Planetary Science R&A Program Update

Michael New

Planetary Science Subcommittee Meeting

2016 Mar 9-10

PSD R&A ROSES 16 Deadlines

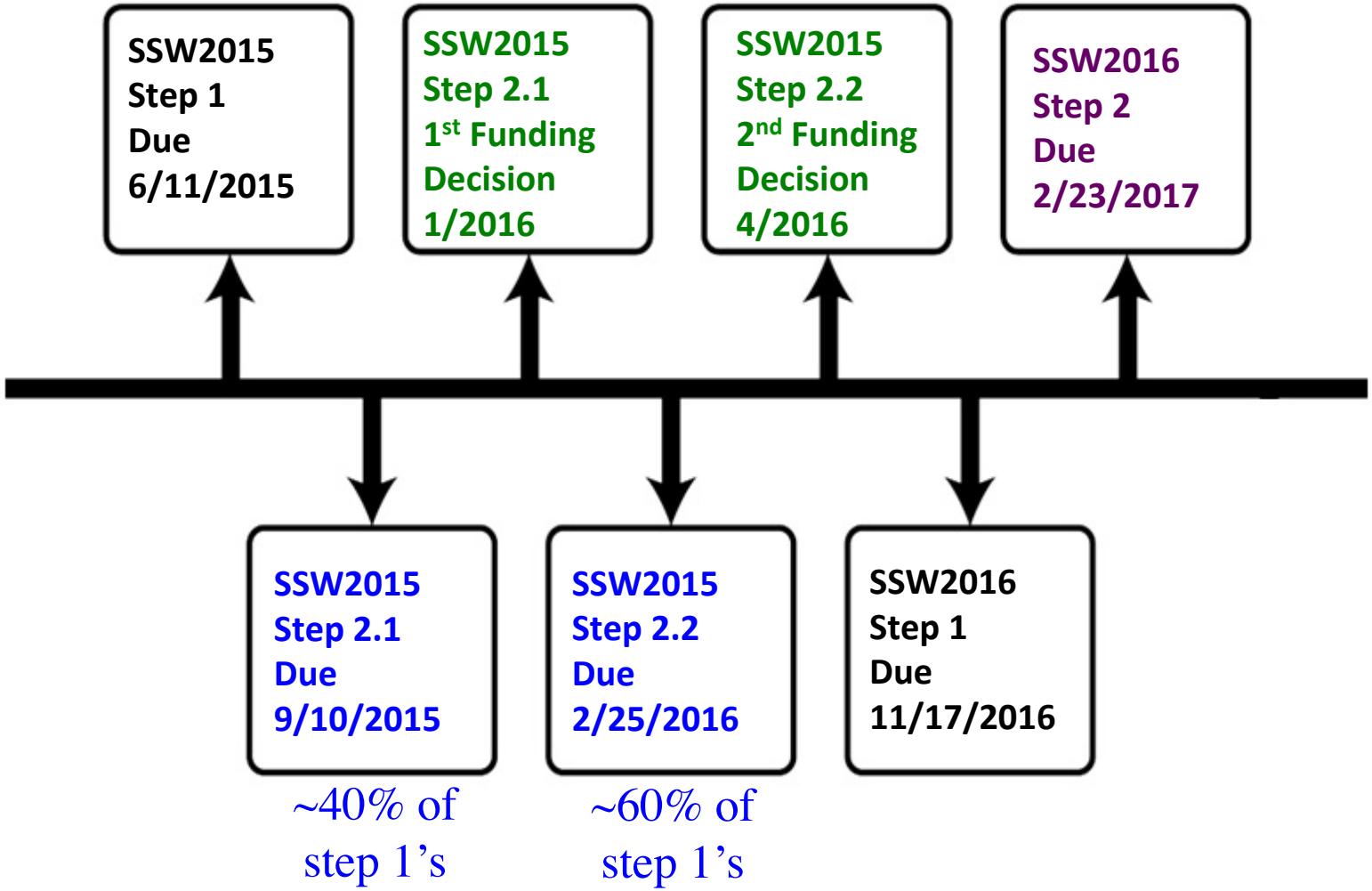
Program Name	Step-1 Due Date	Step-2 Due Date
Exoplanets (XRP)	03/29/2016	05/26/2016
Emerging Worlds (EW)	03/31/2016	06/03/2016
Cassini Data Analysis (CDAPS)	04/06/2016	06/06/2016
Solar System Obs. (SSO)	04/08/2016	06/10/2016
MatISSE	04/21/2016	06/21/2016
Laboratory Analysis of Returned Sample (LARS)	04/22/2016	06/24/2016
Planetary Data Archiving, Resto, Tools (PDART)	05/13/2016	07/15/2016
Exobiology (EXOB)	05/20/2016	07/22/2016
Planetary Protection Research (PPR)	06/24/2016	09/02/2016
Planetary Sci./Tech. Through Analog Research (PSTAR)	07/22/2016	09/23/2016
Mars Data Analysis (MDAP)	08/26/2016	09/30/2016
Lunar Data Analysis (LDAP)	09/30/2016	10/28/2016
PICASSO	09/14/2016	11/14/2016
Discovery Data Analysis (DDAP)	09/08/2016	11/17/2016
Habitable Worlds (HW)	11/18/2016	01/20/2017
Solar System Workings (SSW)	11/17/2016	02/23/2017

