

Centers for Ocean Science Education Excellence (COSEE)

Program Solicitation

NSF 05-503

Replaces Document 01-173



National Science Foundation
Directorate for Geosciences
Division of Ocean Sciences

Letter of Intent Due Date(s) (optional):

November 04, 2004

Full Proposal Deadline(s) (due by 5 p.m. proposer's local time):

March 02, 2005

REVISIONS AND UPDATES

This solicitation is a revision of [NSF 01-173](#). It has been updated with results from the initial COSEE competition, and the request for proposals to establish a Central Coordinating Office has been eliminated.

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

Centers for Ocean Science Education Excellence (COSEE)

Synopsis of Program:

The Division of Ocean Sciences seeks to establish additional Centers in a network of coordinated centers that facilitate collaborations and communications between ocean science researchers and educators. These Centers for Ocean Science Education Excellence (COSEE) foster the integration of ocean research into high quality educational materials, allow ocean researchers to gain a better understanding of educational organizations and pedagogy, provide educators with an enhanced capacity to understand and deliver high-quality educational programs in the ocean sciences, and provide material to the public that promotes a deeper understanding of the ocean and its influence on each person's quality of life and our national prosperity.

Cognizant Program Officer(s):

- Elizabeth L. Rom, Associate Program Director, Directorate for Geosciences, Division of Ocean Sciences, 725 N, telephone: (703) 292-7709, fax: (703) 292-9085, email: erom@nsf.gov

Applicable Catalog of Federal Domestic Assistance (CFDA) Number(s):

- 47.050 --- Geosciences

Eligibility Information

- **Organization Limit:**

- Eligible organizations include academic institutions of higher learning that award degrees in geoscience or environmental science, oceanographic research institutions, professional societies, non-profit or not-for-profit consortia, informal science centers, museums, aquariums, and state and local education agencies.

- Each Center must represent a minimum of three partners, including at least one organization from each of the following sectors, 1) ocean science research institutions, 2) informal education organizations, and 3) formal educational organizations. (See Section III for details).

- Refer to the Grant Proposal Guide for details on submitting collaborative proposals (Chapter II, D, 3). Proposals may be submitted in two ways: 1) as a single proposal with subawards administered by the lead organization. Activities related to all subawards should be clearly explained in the text of the proposal. Each subaward requires submission of a separate budget on a NSF budget form; or, 2) as a set of proposals, one from each partner organization, that contain the same project description.

- **PI Eligibility Limit:** None Specified.
- **Limit on Number of Proposals:** None Specified.

Award Information

- **Anticipated Type of Award:** Standard or Continuing Grant
- **Estimated Number of Awards:** 4 Maximum \$500,000/year for up to five years with a budget review after three years.
- **Anticipated Funding Amount:** \$2,000,000 is the approximate total for first year of all awards pending availability of funds and quality of proposals.

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- **Letters of Intent:** Submission of Letters of Intent is optional. Please see the full text of this solicitation for further information.
- **Full Proposal Preparation Instructions:** This solicitation contains information that supplements the standard Grant Proposal Guide (GPG) proposal preparation guidelines. Please see the full text of this solicitation for further information.

B. Budgetary Information

- **Cost Sharing Requirements:** Cost Sharing is not required.
- **Indirect Cost (F&A) Limitations:** Not Applicable.
- **Other Budgetary Limitations:** Not Applicable.

C. Due Dates

- **Letters of Intent (*optional*):**
November 04, 2004
- **Full Proposal Deadline Date(s)** (due by 5 p.m. proposer's local time):
March 02, 2005

Proposal Review Information

- **Merit Review Criteria:** National Science Board approved criteria apply.

Award Administration Information

- **Award Conditions:** Standard NSF award conditions apply.
- **Reporting Requirements:** Standard NSF reporting requirements apply.

