

# Western Arctic Shelf-Basin Interactions (SBI III)

## An ARCSS Synthesis

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### Program Solicitation

NSF 07-532



**National Science Foundation**

Office of Polar Programs  
Arctic Sciences Section

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

March 09, 2007

### REVISION NOTES

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In furtherance of the President's Management Agenda, NSF has identified programs that will offer proposers the option to utilize Grants.gov to prepare and submit proposals, or will require that proposers utilize Grants.gov to prepare and submit proposals. Grants.gov provides a single Government-wide portal for finding and applying for Federal grants online.

In response to this program solicitation, proposers may opt to submit proposals via [Grants.gov](http://Grants.gov) or via the [NSF FastLane](#) system. In determining which method to utilize in the electronic preparation and submission of the proposal, please note the following:

Collaborative Proposals. All collaborative proposals submitted as separate submissions from multiple organizations must be submitted via the [NSF FastLane](#) system. Chapter II, Section D.3 of the Grant Proposal Guide provides additional information on collaborative proposals.

### SUMMARY OF PROGRAM REQUIREMENTS

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#### General Information

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**Program Title:**

Western Arctic Shelf-Basin Interactions III (SBI)  
An ARCSS Synthesis

**Synopsis of Program:**

This solicitation is for proposals to conduct research aimed at understanding how the Arctic Ocean margins (from the shore to the basin) function within the arctic system as a whole. Priority will be placed on research efforts that focus on data integration, synthesis, and modeling activities that lead to new system-level understanding, rather than projects that generate new data from field studies. This solicitation is intended to support the final phase (Phase III) of the Shelf-Basin Interactions (SBI) project, which has accumulated nearly ten years of field investigation data and analyses. SBI science planning and implementation documents and additional information are available through the SBI webpage at: <http://sbi.utk.edu>.

**Cognizant Program Officer(s):**

- Neil R.Swanberg, telephone: (703) 292-8029, email: [nswanber@nsf.gov](mailto:nswanber@nsf.gov)
- Janet Intrieri, telephone: (703) 292-4426, email: [jintrier@nsf.gov](mailto:jintrier@nsf.gov)

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

- 47.078 --- Office of Polar Programs

**Award Information**

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**Anticipated Type of Award:** Standard Grant or Continuing Grant**Estimated Number of Awards:** 5 to 15**Anticipated Funding Amount:** \$1,800,000 per year, for up to three years, subject to available funds.**Eligibility Information**

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**Organization Limit:**

Proposals may only be submitted by the following:

- Academic Institutions located in the U.S.: U.S. universities and colleges located in the U.S.
- Foreign organizations: For cooperative projects involving U.S. and foreign organizations, support will only be provided for the U.S. portion.
- Non-profit, non-academic organizations: Independent museums, observatories, research labs, professional societies and similar organizations in the U.S. associated with educational or research activities.
- Other Federal Agencies and Federally Funded Research and Development Centers (FFRDCs): Contact the appropriate program before preparing a proposal for submission.

**PI Limit:**

None Specified

**Limit on Number of Proposals per Organization:**

None Specified

**Limit on Number of Proposals per PI:**

None Specified

**Proposal Preparation and Submission Instructions**

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**A. Proposal Preparation Instructions**

- **Letters of Intent:** Not Applicable
- **Full Proposals:**
  - Full Proposals submitted via FastLane: Grant Proposal Guide (GPG) Guidelines apply. The complete text of the GPG is available electronically on the NSF website at: [http://www.nsf.gov/publications/pub\\_summ.jsp?](http://www.nsf.gov/publications/pub_summ.jsp?)

[ods\\_key=gpg.](#)

- Full Proposals submitted via Grants.gov: NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov Guidelines apply (Note: The NSF Grants.gov Application Guide is available on the Grants.gov website and on the NSF website at: <http://www.nsf.gov/bfa/dias/policy/docs/grantsgovguide.pdf>)

## B. Budgetary Information

- **Cost Sharing Requirements:** Cost Sharing is not required by NSF.
- **Indirect Cost (F&A) Limitations:** Not Applicable
- **Other Budgetary Limitations:** Other budgetary limitations apply. Please see the full text of this solicitation for further information.

