

National Aeronautics and
Space Administration



EXPLORE SCIENCE

Preparation for the Decadal Survey

Jared Leisner
Heliophysics Division
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A vibrant space-themed background featuring a large blue and white planet in the foreground, a bright yellow sun, and various other celestial bodies like Saturn and Mars against a starry blue and green nebula.

Starting the Process

SPONSORING AGENCIES

- NASA, NSF, and NOAA began discussions last year about co-sponsoring the next Decadal Survey. All agreed that this would help maximize the effectiveness of the Committee's work.

PLANNING AHEAD

- NASA appreciates the work that went into Chapter 6 of the midterm report ("Preparing for the Next Heliophysics Decadal Survey"). The report's recommendations provided specifics and examples to guide the agencies' preparation.
- Before the midterm report's release, NASA was conducting discussions, internally and with partner agencies, that had significant overlap with the report's findings and recommendations.
- NASA hopes that this meeting will be the first of a number of conversations in order to smoothly ramp up to the agencies delivering the Statement of Task.

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Starting the Process

INITIAL FOCUSES

- The agencies identified a number of topics to address in the planning process.
 - Community preparation
 - NASA-supported pre-Decadal mission concept studies
 - Communication with and transparency to stakeholders
 - Anticipated agency and/or community information provided to the Decadal Survey deliberations
 - Anticipated agency programmatic information provided to the Decadal Survey
- Pre-Decadal work on these topics will benefit the Decadal Survey process.
 - Some have already begun as agency-initiated activities.
 - Some have potential tasks to CSSP for guidance on planning and prioritizing.



Heliophysics 2050 Workshop

WHY?

- The Decadal Survey is driven by community-submitted white papers. Those white papers are written by individuals or small groups.
- The Workshop is an opportunity for the community to discuss the topics that the Decadal Survey will address. Ideas will be refined, new topics will arise, and the community will make connections they otherwise would not have.

WHAT?

- The Workshop will be enabled by NASA but run by the community. A Science Organizing Committee will manage the program and organize the sessions.
- Planning serial themed plenary sessions and poster sessions, both of which will be arranged to facilitate conversations among the community attendees.

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Heliophysics 2050 Workshop

WHAT?

- The program is being developed, so the topics have not been finalized.
 - Sessions will address the scientific topics of interest, including needed technology developments.
 - Sessions may address programmatic topics, such as the structure of programs or support of cross-agency activities

WHEN AND WHERE?

- May 2021 (delayed due to COVID-19)
- Venue search is on-going and has identified potential sites
- Will have a strong virtual attendance option
 - In parallel to a physical meeting, forming plans for an all-virtual meeting if the situation requires it



Heliophysics 2050 Workshop

RESULTS

- Community discussions about short-, medium-, and long-term strategies for the field
- Compelling science that pushes the boundaries of the current research and gives a path of growth for the community
- Community-produced proceedings that Decadal Survey white papers can leverage for context and clear linkages

STATUS

- Released announcements, call for SOC, call for white papers
- White paper deadline in September

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Mission Concept Studies

CONTEXT

- NASA Astrophysics and Planetary Science Divisions funded mission concept studies ahead of those Decadal Surveys. (Astrophysics Probes and Planetary Mission Concept Studies, respectively.)
- Heliophysics Division is currently watching those processes for lessons learned and to focus on the technical information that required by the TRACE process.

HPD MISSION CONCEPT STUDIES

- No final decisions on Heliophysics-supported mission concept studies have been made yet. If Heliophysics Division issues a solicitation, like Astrophysics and Planetary Science, a call for proposals would likely happen later this year.

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Mission Concept Studies

RESULTS

Solicitation objective: Support mission concept studies for DS white papers.

1. Mission concept should be based on community consensus of compelling science.
2. Explore new mission concepts, not refine those that have feasible point designs.
3. Meet the DS TRACE threshold but not far exceed them. A successful study will only go so far as to produce a mission point design sufficient for TRACE to deliver a reliable result.

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Communication with the Community

COMMUNICATIONS FOR THE SCIENCE COMMUNITY

- NASA is making the preparation for the Decadal Survey as transparent as possible.
 - Website hosting NASA's information and linking to non-NASA information
 - Working with National Academies on informational webinars
 - Updates to community mailing lists and Facebook group
 - Inclusion in Division slide deck at community meetings

TOPICS

- Decadal Survey process (discussed with National Academies)
- Heliophysics 2050 Workshop, mission concept studies, other NASA-supported activities
- Information, guidance received from CSSP
- Programmatic information delivered to the Decadal Survey

A decorative background on the left side of the slide featuring a curved view of space. It includes a bright sun, a crescent moon, a ringed planet (Saturn), a reddish planet (Mars), and a large blue planet (Earth) at the bottom. The background is filled with stars and nebulae in shades of blue and green.

