

Status Report: Decadal Survey in Planetary Science & Astrobiology 2023-2032

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Planetary Decadal

National Academy of Sciences

On March 3, 1863 at the height of the US Civil War, President Abraham Lincoln signed an Act of Congress to create the National Academy of Sciences.



NAS and Astrobiology/Planetary Science

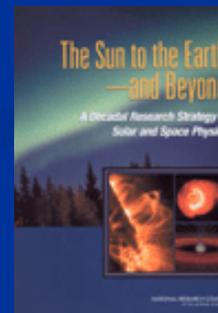
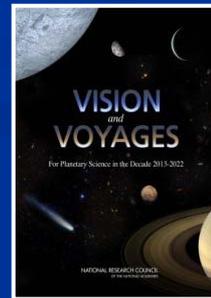
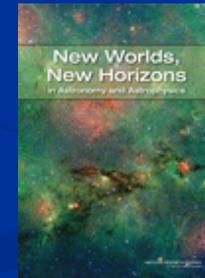
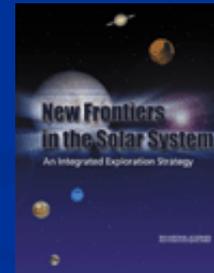
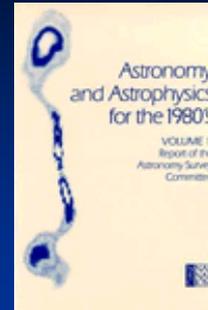
“... the primary scientific goals of this program are immense: a better understanding of the origins of the solar system & the universe, the investigation of the existence of life on other planets, & potentially, an understanding of the origin of life itself.”

1961 letter from the SSB to
NASA Administrator James Webb,



Space Science Decadal Surveys

- Astronomy and Astrophysics
1963, 1973, 1982, 1991,
2001, 2010, (2020)
- Planetary Science
2003, 2011, (2022)
- Solar and Space Physics
2003, 2012, (2024)
- Earth Science and Applications
from Space
2007, 2018, (2029)
- Biological and Physical Research
in Space
2011, (2022)



What is a Decadal Survey?

- Assesses the status of an entire scientific discipline
- Defines and prioritizes the key scientific questions for the next decade
- Defines and prioritizes the most important initiatives addressing the most important scientific questions

Decadal Surveys are conducted by the National Academies, independently of sponsoring agencies and organizations

Decadal Surveys

- NASA is required by the Authorization Acts of 2005 and 2008 to engage the National Academies to conduct decadal surveys in all major space science disciplines.

Sponsoring Agencies and Congress use decadal surveys as the formal statement of priority by the US space science community, and give highest priority to the missions identified in the survey whenever possible

Survey Goals

- Outlines a program for the coming decade that represents the relevant US space science community.
- Community participation is strongly encouraged.
- Post-2009 surveys place a strong emphasis on risk assessments, called a Technical, Risk, and Cost Assessment (TRACE), for major mission recommendations, when possible.

Typical Ground Rules

- Only missions that have a formal budget line are assumed *a priori* to be part of the decadal plan (i.e., not reprioritized); everything else was within scope for prioritization
- Surveys do not usually prioritize small missions (e.g., Discovery-class or smaller) or R&A-type activities
- Missions that had been extensively studied, but had not entered Phase A, (e.g. *Europa Lander, Ice Tian mission*) are “on the table”

What is the Statement of Task?

- The statement of task can be found at:
https://sites.nationalacademies.org/SSB/SSB_198165
- It is the guiding document for the survey
- It outlines exactly what the sponsors—NASA and NSF—and the National Academies want the survey committee to do, and the Academies commits to do no more and no less than that specified in the statement of task
- The website has additional information (scope, considerations, and approach) as suggestions to make the survey most useful to NASA and NSF, but they are not binding on the survey committee

Nominations

Nominations and self nominations are encouraged. We are looking for individuals with the following characteristics:

- Scientific and technical expertise and objectivity;
- Broad thinking, open-minded, and not an active proponent of a specific project;
- Experience in the management of a project, organization, or equivalent enterprise, is advantageous; and
- Willing to participate in-person in survey committee activities

Nominations Caveat

Prospective members of Academy committee have their financial relationships reviewed to prevent actual or perceived conflicts of interest. We have special considerations for the authors of white papers and mission studies:

- All authors of science-focused whitepapers are eligible to be considered;
- First authors of mission-focused whitepapers cannot serve on the steering group or on any panel considering their mission; and
- PIs of the NASA-funded, pre-decadal mission-concept studies cannot serve on the steering committee or on any panel considering their mission.

