Planetary Science R&A Program Update

Michael New, PhD

Outer Planets Assessment Group Meeting
Washington, DC
August 24, 2015
About me

• I have been at NASA HQ since Sept. 2002
  – I am the Astrobiology Discipline Scientist (since 2002)
    • I manage the Exobiology and ASTID programs
    • I serve on the caucuses for EW, HW, DDAP, and PDART.
  – I am the Discovery Program Lead Scientist (since 2006)
    • I write AO’s and run the evaluations of mission proposals
  – I am the PDS Program Scientist (since 2014)
    • I provide scientific leadership and interface with HQ mission PE’s and PS’s.
  – I am one of the three HQ people who regularly analyze aspects of the R&A program.
  – I have served as R&A Lead (Acting) for several years before Jonathan Rall was hired.
Social Media

• Please feel free to tweet, blog, etc. during this talk.
  – Note that I occasionally tweet as @DrSpaceBuzzkill.

• If someone tweets or Facebook messages you a question for me, please ask it.
  – I don’t have an account on Facebook and it wouldn’t be right for me to check Twitter while speaking to you.
<table>
<thead>
<tr>
<th>Program Name</th>
<th>Step-1 Due Date</th>
<th>Step-2 Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exoplanets (XRP)</td>
<td>03/27/2015</td>
<td>05/22/2015</td>
</tr>
<tr>
<td>Emerging Worlds (EW)</td>
<td>03/31/2015</td>
<td>06/05/2015</td>
</tr>
<tr>
<td>Exobiology (EXOB)</td>
<td>05/22/2015</td>
<td>07/24/2015</td>
</tr>
<tr>
<td>Solar System Obs. (SSO)</td>
<td>04/10/2015</td>
<td>06/12/2015</td>
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<tr>
<td>Laboratory Analysis of Returned Sample (LARS)</td>
<td>04/24/2015</td>
<td>06/26/2015</td>
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<tr>
<td>Planetary Data Archiving, Resto, Tools (PDART)</td>
<td>05/15/2015</td>
<td>07/17/2015</td>
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<tr>
<td>Cassini Data Analysis (CDAPS)</td>
<td>06/01/2015</td>
<td>08/18/2015</td>
</tr>
<tr>
<td>Solar System Workings (SSW)</td>
<td>06/11/2015</td>
<td>09/10/2015</td>
</tr>
<tr>
<td></td>
<td></td>
<td>02/25/2016</td>
</tr>
<tr>
<td>Mars Data Analysis (MDAP)</td>
<td>08/28/2015</td>
<td>10/02/2015</td>
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<tr>
<td>Lunar Data Analysis (LDAP)</td>
<td>08/28/2015</td>
<td>10/30/2015</td>
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<tr>
<td>Discovery Data Analysis (DDAP)</td>
<td>09/10/2015</td>
<td>11/20/2015</td>
</tr>
<tr>
<td>PICASSO</td>
<td>09/14/2015</td>
<td>11/13/2015</td>
</tr>
<tr>
<td>Habitable Worlds (HW)</td>
<td>11/20/2015</td>
<td>01/22/2016</td>
</tr>
</tbody>
</table>
Timeline for SSW

Single Step 1 per year
Two Step 2 deadlines

SSW2015
Step 1
Due 6/11/2015

SSW2015
Step 2.1
1st Funding Decision
1/2016

SSW2015
Step 2.2
2nd Funding decisions
4/2016

SSW2016
Step 2.1
Due 9/8/2016

SSW2016
Step 2.2
Due 2/23/2017

SSW2015
Step 2.1
Due 9/10/2015

SSW2015
Step 2.2
Due 2/25/2016

SSW2016
Step 1
Due 6/9/2016

SSW2016
Step 2.1
1st Funding Decision
1/2017
Panels in Multi-Disciplinary Programs

• One change is that many of the new R&A programs are much broader and more multi-disciplinary than older programs.

• While all (most?) programs create panels based on topics, or less frequently, techniques, due to the variation in proposals from year to year, in broad programs the nature of the sub-panels are likely to change.
  