Timeline for SSW 15 & 16

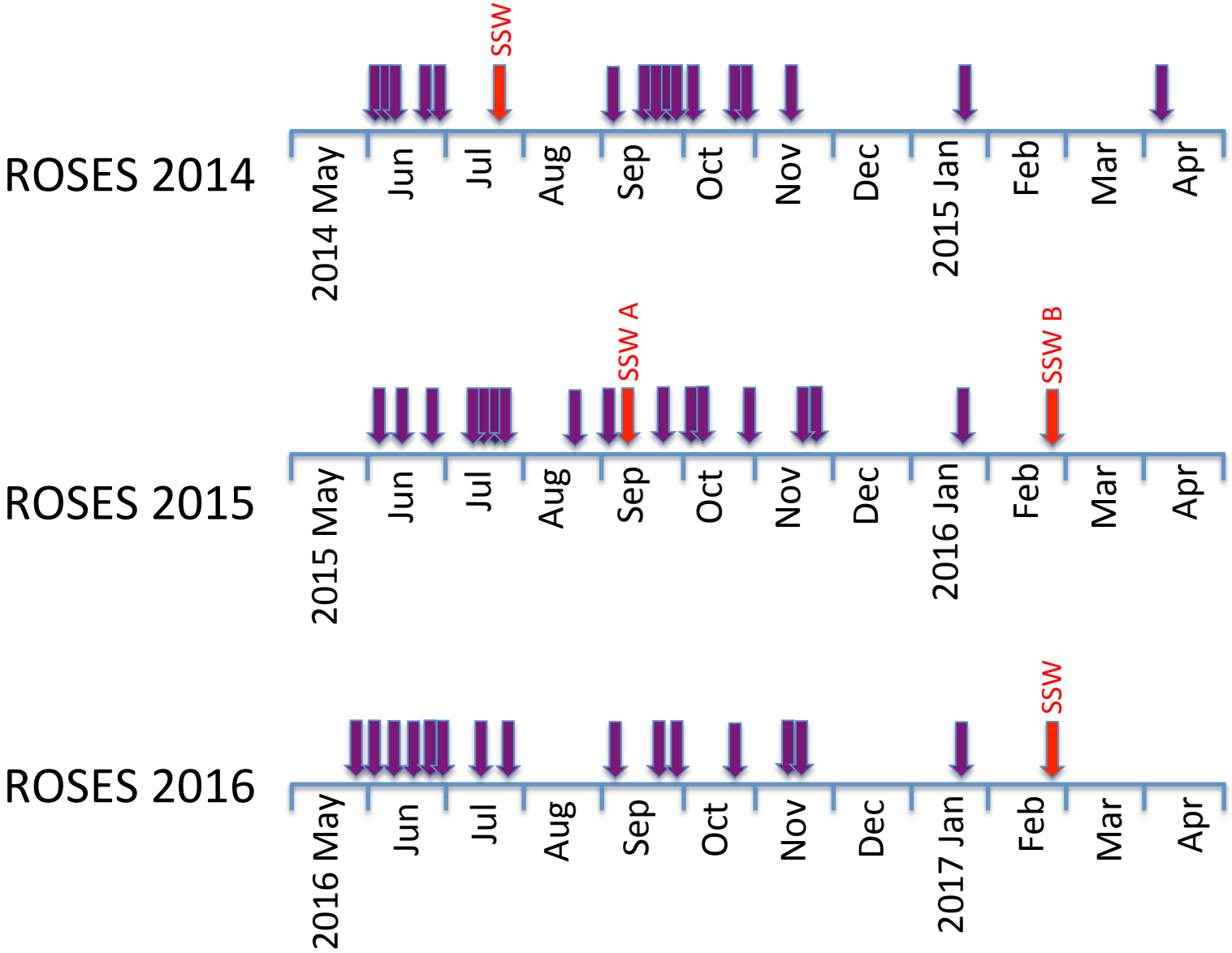
Single Step 1 per year

Two Step 2 deadlines for SSW 2015

One Step 2 deadline for SSW 2016+



Calendar Crunch: ROSES Step-2 Deadlines

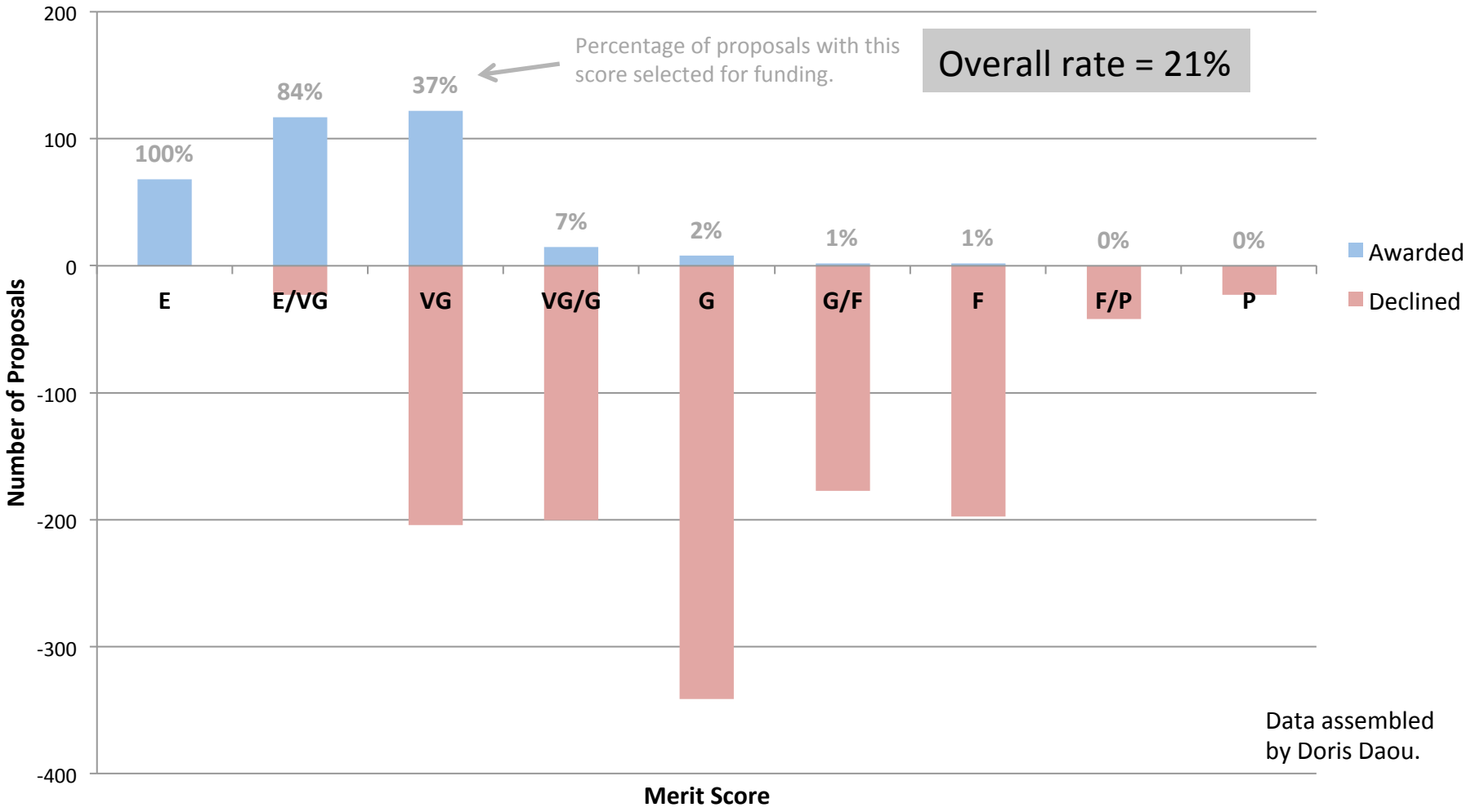


Change in Proposal Numbers

Program	ROSES 2014 Step-2 Submissions	ROSES 2015 Step-2 Submissions	% Change