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I. INTRODUCTION

For many years, the need for scientists to work with educators to enhance the general public's understanding of science has been recognized as an important priority in reports such as *Science for All Americans* (AAAS, 1990) and *NSF in a Changing*

World (NSF, 1995). The need for increased education and public understanding about the ocean is particularly evident. The 2004 *Preliminary Report of the U.S. Commission on Ocean Policy, Chapter VIII*; the 2003 Pew Ocean Commission's report *America's Living Oceans: Charting a Course for Sea Change, Part II, Chapter VIII*; and the 1999 report from the Cabinet to the President of the United States, *Turning to the Sea: America's Ocean Future* (NOAA, 1999) stress the need for ocean scientists and educators to improve the general public's understanding of the ocean and its role in their lives. The integration of education and research is a priority recommended in *NSF Geosciences Beyond 2000* (NSF, 2000) and in the report of the Geoscience Education Working Group entitled, "*Geoscience Education: A Recommended Strategy*" (NSF, 1997).

In order to explore the possible benefits of a nationally coordinated effort in ocean science education, NSF's Division of Ocean Sciences (OCE) and the Division of Undergraduate Education (DUE) co-sponsored a workshop in May 2000. The report of this workshop is available on the web at <http://www.cosee.org>. Workshop participants identified a wealth of opportunities for national coordination of ocean science education efforts and numerous strategies by which these opportunities could be realized. The workshop consensus was that NSF should establish Centers for Ocean Science Education Excellence (COSEE) as a nationally coordinated program for ocean sciences education in both formal and informal educational sectors.

Subsequently, a panel of ocean research and ocean education experts met to advise OCE on priorities for the implementation of COSEE. A report from that meeting also is available at <http://www.cosee.org>. Priorities listed in the Implementation Report were used to develop this program solicitation. Proposers are strongly urged to review these reports to develop a better understanding of the background concepts for COSEE.

The first COSEE program announcement ([NSF 01-173](#)) was issued in October, 2001 and requested proposals for both Centers and a Central Coordinating Office. Initial awards were made in the Fall of 2002. The COSEE network currently consists of seven Centers and one Central Coordinating Office (see <http://www.cosee.net>). Four Centers were funded for a five year period, and three Centers were funded for three years.

This competition for both renewal and new proposals will provide an estimated four awards, bringing the total number of Centers to eight. This solicitation does not seek proposals for a Central Coordinating Office. A mid-term budget review will be required for all awards with durations of five years. Additional sites may be established in the future as additional sources of funding are identified. An integrated master proposal, or a set of collaborative proposals, are sought from collaborating organizations wishing to establish and maintain a Center.

II. PROGRAM DESCRIPTION

The National Science Foundation funds the development of centers where the proposed work requires a high degree of organization and networking. A center provides a rich environment in which collaborations and partnerships flourish, particularly those that include people and organizations with disparate goals.

The COSEE network consists of a set of collaborating Centers plus a Central Coordinating Office (CCO). Each Center in the network must have a regional or thematic focus. Regional Centers encompass a majority of the COSEE goals as listed under "Potential Activities for a Center", but focus most efforts on a particular region. A thematic Center focuses its efforts on a particular area of expertise, and applies these efforts on a national scale. The CCO organizes national oversight of the COSEE effort, enhances collaboration among the Centers, and documents COSEE activities and outcomes.

Each Center must represent a minimum of three partners, including at least one organization from each of the following sectors, 1) ocean science research institutions, 2) informal education organizations, and 3) formal educational organizations (see COSEE Workshop Report page 14). Ocean science research institutions are defined as institutions with a primary mission of promoting basic oceanographic research and/or graduate education in biological, physical, chemical and geological oceanography. Eligible research institutions must not focus exclusively on fisheries or aquarium/exhibit-related science. Informal science education institutions are defined as museums, aquaria, or science centers with a primary mission of public outreach and education. Formal education organizations must be accredited.