  – So this year’s “Geophysics” panel may become next year’s “Interior Structure and Dynamics” panel.
## Change in Proposal Numbers

<table>
<thead>
<tr>
<th>Program</th>
<th>ROSES 2014 Step-1 Submissions</th>
<th>ROSES 2014 Step-2 Submissions</th>
<th>ROSES 2015 Step-1 Submissions</th>
<th>ROSES 2015 Step-2 Submissions</th>
<th>% Change Step-1 Submissions</th>
<th>% Change Step-2 Submissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>EW</td>
<td>219</td>
<td>159</td>
<td>169</td>
<td>137</td>
<td>-23%</td>
<td>-14%</td>
</tr>
<tr>
<td>SSW</td>
<td>509</td>
<td>384</td>
<td>477</td>
<td></td>
<td>-6%</td>
<td></td>
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<tr>
<td>EXOB</td>
<td>186</td>
<td>144</td>
<td>247</td>
<td>179</td>
<td>33%</td>
<td>24%</td>
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<tr>
<td>SSO</td>
<td>99</td>
<td>71</td>
<td>70*</td>
<td>51*</td>
<td>-29%</td>
<td>-28%</td>
</tr>
<tr>
<td>PDART</td>
<td>143</td>
<td>100</td>
<td>117</td>
<td></td>
<td>-18%</td>
<td></td>
</tr>
<tr>
<td>CDAPS</td>
<td>101</td>
<td>78</td>
<td>97</td>
<td></td>
<td>-4%</td>
<td></td>
</tr>
<tr>
<td>DDAP</td>
<td>32</td>
<td>27</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LARS</td>
<td>29</td>
<td>24</td>
<td>22</td>
<td>18</td>
<td>-24%</td>
<td>-25%</td>
</tr>
<tr>
<td>XRP</td>
<td>168</td>
<td>134</td>
<td>137</td>
<td>112</td>
<td>-18%</td>
<td>-16%</td>
</tr>
<tr>
<td>MDAP</td>
<td>139</td>
<td>104</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>LDAP</td>
<td>82</td>
<td>51</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>PSTAR</td>
<td>69</td>
<td>46</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>HW</td>
<td>110</td>
<td>72</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>MatISSE</td>
<td>55</td>
<td>44</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>PICASSO</td>
<td></td>
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</table>

*NEOO proposals not solicited this year.

Not solicited this year.
A Selection Metric

Overall rate = 21%

Data assembled by Doris Daou.

Shown are 1,561 proposals submitted to ROSES-2014, including all core programs (EW, SSW, HW, SSO, EXO) and all DAPs (MDAP, DDAP, LDAP, CDAPS).
Facilities Future Plans

Objective:
Ensure that NASA-funded, science-enabling research facilities support the needs of PSD R&A community

Plans:
– Gauge interest & community needs through RFI’s
– Identify existing & future facility needs via LPSC session
– Summarize lessons learned from review of PSD-funded facilities

New Facilities
– Release a CAN to fund facilities that would answer the needs of the community
– Estimated release date in calendar year 2016
Current Facilities Lessons Learned

- Progress Report from all PSD Funded Facilities:
  - AVRG, PAL & RELAB
- Each Facility will have 1 hour to present and 1 hour Q&A
- Presentation to the Panel:
  - Current Objectives and Accomplishments
  - Impact on Missions, Planetary Science, and Planetary Science Community
  - Management Plan
  - Unique Distinguishing Features
  - Usage of the Facilities (hours, groups..)
  - Lessons Learned
  - Publications List
- Panel will provide a summary with lessons learned, to PSD management
- Volunteers invited (SARA website)
  [http://science.nasa.gov/researchers/volunteer-review-panels/facilities-program-progress-review/](http://science.nasa.gov/researchers/volunteer-review-panels/facilities-program-progress-review/)
- Questions: [doris.daou-1@nasa.gov](mailto:doris.daou-1@nasa.gov).
Procedure for USGS mapping

• Contact the USGS Map Coordinator (currently Jim Skinner) to discuss the mapping project. This should be done as early as possible in the proposal process.
  – The USGS has a form letter that lists the map’s technical specifications and affirms that the USGS is able to support the mapping effort.
  – This is purely a statement of technical support and does not constitute an endorsement of the proposal.

• In the proposal submission questions, indicate that a USGS geologic map would be published as part of the project.

