DISCCRS V

March 13 – 20, 2010

NSF GEOSCIENCES DIRECTORATE

Susan Weiler
VSEE Program Director
Atmospheric and Geospace Sciences
cweiler@nsf.gov

Strategies

- Review Proposals
- Do a Rotation at NSF

Suggestions for NSF/GEO Early Career PIs

http://nsf.gov/nsf-geo_early_career_feb_10.doc

See handout, NASA/NSF Tab

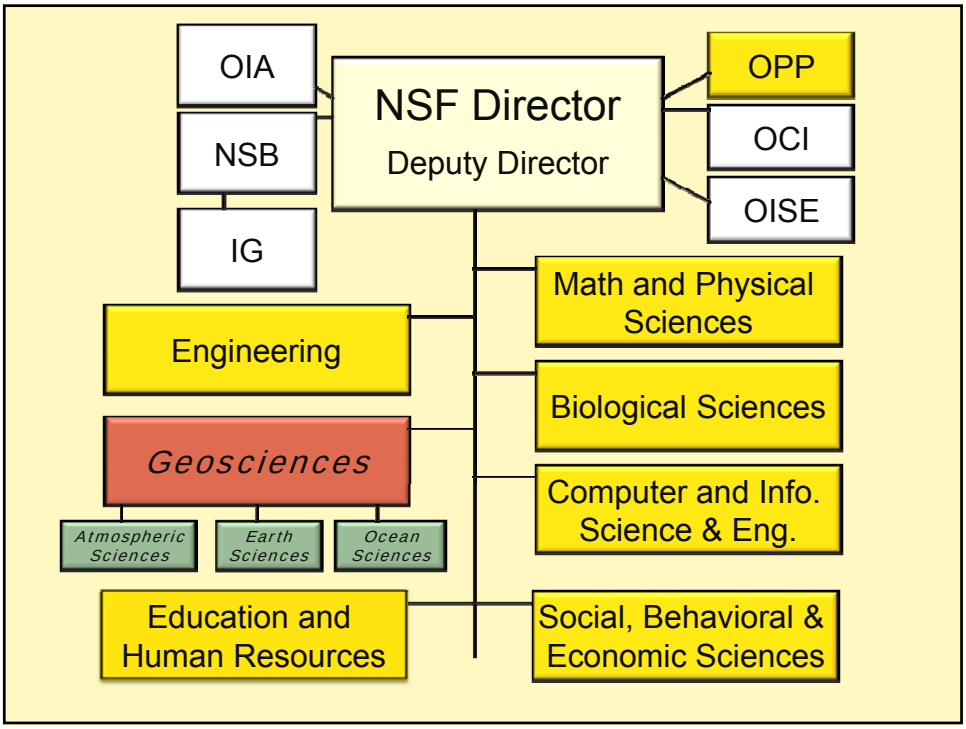
Geosciences Directorate Mission



- 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

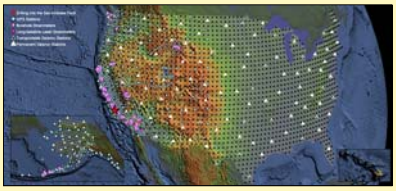
Useful Webpages

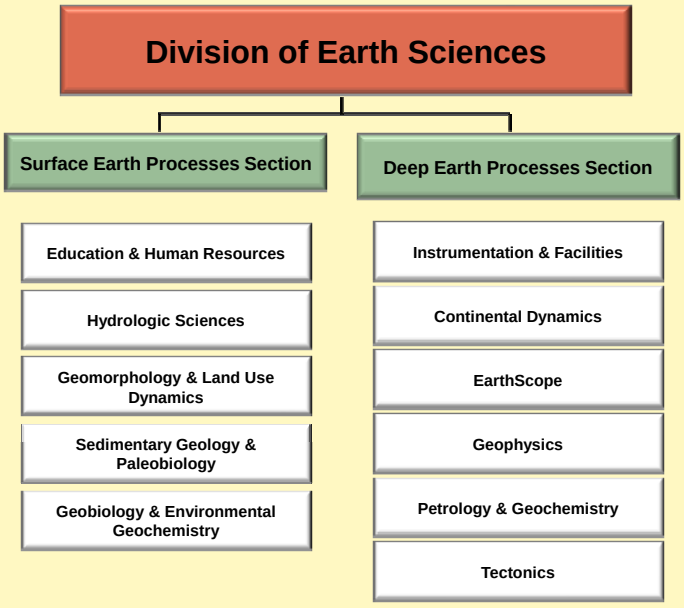
- **Suggestions for NSF/GEO Early Career PIs**
  http://www.nsf.gov/geo/adgeo/geoedu/nsf-geo_early_career_feb_10.doc
- **NSF Organization Chart**:
  http://nsf.gov/staff/orgchart.jsp
  Click on any box to drill down
- **NSF Organization List**:
  http://nsf.gov/staff/orglist.jsp
  Shows structure within 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