EW	158	137	-13
SSW	384	315	-18
EXOB	144	179	+24
SSO	71	51*	-28
PDART	100	97	-3
CDAPS	78	84	+8
DDAP	27	39	+44
LARS	24	18	-25
XRP	134	112	-16
MDAP	104	100	-4
LDAP	51	47	-8
PSTAR	46	48	+4
HW	72	63	-13
MatISSE	44	Not solicited	
PICASSO	96	113	+18
Total	1533	1403	-15

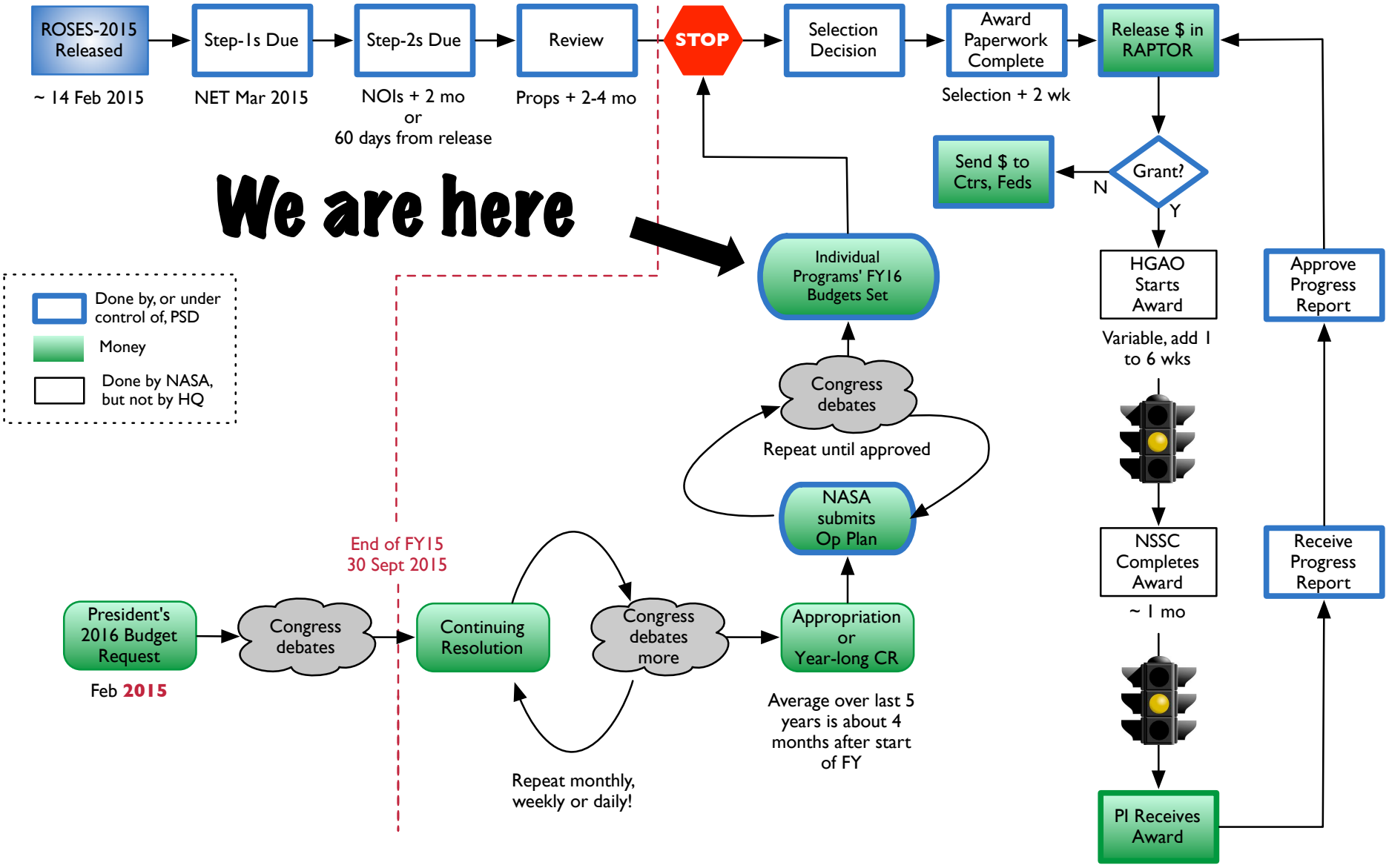
*NEOO proposals not solicited in 2015.

