

## **Speaking Points, Supporting Information, and Contact Information for Letter Writers**

Four top, near-term speaking points (tailor according to Agency, as needed), and supporting background information taken directly from the community-consensus NRC Decadal Survey, that will reinforce what the agencies and national decision makers have already received from us through our planning process:

### **1. Baseline Priority for NASA and NSF: Complete the Current Program**

- a. **NASA** - The survey committee's recommended program for NSF and NASA assumes continued support in the near-term for the key existing program elements that comprise the "Heliophysics Systems Observatory" (HSO) and successful implementation of programs in advanced stages of development (RBSP, MMS, IRIS, SPP, and Solar Orbiter). NASA's existing heliophysics flight missions and NSF's ground-based facilities form a network of observing platforms that operate simultaneously to investigate the solar system. This array can be thought of as a single observatory—the Heliophysics System Observatory (HSO). The evolving HSO lies at the heart of the field of solar and space physics and is a rich source of observations that can be used to address increasingly interdisciplinary and long term scientific questions. Missions under development will expand the HSO and drive discovery.
- b. **NSF** - For NSF, the previous decade witnessed the initial deployment in Alaska of the Advanced Modular Incoherent Scatter Radar (AMISR), a mobile facility used to study the upper atmosphere and to observe space weather events, and the initial development of the Advanced Technology Solar Telescope (ATST), a 4-meter aperture optical solar telescope—by far the largest in the world—that will provide the most highly resolved measurements of the Sun's plasma and magnetic field ever obtained. These new NSF facilities join a broad range of existing ground-based assets that provide an essential global synoptic perspective and complement space-based measurements of the solar and space physics system. With adequate science and operations support, they will enable frontier research even as they add to the long-term record necessary for analyzing space climate over solar cycles.

### **2. Implement the DRIVE Initiative:**

The survey committee's first priority after completion of the ongoing program is to implement a new, integrated, multiagency initiative, DRIVE, which encompasses specific, cost-effective augmentations to NASA and NSF heliophysics programs. DRIVE will bring existing "enabling programs" to full fruition and support larger-scale activities recommended for later in the decade. Its components are: Diversify observing platforms with microsattellites and mid-scale ground-based assets; Realize scientific potential by sufficiently funding operations and data analysis; Integrate observing platforms and strengthen ties between agency disciplines; Venture forward with science centers and instrument and technology development; and Educate, empower, and inspire the next generation of space researchers.

### **3. Accelerate and Expand the Heliophysics Explorer Program**

The Explorer program's strength lies in its ability to respond rapidly to new concepts and developments in science as well as in the program's synergistic relationship with larger-class "strategic" missions. Explorer-class missions have an outstanding record of delivering—cost-effectively—scientific results of great consequence. The survey committee recommends that NASA accelerate and expand the Heliophysics Explorer program with an augmentation of the current program by \$70 million per year, in fiscal year 2012 dollars. This will enable restoration of the mid-size Explorers (MIDEX) and allow them to be offered in alternation with Small Explorers (SMEX) every 2 to 3 years. Historically, MIDEX missions offered an opportunity to resolve many of the highest-level science questions, but they have not been feasible with the current Explorer budget. As part of the augmented Explorer program, NASA should also support regular selections of Missions of Opportunity. Regular selections of Missions of Opportunity (MOOs) will also allow the research community to respond quickly and to leverage limited resources with interagency, international, and commercial flight partnerships. For relatively modest investments, such opportunities can potentially address the high-priority science aims identified in the decadal survey.