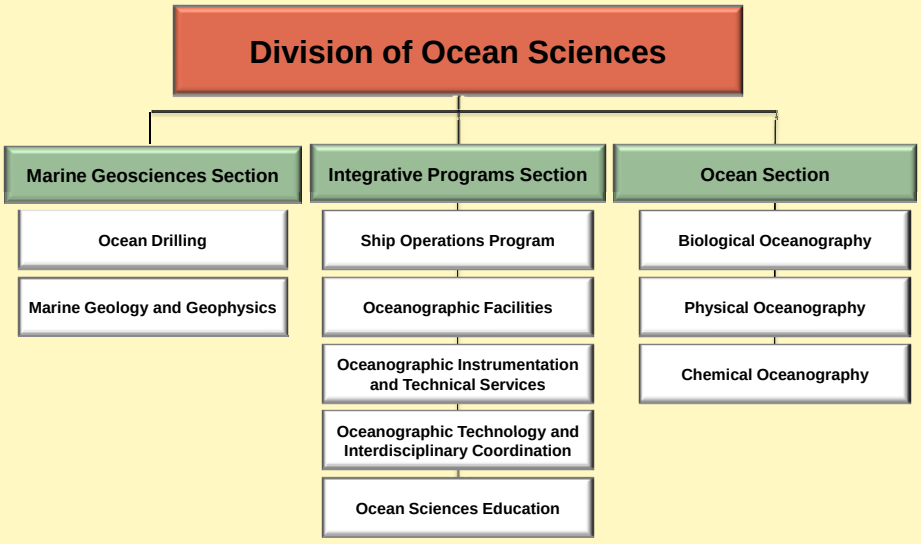




Division of Ocean Sciences (OCE)

- 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

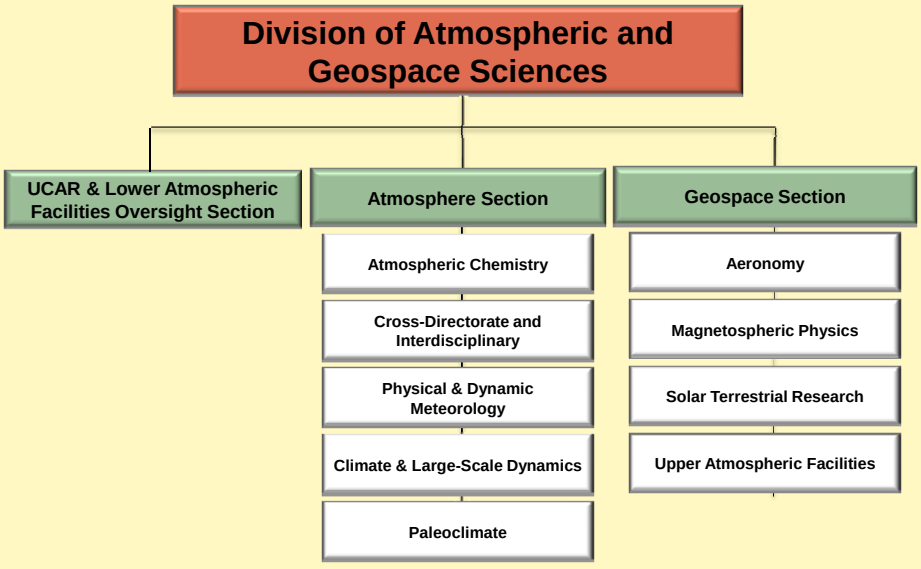




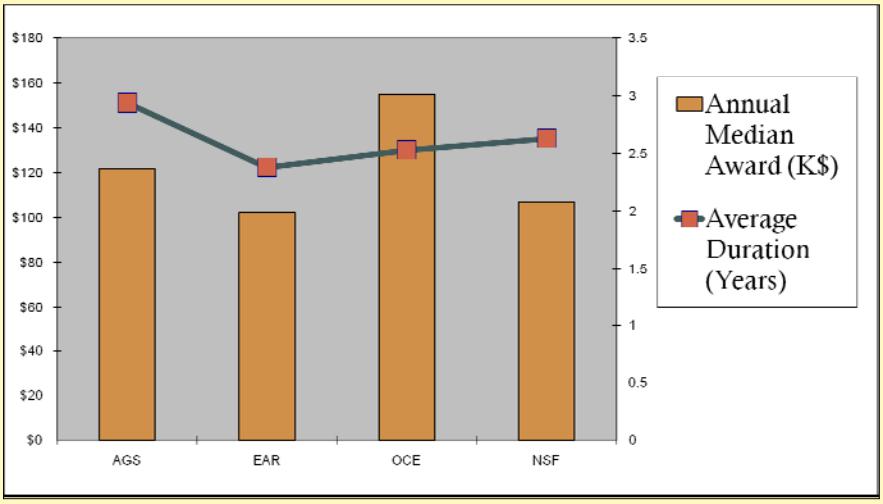
Division of Atmospheric and Geospace Sciences (AGS)

