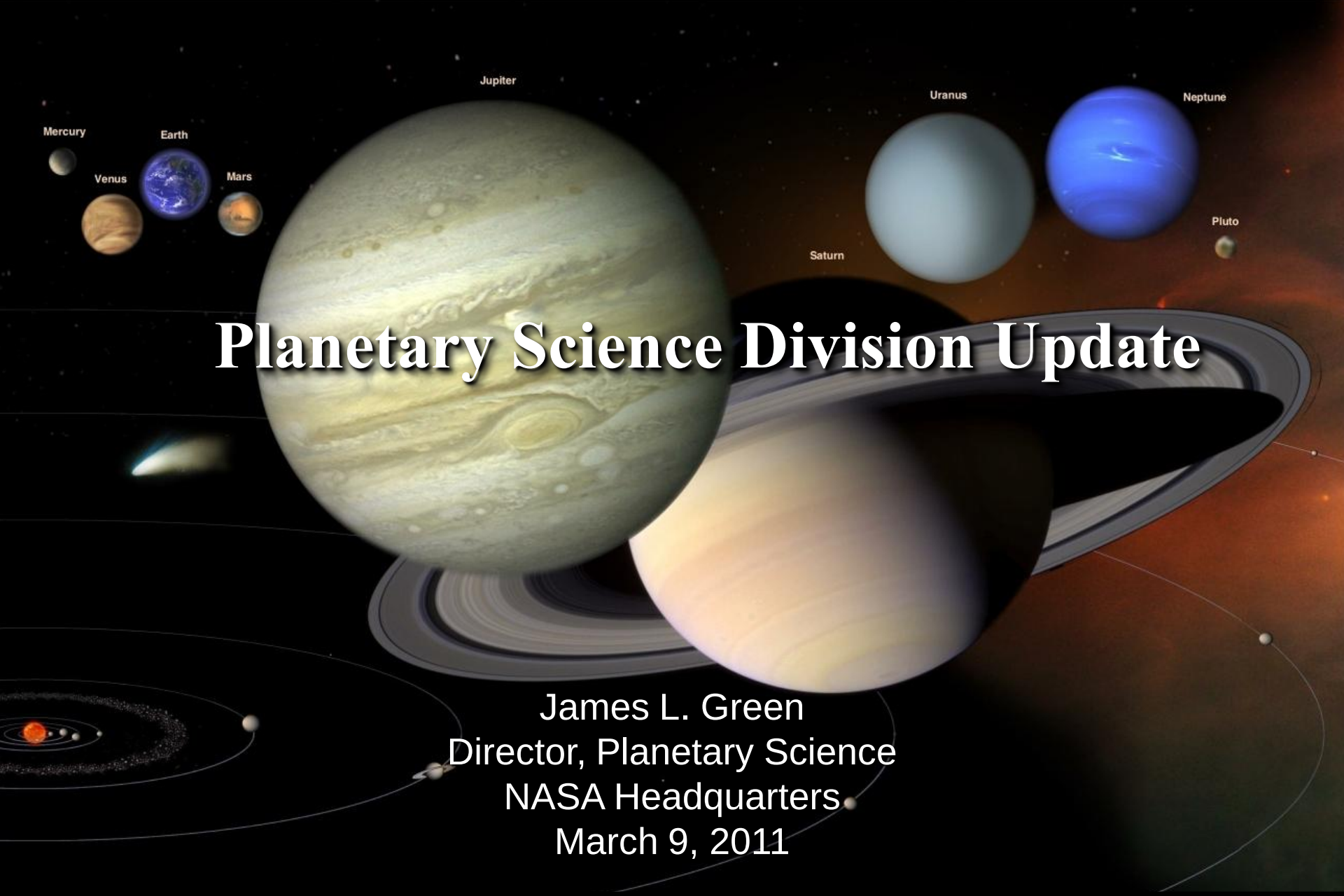


Planetary Science Division Update

James L. Green
Director, Planetary Science
NASA Headquarters
March 9, 2011

Outline

- Administrative changes
- Recent Accomplishments
- Current Budget Environment
- Status of missions in formulation
- Research & Analysis status
- PU-238 Status
- Future Funding and the Decadal

Administrative Changes

Additions to Planetary Division Staff:

- Kristen Erickson – Assistant Director for Strategic Communication
- Jonathan Rall – Head, Planetary Research
- Jeff Grossman – Program Officer and PS for New Frontiers Program
- Mary Mellott – Program Scientist for MAVEN and Juno
- Mitch Schulte - Mars Program Scientist

New Detailees:

- Sara Noble – Program Officer for MMAMA program
- Shawn Goldman – Visiting post-doc in Astrobiology
- Terry Hurford – Program Officer for OPR program
- Daniella Scalice – Planetary Education
- Dan Woodard – Technical integration specialist

Retired or have left:

- Dave Lindstrom, Marilyn Lindstrom, Mark Dahl, and Matt Dolloff

Year of the Solar System
NASA's Planetary Science Mission Events

2010

* September 16 – LRO transfer to SMD
* November 4 - EPOXI encounters Comet Hartley 2
• November 19 - Launch of O/OREOS

* Completed

2011

* February 14 - Stardust NExT encounters comet Tempel 1
* March 7 – Planetary Science Decadal Survey released

March 17 - MESSENGER orbit insertion at Mercury (8:45 pm Eastern)
July - Dawn orbit insertion at asteroid Vesta
August 5 - Juno launch to Jupiter
September 8 - GRAIL launch to the Moon
November 25 - MSL launch to Mars

2012

Mid 2012 -- Mars Opportunity Rover gets to Endeavour Crater
Mid-year -- Dawn leaves Vesta starts on its journey to Ceres
August - MSL lands on Mars

Our Current Budget Climate

- Civil Servant salary freeze for 2 years
  - Restricted travel budget
- NASA - under a *Continuing Resolution* until March 18
  - CR: Funding in FY11 at the FY10 levels
  - All agencies are to spend the minimum amount necessary
  - CR prohibits any new starts such as PU-238 restart
- FY11 possible options:
  - A full year CR at FY10 levels or less
  - NASA direction: “With the possibility of reductions below current CR (FY10) levels being considered by the new Congress, care should be given to limit spending before the resolution of FY11 appropriations.”

Status of Missions in Formulation

- Discovery-12 AO Status:
  - 28 proposals received, wide diversity of science targets, goals and approaches.
  - Proposers chose to use many of the incentivized, NASA-developed technologies
  - Evaluation in progress and *on schedule*
- New Frontier Step-2 proposals due January 28, 2011
  - MoonRise: SPA Basin Sample Return (Brad Joliff, PI)
  - OSIRIS-Rex: Asteroid sample return (Mike Drake, PI)
  - SAGE: Venus lander (Larry Esposito, PI)
  - Evaluation in progress and *on schedule*

•However: Selection announcement can only be made once a full year budget is obtained with funding available

Status of Funding R&A

- NEOO program will not make selections this year
  - Appropriated FY10 amount $5.8M; President's FY11 request to Congress was $20M
  - Fund: current grants, Arecibo (Congressionally directed), and NEOWISE leave no funding available for new grants
- PSD Program Officers have been directed not to over commit our R&A funds too early in the year
- Management tools:
  - Under-select in each of our R&A calls, but…
  - Put many more on notice that they are in the "selectable" range
    - Selectable range could be funded when NASA identifies the funds, which must wait until a final budget for NASA has been
  - Use "active grants management" – phase funding to match needs with PI approval
- Revisit all "selectable" proposals when a complete budget picture for NASA has been determined

Status on PU-238 Restart and Acquisition

Restart of Domestic PU-238 production:

- June 2010 – DoE issued the joint NASA/DoE restart report to Congress (cost share)
- President's budget request for FY11 and FY12 includes this shared funding
- Congress has not completed its work on the FY11 budget so this effort is not funded
- FY11 Authorization Act Congress requested a PU-238 production report from NASA
  - The report is complete and in the pre-release approval cycle
  - The facts have not changed substantively since the 2010 DOE report

Purchase of PU-238 from Russia:

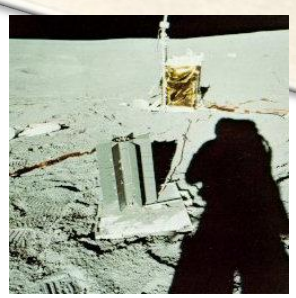
- Dec 2008 - Last purchase of PU-238 from Russia
- In 2009 Russia declared they needed to renegotiate a new PU-238 contract
- Oct 2010 – DoE met with Rosatom - agreed on basic terms for a new contract
- DoE is in the process of closing out its existing contract
- Next: Negotiate a new contract, then PU-238 must be processed and packaged
- Preliminary estimate of the next delivery will be no earlier than CY2013
- Quantities and pricing are procurement sensitive

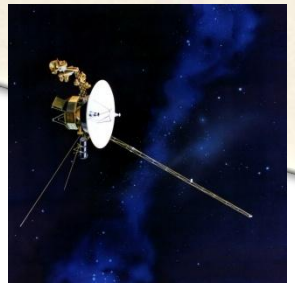
Status on PU-238 Restart and Acquisition (2)

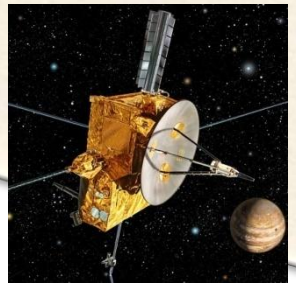
Pu-238 Future:

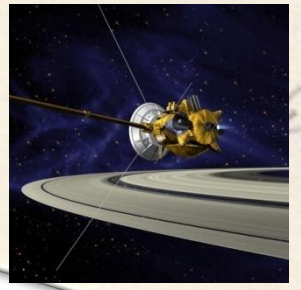
- The FY12 President's budget request supports PU-238 production restart with funding for both NASA and DoE
- Very strong support in the Planetary Decadal
- As a mission enabling capability, it is critical to infuse this Radioisotope power systems into planetary missions if we are to continue to explore low light regions

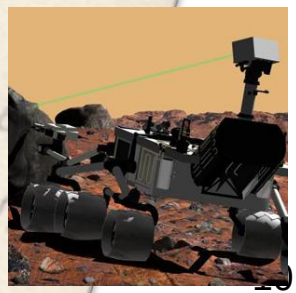
Commemorating 50 Years of Nuclear Space Flight