A Selection Metric

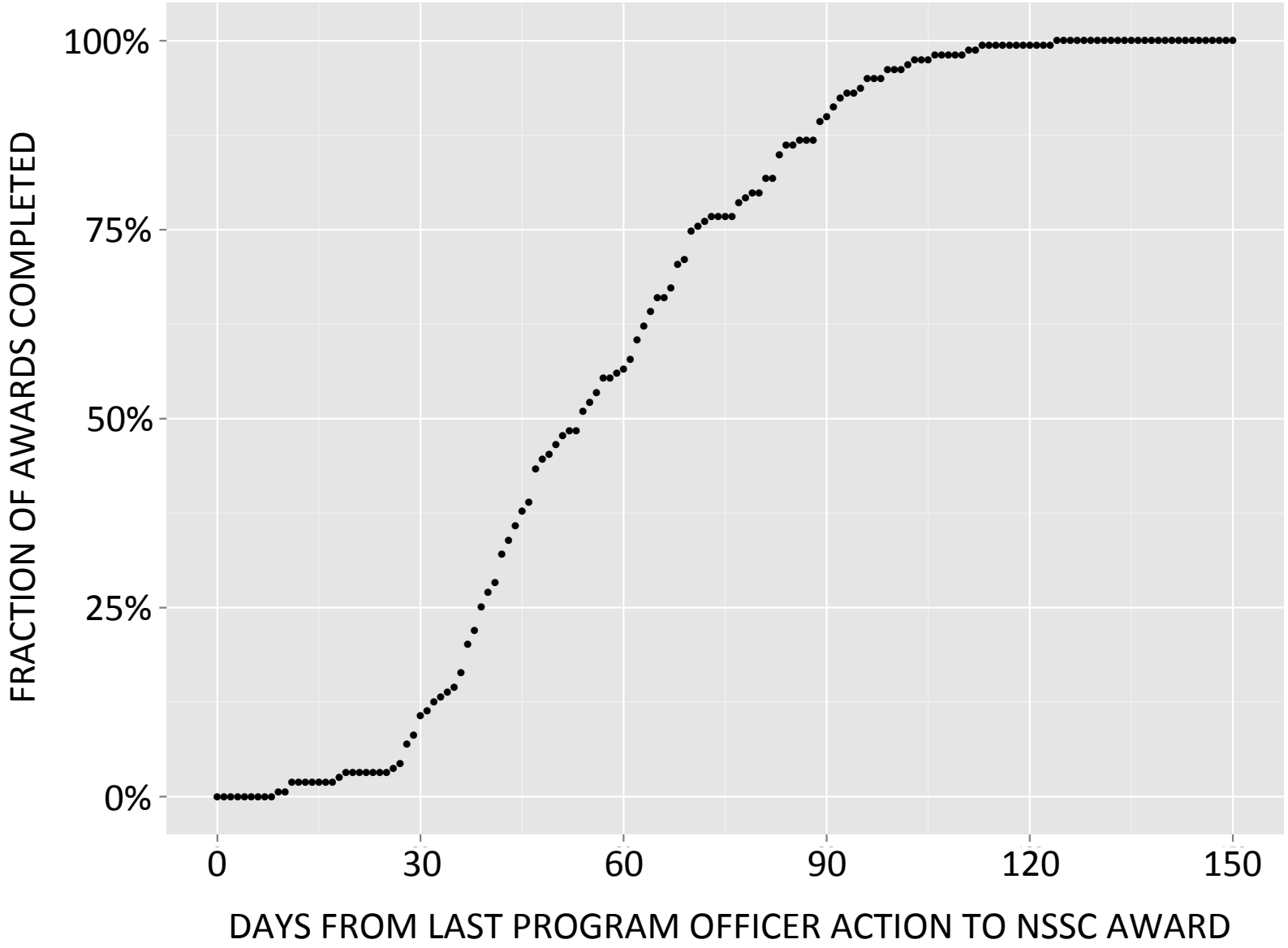


Shown are proposals submitted to ROSES-2014, including all core programs (EW, SSW, HW, SSO, EXO) and all DAPs (MDAP, DDAP, LDAP, CDAPS).

Where's my money?



The speed of money



Data and analysis provided by Jared Leisner.

Facilities

Objective

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

Current PSD Funded Facilities

Summarize *Lessons Learned* from PSD-Funded Facilities

Community Needs Assessment

- *Assess Community Needs* through RFI
- *Identify Existing Facilities* via LPSC session
  (PSD funded or not)

Future Plans for Support of Facilities

- Release a CAN to fund facilities that would answer the needs of the community
- Estimated release date in calendar year 2016

Current PSD Funded Facilities – Lessons Learned

- Progress Report from all PSD Funded Facilities:
  - ✓ Planetary Aeolian Lab (PAL) October 12, 2015
  - ✓ Reflectance Lab (RELAB), October 14, 2015
  - ✓ Glenn Extreme Environments Rig (GEER), November 16, 2015
  - ✓ Ames Vertical Gun Range (AVGR), November 16, 2015
- Each Facility had ~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 Composed of community members and users
- Panel provided a summary with lessons learned, to PSD management
- Report: PSD Facilities' Website: http://www.lpi.usra.edu/psd-facilities/

RFI – Communities Needs Assessment

✧ Gauge interest & community needs through RFIs

- Released: January 28, 2016
- Responses Due: April 30, 2016
- PDF file format, attached to an E-mail, sent to Doris.Daou@nasa.gov
- Email Subject Line: RESPONSE to Facilities RFI

✧ RFI solicits community feedback on any or all of the following questions:

1. Do you use any existing planetary science facility that serves the broader community? What extent? How did you find out about it? Describe your experiences in using that facility.