White Paper Specifications

Find out who is planning to submit & find partners at:

https://www.lpi.usra.edu/decadal_whitepaper_proposals/

- Max of 7 pages, single spaced, including all figures, tables, references and appendices; references can include web links to other documents.
- Include cover page (beyond the 7-page limit) with title of the white paper, primary author's name, phone number, institution, email address, and list of co-authors with their respective institutions
- 12-pt font, 1-inch margins on all sides of document
- Papers must be in Microsoft Word (.doc), Adobe Acrobat (.pdf) formats
- IF larger than 50 Mb in size, it will not be accepted; files much smaller encouraged. Compress your figures, if possible. Hyperlinks to higher resolution versions of illustrations acceptable.

- **File Name Format and Upload Instructions:**
- Filename
format: "LastNameFirstNameMiddleInitial"
- Do NOT use spaces or underscores in the file name.
- Examples: "SmithJohnB.pdf" or "WilliamsJaneA.doc" (If you do not have a middle initial, do not worry about including one in the filename.)
- Only PDF and DOC/DOCX formats will be accepted.
- There is a maximum file size limit of 50 MB.

Schedule for Decadal Survey

2019

September	Organizing meeting and town hall at EPSC-DPS
October	Draft statement of task received from NASA
November	LPI launches white paper proposal web site
December	Town hall at AGU meeting

2020

January	National Academies posts Statement of Task
February	Funding proposal to NASA, NSF, agreed to support
March	Early-career event and town hall at LPSC –This Event!

Survey officially began March 20th, 2020!

April	White paper submission begins
May	Chair announced
NET July 4	White paper deadline; meetings begin

2021

Autumn	Complete draft of survey report
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2022

Spring	Survey report released, dissemination starts
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2023

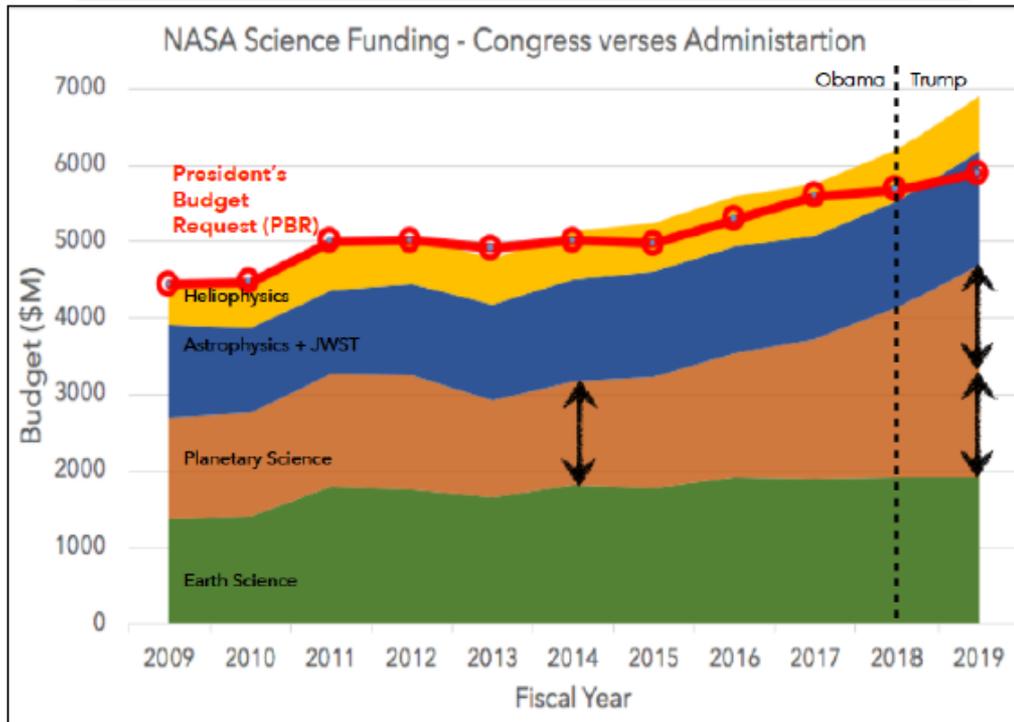
	End of dissemination/NASA contract
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Early-Career Opportunities