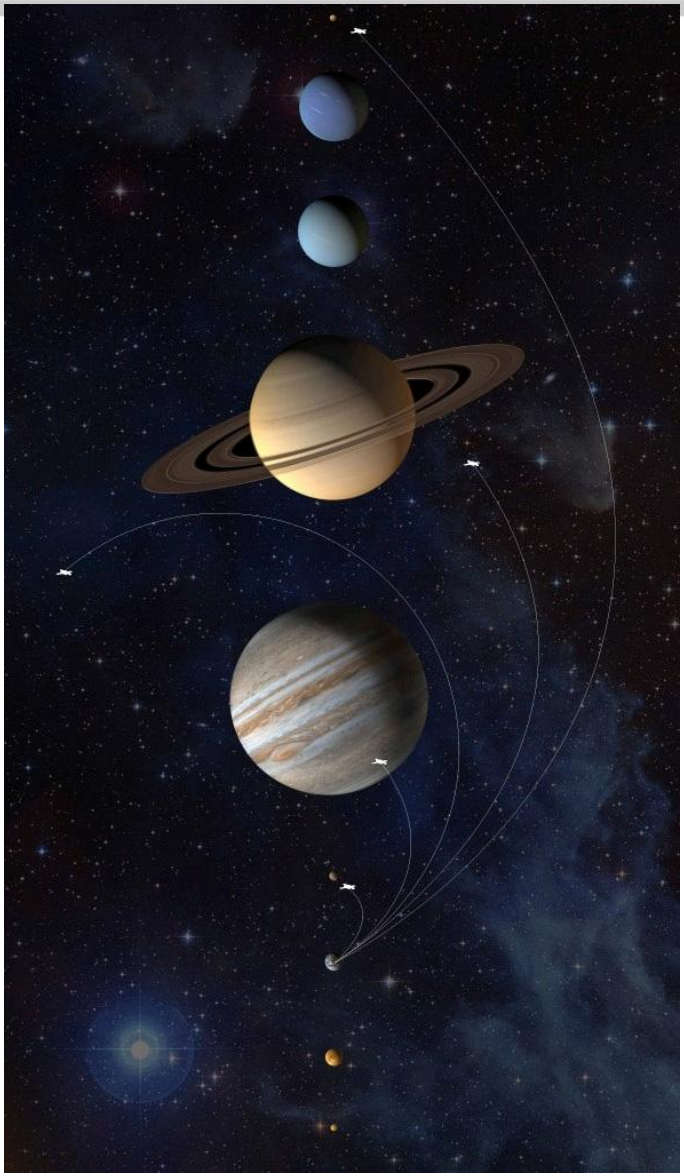


Joint LPSC and NETS in 2012

Next year's Lunar and Planetary Science Conference will be joined by a special edition of the Nuclear and Emerging Technologies for Space (NETS) meeting.

The joint meetings will offer the opportunity for the planetary science community to share requirements and mission concepts and the space nuclear community to share recent advancements and advertise new capabilities.

More information will be forthcoming



NCAR
NATIONAL CENTER FOR ATMOSPHERIC RESEARCH

Venus Exploration
VEXAG
Analysis Group