## C. Due Dates

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

March 09, 2007

## Proposal Review Information Criteria

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**Merit Review Criteria:** National Science Board approved criteria. Additional merit review considerations apply. Please see the full text of this solicitation for further information.

## Award Administration Information

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**Award Conditions:** Additional award conditions apply. Please see the full text of this solicitation for further information.

**Reporting Requirements:** Additional reporting requirements apply. Please see the full text of this solicitation for further information.

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# I. INTRODUCTION

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The goal of SBI is to improve our understanding of the physical and biogeochemical connections among the arctic shelves, slopes, and deep basins; how they function as components of the whole arctic system; and how they are and will be influenced by global change. The arctic shelves and basins are areas where critical physical and hydrographic forcings interact with biogeochemical and biological fluxes, with ramifications for the global climate system. In addition, there are biologically-mediated carbon-transformation processes that are critical to regional carbon cycling and ultimately to global carbon flux dynamics. An understanding of the dynamics of these regional processes and how they interact with coastal and oceanic processes is essential to understanding the arctic system as a whole.

SBI has focussed on shelf/slope water mass and ecosystem modifications, material fluxes, and biogeochemical cycles in the Chukchi/Beaufort Seas and adjacent slopes/basins. Phase I of SBI (1998–2001) involved analyses of historical data, field investigations, and modeling. Phase II (2002–2006) constituted the core field program in the Chukchi/Bering Strait region and outer shelf-slope of the Chukchi and Beaufort Seas. The importance of biological processes in mediating carbon transformation, cycling, and flux in the western Amerasian Arctic has become apparent through results of the SBI Phase I and II projects and simultaneous regional sampling by other national and international projects. This is an opportune time to integrate knowledge from Phase I and II and other projects that examine the major system elements, in order to understand their influence on arctic system processes and build this knowledge into a system-wide synthesis.

*The essential aim of SBI Phase III is the integration and synthesis of SBI Phase I and II results with those of other projects into pan-arctic and global models in order to improve our understanding of the arctic system as a whole.*

# II. PROGRAM DESCRIPTION

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Proposals are sought that address one or more of the following overarching thematic questions:

1. What are the important linkages among processes in the Western Arctic shelf-basin ecosystem(s) and the larger arctic system? What are the ramifications of such linkages for the global ocean and climate?
2. How will the large and interconnected changes recently observed in the Western Arctic margins propagate through natural and human systems in the Arctic and subarctic? How do these recent changes compare to events in the past?
3. How does climate variability over multiple time scales influence the coupled physical, chemical, and biological processes of the arctic shelf-basin systems? How do changes in these processes affect the broader arctic system?

Some examples of specific shelf-basin scientific topics that might be suitable for data synthesis and integration include the following, although proposals are not limited to these:

- How changes in sea ice extent and albedo are linked to productivity and associated ecosystem processes
- How changing marine species migrations, distributions, and populations due to shifts in the prey base are impacting local communities and other stakeholders
- The potential impact of coastal erosion on biologically-old carbon delivered to the shelf
- The projected increased human presence in the region due to new transportation routes, natural resource exploration, and potential global impacts resulting from the connectivity of Bering Strait inflow waters and other freshwater fluxes into and from the Arctic Ocean

It is expected that successful proposals will utilize data from SBI Phases I and II, or other existing data related to the arctic shelf and basin system, in a synthetic way that addresses the three overarching questions. Results from the SBI Phase I and II projects are available in individual published papers as well as in the first SBI *Deep Sea Research* special issue (*Deep-Sea*

*Research Part II*, 2005: 52). A complete listing of data available from SBI Phases I and II can be found at the SBI data archive website at: <http://www.eol.ucar.edu/projects/sbi/>. Proposers are also encouraged to take advantage of the results from other projects to formulate an integrated understanding of the role of shelf-basin interactions in the arctic system. Examples of such projects include the Study of the Northern Alaskan Coastal System (SNACS), the Synthesis of Arctic System Science (SASS), Russian-American Long-term Census in the Arctic (RUSALCA), the Canadian Arctic Shelf Exchange Study (CASES), and the ongoing Joint Western Arctic Climate Study (JWACS).

