



PSD R&A Programs: Perspective of the Small Bodies Assessment Group

Nancy Chabot, SBAG Chair
May 13, 2016

*Presentation to Committee on the Review of NASA's Planetary Science Division's
Restructured Research and Analysis Programs
Space Studies Board
National Research Council*



What Is the Small Bodies Assessment Group?

- The Small Bodies Assessment Group (SBAG) was established by NASA in 2008 and is composed of members with knowledge and expertise of small bodies throughout the Solar System.
- Membership in SBAG is open to all interested individuals of the interdisciplinary small bodies community.
- The term of “small bodies” refers to a wide-ranging, highly diverse, and numerous set of Solar System objects.
 - Includes near-Earth objects, main belt asteroids, the Martian moons, comets, Trojan asteroids, irregular moons of the outer planets, centaurs, Kuiper belt objects, other trans-Neptunian objects, dwarf planets, dust throughout the Solar System, and meteorites and other samples of such bodies.
- Email list distribution: 424 individuals
- Steering Committee: 11 members
- Two meetings per year, January and ~June; in person, 2.5-day meetings with remote participation option.



Jan. 17, 2014

(email to planetary community)

Draft Solicitations of Some PSD R&A Solicitations for ROSES14 Released to Public

PSD has posted the draft versions of several of the R&A program's solicitations for ROSES 2014 on the LPI website (where PSD has been previously posting updated information with regards to the reorganization of the PSD R&A portfolio). The draft solicitations include all 5 new core programs, as well as solicitations for the Dawn Focused Research Analysis Program, the Cassini Data Analysis and Participating Scientist Program, and the Exoplanets Research Program. Please send any constructive feedback to the Assessment Group (AG) chairs:

- For CAPTEM, email Hap McSween (mcsween@utk.edu)
- For LEAG, email Jeff Plescia (Jeffrey.Plescia@jhuapl.edu)
- For MEPAG, email Serina Diniega (Serina.Diniega@jpl.nasa.gov)
- For OPAG, email Candy Hansen (cjhansen@psi.edu)
- For SBAG, email Nancy Chabot (Nancy.Chabot@jhuapl.edu)
- For VEXAG, email Lori Glaze (Lori.S.Glaze@nasa.gov)

Please visit the LPI website to view these draft solicitations: <http://www.lpi.usra.edu/PSD-RandA/>

Thank you, Jonathan Rall

Comments received from November 2013 and January 2014 requests to the AGs are available at this website: <http://www.lpi.usra.edu/PSD-RandA/>



SBAG Meeting Discussions

- SBAG 10, January 2014
- SBAG 11, July 2014
- SBAG 12, January 2015
- SBAG 13, June 2015
- SBAG 14, January 2016
- SBAG 15, June 2016

Jonathan Rall (1 hr)

Jonathan Rall (1 hr)

Jonathan Rall (45 min)

Jonathan Rall (1 hr)

Tom Statler (45 min)

declined invitation, with explanation that there are alternate plans to engage with the planetary community at-large going forward rather than via the AG meetings

Additionally, many other PSD R&A program managers have attended SBAG meetings and participated in these discussions.

All NASA R&A slides presented at SBAG meetings are available online:

<http://www.lpi.usra.edu/sbag/meetings/>



SBAG Findings Process:

- 1) Discussion occurs at open community meetings; findings recommendations are solicited through open microphone discussion periods.
- 2) The SBAG Steering Committee meets, agrees on draft findings, writes and reviews findings over the next ~week.
- 3) The SBAG draft findings are posted to the SBAG website and the community is notified via email of a two week comment period; the community provides comments.
- 4) The SBAG Steering Committee reviews all comments, discusses and revises the findings as appropriate.
- 5) The final findings are posted to SBAG website.

All SBAG Findings are available online:
<http://www.lpi.usra.edu/sbag/findings/>



Finding: SBAG 10, January 2014

Review of the Restructuring of the Research and Analysis Program

Restructuring of PSD's R&A Program should be required to pass a formal Senior Review prior to implementation to ensure it is able to provide the benefits identified by the 2011 PSS report (*Assessment of the NASA Planetary Science Division's Mission-Enabling Activities*, led by Ron Greeley). **As identified in the report, this includes an assessment of the work force impact and of revenue neutrality.** SBAG finds that the submission of a draft ROSES 2014 document to the PSS does not constitute sufficient review and assessment prior to implementation.



Finding: SBAG 10, January 2014

Solar System Workings Opportunity

The prior announced deadline of late February 2015 for the Solar System Workings program would result in a ≥ 20 month gap in proposal due dates for projects formerly submitted through Cosmochemistry, Planetary Geology and Geophysics, Planetary Atmospheres, and Mars Fundamental Research programs. **This would cause a serious interruption of funding, lack of opportunities for young career scientists, and damage to the small bodies and broader planetary science research communities.** SBAG supports moving this due date to May/June 2014 to address this serious concern.