Comparative Climatology of Terrestrial Planets

A Scientific Workshop on the Climates of Venus, Earth, Mars, and Titan

Boulder, Colorado

Mid-February 2012 (3½ days)

Convenors

Eliot Young (SwRI)

Mark Bullock (SwRI)

David Grinspoon (DMNS)

Jim Hansen (GISS)

TOPICS

Climate and atmosphere

Clouds, hazes, and precipitation

Interior-surface-atmosphere interactions

Solar-atmosphere interactions

Papers will be published in an edited volume

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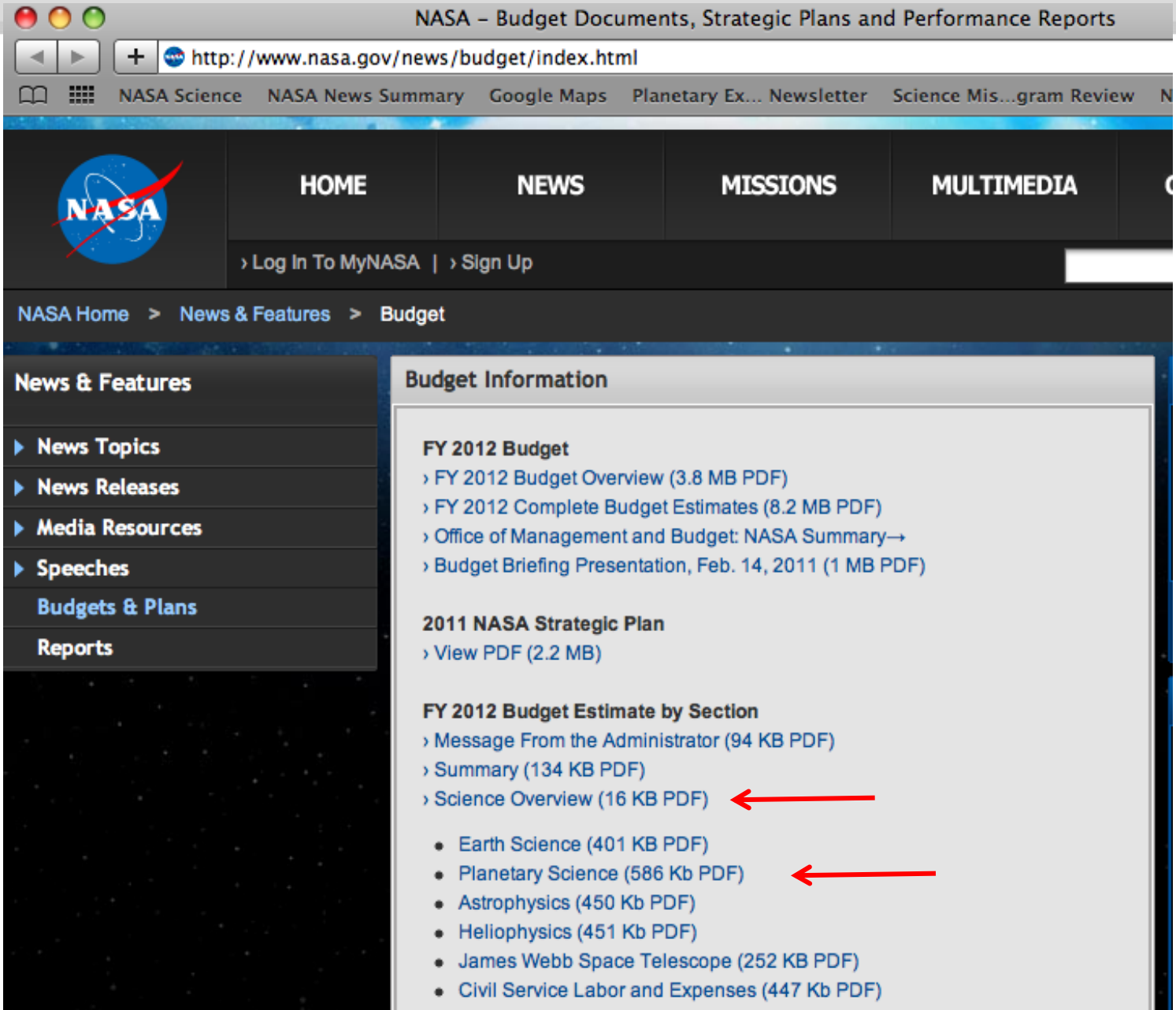
Future Funding and the Decadal