Proposals must include specific information that addresses how the proposed activities will synthesize or integrate existing data and knowledge to connect shelf-basin systems of the Arctic Ocean within the overall functioning of the arctic system. They should also provide an explicit data management and submission plan that conforms with the ARCSS data management plan. Ultimate long-term data archiving through prescribed data centers is required for appropriate data products.

## Synthesis

Successful synthetic efforts will explore new insight and ideas emerging at the boundaries among various mature efforts, through an examination of data, concepts and understanding. They should be constructed to question rather than reinforce established explanations for phenomena, and should not be review activities nor merely integration and summary of results within a project.

Proposals are encouraged that focus on SBI issues and discover, clarify, and improve our understanding of linkages, interactions, and feedbacks among two or more components of the arctic system. The strongest proposals focused on arctic synthesis will meet all of the following criteria (addressed explicitly in the proposal):

- *Incorporate elements from the existing arctic data, information, and models.* Proposed investigations should build upon past research efforts by using data sets, model output, knowledge of processes, and other available information. New data collection efforts will not be considered.
- *Focus on interdisciplinary, cross-cutting questions that will lead to a better understanding of how the shelf basin components function and interact in the system.* Proposals that explore the linkages between the Arctic and the global system are also welcome. Proposals that approach system-level science in novel and unique ways are encouraged.
- *Demonstrate clear relevance to the entire arctic system.* By their nature, synthesis studies will address a suite of time (including paleo) and space scales (from regional to pan-Arctic). Investigations need not have a pan-Arctic geographic scope, but must demonstrate the relevance of site-specific research to the entire arctic system and provide an explicit plan for how findings will be applied or integrated across temporal and spatial scales. Topics that link multiple spatial and/or temporal scales are encouraged.
- *Include specific plans for deposition of data and products resulting from the project into the ARCSS data and information system before the end of the project.* The plan should include the preparation of metadata documentation for the data, identification of which repository or repositories will receive the data, and how the data will contribute to the larger arctic system synthesis.

## Coordination of Synthesis Efforts Among Projects

It is essential that the individual projects funded through this solicitation work with each other as well as with other ARCSS projects as part of the ARCSS-wide synthesis effort. Investigators from successful projects will be expected to participate in one or more coordinated, synthesis-focused activities, with the goal of encouraging system synthesis both for SBI and at the highest levels and promoting the interdisciplinary dialog essential to answering the central ARCSS question. Travel expenses necessary for these activities will be funded separately and need not be included in the proposal budget.

## More Information on ARCSS Synthesis

This solicitation is part of an ongoing effort in the ARCSS Program to synthesize results. The need for synthesis has increased over time as the pace of arctic change has accelerated and the analysis and integration activities that began with the start of the program in 1989 provide a compelling foundation for this synthesis effort. Information regarding these efforts is available on the ARCUS website at: <http://www.arcus.org/ARCSS>. Creative new approaches and themes are encouraged; the material on the website is for guidance and information only.

## III. AWARD INFORMATION

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

## IV. ELIGIBILITY INFORMATION

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### Organization Limit:

Proposals may only be submitted by the following:

- Academic Institutions located in the U.S.: U.S. universities and colleges located in the U.S.
- Foreign organizations: For cooperative projects involving U.S. and foreign organizations, support will only be provided for the U.S. portion.
- Non-profit, non-academic organizations: Independent museums, observatories, research labs, professional societies and similar organizations in the U.S. associated with educational or research activities.
- Other Federal Agencies and Federally Funded Research and Development Centers (FFRDCs): Contact the appropriate program before preparing a proposal for submission.