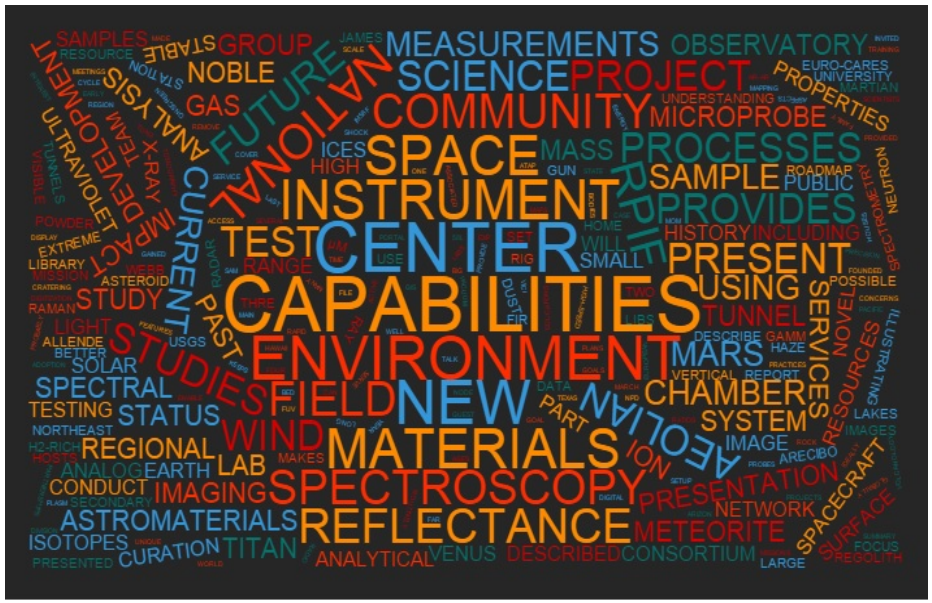
2. What capabilities are missing or unavailable in the implementation of your research activities that could be supported through the Facilities Program? Are you aware of existing facilities that could meet your needs if they were made available to the community?

3. Do you currently manage, or plan to develop, a facility that could serve the broader community? Describe the facility and what needs it would fill.

LPSC Session – Identify Existing Facilities

Thursday afternoon, March 24, 1:30 p.m., Waterway Ballroom 4

- ✧ 13 oral presentations and 49 poster
- ✧ Five invited talks
  - ✓ The NASA Regional Planetary Image Facility Network: A Globally Distributed Resource For The Planetary Science Community
  - ✓ The NASA Reflectance Experiment Laboratory (RELAB) Facility: Past, Present, And Future
  - ✓ NASA Facility Overview: Planetary Aeolian Laboratory
  - ✓ Glenn Extreme Environments Rig (GEER) For Planetary Science
  - ✓ The Ames Vertical Gun Range



www.lpi.usra.edu/psd-facilities/

NASA's Planetary Science Division Facilities

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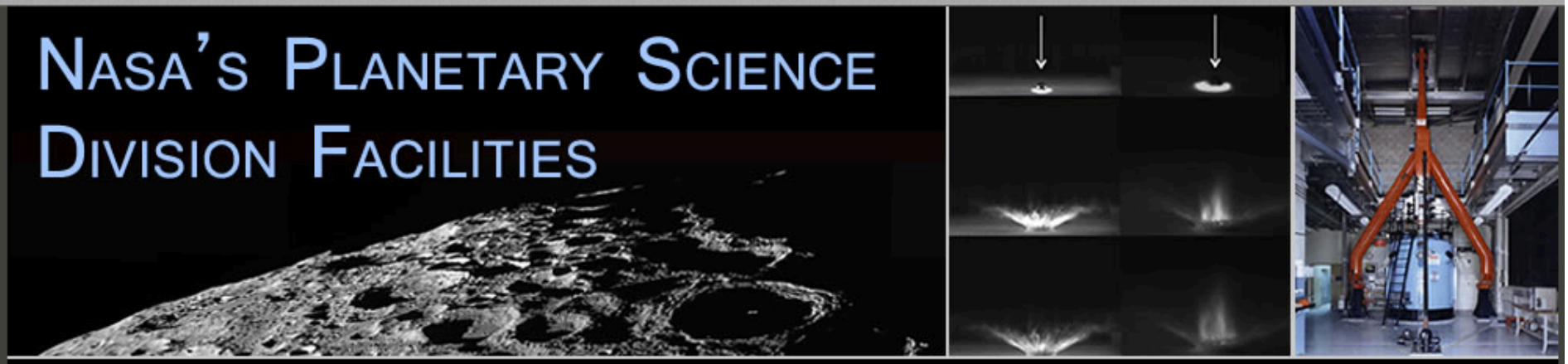
NASA's Planetary Science Division Facilities



HOME

Facilities RFI

2016 LPSC Special Session

Documentations and Presentations

FAQ

CURRENT PSD R&A FUNDED FACILITIES

NASA Ames Planetary Aeolian Facility (PAL)

NASA Ames Vertical Gun Range (AVGR)

NASA Glenn Extreme Environments Rig (GEER)

Reflectance Experiment Laboratory (RELAB)

NASA's Planetary Science Division Facilities

NASA's Planetary Science Division (PSD) is evolving how it deals with funded facilities. As part of this activity, NASA is working to identify current facilities, how they are working, and the extent to which they serve the science needs of the broader planetary community. Consequently, NASA's PSD has released an RFI to the Planetary Science Community and will hold a special session on this topic at the 2016 LPSC meeting and is inviting members of the community to submit abstracts for oral or poster presentation, describing their facility, its capabilities, its uses, and its potential service to the community at large. This process is initiated in the effort to assess best practices and identify a series of lessons learned, as well as provide information for future plans and strategies supporting a balanced PSD R&A portfolio.

Managed for NASA by USRA's Lunar and Planetary Institute

Last updated February 9, 2016

FY16 Research Budget by Funding Line

Program	Budget ($M)
Planetary R&A (Competed and supported activities)	154.0
Mars R&A (Mars Data Analysis Program) (excluding Critical Data Products (CDP)	9.4
Outer Planets Research (Cassini Data Analysis Program & PSP)	8.4
Discovery Research	11.4
Joint Robotics Program for Exploration (JRPE) (SSERVI Nodes)	10.0
NEOO (Competed activities)	20.9
Europa Technology	25.0*
Total	**214.1**

National Academies R&A Study

Objective: Examine the program elements of the PSD R&A programs, as they currently exist following restructuring, for their consistency with past NRC advice

The committee* will address the following questions:

1. Are the PSD and R&A program elements appropriately linked to, and do they encompass the range and scope of activities needed to support, the NASA Strategic Objective for Planetary Science and the PSD Science Goals, as articulated in the *2014 NASA Science Plan*?

2. Are the PSD R&A program elements appropriately structured to develop the broad base of knowledge and broad range of activities needed both to enable new spaceflight missions and to interpret and maximize the scientific return from existing missions?

* Currently staffing *ad hoc* committee. Report anticipated by December.