“State of the Profession” Information

ANTICIPATED DECADAL SURVEY ANALYSIS

- The 2013 Solar and Space Physics and on-going Planetary Science and Astrophysics Decadal Surveys had/have panels on the Profession, and the next Solar and Space Physics likely will, too.
- SMD is in discussions with the National Academies for a report on the health of the science communities. This study is anticipated to include a demographic study that would meet many information desires of a State of the Profession.
- A State of the Profession panel would also likely want data and/or analysis results about the community and the agencies.
 - Budgets
 - Research program statistics
 - Community size and distribution
- The additional can have long preparation times and may be difficult to fulfill while the Decadal Survey is underway.

A vibrant space-themed background featuring a large blue and white curved shape on the left. Inside this shape, there's a depiction of the Earth's horizon at the bottom, a bright yellow sun, a large grey moon, a ringed planet (Saturn), and a reddish planet (Mars) against a starry blue and green nebula.

“State of the Profession” Information

ANTICIPATED DECADAL SURVEY ANALYSIS

- The optimal path is to identify these requests as early as possible.
 - Addressing known items now would allow the agencies to better respond to mid-process requests, especially for long-lead items.
 - It is understood that not all requests will be anticipatable and some anticipated requests will not end up being used.

RESOLUTION

- NASA is speaking with CSSP about helping to pre-identify potential data needs and desires ahead of the Decadal Survey kick-off.

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Agency Programmatic Information

BACKGROUND

- The Decadal Survey is asked to evaluate and make recommendations on the field of solar and space physics. Either directly or indirectly, this includes the sponsoring agencies' current and potential programmatic structure.
- To an outside observer, programmatics can be unseen or can seem straightforward. However, there are often complexities and nuances that would impact the effectiveness and implementability of Decadal recommendations.
 - Internal cost and schedule considerations for competed projects
 - Division of responsibilities, and origin of the divisions, between agencies
 - Recent and/or on-going strategy formulations
- Some of these potential difficulties could be foreseen now, but others may not be apparent until the Statement of Task is completed or the Decadal Survey is underway.
 - Agency responses are limited when the Survey is underway

A vibrant space-themed background featuring a large blue planet (Earth) at the bottom, a bright yellow sun, and various other celestial bodies including a ringed planet (Saturn), a reddish planet (Mars), and a grey planet (Moon) against a starry blue and green nebula.