### PI Limit:

None Specified

### Limit on Number of Proposals per Organization:

None Specified

### Limit on Number of Proposals per PI:

None Specified

### Additional Eligibility Info:

Although there are no limitations on PI eligibility beyond those of the GPG, there is a restriction on submitting proposals to use SBI data that have not been released publicly. Proposals that intend to use significant amounts of SBI data must document that the data are freely available to the scientific community. Any proposal that uses SBI phases 1 or 2 data sets that have not been released to the public domain by the time of the release of this announcement may be returned without review. There is no restriction on the use of data other than those collected under SBI.

## V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

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### A. Proposal Preparation Instructions

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**Full Proposal Preparation Instructions:** Proposers may opt to submit proposals in response to this Program Solicitation via Grants.gov or via the NSF FastLane system.

- Full proposals submitted via FastLane: Proposals submitted in response to this program 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/publications/pub\\_summ.jsp?ods\\_key=gpg](http://www.nsf.gov/publications/pub_summ.jsp?ods_key=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](mailto:pubs@nsf.gov). Proposers are reminded to identify this program solicitation number in the program solicitation block on the NSF 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.
- Full proposals submitted via Grants.gov: Proposals submitted in response to this program solicitation via Grants.gov

should be prepared and submitted in accordance with the NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov. The complete text of the NSF Grants.gov Application Guide is available on the Grants.gov website and on the NSF website at: (<http://www.nsf.gov/bfa/dias/policy/docs/grantsgovguide.pdf>). To obtain copies of the Application Guide and Application Forms Package, click on the Apply tab on the Grants.gov site, then click on the Apply Step 1: Download a Grant Application Package and Application Instructions link and enter the funding opportunity number, (the program solicitation number without the NSF prefix) and press the Download Package button. Paper copies of the Grants.gov Application Guide also may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from [pubs@nsf.gov](mailto:pubs@nsf.gov).

In determining which method to utilize in the electronic preparation and submission of the proposal, please note the following:

**Collaborative Proposals.** All collaborative proposals submitted as separate submissions from multiple organizations must be submitted via the NSF FastLane system. Chapter II, Section D.3 of the Grant Proposal Guide provides additional information on collaborative proposals.

The following instructions supplement the GPG and NSF Grants.gov Application Guide guidelines.

Each proposal must contain a statement that describes explicitly how the proposal meets the criteria for synthesis and how it contributes to an understanding of the arctic system as a whole. Proposals without such a statement will be returned without review. Note that it is not sufficient to say that the proposed work achieves these ends, the proposal must say HOW it does so.

Each proposal that generates data must include a data management plan that conforms to the Arctic System Science (ARCSS) Program data management policy. For a copy of the policy refer to the ARCSS Data Coordination Center (located at the National Snow and Ice Data Center, web site: <http://arcss.colorado.edu/arcss/protocol/protocol.html>). Proposals without a data management plan that incorporates the ARCSS data policy will be returned without review. Proposals to use SBI data should demonstrate that the data are publicly available to the scientific community.

#### **Principles for the Conduct of Research in the Arctic**

Researchers should conform to the *Principles for the Conduct of Research in the Arctic*, prepared by the Social Science Task Force of the U.S. Interagency Arctic Research Policy Committee (IARPC) and approved by IARPC in 1990. These principles apply to all researchers and are listed at <http://www.nsf.gov/od/opp/arctic/conduct.jsp>. Proposers may also find the "Guidelines for Improved Cooperation between Northern Communities and Arctic Researchers" helpful (<http://www.arcus.org/guidelines>).

#### **Arctic Research Support and Logistics**

It is not anticipated that synthesis proposals will require logistics support. Any proposer that intends to have logistics costs associated with a synthesis proposal should contact the program prior to submission. The following information is provided in case it is judged that logistics requirements are appropriate. The Arctic Research Support and Logistics (RSL) program supports field components of research funded by the Arctic Sciences Section. Support includes, but is not limited to, providing transportation, food and shelter while conducting field work, user and day-rate fees at field camps, salaries of staff hired specifically for field work, activities such as travel to coordinate projects with permitting agencies and Native peoples. More detailed information is available on the RSL web site ([http://www.nsf.gov/od/opp/arctic/res\\_log\\_sup.jsp](http://www.nsf.gov/od/opp/arctic/res_log_sup.jsp)).