### **4. Enable Effective Space Weather and Climatology (SWaC) Capabilities**

Multiple agencies of the federal government have vital interests related to space weather and efforts to coordinate these agencies' activities are seen in the National Space Weather Program (NSWP). Nonetheless, additional approaches are needed to develop the capabilities outlined in the 2010 National Space Policy document and envisioned in the 2010 NSWP plan. Enabling an effective SWaC capability will require action across multiple agencies and an integrated program that builds on the strengths of individual agencies

**Recommended letter writing approach:**

1. Keep your letter short (1 page or less), focused (not a long laundry list of issues), personalized (specific impact to you), and actionable (tell reader what they can do).
2. Ideally same 4 top-level "actions" will reinforce in a compelling way, even if the specifics of the letter are different: i.e., if "action" is to "Implement the DRIVE Initiative", students might focus their specific impact on the Education portion (threats to GSRP, for instance), others might focus their specifics on mid-scale ground assets, but requested action from both will trace back to higher level (e.g., Implement DRIVE). Goal is to present a few unified top-level messages that overwhelmingly reinforce for maximum impact.
3. For letters from students and early career folks to NSF/GEM (and NASA), recommend highlighting how support (and GEM program for NSF) have made a difference to you as a developing young professional.

**Contact Information:**

**NASA**

- Administrator
  - Mr. Charles F. Bolden, Jr.
  - Email: [charles.bolden@nasa.gov](mailto:charles.bolden@nasa.gov)
- Associate Administrator, Science Mission Directorate (SMD)
  - Dr. John M. Grunsfeld
  - Email: [john.m.grunsfeld@nasa.gov](mailto:john.m.grunsfeld@nasa.gov)
- Division Director (Acting), SMD/Heliophysics Division
  - Ms. Victoria H. Elsbernd
  - Email: [victoria.h.elsbernd@nasa.gov](mailto:victoria.h.elsbernd@nasa.gov)

**NSF**

- Director (Acting)
  - Dr. Cora B. Marrett
  - Email: [cmarrett@nsf.gov](mailto:cmarrett@nsf.gov)
- Assistant Director, Directorate for Geosciences (GEO)

- Dr. Roger Wakimoto
- Email: [rwakimot@nsf.gov](mailto:rwakimot@nsf.gov)
- Division Director, GEO/Division of Atmospheric and Geospace Sciences (AGS)
  - Dr. Michael C. Morgan
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  - Dr. Richard A. Behnke
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  - Dr. Therese Moretto Jorgensen
  - Email: [tjorgens@nsf.gov](mailto:tjorgens@nsf.gov)
- Program Director, GEO/AGS/Geospace Magnetospheric Physics Program
  - Dr. Raymond J. Walker
  - Email: [rwalker@nsf.gov](mailto:rwalker@nsf.gov)

**Congress**

- Senate Subcommittee on Commerce, Science, Justice, and Related Agencies
  - <http://www.appropriations.senate.gov/sc-commerce.cfm>
- House Subcommittee on Commerce, Science, Justice, and Related Agencies
  - <http://appropriations.house.gov/subcommittees/subcommittee/?IssueID=34794>
  - [http://en.wikipedia.org/wiki/United\\_States\\_House\\_Appropriations\\_Subcommittee\\_on\\_Commerce,\\_Justice,\\_Science,\\_and\\_Related\\_Agencies](http://en.wikipedia.org/wiki/United_States_House_Appropriations_Subcommittee_on_Commerce,_Justice,_Science,_and_Related_Agencies)

**Recommended Decadal Survey resources for letter writing details:**

- [http://sites.nationalacademies.org/SSB/CurrentProjects/SSB\\_056864](http://sites.nationalacademies.org/SSB/CurrentProjects/SSB_056864)
- [http://sites.nationalacademies.org/xpedio/groups/depssite/documents/webpage/deps\\_071372.pdf](http://sites.nationalacademies.org/xpedio/groups/depssite/documents/webpage/deps_071372.pdf)

**Resources from related disciplines with letter writing tips:**

- <http://www.aps.org/policy/tools/writingfaq.cfm>
- <http://www.planetary.org/get-involved/be-a-space-advocate/>
- <http://www.aota.org/Practitioners/Advocacy/Tools/LobbyingTips/36411.aspx>