DISCCRS V Symposium
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The Climate

- Earth's changing environment will impact every aspect of life on our planet
  - ***Climate change has profound implications***
- Humans are the only creatures able to analyze, anticipate, and act now to influence events that will occur generations into the future
  - ***Climate change poses profound societal challenges***
- Detecting and separating secular global changes from small-scale variability requires technological skill and deep understanding of the Earth as an integrated system
  - ***The fact that we know the climate is changing is a profound testament to our human skills and intellect***

The Earth System

- The Earth is an integral, complex system
  - Many processes, with varying time and spatial scales
  - Quantitatively describing the ***interactions between processes*** is key
- ***Measurements*** must span all important variables, and all important scales
- ***Research*** leads to greater understanding, which is codified in numerical models – ***prediction***
- Societal benefits result when ***understanding*** is combined with measurements to generate ***useful information products***

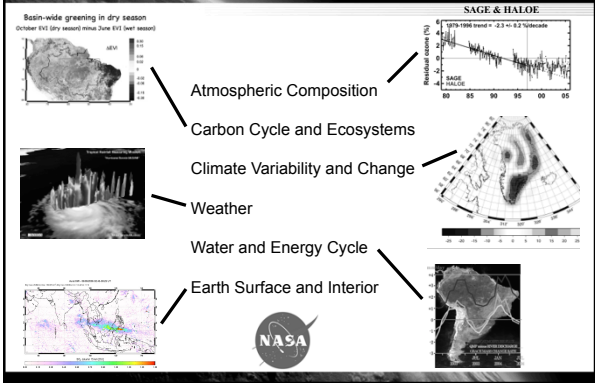
NASA's

- ***Space***-borne measurements feature global coverage, high spatial resolution, and frequent revisit
  - Indirect measurements must be validated
  - Stability and accuracy are essential for trend detection
  - Multiple missions needed for proper sampling
- A comprehensive suite of missions and instruments is required to measure all important quantities
- Inter- and cross- disciplinary research and applications programs are needed to (among other things):
  - Synthesize complementary measurements from multiple missions
  - Advance the use of space-borne measurements by non-mission scientists and other stakeholders

Earth Scien

- Overarching goal
  - To advance Earth System Science, including climate studies, through ***space-borne data acquisition, research and analysis, and predictive modeling***
- Six major activities
  - Building and operating Earth observing satellite missions, many with international and interagency partners
  - Making high-quality data products available to the broad science community
  - ***Conducting and sponsoring cutting-edge research in 6 thematic focus areas***
    - Field campaigns to complement satellite measurements
    - Analyses of non-NASA mission data
    - Modeling
  - Applied science
  - Developing technologies to improve Earth observation capabilities
  - Education and public outreach

Six Thematic



NASA Research O

- All research opportunities from the Science Mission Directorate (SMD) at NASAHQ are posted at http://nspires.nasaprs.com/
  - Omnibus ***Research Opportunities in Space and Earth Sciences (ROSES)*** issued annually
- NASA consists of the Headquarters (HQ), nine (9) Centers and the Jet Propulsion Laboratory
- Four (4) Mission Directorates at NASA/HQ
  - Aeronautics
  - Exploration Systems
  - Science (SMD)
  - Space Operations
- Four (4) science Divisions in SMD
  - Astrophysics
  - Earth Science (ESD)
  - Heliophysics
  - Planetary Science

Earth Science opportunities in ***ROSES Appendix A***

NRA Evalua

- **NASA Relevance**
  - How does the proposed investigation addresses the goals and objectives of the most recent NASA strategy document or a specific program element?
- **Intrinsic Merit**
  - Overall scientific/technical merit, unique/innovative methods, approaches, concepts, or advanced technologies demonstrated by the proposal
  - Offeror's capabilities, related experiences, facilities, techniques, or unique combination of these
  - Qualifications, capabilities, and experiences of the PI and key personnel
  - Evaluation against state-of-the-art
- **Cost**
  - Realism and reasonableness of the proposed cost, and comparison of the proposed cost to available funds

Successful vs. Uns

What, Why, How, When, How Much, So What?

Clarity vs.

Tips

- When you think you understand the program announcement or solicitation, **read it again**.
- **No need to annoy the reviewers**.
- **No need to take the risk** of finishing and/or submitting the proposal at the last minute.

Of In

- New Investigator Program (NIP) in Earth Science
  - Single-investigator proposals solicited every two years
  - Max. $120K/year for 3 years
  - Research : Education ~ 2 : 1
- NASA Earth and Space Science Fellowship (NESSF) Program
  - Applications solicited annually
  - $30K/year up to 3 years; approx. 50 new awards per year
- Guidebook for Proposers Responding to a NRA

http://www.hq.nasa.gov/office/procurement/nraguidebook/

- NASA Earth Science

http://nasascience.nasa.gov/earth-science