• In the full (Step-2) proposal, the USGS letter of technical specifications must be included, as one would include a letter of support.
  – This letter does not remove the responsibility of the proposal to describe and justify the mapping effort within the 15-page main body.
  – Selection of a proposal is contingent upon the inclusion of this letter.

• The USGS will be notified by the Program Officer of selected proposals with a mapping component.
## FY15 Research Budget by Funding Line

<table>
<thead>
<tr>
<th>Program</th>
<th>Budget ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planetary R&amp;A (Competed activities)</td>
<td>155.0</td>
</tr>
<tr>
<td>Mars R&amp;A (MDAP) (excluding CDP)</td>
<td>9.9</td>
</tr>
<tr>
<td>Outer Planets Research (CDAPS)</td>
<td>8.5</td>
</tr>
<tr>
<td>Discovery Research (excluding PSP’s)</td>
<td>8.0</td>
</tr>
<tr>
<td>JRPE (SSERVI Nodes)</td>
<td>7.8</td>
</tr>
<tr>
<td>NEOO (Competed activities)</td>
<td>15.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>204.2</strong></td>
</tr>
</tbody>
</table>
...and there’s leveraging!

- Astrophysics Division provides ~$1.5M to the NASA Astrobiology Institute.
- Astrophysics Division provides ~$1M for XRP.
- Human Exploration and Operations Mission Directorate contributes $4-5M to fund SSERVI.
President’s Budget Request for FY16

• FY16 Budget proposed to be nearly identical to FY15 for R&A
  – Planetary R&A (all activities) $162.5M
  – Mars Data Analysis Program $10M
  – Outer Planets R&A/CDAPS $8.5M
  – Discovery Research grows to $12.3M
  – SSERVI funded with JRPE money $10M

• NEOO proposed to grow to $50M in FY16
  – Not all of the $50M, though, is for competed research.
  – NEO will solicit competed research in ROSES 2016 under Solar System Observations (SSO)
  – NEO will fund a portion of Spitzer in FY16
    • Plan to propose Planetary observations with Spitzer
Where’s my money?

ROSES-2015 Released: ~ 14 Feb 2015
Step-1s Due: NET Mar 2015
Step-2s Due: NOIs + 2 mo or 60 days from release
Review: Props + 2-4 mo
Selection Decision
Award Paperwork Complete: Selection + 2 wk
Release $ in RAPTOR
Send $ to Ctrs, Feds
Grant? N Y

Individual Programs’ FY16 Budgets Set
Congress debates
Repeat until approved
NASA submits Op Plan
End of FY15 30 Sept 2015
Congress debates
President’s 2016 Budget Request: Feb 2015
Congress debates
Congress debates more
Continue Resolution
Appropriation or Year-long CR
Average over last 5 years is about 4 months after start of FY
Repeat monthly, weekly or daily!
PI Receives Award

HGAC Starts Award
Variable, add 1 to 6 wks
NSSC Completes Award ~ 1 mo
Approve Progress Report
Receive Progress Report

Money
Done by, or under control of, PSD
Done by NASA, but not by HQ
The speed of money (ROSES14)

Data and analysis provided by Jared Leisner.
Conclusions

• FY16 Budget for R&A is expected to be similar to FY15, expectation of increase with inflation for out years
• Kicking off review of PSD-funded facilities with a plan to solicit new facilities in CY16
• Kicking off NRC/SSB review to examine the implementation of R&A restructuring
• Current effort ongoing to examine investments in R&A pre- & post-restructuring, complete insertion of keywords into all funded activities
• Don’t forget Data Management Plans (DMP in the cover pages)
Ground Rules on Questions

• I cannot tell you anything about future budgets beyond what I already have.
  – The FY16 budget request is working its way through the normal Appropriations process and I cannot speculate on when or how that will turn out.
    • Remember, the President proposes but Congress disposes.
  – The President’s FY17 budget request is still in the early stages of preparation and it will not be public before the first Monday in February 2016, so I cannot talk about that either.

• I cannot disclose anything about unselected proposals. The titles and abstracts of selected proposals are available through NSPIRES.

• I cannot disclose any pre-decisional information (e.g., panel divisions, selection discussions) but I can answer questions about processes in general. This includes the Discovery AO.
QUESTIONS?