NASA's Budget

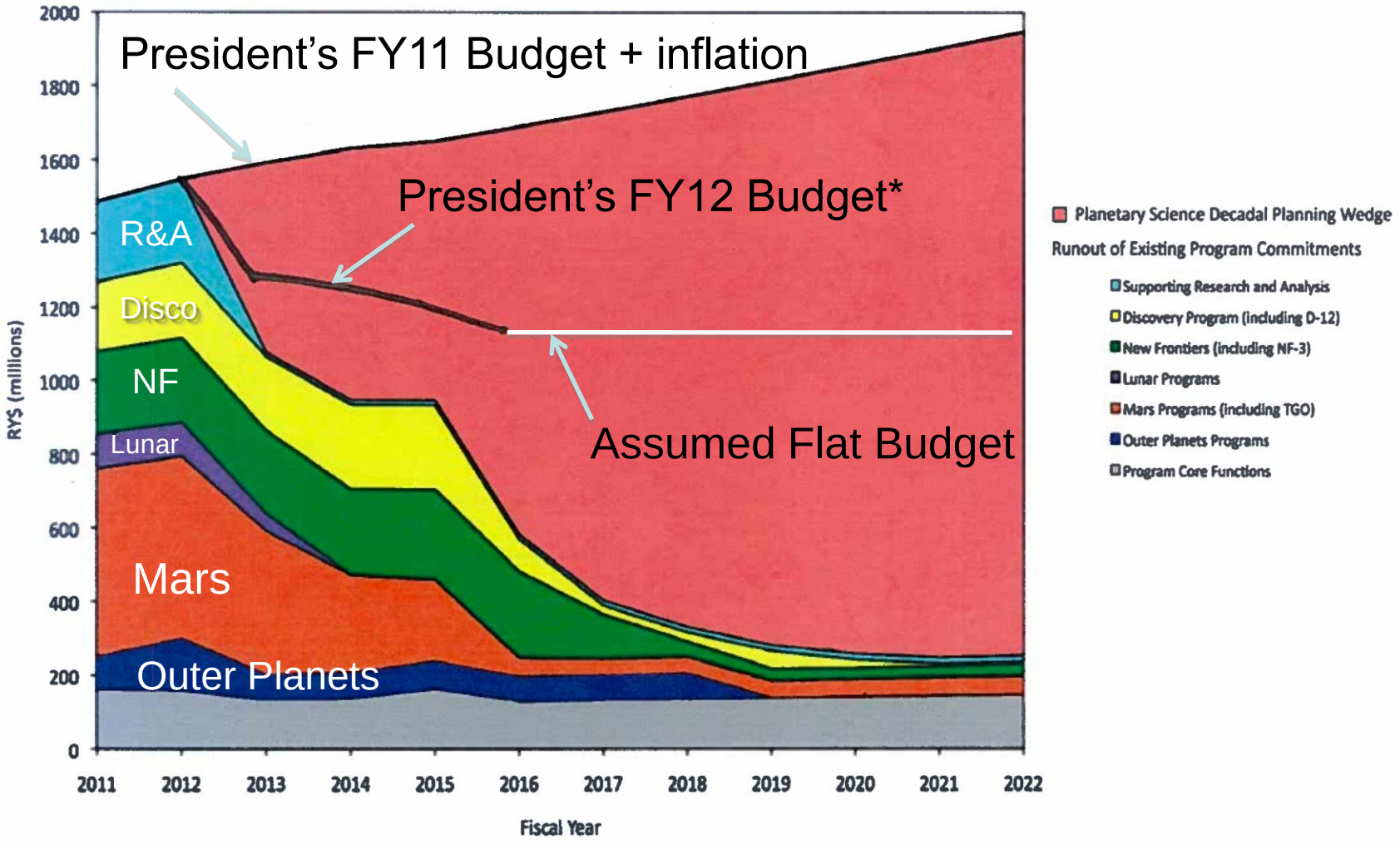


Planetary Science Program Content

	FY 2010	Pres Bud	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Planetary Science	**$1,364.4**	**$1,485.7**	**$1,488.9**	**$1,365.7**	**$1,326.4**	**$1,271.0**	**$1,188.9**
Planetary Science Research	*$161.6*	*$180.4*	*$183.9*	*$196.0*	*$208.6*	*$208.4*	*$210.5*
Planetary Science Research and Analysis	$131.5	$131.0	$134.6	$135.3	$140.0	$142.8	$149.8
Other Missions and Data Analysis	$21.3	$23.9	$23.7	$25.5	$31.7	$28.2	$23.0
Education and Directorate Management	$3.0	$5.1	$5.1	$14.7	$16.3	$16.7	$16.5
Near Earth Object Observations	$5.8	$20.3	$20.4	$20.5	$20.6	$20.7	$21.1
Lunar Quest Program	*$94.5*	*$121.6*	*$114.5*	*$81.2*	*$48.9*	*$28.1*	*$19.5*
Lunar Science	$31.4	$59.7	$50.9	$48.1	$48.9	$28.1	$19.5
Lunar Atmosphere and Dust Environment Explorer	$48.2	$57.9	$63.2	$33.1			
International Lunar Network	$14.9	$4.0	$0.3				
Discovery	*$184.5*	*$202.0*	*$175.6*	*$205.1*	*$245.7*	*$265.5*	*$242.8*
Gravity Recovery and Interior Laboratory (GRAIL)	$124.1	$104.8	$40.5	$4.4			
Other Missions and Data Analysis	$60.4	$97.2	$135.1	$200.6	$245.7	$265.5	$242.8
New Frontiers	*$279.6*	*$223.8*	*$176.9*	*$265.8*	*$245.5*	*$291.1*	*$296.3*
Juno	$257.1	$184.2	$31.2	$17.6	$17.9	$16.7	$29.6
Other Missions and Data Analysis	$22.4	$39.6	$145.7	$248.2	$227.6	$274.4	$266.7
Mars Exploration	*$438.2*	*$532.8*	*$594.4*	*$433.1*	*$408.7*	*$309.0*	*$245.9*
2009 Mars Science Lab	$258.4	$231.6	$136.4	$40.5	$37.0		
MAVEN	$48.1	$161.2	$240.3	$140.6	$34.9	$15.4	$4.7
Other Missions and Data Analysis	$131.7	$140.0	$217.7	$252.0	$336.8	$293.5	$241.1
Outer Planets	*$100.6*	*$103.5*	*$120.8*	*$80.5*	*$82.2*	*$84.1*	*$88.5*
Technology	*$105.5*	*$121.5*	*$122.9*	*$104.1*	*$86.6*	*$84.9*	*$85.4*

