DISCCRS V
March 13 – 20, 2010

NSF GEOSCIENCES DIRECTORATE

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Strategies

- Review Proposals
- Do a Rotation at NSF
Suggestions for NSF/GEO Early Career PIs

See handout, NASA/NSF Tab

Geosciences Directorate Mission

- Support research in the atmospheric, earth and ocean sciences

- Address the nation’s need to understand, predict and respond to environmental events and changes in order to use the Earth’s resources wisely
Useful Webpages

- **Suggestions for NSF/GEO Early Career PIs**

- **NSF Organization Chart:**
  [http://nsf.gov/staff/orgchart.jsp](http://nsf.gov/staff/orgchart.jsp)
  *Click on any box to drill down*

- **NSF Organization List:**
  [http://nsf.gov/staff/orglist.jsp](http://nsf.gov/staff/orglist.jsp)
  *Shows structure within each of the Directorates and plus Program Officers and contact information*
Division of Earth Sciences (EAR)

- Improves the understanding of the structure, composition, and evolution of the Earth and the processes that govern the formation and behavior of the solid Earth.

- Supports theoretical, computational, experimental and observational research including field stations and state-of-the-art scientific infrastructure.

Division of Earth Sciences

[Diagram showing the structure of the Division of Earth Sciences, with sections for Surface Earth Processes and Deep Earth Processes, and sub-sections for various fields of study such as Education & Human Resources, Hydrologic Sciences, Geomorphology & Land Use Dynamics, Sedimentary Geology & Paleontology, Geobiology & Environmental Geochemistry, Instrumentation & Facilities, Continental Dynamics, EarthScope, Geophysics, Petrology & Geochemistry, and Tectonics.]
Division of Ocean Sciences (OCE)

- Enhances understanding of all aspects of the global oceans and their interactions with the solid earth and the atmosphere

- Supports major shared-use oceanographic facilities including research vessels and manned deep diving submersibles
Division of Atmospheric and Geospace Sciences (AGS)

- Furthers understanding of weather, climate and the solar-terrestrial system by expanding the fundamental knowledge of the composition and dynamics of the Earth’s atmosphere and geospace environment
- Supports large, complex facilities required for research in the atmospheric and solar-terrestrial sciences

Division of Atmospheric and Geospace Sciences

UCAR & Lower Atmospheric Facilities Oversight Section

Atmosphere Section

- Atmospheric Chemistry
- Cross-Directorate and Interdisciplinary
- Physical & Dynamic Meteorology
- Climate & Large-Scale Dynamics
- Paleoclimate

Geospace Section

- Aeronomy
- Magnetospheric Physics
- Solar Terrestrial Research
- Upper Atmospheric Facilities
FY 2010 GEO Priorities and additional funds

- $46.0M NSF’s new Climate Research activity
  4 new solicitations FY10
  - Modeling, scaling, complexity
  - Fundamental research
  - Ocean Acidification
  - Water Sustainability and Climate
- $1.5M for climate change education (new FY 2010)
- $6.0M GEO/EHR Collaborations
  Enhance activities to broaden participation and education
- Additional $1.69M to CAREER for total of $12.22M
- $1.0M for graduate research fellowships (new 2010)
Environment, Society, and the Economy (ESE)

- **SBE** and **GEO** (NSF 09-031)
- Goal to increase collaboration between the geosciences and the social and behavioral sciences
- Must contribute to new knowledge in both the geosciences and the social, behavioral and economic sciences
- Submit to regular core programs
- $4M funding available


International Opportunities

- International Research and Education
- Planning Visits and Workshops
- International Research Fellowship Program (IRFP)
- Pan-American Advanced Studies Institutes Program (PASI)
- Partnerships for International Research and Education

Earth Sciences Post-Doctoral Fellowships (EAR-PF)

- Integrated program of independent research and education that address scientific questions within the scope of EAR disciplines.
- Fellowship program may be conducted at any appropriate U.S. or foreign host institution.
- 2 year long fellowships, $170k/2 years.
- Eligibility within 3 years of PhD.
- Fellowships are awards to individuals, not institutions, and are administered by the Fellows.
- 2 months parental leave can be requested.