Access to logistical support from the RSL program is through the regular proposal process.

## **B. Budgetary Information**

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**Cost Sharing:** Cost sharing is not required by NSF in proposals submitted to the National Science Foundation.

**Other Budgetary Limitations:** Proposals should be for a maximum duration of three years.

Investigators from successful projects will be expected to participate in one or more coordinated, synthesis-focused activities, with the goal of encouraging system synthesis in SBI and at the highest levels and promoting the interdisciplinary dialog essential to answering the central ARCSS question and as a contribution to IPY. Travel expenses necessary for these activities will be funded separately through the ARCSS program office and need not be included in the proposal budget.

## **C. Due Dates**

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

March 09, 2007

## D. FastLane/Grants.gov Requirements

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- **For Proposals Submitted Via FastLane:**

Detailed technical instructions regarding the technical aspects of 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](mailto: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 solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this funding opportunity.

**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. Further instructions regarding this process are available on the FastLane Website at: <https://www.fastlane.nsf.gov/fastlane.jsp>.

- **For Proposals Submitted Via Grants.gov:**

Before using Grants.gov for the first time, each organization must register to create an institutional profile. Once registered, the applicant's organization can then apply for any federal grant on the Grants.gov website. The Grants.gov's Grant Community User Guide is a comprehensive reference document that provides technical information about Grants.gov. Proposers can download the User Guide as a Microsoft Word document or as a PDF document. The Grants.gov User Guide is available at: <http://www.grants.gov/CustomerSupport>. In addition, the NSF Grants.gov Application Guide provides additional technical guidance regarding preparation of proposals via Grants.gov. For Grants.gov user support, contact the Grants.gov Contact Center at 1-800-518-4726 or by email: [support@grants.gov](mailto:support@grants.gov). The Grants.gov Contact Center answers general technical questions related to the use of Grants.gov. Specific questions related to this program solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this solicitation.

**Submitting the Proposal:** Once all documents have been completed, the Authorized Organizational Representative (AOR) must submit the application to Grants.gov and verify the desired funding opportunity and agency to which the application is submitted. The AOR must then sign and submit the application to Grants.gov. The completed application will be transferred to the NSF FastLane system for further processing.

## VI. NSF PROPOSAL PROCESSING AND REVIEW PROCEDURES

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Proposals received by NSF are assigned to the appropriate NSF program and, if they meet NSF proposal preparation requirements, for review. All proposals are carefully reviewed by a scientist, engineer, or educator serving as an NSF Program Officer, and usually by three to ten other persons outside NSF who are experts in the particular fields represented by the proposal. These reviewers are selected by Program Officers charged with the oversight of the review process. Proposers are invited to suggest names of persons they believe are especially well qualified to review the proposal and/or persons they would prefer not review the proposal. These suggestions may serve as one source in the reviewer selection process at the Program Officer's discretion. Submission of such names, however, is optional. Care is taken to ensure that reviewers have no conflicts with the proposer.

### A. NSF Merit Review Criteria

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All NSF proposals are evaluated through use of the two National Science Board (NSB)-approved merit review criteria: intellectual merit and the broader impacts of the proposed effort. In some instances, however, NSF will employ additional criteria as required to highlight the specific objectives of certain programs and activities.

The two NSB-approved merit review criteria are listed below. 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 the reviewer 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?

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.

**Additional Review Criteria:**

Additional Review Criteria: Each proposal must include a data management plan that conforms to the Arctic System Science (ARCSS) Program data management policy. For a copy of the policy refer to the ARCSS Data Coordination Center (located at the National Snow and Ice Data Center, web site: <http://arcss.colorado.edu/arcss/protocol/protocol.html>). Proposals without a data management plan that incorporates the ARCSS data policy will be returned without review.