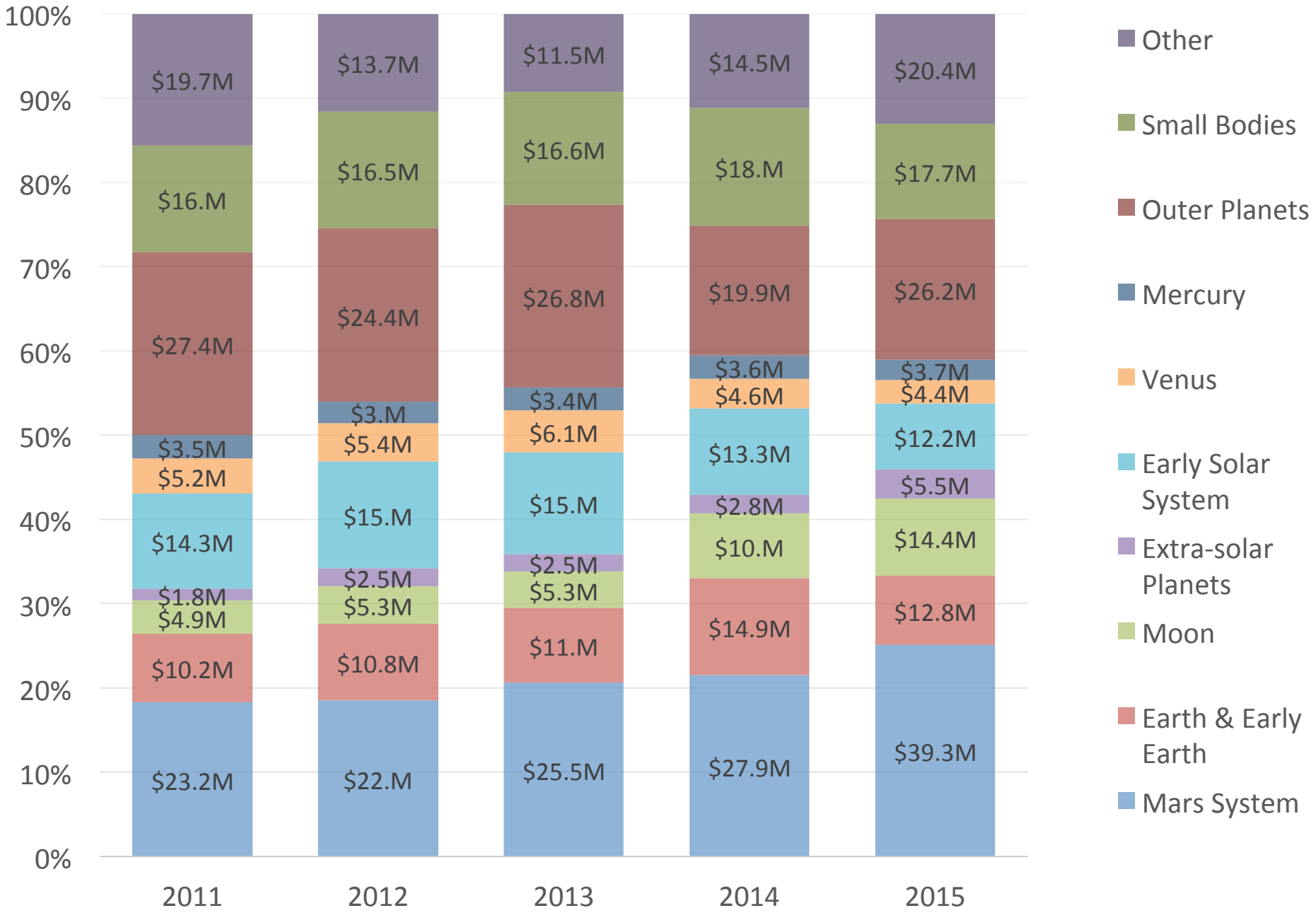
Updates

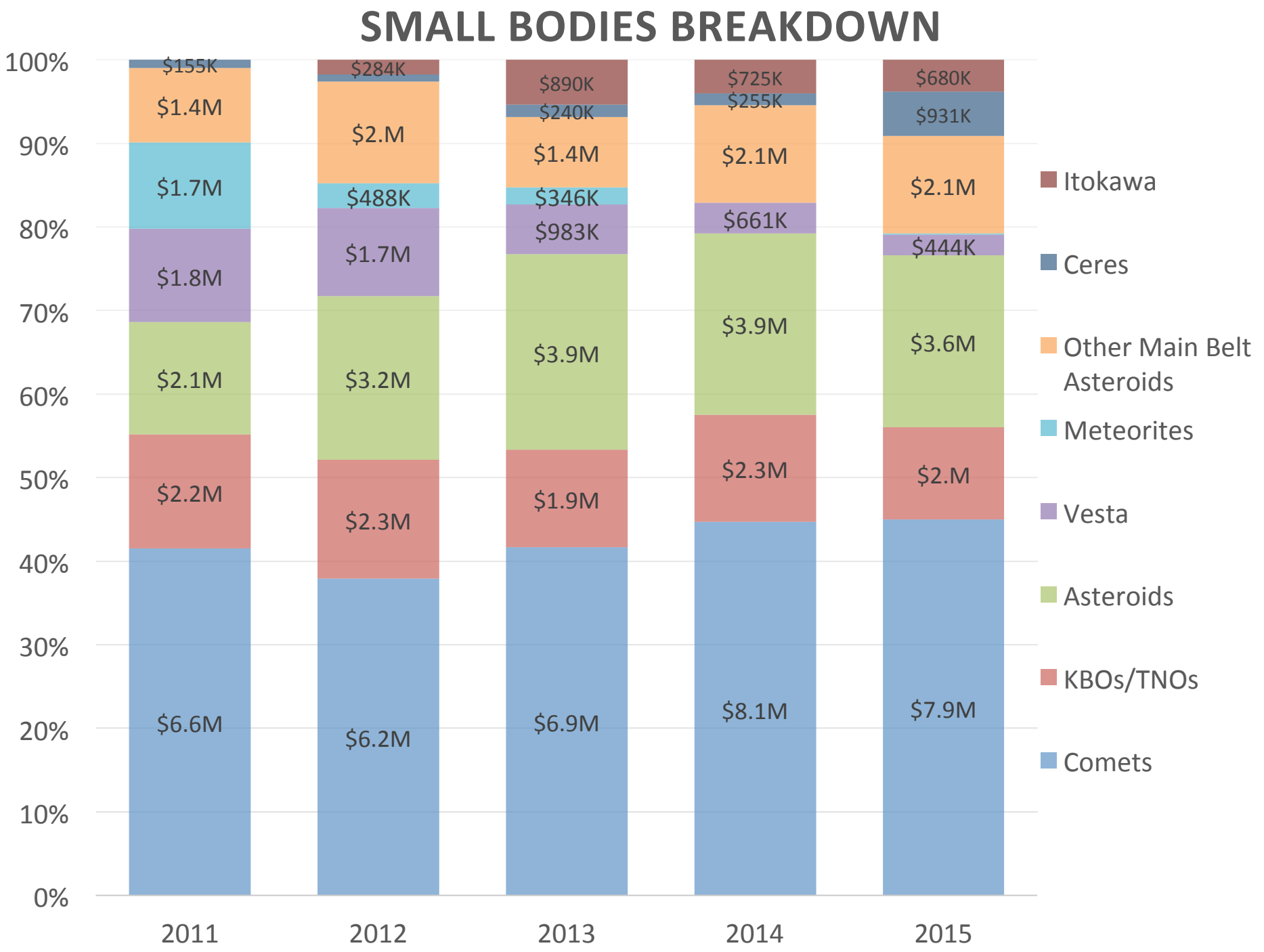
- Feb: ROSES 2016 released
  - IMPORTANT CHANGE: All salaries (even civil servants!) should be included in cover page budget tables; these will be automatically redacted and hidden from reviewers. DO include the work effort table (FTEs); Do NOT include $ values of salaries (or overhead) in the budget justification.
  - Appendix C.1 explains general requirements that apply to all program elements; read it carefully!
  - Two-page DMP falls outside 15-page limit.
  - There is a new PSD-specific FAQ page for Data Management Plans.
- May 2016: Office of Chief Scientist to release Data Management website
- Later in 2016: Facilities RFIs and CAN
- Late 2016:
  - Mid decadal review start
  - New Frontiers Draft AO

Keyword Analysis

- Analysis of “Target Object” Keyword for 2011-2015, includes:
  - Competed ROSES programs
  - DAPS
  - Participating Science Programs
- Excludes:
  - NAI
  - SSERVI
- Caveats:
  - Keywords were not submitted for all tasks