To illustrate the structure and scope envisioned, a Center might consist of a collaborative effort among an oceanographic

research institution, an aquarium, and a K-12 school district. Regionally, research scientists could advise education specialists on oceanographic issues. Education specialists would then assist the school district and the state's Department of Education to integrate current ocean science material into the curriculum. Nationally, a collaborative effort might focus on identifying gaps in K-12 ocean science educational material, encouraging development of programs at the aquarium partner to promote public knowledge of current oceanographic research efforts, and/or sponsoring workshops to introduce both scientists and educators to innovative pedagogical methods, new uses of instructional technology, or communication strategies for the public or media.

Centers for Ocean Science Education Excellence

Each Center should be a multi-faceted collaborative activity with the primary goal of improving the integration of ocean research and education. Each Center should strive to implement several of the activities listed below - preferably a majority of them, but not necessarily all of them. Proposals should identify either a regional or thematic set of activities and address how they will be undertaken. For examples of currently funded Centers and their activities see www.COSEE.net. New Centers should identify how they will contribute to the national COSEE network.

Although a Center may work to foster demonstration programs consistent with its goals, its primary role should be catalytic, not programmatic. For example, funds might be used to organize workshops that provide opportunities for an exchange of ideas and expertise between scientists and educators, but would not be used to support research programs, for construction of museum displays, or for participant costs in ongoing educational programs.

Each Center must designate a director who has the capacity and vision to develop and lead the team. Centers will support personnel having expertise to engage the oceanographic research community and the formal and informal educational communities in efforts to advance the availability and quality of information on the oceans. The office(s) for each Center may be located at any of the Center's affiliates. Affiliates of a Center need not be in close proximity to each other, but all personnel associated with a Center must work together as a team.

Each Center must reserve funds (a minimum of 7% annually of the budget) for personnel, travel and other expenses associated with participation in national COSEE efforts. Attendance at annual PI meetings and COSEE Council meetings and participation in national evaluation efforts is required. Participation in various COSEE-sponsored events and activities that promote ocean education on a national level is expected. Budgets should not exceed \$500,000/year. The maximum duration of awards will be five years.

Potential Activities for a Center

- Establish and/or expand connections between people and organizations conducting ocean science research and those providing educational leadership or those providing outreach among diverse communities.
- Facilitate the integration of research into high-quality educational materials and establish linkages that will foster the development and dissemination of these materials. For example, a Center could work with scientists and educators to establish goals and guidelines for educational material that should be made available both regionally and nationally.
- Provide pedagogical expertise and guidance for research scientists involved in education. For example, a Center could sponsor workshops at major scientific conferences that encourage faculty to develop collaborative proposals with educators or to experiment with different pedagogical strategies.
- Create new professional development opportunities for a variety of COSEE users. For example, a Center could promote the design of teacher preparation programs that integrate information on ocean research efforts; establish collaborative programs with ocean research institutions, science education faculty, and administrators of colleges of education; or promote the development of ocean science courses at minority serving institutions and community colleges. Centers are expected to support the ongoing costs of programs with outside funding.
- Provide incentives and assistance for school districts and teachers to integrate ocean sciences into their curricula. For example, Center personnel could help school districts identify ocean-related curricula that would be appropriate

for them and help align the curricula to state or national standards as necessary.

- Provide expertise and design evaluation instruments that can be used to assess and strengthen new or ongoing efforts. Because oceanographers are largely unfamiliar with the specialized techniques used to evaluate educational effectiveness, the COSEE community must provide knowledgeable personnel who are fully aware of both evaluation fundamentals and the specific challenges of ocean education. For example, COSEE staff could design evaluation plans for ocean education programs or serve as consultants on future proposals, strengthening both the proposals and future programs if funded.
- Ensure that underrepresented groups in the ocean sciences have improved access to ocean science education and research results. Historically, the field of oceanography has not attracted a diverse set of students, and only limited progress has been made in the past decade. Individual Centers should make a concerted effort to include underrepresented groups in educational activities, both formal and informal, involving the oceans.
- Foster the effective use of information technology. It will be important for COSEE to provide a foundation for an open discussion of how technology can enhance curriculum reform, professional development, assessment and minority involvement in ocean science education.
- Provide career information. For example, a Center could provide undergraduates and undergraduate faculty with access to a synthesis of career information, including links to job options. This information should highlight non-academic career paths, including marine technology, industry, non-college teaching, advocacy, and policy-related jobs. See: <http://www.oceancareers.com/>.