In addition to normal peer review for intellectual merit, proposals will be evaluated both for their contribution to a systems level understanding of the functioning of the whole Arctic and for their potential synergy with other submitted proposals that create an integrated synthesis effort contributing directly to the goals of ARCSS.

**B. Review and Selection Process**

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Proposals submitted in response to this program solicitation will be reviewed by Adhoc Review 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.

After scientific, technical and programmatic review and consideration of appropriate factors, the NSF Program Officer recommends to the cognizant Division Director whether the proposal should be declined or recommended for award. NSF is striving to be able to tell applicants whether their proposals have been declined or recommended for funding within six months. The time interval begins on the date of receipt. The interval ends when the Division Director accepts the Program Officer's 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 Officer. In addition, the proposer will receive an explanation of the decision to award or decline funding.

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

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### A. Notification of the Award

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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 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.B. for additional information on the review process.)

### B. Award Conditions

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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 (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 agreements also are administered in accordance with NSF Cooperative Agreement Financial and Administrative Terms and Conditions (CA-FATC) and the applicable Programmatic Terms and Conditions. NSF awards are electronically signed by an NSF Grants and Agreements Officer and transmitted electronically to the organization via e-mail.

\*These documents may be accessed electronically on NSF's Website at [http://www.nsf.gov/awards/managing/general\\_conditions.jsp?org=NSF](http://www.nsf.gov/awards/managing/general_conditions.jsp?org=NSF). Paper copies may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from [pubs@nsf.gov](mailto:pubs@nsf.gov).

More comprehensive information on NSF Award Conditions and other important information on the administration of NSF awards is contained in the NSF *Grant Policy Manual* (GPM) Chapter II, available electronically on the NSF Website at [http://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=gpm](http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpm).

#### Special Award Conditions:

##### Meetings:

Investigators representing successful projects will be expected to participate in one or more coordinated, synthesis-focused activities, with the goal of achieving system synthesis in SBI and at the highest levels and promoting the interdisciplinary dialog essential to answering the central ARCSS question.

##### Principles for the Conduct of Research in the Arctic

Principal Investigators are expected to follow the Principles for the Conduct of Research in the Arctic, prepared by the Social Science Task Force of the U.S. Interagency Arctic Research Policy Committee (IARPC) and approved by IARPC in 1990. These principles are listed at <http://www.nsf.gov/od/opp/arctic/conduct.jsp>. Investigators may find useful the Guidelines for Improved Cooperation between Arctic Researchers and Northern Communities (<http://www.arcus.org/guidelines>).

##### Guidelines for Scientific Data (OPP 9-91)

This statement provides guidelines from the Office of Polar Programs (OPP) at the National Science Foundation (NSF) and sets out special conditions applicable to OPP grants to implement the Foundation's Sharing Policy by assuring timely submission of OPP-award data to national data centers and other OPP-specified repositories for secondary use by the scientific community. The Office of Polar Programs, in conformance with NSF policy (see Grant Proposal Guide, <http://www.nsf.gov/pubsys/ods/getpub.cfm?gpg>), expects investigators to share with other researchers, at no more than incremental cost and within a reasonable time, the data, derived data products, samples, physical collections and other supported materials gathered or created in the course of the research project. The purpose of this policy is to facilitate full and open

access to data and materials for polar research from projects supported by OPP.

### **General Guidelines**

For all OPP supported projects:

- All data and derived data products collected under OPP-awards which are appropriate for submission to a national data center or OPP specified data repository (OPP-approved website) should be promptly submitted within a reasonable amount of time, as described below, in responsibilities of Principal Investigators of OPP-Awards.
- OPP considers the documentation of data sets, known as metadata, as vital to the exchange of information on polar research and to a data set's accessibility and longevity for reuse.
- Data archives of OPP-supported projects should include easily accessible information about the data holdings, including quality assessments, supporting ancillary information, and guidance for locating and obtaining the data.
- National and international standards should be used to the greatest extent possible for the collection, processing and communication of OPP-sponsored data sets.