Finding: SBAG 13, June 2015

Research and Analysis Program and the Health of the Scientific Community

SBAG appreciates and encourages communication between PSD Research and Analysis (R&A) program officials and the scientific community via all possible avenues. **The recent R&A reorganization coinciding with a budget crunch has been a source of considerable anxiety in the scientific community.**

SBAG endorses the pending NRC Space Studies Board activity to assess PSD's R&A reorganization and hopes that it will **address the broader issue of identifying the elements of a healthy scientific community capable of supporting NASA's needs, and what should be done to maintain that community**, and does not merely confine its attention to the traceability between R&A program elements and NASA's strategic goals.



Findings abbreviated. Full SBAG findings at:
<http://www.lpi.usra.edu/sbag/findings/>

Finding: SBAG 13, June 2015

Research and Analysis Program and the Health of the Scientific Community

In particular, SBAG is concerned about small PI-led laboratories, as such groups are particularly vulnerable to fluctuations in funding. At a time when several missions are working to return samples that will need specialized laboratory analyses to achieve their scientific goals, **it is crucial to maintain within the scientific community a strong cohort of laboratory practitioners and capabilities.**



Finding: SBAG 14, January 2016

Planetary Science Division Research and Analysis (R&A) Program

NASA spends a significant fraction of its PSD funds supporting the development, implementation, and operation of robotic missions. Ultimately it is the R&A funding that drives the discoveries of the planetary mission portfolio. The results of current missions form the basis of knowledge that both reduce the risk for future missions and raise new questions that drive subsequent exploration and future Decadal Survey priorities. Because of this, **it is essential that NASA fund a robust and reliable R&A program, and SBAG encourages PSD to explore potential means to increase funding to R&A programs to improve the selection rate of highly rated proposals.**



Findings abbreviated. Full SBAG findings at:
<http://www.lpi.usra.edu/sbag/findings/>

Finding: SBAG 14, January 2016

Planetary Science Division Research and Analysis (R&A) Program

Additionally, **SBAG urges PSD to avoid delays in R&A programs that result in severe gaps in funding opportunities**, which have negative repercussions across the community, and early-career individuals can be especially vulnerable. SBAG urges PSD to engage early-career scientists to explore means to lessen any hardships, even on an individual basis.



Finding: SBAG 14, January 2016

Midterm Decadal Survey Assessment

SBAG supports a 2013-2022 Decadal Survey midterm assessment to evaluate and reinforce the decadal process. **SBAG encourages a midterm Decadal Survey assessment to address the broader issue of identifying the elements of a healthy scientific community capable of supporting NASA's needs, and what should be done to maintain that community.** SBAG particularly encourages the inclusion of early-career participation in the midterm assessment by membership on the panel. Furthermore, SBAG hopes the midterm review may address key assets and facilities in planetary science studies, **such as PI-led laboratories that are particularly vulnerable to funding fluctuations.** The productivity of these assets and facilities are often disrupted as a result of the loss of key personnel during times of low grant award rates.



Frequent R&A discussion points at SBAG meetings:

- Large programs may create issues finding knowledgeable reviewers.
- As all of the “new” programs have similar selection rates, it seems that the resources for the programs are decided by proposal pressure.
- Many of the “new” programs are based on very broad questions, while “old” programs were often technique-based, raising concerns about maintaining technical capabilities.
- There are large gaps in the opportunity to propose for Solar System Workings, the largest program in PSD R&A.
- Most “Very Good” proposals are not funded these days. (*37% funded*)
- Traceability to specific work funded under the “old” programs to the “new” programs is not clear, to evaluate if significant changes in resource availability occurred to various sub-communities.



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SMALL BODIES ASSESSMENT GROUP

SBAG Steering Committee (May, 2016):

- Nancy Chabot (*JHU/APL*), **Chair (8/13–8/16)**
- Tim Swindle (*Univ. Arizona*), **Vice Chair (8/15–8/16)**
- Brent Barbee (*NASA Goddard*), Human Exploration Lead (8/14-8/17)
- James Bauer (*JPL*) (8/14-8/17)
- Beau Bierhaus (*Lockheed Martin*) (8/14-8/17)
- Dan Britt (*UCF*) (8/14-8/17)
- Bonnie Buratti (*JPL*) (8/13-8/16)
- Lori Feaga (*Univ. Maryland*) (8/15-8/18)
- Tommy Grav (*PSI*), Planetary Defense Lead (8/13-8/16)
- Carolyn Mercer (*NASA Glenn*), Technology Lead (8/15-8/18)
- Angela Stickle (*JHU/APL*), Early Career Secretary (8/15-8/17)

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SMALL BODIES ASSESSMENT GROUP

Future SBAG Meetings:

- **June 28 - 30, 2016:** 15th SBAG Meeting
Johns Hopkins University Applied Physics Lab, Laurel, MD
- **January 11-13, 2017:** 16th SBAG Meeting
University of Arizona, Tucson, AZ

SBAG Website:

<http://www.lpi.usra.edu/sbag/>