Proposers are urged to consider affiliation with other NSF-funded systemic science education reform efforts, including programs funded via the Louis Stokes Alliances for Minority Participation (LSAMP), Centers for Teaching and Learning (CTL), and Advanced Technological Education (ATE), Rural Systemic Initiative (RUI) and the Urban Systemic Program (USP). Information on these programs may be found via the NSF website at <http://www.nsf.gov/home/ehr>. Funding for specific programs should not be requested via a COSEE proposal. For undergraduate course development, teacher preparation and two-year technical programs, please refer to NSF's Division of Undergraduate Education (DUE) website (<http://www.ehr.nsf.gov/EHR/DUE/>). For K-12 materials development and teacher preparation program support, please refer to NSF's Division of Elementary and Secondary Education (ESIE) website (<http://www.ehr.nsf.gov/EHR/esie/>).

Additional elements for consideration:

All proposals should include the following:

- Significant collaborations between research, formal educational, and informal educational organizations dedicated to the promotion of ocean science education, and clearly defined roles for all collaborators and partners;
- Involvement of personnel who are committed to educational reform, responsive to community needs and capable of leading both the oceanographic research community and the science education community;
- A coherent and well organized management plan and timeline;
- Plans for an external advisory committee with representatives of the formal educational community, researchers and informal educators;
- Plans to build, coordinate and maintain an appropriate regional or programmatic website that will be linked to the national network COSEE website (www.cosee.net).
- Plans for proactive outreach to segments of the population that have historically been underrepresented as learners, teachers, and researchers in ocean sciences;

- Evidenced capacity to function as a facilitator or catalyst of change;
- Evidenced capacity to understand and bridge research, media and education cultures;
- Demonstration of the resources and expertise to use evaluation paradigms to promote COSEE goals.
- A budget that reflects an appropriate balance between resources and responsibility for all collaborators.
- A minimum of 7% of the budget should be devoted to participation in national activities of the COSEE network.

Proposals should include salaries (up to 12 months per year) and related costs for staff. Typical staff positions may include: PI, research specialist, education specialist, and public affairs/media specialist. Participant support costs (travel; workshop per diem) are also expected to be a significant portion of budget. Participant support funds provided for participant support may not be diverted by the grantee to other categories of expense without the prior written approval of the cognizant NSF Program Officer. Administration or clerical support for travel arrangements or workshop-related activities, if requested, must be justified as non-routine, and specifically identified with a project activity. No funds for capital equipment will be provided.

REFERENCES

American Association for the Advancement of Science, 1990. *Science for All Americans*. Oxford University Press, New York.

NOAA, 1999. *Turning to the Sea: America's Ocean Future*. National Oceanic and Atmospheric Administration, Washington, D. C.

National Science Foundation, 1995. *NSF In a Changing World: The National Science Foundation's Strategic Plan*. National Science Foundation, Arlington, VA.

National Science Foundation, 1997. *Geoscience Education: A Recommended Strategy*. National Science Foundation, Arlington, VA.

National Science Foundation, 2000. *NSF Geosciences Beyond 2000*, Arlington, VA.

Pew Ocean Commission, 2003. *America's Living Oceans: Charting a Course for Sea Change*, Arlington, VA 2003.

Preliminary Report of the U.S. Commission on Ocean Policy Governors' Draft, Washington, D.C., April 2004.

III. ELIGIBILITY INFORMATION

Eligible organizations include academic institutions of higher learning that award degrees in geoscience or environmental science, oceanographic research institutions, professional societies, non-profit or not-for-profit consortia, informal science centers, museums, aquariums, and state and local education agencies. Collaborations among three or more different types of organizations listed above is required. Each Center must represent a minimum of three partners, including at least one organization from each of the following sectors, 1) ocean science research institutions, 2) informal education organizations, and 3) formal educational organizations (see COSEE Workshop Report page 14 at www.cosee.org).