### **Responsibilities of Principal Investigators of OPP-Funded Awards**

Principal investigators should make their data available to all reasonable requests and where applicable the principal investigators should submit the data collected to designated data centers as soon as possible, but no later than two (2) years after the data are collected. **Data sets from Long-Term Observatories are expected to be made publicly available immediately upon collection.**

Principal investigators working in coordinated programs (multi-investigator and/or multi-agency programs) may (in consultation with the OPP program managers and other funding agencies involved) establish more stringent data submission procedures to meet the needs of these larger coordinated programs. PIs with OPP-funded awards should comply with data policies established for these coordinated programs and submit their data as required to the appropriate repository stipulated by the coordinated program office.

Compliance with the data guidelines will be considered in the program managers overall evaluation of a Principal Investigator's prior support record.

### **Conditions for OPP Awards**

Principal Investigators of OPP-funded awards are REQUIRED to submit to appropriate electronic data directories, a description of their data (i.e. metadata) resulting from OPP-funded research in the form of a Directory Interchange Format (DIF) entry. Submission of the DIF may be at any time during the tenure of the grant. At the time of submission of the Final Report to NSF, a copy of the DIF must be sent to the cognizant program officer in OPP. Failure to provide final technical reports delays NSF review and processing of pending proposal for that PI. PIs should examine the formats of the required reports in advance to assure availability of required data. Sample DIFs can be found on the Global Change Master Directory web page at <http://gcmd.gsfc.nasa.gov>.

Data sets from OPP supported arctic scientific research should go to the appropriate data center for the specific type of data collected. Any questions concerning this policy should be directed to the cognizant program officer in the Office of Polar Programs

## **C. Reporting Requirements**

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For all multi-year grants (including both standard and continuing grants), the Principal Investigator must submit an annual project report to the cognizant Program Officer at least 90 days before the end of the current budget period. (Some programs or awards require more frequent project reports). Within 90 days after expiration of a grant, the PI also is required to submit a final project report.

Failure to provide the required annual or final project reports will delay NSF review and processing of any future funding increments as well as any pending proposals for that PI. 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. Such reports provide information on activities and findings, project participants (individual and organizational) 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. Submission of the report via FastLane constitutes certification by the PI that the contents of the report are accurate and complete.

Annual reports must include information about the status of data management activities. Noncompliance with the ARCSS

data management policy could be used as grounds for suspension or cancellation of funding commitments. Final reports may not be approved until data deposition requirements are satisfied.

## VIII. AGENCY CONTACTS

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General inquiries regarding this program should be made to:

- Neil R. Swanberg, telephone: (703) 292-8029, email: [nswanber@nsf.gov](mailto:nswanber@nsf.gov)
- Janet Intrieri, telephone: (703) 292-4426, email: [jintrier@nsf.gov](mailto:jintrier@nsf.gov)

For questions related to the use of FastLane, contact:

- FastLane Help Desk, telephone: 1-800-673-6188; e-mail: [fastlane@nsf.gov](mailto:fastlane@nsf.gov).
- Linda Izzard, telephone: (703) 292-7430, email: [lizzard@nsf.gov](mailto:lizzard@nsf.gov)

For questions relating to Grants.gov contact:

- Grants.gov Contact Center: If the Authorized Organizational Representatives (AOR) has not received a confirmation message from Grants.gov within 48 hours of submission of application, please contact via telephone: 1-800-518-4726; e-mail: [support@grants.gov](mailto:support@grants.gov).

## IX. OTHER INFORMATION

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The NSF Website provides the most comprehensive source of information on NSF Directorates (including contact information), programs and funding opportunities. Use of this Website by potential proposers is strongly encouraged. In addition, MyNSF (formerly the Custom News Service) is an information-delivery system designed to keep potential proposers and other interested parties apprised of new NSF funding opportunities and publications, important changes in proposal and award policies and procedures, and upcoming NSF Regional Grants Conferences. Subscribers are informed through e-mail or the user's Web browser each time new publications are issued that match their identified interests. MyNSF also is available on NSF's Website at <http://www.nsf.gov/mynsf/>.