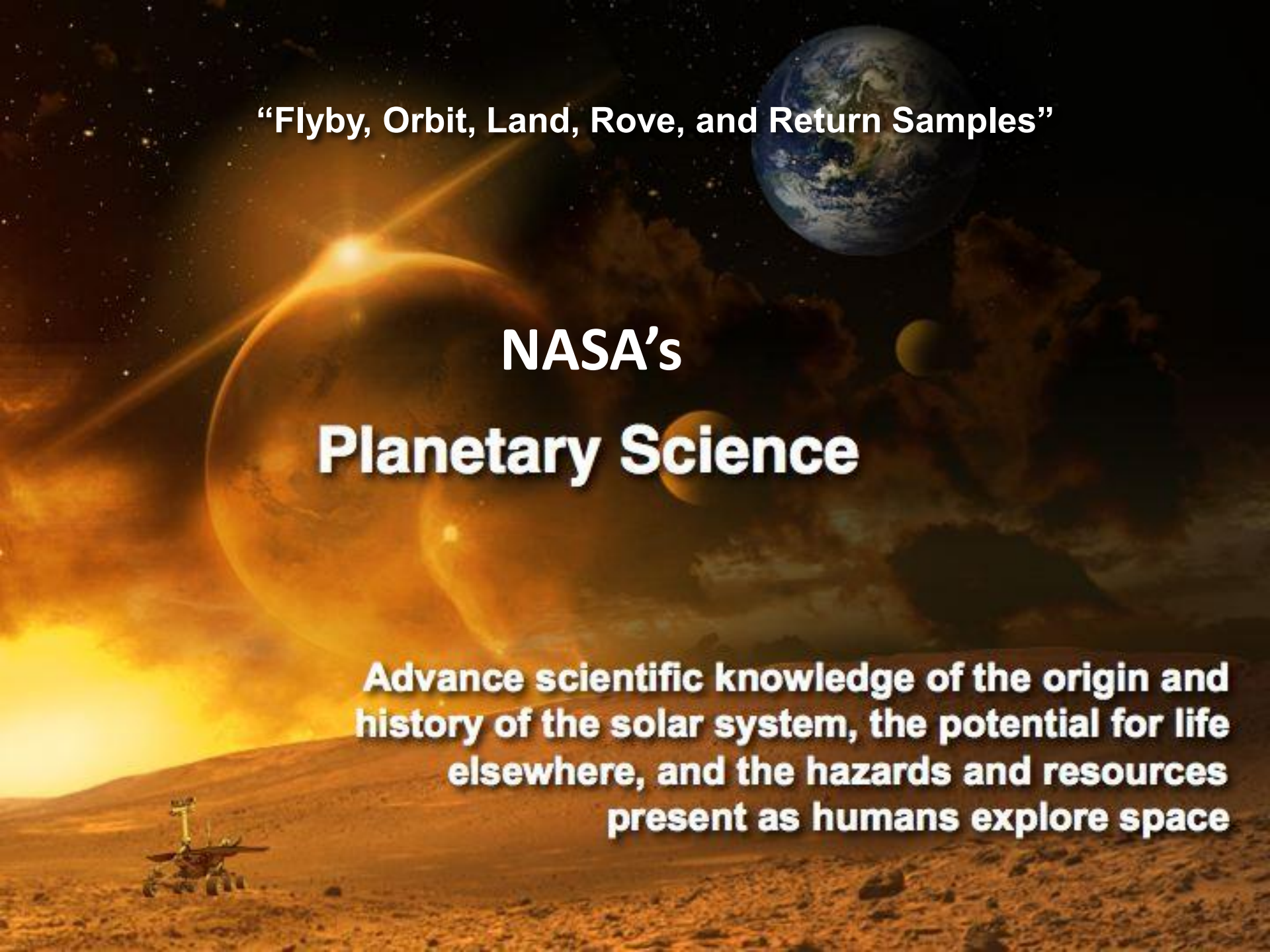
Notional

Planetary Funding Profiles



NASA-ESA bilateral

- Planetary Decadal provides a clear path forward when combined with the President's FY12 budget
- Determine if Mars 2018 can be accomplished starting with the minimum set of requirements and "a clean sheet of paper" as Planetary's top priority flagship mission
- Reaffirm NASA's commitment to support ESA's *Laplace* mission if it is chosen in CV-Large class
  - Up to 5 (as budget allows) of the scientific instruments on JGO and support for their PI-led teams
  - Support for Interdisciplinary Scientists
  - A NASA Project Scientist to co-chair the international Project Science Group (PSG) with ESA Project Scientist


"Flyby, Orbit, Land, Rove, and Return Samples"
NASA's
Planetary Science
Advance scientific knowledge of the origin and history of the solar system, the potential for life elsewhere, and the hazards and resources present as humans explore space