

Climate Funding Opportunities

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Overview

- Some NSF programs of potential interest
- Insights I have gleaned from reviews and serving on review panels
- Considerations when participating on a team proposal

NSF “REGULAR” PROGRAMS

NSF Geography and Spatial Sciences

- The goals of the NSF Geography and Spatial Sciences (GSS) Program are to promote:
 - scientific research in geography and the spatial sciences that advances theory and basic understanding and that addresses the challenges facing society
 - integration of geographers and spatial scientists in interdisciplinary research
- Proposals accepted twice a year
- Ad hoc and panel reviewers
- Doctoral Dissertation Grants are also available

NSF Geosciences

- Atmospheric Science
 - Atmospheric Chemistry
 - Climate and Large-Scale Dynamics
 - Paleoclimate
 - Physical and Dynamic Meteorology
- Earth Sciences
 - Geomorphology and Land Use Dynamics
 - Hydrologic Sciences
 - Sedimentary Geology and Paleobiology
- Proposals accepted throughout year
- Ad hoc reviewers only
- No panel review

NSF Geosciences

- Climate and Large-scale Dynamics Research Topics:
 - theoretical, observational and modeling studies of the general circulation of the stratosphere and troposphere;
 - synoptic scale weather phenomena
 - processes that govern climate
 - the causes of climate variability and change
 - methods to predict climate variations
 - extended weather and climate predictability
 - development and testing of parameterization of physical processes
 - numerical methods for use in large-scale weather and climate models
 - the assembly and analysis of instrumental and/or modeled weather and climate data
 - development and use of climate models to diagnose and simulate climate and its variations and change.

SPECIAL PROGRAMS

Earth System Models (EaSM)

- First call focused on “Decadal and Regional Climate Prediction using Earth System Models”
- Multi-agency
 - National Science Foundation (NSF), U.S. Department of Agriculture (USDA), and U.S. Department of Energy (DOE)
- Foci:
 - Development of next-generation Earth System Models that include coupled and interactive representations of ecosystems, agricultural working lands and forests, urban environments, biogeochemistry, atmospheric chemistry, ocean and atmospheric currents, the water cycle, land ice, and **human activities**.
 - Address key problems critical to linking relevant Earth system processes over a variety of spatial and temporal scales and to advancing the theoretical foundations for the modeling and simulation of existing and new data.
 - Quantify the impacts of climate variability and change on ecological, agricultural and other human systems, and identify and quantify feedback loops through which human systems help determine environmental outcomes.
 - Maximize the utility of available observational and model data for impact and vulnerability/resilience assessments through up/downscaling activities.
 - Effectively translate model results and associated uncertainties into the scientific basis for well-informed human adaptation to and management decisions for climate change.
- Both incubator/capacity building activities (Type 1) and large collaborative interdisciplinary research projects (Type 2)
- Next solicitation expected to focus on climate change (at longer time scales)
- Panel review with additional ad hoc reviews

NSF Coupled Natural and Human Systems Program

- Promotes interdisciplinary analyses of relevant human and natural system processes and complex interactions among human and natural systems at diverse scales.
- Panel Review
- Due November 15, 2011

INSIGHTS ON NSF PROPOSAL PREPARATION AND REVIEW

Some Insights on NSF Proposal Preparation (1)

- When possible and appropriate, build on earlier “planning” grants
 - Often there are planning grant opportunities as part of special programs
 - Planning grants must have a product!
 - Goal cannot simply be to build a research team or to refine objectives and methods
 - Review process differs between “calls”

Some Insights on NSF Proposal Preparation (2)

- Address all required components
 - Missing components take your proposal out of competition

Some Insights on NSF Proposal Preparation (3)

- “Science”
 - Argue that the proposed work is transformative
 - Provide rationale for approach
 - Clearly outline research framework
 - Address technical challenges
 - Identify multi-scale interactions and methods for integrating across scale
 - Acknowledge and address uncertainty

Some Insights on NSF Proposal Preparation (4)

- Educational Component
 - Must be unique
 - Graduate student training or designing a new course is not sufficient
 - Informal/public education is valued
 - Demonstrate that someone on the research team has prior experience developing and providing educational products/informal education

Some Insights on NSF Proposal Preparation (5)

- Broader impacts
 - Diversity among participants
 - Inclusion of members of underrepresented groups is expected.
 - How will you recruit members of underrepresented groups? This must be addressed.
 - Including faculty at different stages of career is often evaluated favorably.
 - International participation is also often regarded favorably by reviewers.
 - Public outreach
 - More than just a web site

Some Insights on NSF Proposal Preparation (6)

- Management Plan
 - Must be detailed
 - Outline communication channels, especially for larger team proposals involving multiple institutions
- Writing style
 - Understandable across disciplines

The submitted proposal should be “elegant” (e.g., eloquent, polished, sophisticated)

PI AND CO-PI RESPONSIBILITIES

Responsibilities as PI

- Initial draft of overarching goals and specific objectives, arranged in framework/outline to which co-PIs can contribute
 - Initial request from co-PIs information of what they have been doing (related to the proposal topic) and what they would like to do if funded are not particularly useful
 - Meet (face-to-face or electronically) with co-PIs to discuss goals, strategies
 - Obtain co-PIs “buy in” and make certain everyone is on the same page
- Elucidation in the proposal of the big picture and the integration
 - Requires “deep thinking”, in depth literature review, etc.
 - No “hand waving” or flowery language with little substance
- Proposal time management
 - Proposals prepared at the last minute are not “elegant” or integrated
 - Start well in advance and establish deadlines for different components
 - Co-PIs should not be expected to go sleepless to accommodate the PI’s schedule
 - All co-PIs need to be able to review and modify the proposal before it is submitted.
- Budget
 - One of the first items to complete
 - All co-PIs need to be involved in the budget development
- Transmittal forms, etc.
 - Need to do this early in the process as some Colleges require time to review
 - Need to discuss with co-PIs at the start of the project how overhead will be distributed. The overhead distribution should not come as a surprise to co-PIs when they receive the transmittal form to sign.
- Initial drafts of the “extra” bits –management plan, etc.
- Compliance of proposal with the RFP guidelines
- Correct grammar, spelling, etc.

The PI is not just the person who pastes the different pieces together!

Responsibilities of the co-PI

- Participate in initial meeting where proposal goals and framework are laid out
- Provide well thought out, well written initial text that fits with the proposed framework and is UNIQUE to the proposal
 - No boilerplate!
- Actively participate in discussion/review of initial drafts
- Provide completely rewritten IMPROVED text that
 - Better integrates your section of the proposal with the other sections and to the overall goals and objectives
 - Responds to requests for clarification, etc., from PI and other co-PIs
 - Assists PI and other co-PIs with integration
 - Co-PIs must assist the PI with the more difficult writing
 - Minor edits and/or wordsmithing are not sufficient
 - Do not simply tell others what you think they should do
 - Provide thoughtful comments, edits, alternative text for the entire proposal
 - Do not add edits that make a section nonsensical.
 - Carefully read what others have written so that you understand what they are attempting to say and so that your suggestions are helpful
- Provide input, text, edits, etc. in a timely manner (on or before deadlines)
 - Do your fair share of the work

The co-PI is not simply someone who signs a transmittal form.