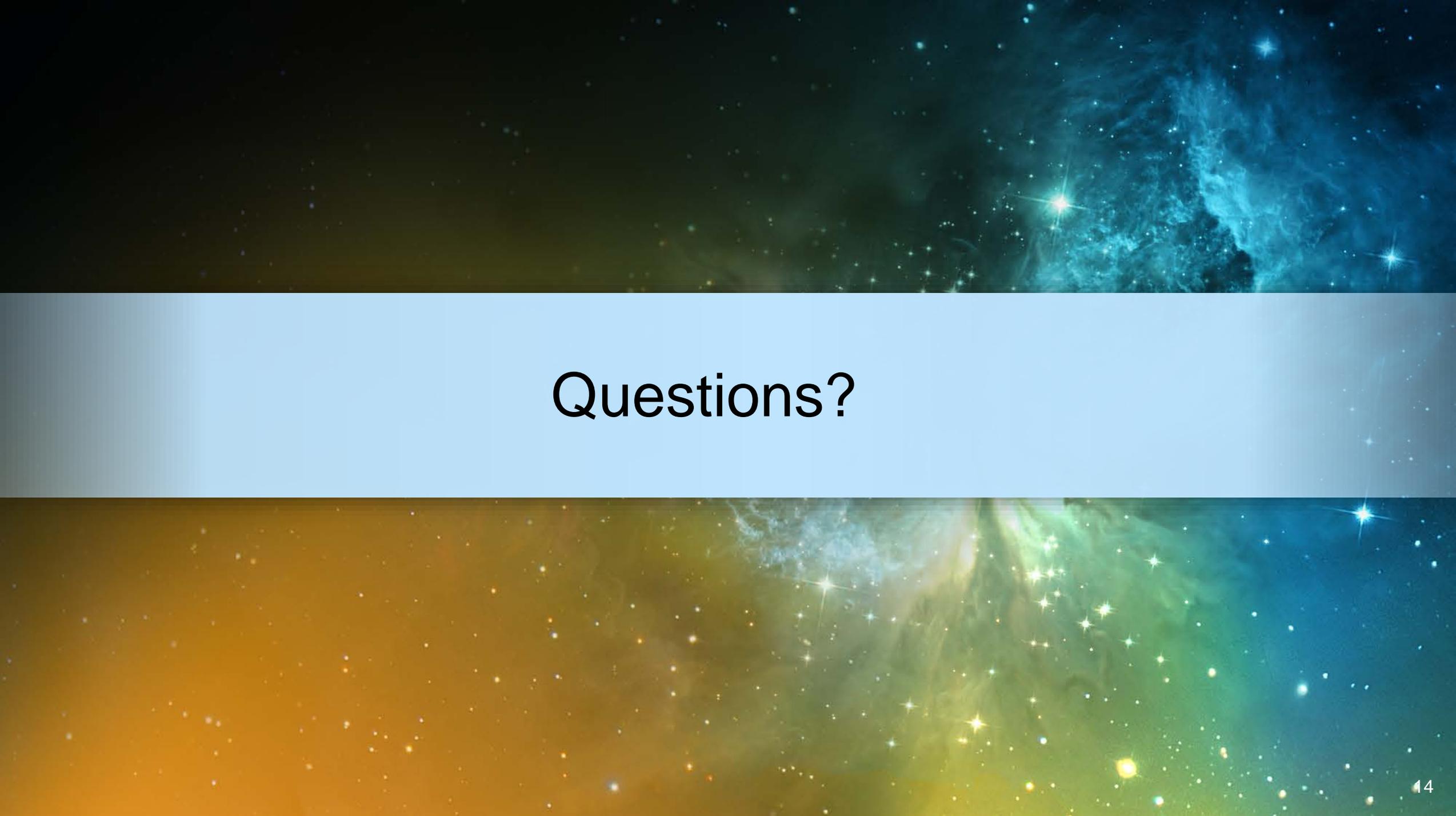
Agency Programmatic Information

APPROACH

- It could be beneficial to the process if the agencies wrote briefs on programmatic topics that are known or anticipated to be key to Decadal Survey discussions.
 - Clearly written documents, avoiding potential miscommunications possible with PowerPoint- or verbal-based responses to Decadal Survey queries.
 - If sufficient lead time, the briefs could be made public so that the community white papers could incorporate and address them.
- Topics could be identified by 1) agency perceptions of information needs, 2) difficulties encountered in previous Decadal Surveys, and 3) anticipated questions based upon community discussions and the Statement of Task.

RESOLUTION

- NASA is looking at submitting short documents on current programmatic structure and strategy, soliciting feedback from CSSP.

A cosmic background image featuring a central light blue gradient band. Above and below this band are vibrant nebulae in shades of blue, green, and yellow, interspersed with numerous bright stars of varying sizes and colors. The overall scene is a rich, multi-colored star field.

Questions?



Decadal Survey: High-Level Schedule

These dates are NASA estimates based on previous Decadal Surveys and are used purely for planning. NAS has not reviewed them.

Date	Decadal Activity
April 2020	Officially communicate interest in starting the Decadal Survey to NAS
December 2020	Finalize SoT and send it to the NAS for review
January-February 2021	NAS iterate on SoT with HPD and Sponsoring Agencies and agrees with SoT
August 2021	Decadal Survey Kick-Off Meeting takes place
March 2024	Decadal Survey is delivered

Tentative HPD Schedule

2020-2021 HPD ACTIONS

Year/Month	Decadal Activity
2020 March	<ul style="list-style-type: none"> * Finalize CSSP short report requests * Identify potential programmatic briefs
2020 April	<ul style="list-style-type: none"> - Communicate interest in starting Decadal Survey to NAS * CSSP meeting takes place and deliver short report requests * Start to brainstorm what should/should not be included in the SoT w/ HPD & Sponsor Agencies
2020 July	<ul style="list-style-type: none"> * Finalize remaining SoT decisions & start drafting SoT in coordination with Sponsor Agencies - HPD discuss budget with Sponsor Agencies
2020 August	<ul style="list-style-type: none"> - Host Heliophysics 2050 Workshop - Organizational Meeting w/ NAS and Sponsor Agencies to discuss the outlines of task
2020 September	<ul style="list-style-type: none"> * Initial review by HPD Staff of SoT
2020 October	<ul style="list-style-type: none"> - Start to iterate on SoT with SMD DAAR in coordination with Sponsor Agencies
2020 November	<ul style="list-style-type: none"> * Final review of SoT by HPD Staff
2020 December	<ul style="list-style-type: none"> * Finalize SoT with all relevant parties and send it to NAS for review - Finalize budget proposal with Sponsoring Agencies and send it to NAS
2021 January – 2021 February	<ul style="list-style-type: none"> - NAS iterates on SoT and agrees with SoT
2021 March – 2021 May	<ul style="list-style-type: none"> - NAS and Agencies iterate on pricing
2021 June	<ul style="list-style-type: none"> - Survey Committee Nomination Process takes places
2021 August	<ul style="list-style-type: none"> - Decadal Kick-off Meeting & first Steering Committee Meeting takes place

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Potential Programmatic Briefs Topics

CURRENT LIST

1. Schedule and program budget profile for missions
2. Current state of and plans for Space Weather activities
3. Split in roles/responsibilities between NASA, NSF, and NOAA on different topics (e.g. Space Weather)
4. Strategy documents SMD and HPD
 - Technology, Space Weather, R&A, Distribution in Mission Size (might be included in #1), STP & LWS
5. Helpful NASA vernacular