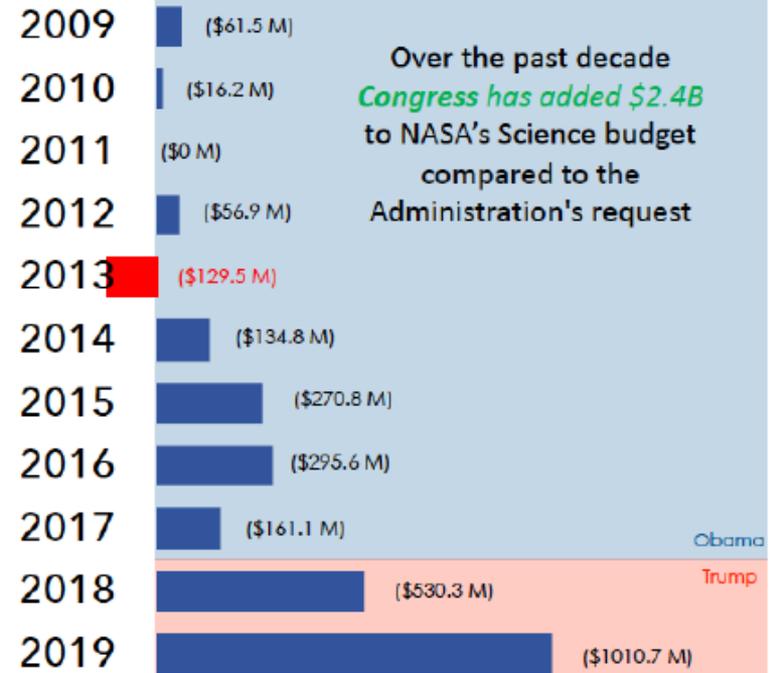
- **White Papers:** any person can author a white paper on any topic relevant to the statement of task
<https://www.surveygizmo.com/s3/5489366/Call-to-the-Planetary-Science-Decadal-Community-White-Papers-1>
- **Full-time SSB Job:** a job vacancy (PhD preferred) is posted
<https://www.nationalacademies.org/humanresources/>
- **Note Takers:** once meeting dates are set, we will recruit graduate students to take notes at meetings
- **Lloyd V. Berkner Internships:** for undergraduates (summer and autumn) and grad students (autumn only)
<https://sites.nationalacademies.org/SSB/index.htm>
- **Christine Mirzayan Fellowship:** grad student and those <5 years of Ph.D. <https://sites.nationalacademies.org/pga/policyfellows/>

PSD's Budget Doubled Since 2014

NASA's *Planetary Science Division* budget has been **doubled** in just 5 years (since FY14)



Annual Congressional funding levels for NASA Science (SMD) by Division



Comparison of annual outcome – enacted versus PBR for NASA's SMD budget

Outcomes



More webinars to come Thank You & Stay Well!

National Academies Decadal Surveys

http://sites.nationalacademies.org/SSB/SSB_052297

Space Studies Board

<http://sites.nationalacademies.org/SSB/index.htm>

Planetary and Astrophysics Decadal Survey, including
nominations to participate on the survey

www.nas.edu/planetarydecadal

White Paper Submissions (also see LPI website)

<https://www.surveygizmo.com/s3/5489366/Call-to-the-Planetary-Science-Decadal-Community-White-Papers-1>