- 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





GEO
Median Award Size and Duration



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

http://www.nsf.gov/pubs/2009/nsf09031/nsf09031.jsp

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

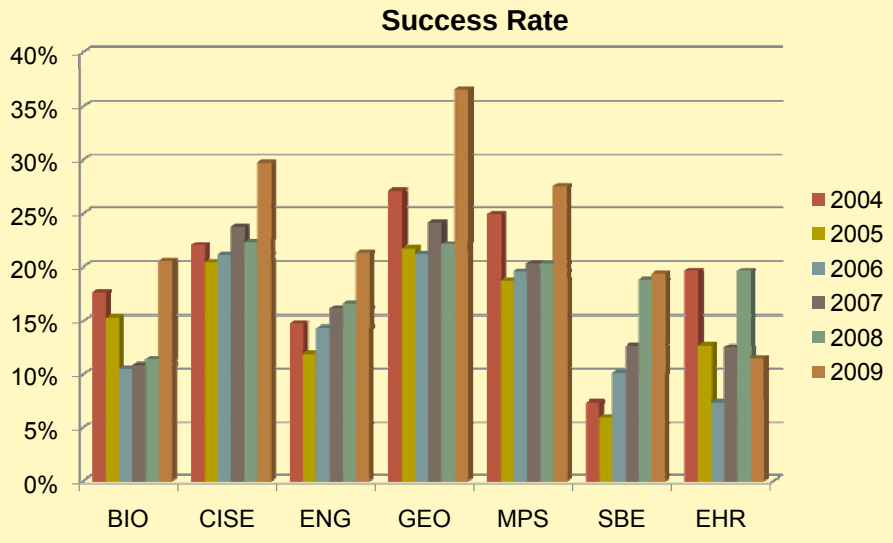
http://www.nsf.gov/div/index.jsp?div=OISE

Earth Sciences Post-Doctoral Fellowships (EAR-PF)

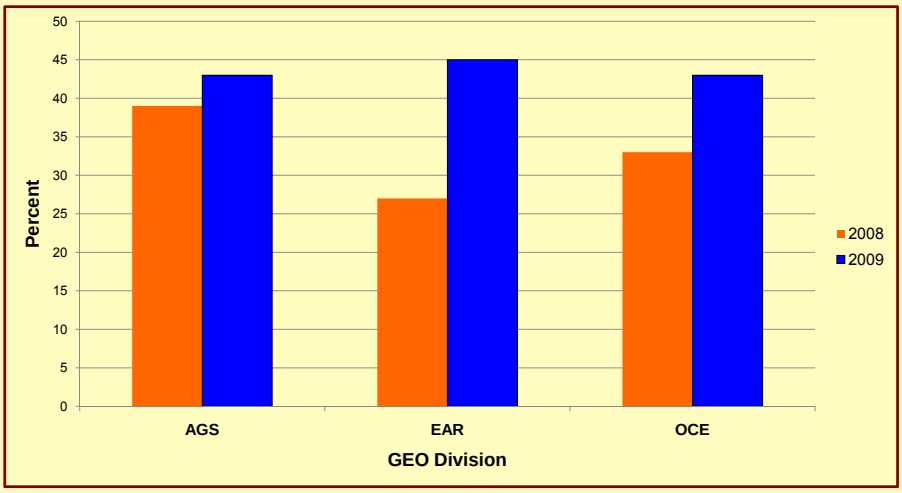
- Integrated program of independent research and education that address scientific questions within the scope of EAR disciplines.
- Fellowship program may be conducted at any appropriate U.S. or foreign host institution
- 2 year long fellowships, $170k/2years
- Eligibility within 3 years of PhD
- Fellowships 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

