researchers and educators as necessary to complete assigned work; to other government agencies needing information as part of the review process or in order to coordinate programs; and to another Federal agency, court or party in a court or Federal administrative proceeding if the government is a party. Information about Principal Investigators may be added to the Reviewer file and used to select potential candidates to serve as peer reviewers or advisory committee members. See Systems of Records, NSF-50, "Principal Investigator/Proposal File and Associated Records," 63 Federal Register 267 (January 5, 1998), and NSF-51, "Reviewer/Proposal File and Associated Records," 63 Federal Register 268 (January 5, 1998). Submission of the information is voluntary. Failure to provide full and complete information, however, may reduce the possibility of receiving an award.

Pursuant to 5 CFR 1320.5(b), an agency may not conduct or sponsor, and a person is not required to respond to an information collection unless it displays a valid OMB control number. The OMB control number for this collection is 3145-0058. Public reporting burden for this collection of information is estimated to average 120 hours per response, including the time for reviewing instructions. Send comments regarding this burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to: Suzanne Plimpton, Reports Clearance Officer, Information Dissemination Branch, Division of Administrative Services, National Science Foundation, Arlington, VA 22230, or to Office of Information and Regulatory Affairs of OMB, Attention: Desk Officer for National Science Foundation (3145-0058), 725 - 17th Street, N.W. Room 10235, Washington, D.C. 20503.

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