Grants.gov provides an additional electronic capability to search for Federal government-wide grant opportunities. NSF funding opportunities may be accessed via this new mechanism. Further information on Grants.gov may be obtained at <http://www.grants.gov>.

Information about the International Polar Year (IPY) may be obtained from the US National Academy of Science and from the International Council for Science.

U.S. National Committee for IPY website: <http://www.us-ipy.org>

International Council for Science IPY website: <http://www.ipy.org>

Information on current NSF IPY funding opportunities, contact information, and other related IPY information for the U.S. research and education communities is available at <http://www.nsf.gov/od/opp/ipy/ipyinfo.jsp>. Information on the activities of other Federal agencies is available through the [U.S. Interagency International Polar Year site \(http://www.us-ipy.gov\)](http://www.us-ipy.gov).

## ABOUT THE NATIONAL SCIENCE FOUNDATION

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The National Science Foundation (NSF) is an independent Federal agency created by the National Science Foundation Act of 1950, as amended (42 USC 1861-75). The Act states the purpose of the NSF is "to promote the progress of science; [and] to advance the national health, prosperity, and welfare by supporting research and education in all fields of science and engineering."

NSF funds research and education in most fields of science and engineering. It does this through grants and cooperative agreements to more than 2,000 colleges, universities, K-12 school systems, businesses, informal science organizations and other research organizations throughout the US. The Foundation accounts for about one-fourth of Federal support to academic institutions for basic research.

NSF receives approximately 40,000 proposals each year for research, education and training projects, of which approximately 11,000 are funded. In addition, the Foundation receives several thousand applications for graduate and postdoctoral fellowships. The agency operates no laboratories itself but does support National Research Centers, user facilities, certain oceanographic vessels and Antarctic research stations. The Foundation also supports cooperative research between universities and industry, US participation in international scientific and engineering efforts, and educational activities at every academic level.

*Facilitation Awards for Scientists and Engineers with Disabilities* provide funding for special assistance or equipment to enable persons with disabilities to work on NSF-supported projects. See Grant Proposal Guide Chapter II, Section D.2 for instructions regarding preparation of these types of proposals.

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) 292-5090 and (800) 281-8749, FIRS at (800) 877-8339.

The National Science Foundation Information Center may be reached at (703) 292-5111.

The National Science Foundation promotes and advances scientific progress in the United States by competitively awarding grants and cooperative agreements for research and education in the sciences, mathematics, and engineering.

To get the latest information about program deadlines, to download copies of NSF publications, and to access abstracts of awards, visit the NSF Website at <http://www.nsf.gov>

- **Location:** 4201 Wilson Blvd. Arlington, VA 22230
  
- **For General Information** (NSF Information Center): (703) 292-5111
  
- **TDD (for the hearing-impaired):** (703) 292-5090
  
- **To Order Publications or Forms:**  
  
Send an e-mail to: [pubs@nsf.gov](mailto:pubs@nsf.gov)  
or telephone: (703) 292-7827
  
- **To Locate NSF Employees:** (703) 292-5111

## PRIVACY ACT AND PUBLIC BURDEN STATEMENTS

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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; and 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 proposer 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 or other entities needing information regarding applicants or nominees as part of a joint application review process, or in order to coordinate programs or policy; 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," 69 Federal Register 26410 (May 12, 2004), and NSF-51, "Reviewer/Proposal File and Associated Records," 69 Federal Register 26410 (May 12, 2004). Submission of the information is voluntary. Failure to provide full and complete information, however, may reduce the possibility of receiving an award.

An agency may not conduct or sponsor, and a person is not required to respond to, an information collection unless it displays a valid Office of Management and Budget (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 the burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to:

Suzanne H. Plimpton  
Reports Clearance Officer  
Division of Administrative Services  
National Science Foundation  
Arlington, VA 22230

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