OBJECT OF STUDY




SMALL BODIES BREAKDOWN
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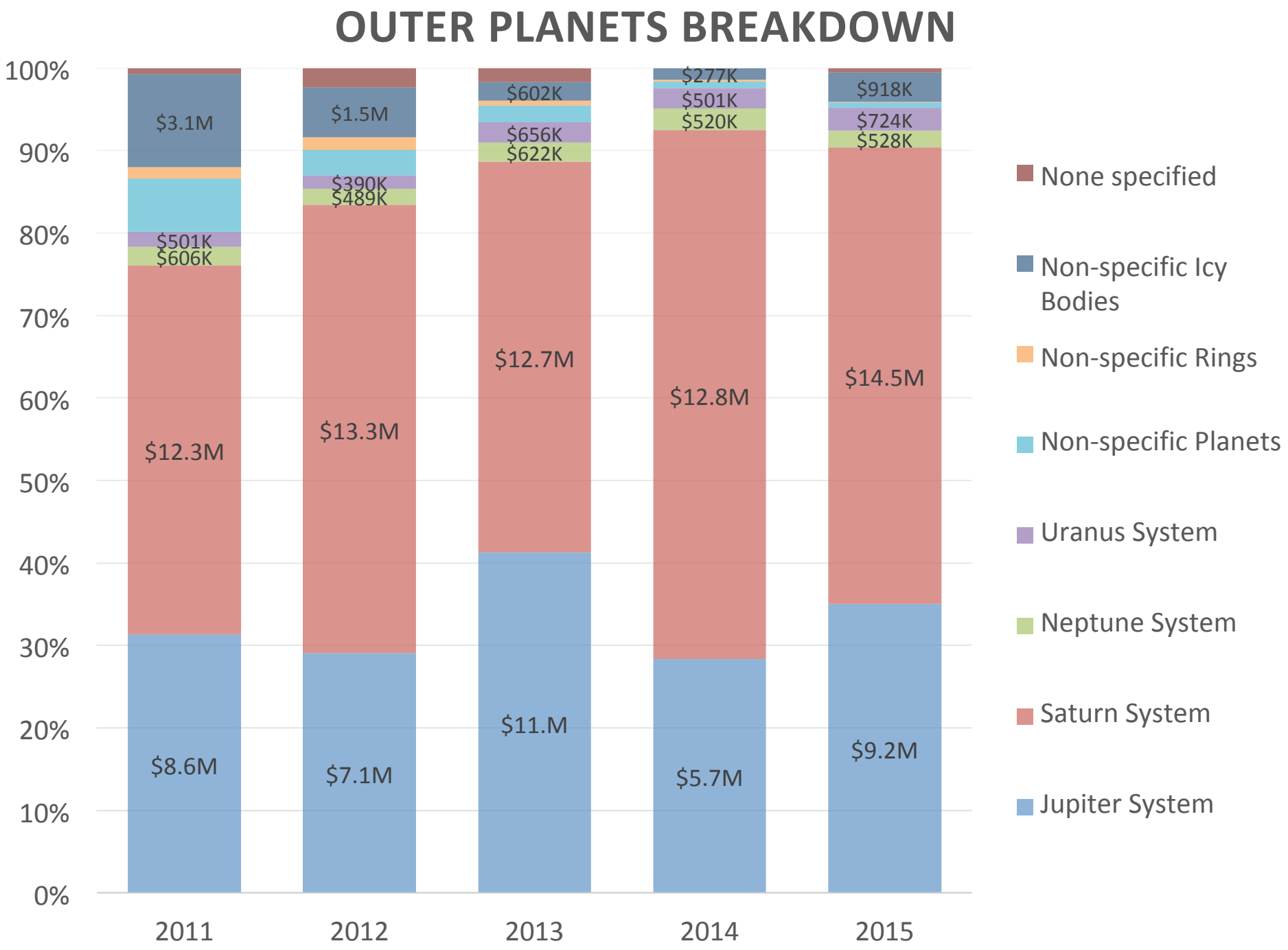
Itokawa
Ceres
Other Main Belt Asteroids
Meteorites
Vesta
Asteroids
KBOs/TNOs
Comets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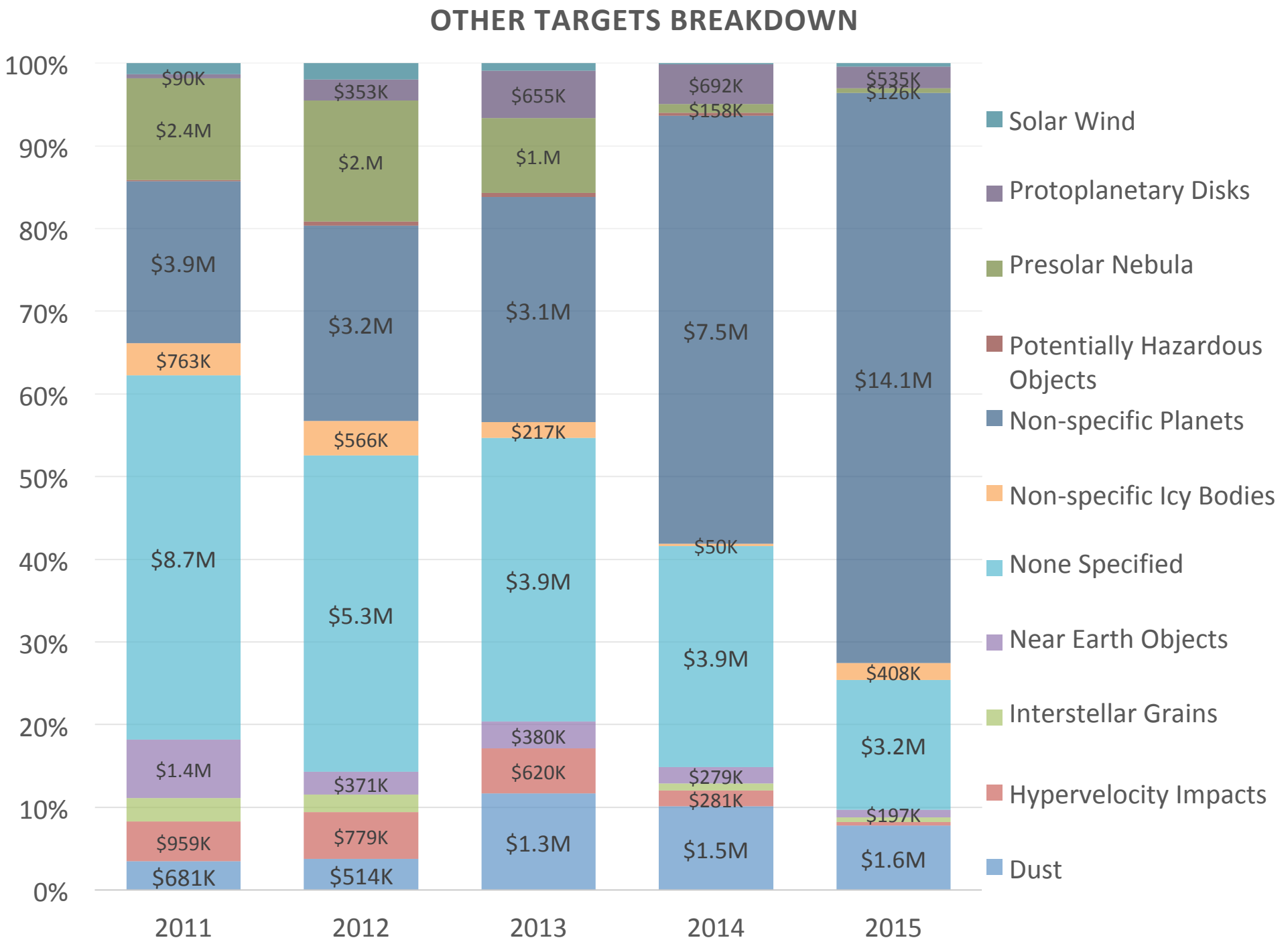
Non-specific Planets
Uranus System
Neptune System
Saturn System
Jupiter System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$197K
$1.6M
Solar Wind
Protoplanetary Disks
Presolar Nebula
Potentially Hazardous Objects
Non-specific Planets
Non-specific Icy Bodies
None Specified
Near Earth Objects
Interstellar Grains
Hypervelocity Impacts
Dust

QUESTIONS?

*JWST – Reminder, people intending to propose to work on JWST observations/ data and who need to upgrade instrumentation should propose to ROSES 2016

BACKUPS

Important Change in ROSES-2016

- We must hide NASA Civil Servant (CS) salary and overhead from ROSES peer reviewers, but we currently do not hide salary and overhead of non-NASA proposers.
- Since we keep the NASA CS salary out the budgets and the cover pages, they sometimes get forgotten.
- Starting in ROSES-2016 we will treat all proposers equally: All salaries and overhead will be included in the NSPIRES cover pages, but automatically hidden from reviewers.
- Only level of effort (FTEs/WYEs) will be in the body of proposals and assessed by peer reviewers.
- Because all salaries and overhead for everyone will be in the cover pages, NASA HQ will be less likely to miss these when awarding to Centers.

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 andaffirms 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 15R 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.

…and there's leveraging!

- Astrophysics Division provides ~$1.5M to the NASA Astrobiology Institute.
- Astrophysics Division and R&A leverage joint investments in XRP: ~$6M/year in research with $2-2.5M for new awards.
- Human Exploration and Operations Mission Directorate (HEOMD) contributes $4-5M to fund SSERVI.