There are no limits on PI eligibility or the number of proposals that may be submitted by an organization.

IV. AWARD INFORMATION

Estimated program budget, number of awards and average award size/duration are subject to the availability of funds.

Number of Awards: Approximately 4 awards will be made in FY 2005. Duration: Up to five years, with final budgets subject to review after 3 years. Amount: Up to \$500,000 per year.

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

Letters of Intent (*optional*):

To aid in planning the review, potential PIs are asked to submit an optional letter of intent by November 4, 2004. Letters of intent should be submitted via email to COSEE@nsf.gov and should include information on the scope of the work and the parties involved. The letter will be used to help the Program plan for the formal review process.

Full Proposal Instructions:

Proposals submitted in response to this program announcement/solicitation should be prepared and submitted in accordance with the general guidelines contained in the NSF *Grant Proposal Guide* (GPG). The complete text of the GPG is available electronically on the NSF Website at: <http://www.nsf.gov/cgi-bin/getpub?gpg>. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from pubs@nsf.gov.

Although the FastLane Project Description is limited to the standard 15 pages, detailed information on management plan, timeline and composition of external advisory committees may be included as additional material within the Supplementary Documents section of FastLane. Supplementary Documents are limited to 10 single-spaced pages in addition to letters of collaboration. All budgets (including subawards) must be accompanied by a detailed budget justification.

Proposers are reminded to identify the program announcement/solicitation number (05-503) in the program announcement/solicitation block on the proposal Cover Sheet. Compliance with this requirement is critical to determining the relevant proposal processing guidelines. Failure to submit this information may delay processing.

B. Budgetary Information

Cost Sharing:

Cost sharing is not required in proposals submitted under this Program Solicitation.

C. Due Dates

Proposals must be submitted by the following date(s):

Letters of Intent (*optional*):

November 04, 2004

Full Proposal Deadline(s) (due by 5 p.m. proposer's local time):

March 02, 2005

D. FastLane Requirements

Proposers are required to prepare and submit all proposals for this announcement/solicitation through the FastLane system. Detailed instructions for proposal preparation and submission via FastLane are available at: <https://www.fastlane.nsf.gov/a1/newstan.htm>. For FastLane user support, call the FastLane Help Desk at 1-800-673-6188 or e-mail fastlane@nsf.gov. The FastLane Help Desk answers general technical questions related to the use of the FastLane system. Specific questions related to this program announcement/solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this announcement/solicitation.

Submission of Electronically Signed Cover Sheets. The Authorized Organizational Representative (AOR) must electronically sign the proposal Cover Sheet to submit the required proposal certifications (see Chapter II, Section C of the [Grant Proposal Guide](#) for a listing of the certifications). The AOR must provide the required electronic certifications within five working days following the electronic submission of the proposal. Proposers are no longer required to provide a paper copy of the signed Proposal Cover Sheet to NSF. Further instructions regarding this process are available on the FastLane Website at: <http://www.fastlane.nsf.gov>

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.

The National Science Board approved revised criteria for evaluating proposals at its meeting on March 28, 1997 ([NSB 97-72](#)). All NSF proposals are evaluated through use of the two merit review criteria. In some instances, however, NSF will employ additional criteria as required to highlight the specific objectives of certain programs and activities.

On July 8, 2002, the NSF Director issued [Important Notice 127](#), Implementation of new Grant Proposal Guide Requirements Related to the Broader Impacts Criterion. This Important Notice reinforces the importance of addressing both criteria in the preparation and review of all proposals submitted to NSF. NSF continues to strengthen its internal processes to ensure that both of the merit review criteria are addressed when making funding decisions.

In an effort to increase compliance with these requirements, the January 2002 issuance of the GPG incorporated revised proposal preparation guidelines relating to the development of the Project Summary and Project Description. Chapter II of the GPG specifies that Principal Investigators (PIs) must address both merit review criteria in separate statements within the one-page Project Summary. This chapter also reiterates that broader impacts resulting from the proposed project must be addressed in the Project Description and described as an integral part of the narrative.

