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# Planetary Science Decadal Survey 2009-2011

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# Outline

- What is a decadal survey?
- Major topics to be addressed in the new decadal survey
- Organization and schedule of the decadal survey
- Community input

# What is a Decadal Survey?

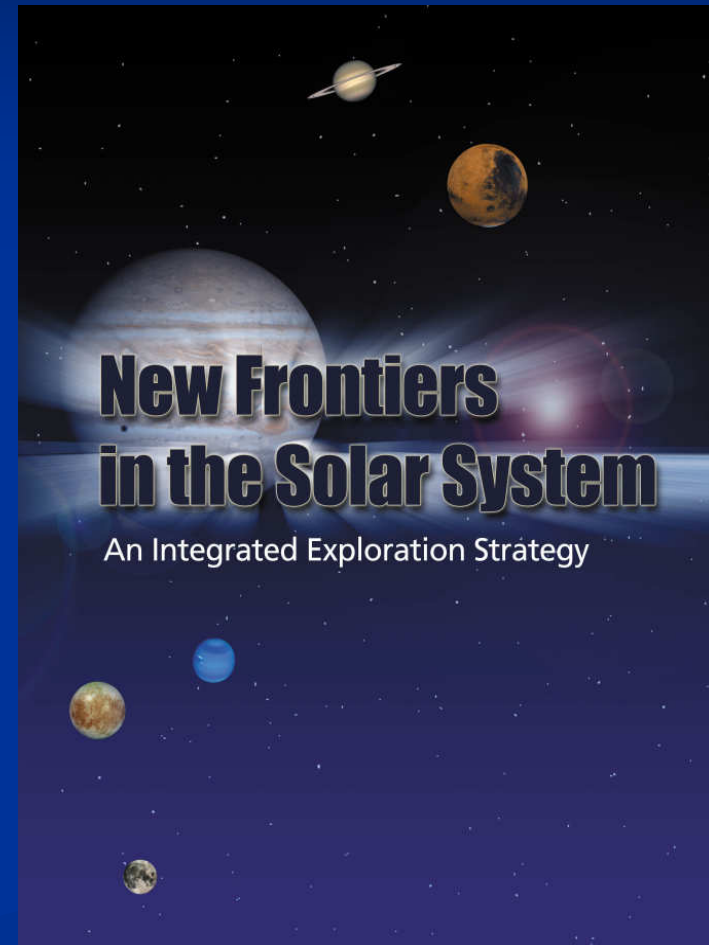
**Origin** Astronomy community in the 1960s.

**Purpose** Identification of the most important scientific questions to be addressed in the next decade and to prioritize the missions and that can address these questions.

**Organization** Steering group, supported by topical panels, combined with extensive input from the scientific community

**1<sup>st</sup> Planetary Survey** Requested by NASA in 1/01 and completed in 7/02

**Other Surveys** Solar and Space Physics (2002), Earth Observation from Space (2007), Life and Microgravity Sciences (in progress)



# What will the Report Address?

## Major Tasks

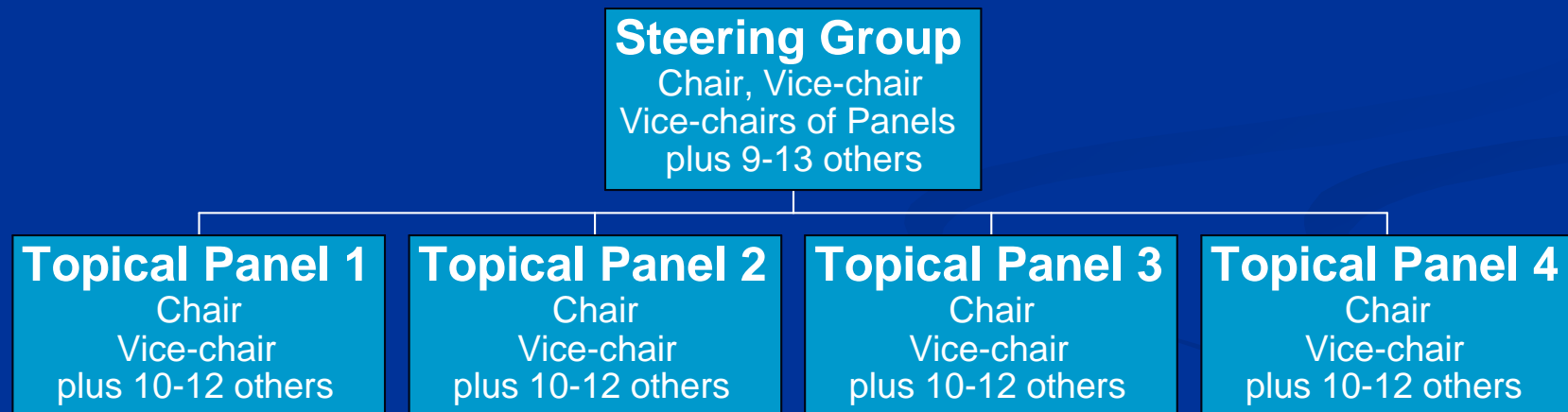
The decadal survey will address the following items:

- Overview of planetary science;
- Broad survey of the current state of knowledge of the solar system;
- Inventory of the key scientific questions that should guide NASA flight missions and research programs undertaken by NASA and NSF;
- Assessment of NSF infrastructure supporting planetary research;
- Recommendations on the optimum balance across the solar system and among small, medium, and large missions and research activities;
- Prioritized recommendations for New Frontiers and flagship flight investigations for initiation in the period 2013-2022;
- Recommendations for NASA-funded research activities required to maximize the science return from the flight investigations; and
- Technology development needs and opportunities relevant to NASA.