CAREER Success Rate



GEO Proposal Success Rates 2008 & 2009*

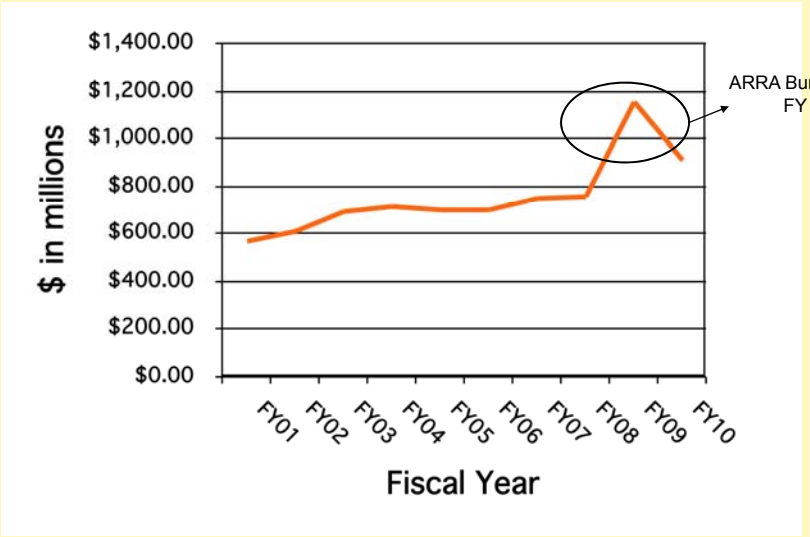


AGS 39/43 EAR 27/45 OCE 33/43

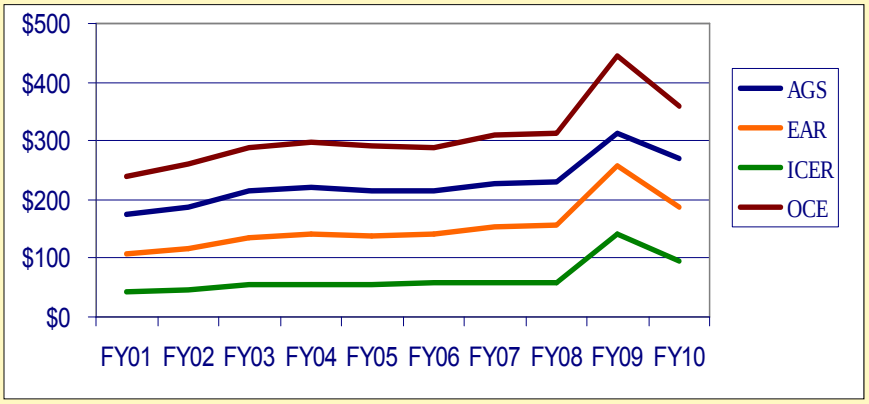
*2009 includes ARRA funds

American Recovery & Reinvestment Act

GEO Funding Trend



Geosciences Division Funding



Proposal Preparation

www.nsf.gov

- Proposal and Award Policies and Procedures

  http://www.nsf.gov/publications/pub_summ.jsp?ods_key=papp
- 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

NSF Review Criteria -- See
http://www.nsf.gov/bfa/dias/policy/meritreview/

- 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.

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*
- 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**
- **Learn** how NSF is organized. **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** This resource is particularly useful after you understand NSF's organizational structure.
- **Follow** the NSF Grant Proposal Guide when preparing proposals: **http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg**

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*

Disciplinary Collaborative	Interdisciplinary	With Education and Outreach	In Service to Society
The Hook The Question and Why important	**The Hook** The Question and Why important	**The Hook** The Question and Why important	**The Hook** The Question and Why important
Background (Done our homework !)	**Background** (Done our homework !) Lots of components less detail	**Background** (Done our homework !)	**Background** (Done our homework !) **The Science and the Societal Problem**
Hypotheses and Objectives (The question can be stated and tested)	**Hypotheses and Objectives** (The question can be stated and tested)	**Hypotheses and Objectives** (The question can be stated and tested)	**Hypotheses and Objectives** (The question can be stated and tested)
Methods and Approach (Methods ---- > Objectives) (Objectives --- > Anwer questions) *Management Plan*	**Methods and Apporach** (Methods ---- > Objectives) (Objectives --- > Anwer questions) Certainly more methods ***Management Plan*** (how we all work together)	**Methods and Apporach** (Methods ---- > Objectives) (Objectives --- > Anwer questions) **Educational Component**	**Methods and Apporach** (Methods ---- > Objectives) (Objectives --- > Anwer questions) Possibly more methods ***Management Plan*** (how we all work together)
Significance **(To Discipline)** (To the Field) (To Science) (To Society)	**Significance** (To Discipline) **(To the Field)** (To Science) (To Society)	**Significance** **(To Discipline)** **(To the Field)** (To Science) **(To Society)**	**Significance** (To Discipline) **(To the Field)** (To Science) **(To Society)** **(Management and Policy)** **(Who will use and How)**

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