Planetary Science Subcommittee (PSS) Findings, January 2014

Context: The PSS met for one day only on January 22, 2014 to focus on the discussion of the Research Opportunities in Space and Earth Sciences (ROSES) 2014 draft solicitations made available by the PSD Program Managers, in which the new R&A Program structure is being introduced. Thus our major findings are focused on that subject.

1) The NASA Planetary Science Division (PSD) Research and Analysis (R&A) Program reorganization plans were announced to the planetary science community in November 2013 during a time of overall difficulty in meeting and communicating due to sequestration-related travel restrictions and the government shutdown. The plans included a very compressed schedule for the reorganization, including announcement of renewed plans to reorganize in November 2013, program rationale and mapping presented via virtual town hall discussion in December 2013, a subset of draft calls posted for comment in late January 2014, and full reorganized program plan to be posted in ROSES 2014 in February 2014. The delay in announcement and the very compressed schedule for development and roll-out of the reorganized program has created considerable uncertainty and anxiety within the planetary science community. Earlier communication from PSD to the community regarding reorganization plans and progress during the multi-year effort, as well as regular requests for community input, likely would have moderated the negative reaction. The compressed schedule left too little time for detailed program development, for providing adequate community and PSS feedback toward clarifying the ROSES 2014 calls, and for a measured response by PSD. The PSS finds that the reorganization plans are immature at this time, and major questions remain regarding the subject-matter boundaries between programs, the absence of many research elements including field work and geologic mapping from draft announcements, and a lack of consistency in guidance to proposers.

2) PSD strategic goals reflect lofty endeavors and inspiration for exploration of the Solar System. However, the planned mapping of the R&A program structure to these goals results in unequal size and complexity of the content of reorganized core programs. While several new core programs (e.g., Observations, Emerging Worlds, Exobiology, Habitability) are comprised of one to three older programs of roughly comparable size and scope, the new Solar System Workings (SSW) program will absorb major elements of six older programs (e.g., Planetary Geology and Geophysics, Cosmochemistry, Planetary Atmospheres, etc.) and will be particularly large and diverse. The new SSW program encompasses as much as half of the currently funded science projects in PSD, and will present special implementation challenges, both for PSD management and for the community writing new proposals. A sample of impacts include:
a. People who ordinarily submit multiple proposals on diverse topics to different programs now will have a single deadline and possibly only one opportunity per year to be selected for funding.

b. Failure to be selected could be devastating to the career and position of any given proposer.

c. Finding sufficient numbers of knowledgeable, un-conflicted reviewers and panelists likely will be very difficult.

d. A robust mechanism and facility for running a very large review panel will need to be developed, and reviewers will need to perform effectively within a new multidisciplinary subpanel environment.

Funding from R&A programs is of primary importance for sustaining the community of scientists whose work is critical to achieving NASA science objectives. Therefore the planned reorganization should be undertaken so as to avoid unnecessary disruption and confusion. The PSS finds that the scope of the SSW program is likely too large for a single call for proposals and more than one proposal opportunity for that program may be needed each year. Also, subject-matter boundaries among subpanels of SSW and between SSW and other core programs need to be explicitly stated in program calls so that proposers can submit properly aligned and effective proposals.

3) Because of the PSD level budget and increased pressure for funding from additional missions now entering the Extended Mission phase, the planned Extended Mission Senior Review in summer 2014 is expected to result in significant reductions and possibly terminations of funding for mission science team members and Participating Scientists and their associates. These scientists will need to turn to other funding opportunities to support data processing and publication of their scientific results from these missions. For some, there will be an obvious proposal destination: some Mars mission science proposers will turn to the Mars Data Analysis Program (MDAP), and some Cassini investigators to the Cassini Data Analysis Program (CDAP). Others must share the less mission-specific or target-specific PMDAP with the numerous investigators from the Discovery missions already covered there (including MESSENGER). Some of these programs are oversubscribed and have very low selection rates (e.g., CDAP selection rate is < 15%). Without adequate funding support for scientific processing, analysis and interpretation of the mission data, the return on investment in these unique missions is significantly diminished. The PSD reorganization plans must accommodate and clearly identify adequate sources of funding for the research needed to realize the science from extended missions.
4) The solicitation for the Dawn Focused Research and Analysis Program (DFRAP) needs to be revised to a Dawn at Ceres Participating Scientist Program rather than a Dawn data analysis program. Participating Scientist Programs are a proven way for NASA to realize the full potential from its large spacecraft investments, to maximize the science achieved in a cost-effective manner, and to provide valuable mission experience to scientists in the community. As currently written, the solicitation’s exclusions will not enable new scientists to participate prior to and during the Dawn at Ceres encounter. Additionally, the precedent is for Discovery-class missions to have Participating Scientist Programs but not dedicated data analysis programs. Dawn at Ceres is expected to provide one of the highlights of 2015 NASA mission and science achievements, and the recent discovery of water vapor being released from the surface only further emphasizes the need to get the best scientific expertise involved in this unique encounter. **The PSS urges PSD to change the DFRAP call to a Dawn at Ceres Participating Scientist program. Given Dawn’s arrival at Ceres in April 2015, time is of the essence, and the revised solicitation should appear in ROSES 2014 with an early deadline in spring 2014.**

Other PSS Observations of Note:

1) Analysis Group (AG) Chairs provide a critical connection between the community and the PSD. AG Chair efforts during the course of the R&A Program restructuring dialog over the past months clearly demonstrated their value as a resource to both sides. The AG chairs agree to take on these service appointments to help NASA realize the best science outcome of the taxpayers’ investments in NASA PSD activities. **The PSS urges PSD to confirm the PSS memberships of the remaining AG chairs to enable their full participation within the PSS advisory framework.**

2) The PSS is pleased by the announcement of the Solar System Workings deadline moving from February 2015 to July 2014. The later deadline would likely have caused a serious interruption of funding for many investigators, lack of funding opportunities for early-career scientists, and may have damaged the planetary science research community in untold ways. **The PSS supports the PSD decision to change the deadline to July 2014 to address these serious concerns.**

3) The PSS applauds the news from PSD Director Green that a new Discovery mission opportunity is expected to be released this year (mid-2014), and that further support for continuing development of the Europa Clipper mission is expected to become available. However, there was insufficient time at our meeting to discuss the important upcoming Extended Mission Senior Review call and PSD strategy for decision making, mentioned by Director Green in an earlier AG meeting as a potential area of PSS input. **A follow-up discussion on this topic is desired in the near future.**
4) The PSS recognizes the hard work the R&A Program Officers and the PSD Director have done to develop plans for the R&A reorganization. **PSS members (including AG Chairs) are committed to supporting this effort by providing timely feedback and gathering and representing community input on an ongoing basis as the PSD R&A reorganization proceeds.**