## Scope

Ground- and space-based planetary science, astrobiology and comparative planetology of extrasolar planets.

# Notional Organization Decadal Survey Committee 2009-2011



How should the topical panels be organized?

# Notional Schedule 2008-2011

2008

4<sup>th</sup> Quarter      Informal request received, NRC approves initiation,  
Formal request received, Proposal to NASA.

2009

1<sup>st</sup> Quarter      Funding received, Chair identified,  
Chair and members appointed  
2<sup>nd</sup> Quarter      Meetings of the steering group and panels begin  
3-4<sup>th</sup> Quarter    Panels' period of peak active

2010

1<sup>st</sup> Quarter      Panel reports finalized  
2-3<sup>rd</sup> Quarter    Prioritization and drafting of survey report  
4<sup>th</sup> Quarter      Draft survey report to reviewers, Report revised

2011

1<sup>st</sup> Quarter      Report approved, NASA briefed  
and report released ( prepublication-format)  
3<sup>rd</sup> Quarter      Printed report released

Outreach Sessions

Science Presentations

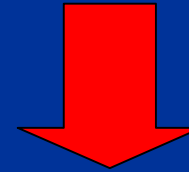
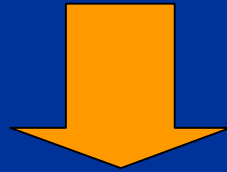
Agency Presentations

Individual Inputs

Community White Papers



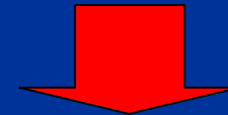
Community Involvement



SSE Survey Panels

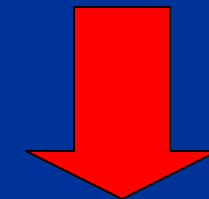


SSE Survey Steering Group



Part I

Part II



*Decadal Survey Report*

# Community Interactions 2000-2003

- **Through town hall meetings at multiple venues:** such as scientific conferences, specially arranged meetings, in conjunction with panel and steering-group meetings, and professional meetings.
- **Stimulation of written input from ad hoc community panels**
  - Web page sponsored by the DPS/AAS in conjunction with PGD/GSA, PSS/AGU and Meteoritical Society
  - 24 panels formed (3 to 61 members each) involving >308 individuals
  - 23 finished reports published as *The Future of Solar System Exploration, 2003-2013: Community Contributions to the NRC Solar System Exploration Decadal Survey* (Marc V. Sykes, Ed., Astronomical Society of the Pacific Conf. Series, Volume 272).
  - Community ad hoc reports used by panels and steering group
- **Independent DPS and Planetary Society polls** on some key issues
- **NRC Report review process** solicited comments from 13 reviewers who supplied more than 450 specific comments, response to which immeasurably improved the quality of the report.



# Topics of Community Panels

Mercury

Venus

Mars

Asteroids

Io

Europa

Titan

Neptune System

Kuiper Belt Objects

NEOs: Sample Return

NEOs: Human Exploration and Utilization

NEOs: Discovery, Tracking and Characterization

Lunar Exploration: Robotic and Human

Comets

Interplanetary Dust

Planetary Rings

Sub-orbital Program

Education and Outreach

Terrestrial Analogs to Mars

Radio Science and the DSN

Extraterrestrial Mineralogy

Instrument Technology

Solar System Astrometry

**Should other, more macro-level topics also be addressed by the community?**

# Optimizing Community Interactions

**Broad community input is a defining feature of a decadal survey**

- Town hall and open meetings as early as possible (e.g., **DPS**, **AGU** and **VEXAG**, MEPAG, OPAG, RAS and LPSC). The schedule last time was suboptimal for engaging in outreach at major community meetings.
- Coordinate with other groups that have overlapping interests.
- Early stimulation of ad hoc community reports. (The DPS committee was very proactive and successful in generating inputs to the 2000-2003 decadal survey). Last time, the community reports could have had a greater impact on the formulation of panel positions if they had arrived earlier.

**Other actions?**

# Summary

Issues to consider:

1. How should the decadal survey's topical panels be organized?  
Who should chair the panels?  
Who should serve on the steering group and panels?
2. How can community interactions and input be optimized given the decadal survey's likely schedule.
3. What can the survey committee do to facilitate input from the community and vice versa?

Written input is encouraged and preferred.

Decadal survey website on-line at [www.nas.edu/ssb](http://www.nas.edu/ssb).