Effective October 1, 2002, NSF will return without review proposals that do not separately address both merit review criteria within the Project Summary. It is believed that these changes to NSF proposal preparation and processing guidelines will more clearly articulate the importance of broader impacts to NSF-funded projects.

The two National Science Board approved merit review criteria are listed below (see the [Grant Proposal Guide](#) Chapter III.A for further information). The criteria include considerations that help define them. These considerations are suggestions and not all will apply to any given proposal. While proposers must address both merit review criteria, reviewers will be asked to address only those considerations that are relevant to the proposal being considered and for which he/she is qualified to make judgments.

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?

NSF staff will give careful consideration to the following 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.

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/solicitation will be reviewed by Ad Hoc and/or 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.

A summary rating and accompanying narrative will be completed and submitted by each reviewer. In all cases, reviews are treated as confidential documents. Verbatim copies of reviews, excluding the names of the reviewers, are sent 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.

NSF is striving to be able to tell proposers whether their proposals have been declined or recommended for funding within six months. The time interval begins on the closing date of an announcement/solicitation, or the date of proposal receipt, whichever is later. 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 their 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 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 Website at http://www.nsf.gov/home/grants/grants_gac.htm. Paper copies may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 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, available electronically on the NSF Website 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 Website 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. Failure to provide final technical reports delays NSF review and processing of pending proposals for the PI and all Co-PIs. PIs should examine the formats of the required reports in advance to assure availability of required data.

PIs are required to use NSF's electronic project reporting system, available through FastLane, for preparation and submission of annual and final project reports. 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.

VIII. CONTACTS FOR ADDITIONAL INFORMATION

General inquiries regarding this program should be made to:

- Elizabeth L. Rom, Associate Program Director, Directorate for Geosciences, Division of Ocean Sciences, 725 N, telephone: (703) 292-7709, fax: (703) 292-9085, email: erom@nsf.gov

For questions related to the use of FastLane, contact:

- Brian Midson, Assistant Program Director, Directorate for Geosciences, Division of Ocean Sciences, 725 N, telephone: (703) 292-8580, fax: (703) 292-9085, email: bmidson@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 or solicitations concerning specific proposal requirements. To obtain additional information about these requirements, contact the appropriate NSF program offices. Any changes in NSF's fiscal year programs occurring after press time for the *Guide to Programs* will be announced in the NSF *E-Bulletin*, which is updated daily on the NSF Website at <http://www.nsf.gov/home/ebulletin>, and in individual program announcements/solicitations. 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.

Opportunities to Enhance Diversity in the Geosciences (OEDG) Program and the *GEO Education Program* contact: Jacqueline Huntoon, Directorate for Geosciences, Staff Associate for Diversity and Education; 703-292-7718; jhuntoon@nsf.gov

Research Experience for Undergraduates (see current REU sites at <http://www.nsf.gov/home/crssprgm/reu/start.htm>)

CAREER (Faculty Early Career Development Program) see information at <http://www.nsf.gov/home/crssprgm/career/start.htm>

Rural Systemic Initiative contact: Anselm Davis Jr., Division of Educational System Reform, Program Director; 703-292-8682; adavis@nsf.gov.

Urban Systemic Initiative contact: Celestine Pea, Division of Educational System Reform, Program Director; 703-292-8690; cpea@nsf.gov

Statewide Systemic Initiative contact: Lura Chase, Division of Educational System Reform, Program Director; 703-292-8682; lchase@nsf.gov

Course Curriculum and Laboratory Improvement contact: Susan Hixson, Division of Undergraduate Education, Lead Program Director; 703-292-4623; shixson@nsf.gov

ABOUT THE NATIONAL SCIENCE FOUNDATION

The National Science Foundation (NSF) funds research and education in most fields of science and engineering. Awardees 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, although some programs may have special requirements that limit eligibility.

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