Strategic Missions Study

- John Grunsfeld suggested this as a study at the November 2014 SSB meeting.
- Contract received from NASA March 2016
- Currently in committee-formation phase
  - Have recruited a co-chair (need another)
  - Have recruited about 40% of the committee
    - Looking for Earth sciences, astrophysics, people with big and small mission experience, education experience, technology experience
- First two meetings in 2016, last in early 2017, report delivery late-spring 2017

Strategic Missions Statement of Task

The National Academies of Sciences, Engineering, and Medicine will appoint an ad-hoc committee that will:

1. Provide recommendations to help guide future prioritization by NASA of large strategic space and Earth science missions within a balanced program containing a range of mission classes. That is, what are general principles that SMD could use (e.g., a figure of merit approach) to trade off within a limited budget between development and operation of large, strategic missions and the cadence and/or cost caps of medium size and small PI-led mission lines?

The committee will not offer prioritized recommendations on any specific current or future missions, which is a function of each science theme's decadal survey process.

2. In this framework , assess the impact of current and recent SMD missions with a range of life cycle costs. A representative subset of missions within each of SMD's four science theme areas may be selected for analysis. The committee's analysis of each representative mission will include a discussion of the relation between mission scientific impact and mission life cycle cost (or cost to date) in order to understand the return on expenditures for various mission classes. In describing the impact of the chosen missions the committee should consider dimensions such as:

- **Scientific productivity ;**
- **Impact on the current and future health of the relevant scientific community; and**
- **Contribution to development and demonstration of technology applicable to future missions.**