**NSF 10-500 *** Deadline: July 1 annually**
GEO Proposal Success Rates
2008 & 2009*

GEO Division

AGS 39/43  EAR 27/45  OCE 33/43

*2009 includes ARRA funds
American Recovery & Reinvestment Act

GEO Funding Trend

ARRA Bump up for FY 09
Geosciences Division Funding

![Chart showing funding trends for different fiscal years.]

Proposal Preparation

- Proposal and Award Policies and Procedures
- NSF Home Page -- Guide to Programs
- Program Solicitations – eligibility, goals, special requirements
- Program Officers – current or former rotators
- NSF Custom News Service – what’s new
Attributes of Successful Proposals

- New and original ideas
- Articulate importance of the science
- Sound, succinct, detailed, focused plan
- Preliminary data and/or feasibility study
- Relevant experience and facilities
- Clarity concerning future direction
- Well-articulated broader impacts

NSF Merit Review


- Intellectual Merit
- Broader Impacts
- Programs can also have additional review criteria – read the Program Solicitation!

Merit Review is conducted through ad hoc peer review and/or panel review. Check with your program officer for process with your proposal.
Words of Wisdom

- **Talk to your Program Director(s)**- ask early, ask often AGU or GSA booth, email, phone, visit NSF, meetings
- **Read the funding opportunity** (program descriptions, solicitations) carefully, and ask a Program Officer for clarifications if needed
- **Learn the culture**- each Division/solicitation is different
- **Know and follow** the **current** Grant Proposal Guide (GPG) - it changes! *(e.g., Postdoc mentoring)*
- **Explicitly** address Intellectual Merit and Broader Impacts in both the Project Summary and Project Description.

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Words of Wisdom

- **Know the audience** for your proposal's review!
- **Compelling Project Summary**- big picture
- Match and **justify the budget** to the scope of the proposed work - ask for what you need!
- Be familiar with projects that have succeeded - Award Abstracts at [http://www.nsf.gov/awardsearch](http://www.nsf.gov/awardsearch)
- Download your completed proposal back to you to check it’s what you sent!
- Submit proposals before the last day/hour
Words of Wisdom

- **Sign up for NSF Updates by e-mail.** Click on the green “Get updates by e-mail” box in upper right corner of [http://nsf.gov](http://nsf.gov)
- **Learn** how NSF is organized. [http://nsf.gov/staff/orgchart.jsp](http://nsf.gov/staff/orgchart.jsp) Click on any box to drill for information
- **Identify** the relevant programs and program officers. [http://nsf.gov/staff/orglist.jsp](http://nsf.gov/staff/orglist.jsp) This resource is particularly useful after you understand NSF’s organizational structure.

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Words of Wisdom

- **Volunteer to serve as a proposal reviewer; send a short e-mail with your contact information including a webpage if you have one; attach a copy of your BioSketch and/or CV**
- **If you have an idea for a proposal and want to contact your program officer,** do your homework first:
  - Read relevant Dear Colleague Letters, program information and proposal solicitations carefully before calling.
  - **Send an e-mail before calling.** E-mail should include your question/reason for calling. If question concerns a proposal provide a brief summary (no more than 1 page; shorter is better).
Proposal Writing: The Zero-Sum Game
Prepared by David L. Garrison, 2003

What’s Important?
- The question and how you are going to answer it
- How important is the question and to whom is it important
- How can you address the guidelines in the Announcement, and the focus of the program/institution you are applying to
- How much time and money is needed to answer the question and how are you going to show that you/your group is worth it

Zero Sum, continued

What goes in a proposal?
- See other readings (including those in DISCCRS program book and webpage)
- All proposals need to cover the same basic elements (see above & next slide)
- Announcement guidelines may dictate that specific things need to be addressed or the ordering of the different elements
- There is some limiting factor (usually page length for the proposal, money for the plan)
- Depending on whether you have a single-investigator proposal, a collaborative disciplinary proposal, a collaborative interdisciplinary proposal, an international proposal, an education proposal, etc., the way you cover the basic proposal elements will be different.
- The type of agency or program you are applying for will also influence the way you cover the elements
## Zero Sum, continued

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The page limit is a zero-sum game — How you play this game is an important part of grantsmanship!