



SCIENCE

Outer Planets Program Status

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Topics



- SMD revision of Standard AO
- Ice Giant Mission Studies
- Europa Mission Report
- New Frontiers
- Ocean Worlds



NASA's Standard AO: Revision process underway



- NASA SMD solicits proposals for flight mission investigations via AOs.
- SMD develops each individual AO solicitation by customizing an SMD framework document, known as the Standard AO.
- This document is being revised with goals of reducing the burden on proposers and increasing the efficiency of review.
- Community comments were due in January.
- Revised version expected for release in Spring 2016



- Details at <https://prod.nais.nasa.gov/cgi-bin/eps/synopsis.cgi?acqid=168345>



Mission Studies

- PSD has begin mission studies in preparation for the next Decadal Survey
- First study will be for Ice Giants
- Considering a variety of mission classes
- SDT membership was finalized last week
- More information available in later presentation



Europa Mission Status

- Excellent progress overall; thrust since the last OPAG meeting has been in area of instrument accommodation (culminating in IARs currently underway).
 - SRR is scheduled for this summer.
- Final FY16 appropriation is incredibly supportive of Europa exploration.
 - Allotted \$175M for a Europa mission that includes a lander.
 - Allotted \$25M for technology development for icy world missions.
- NASA is studying several enhancements to the Multiple Flyby mission, including deployable plume probes, surface landers, and gravity science.
- PSD remains fully committed to the Multiple Flyby mission. Drivers for any decisions on enhancements include:
 - Protect the science our highly refined multiple flyby concept and its competitively selected payload are planned to accomplish;
 - Protect the accommodation of current science payload;
 - Ensure any enhancements are more than an engineering exercise, they must accomplish high value science.



New Frontiers Program

- PSD issued the Homesteader NRA to mature technologies such that they can be included as part of a selectable, low risk mission concept proposal submitted in response to the NF AO.
- Eight out of 84 proposals selected for near-term tech dev.

PI	Institution	Proposal Title
Steve Squyres	Cornell	Sample Acquisition and Containment for Comet Surface Sample Return
Ryan Park	JPL	Advanced Pointing Imaging Camera (APIC)
Farzin Amzajerian	LaRC	Navigation Doppler Lidar Sensor
Stojan Madzunkov	JPL	Atmospheric Constituent Explorer System (ACES)
Chris Webster	JPL	TLS Risk Reduction for SP and VISE NF Missions
Elena Adams	APL	Planetary Object Geophysical Observer (POGO)
Scott Singer	Spectrolab	Active Tracking MEMS Micro-concentrator for LILT Missions
Lori Glaze	GSFC	Venus Entry Probe Prototype



New Frontiers Data Analysis Program



- The New Frontiers program finally has data to analyze!
- First ever New Frontiers Data Analysis Program is part of ROSES 2016.
 - Currently looking for a part-time civil servant detailee to serve as the Discipline Scientist for NFDAP.
- Focused on New Horizons this year, it will be expanded to cover other NF missions as data are archived in the PDS.
- New Horizons archiving schedule:
 - April 2016: P1 delivery of data downlinked through 7/31/15
 - Oct. 2016: P2 delivery of data downlinked through 1/31/16
- Recall that data must be in the PDS prior to proposal due date in order to be eligible for use in proposals
 - I welcome input as to when proposals should be due.



New Frontiers 4 AO - Parameters

- The 4th New Frontiers AO (NF4) is scheduled for release in January 2017.
- A community announcement with key parameters was issued in January 2016.
- Some key elements from that announcement:
 - PI-Managed Mission Cost (PMMC) cap of \$850M (FY15\$) for phases A-D,
 - Foreign contributions may not exceed one-third of the PMMC, and the value of foreign contributions to the science payload may not exceed one-third of the total payload cost,
 - MMRTGs and RHUs are available and paid for under the PMMC,
 - Some technologies will be incentivized, and
 - Launch readiness date of 2024 (2025 if nuclear).
- NASA has not approved the issuance of the New Frontiers AO and this notification does not obligate NASA to issue the AO and solicit proposals.



New Frontiers 4 AO – Mission Themes



- Investigations proposed to the NF4 AO are limited to the following unprioritized mission themes
 - Comet Surface Sample Return,
 - Lunar South Pole-Aitken Basin Sample Return,
 - Ocean Worlds (Titan and/or Enceladus),
 - Saturn Probe,
 - Trojan Tour and Rendezvous, and
 - Venus In Situ Explorer.
- Ocean Worlds theme is focused on the search for signs of extant life and/or characterizing the potential habitability of Titan and/or Enceladus.
 - Note the updated usage of “and/or” to address confusion.
- The draft AO will fully elucidate information on the mission themes, including science objectives.



New Frontiers 4 AO - Schedule

- As mentioned, SMD is currently revising the Standard AO. Once that is done work will begin on the NF4 AO.
- July 2016: Draft AO targeted for release
 - Comments for NASA's consideration will be welcome on that draft as the final AO is prepared in Fall 2016.
- January 2017: Final AO targeted for release with proposals due 90 days later
- November 2017: Selection for competitive Phase A studies
- October 2018: Concept study reports due
- May 2019: Announcement of flight selection
- ***All dates are targets, not guarantees.***



Ocean Worlds

- House Appropriations Committee called out Ocean Worlds:
 - “Many of NASA’s most exciting discoveries in recent years have been made during the robotic exploration of the outer planets. The Cassini mission has discovered vast oceans of liquid hydrocarbons on Saturn’s moon Titan and a submerged salt water sea on Saturn’s moon Enceladus. The Committee **directs NASA to create an Ocean World Exploration Program** whose **primary goal is to discover extant life** on another world using a mix of Discovery, New Frontiers and flagship class missions consistent with the recommendations of current and future Planetary Decadal surveys.”
- Spurred by this, in October NASA sponsored an Ocean Worlds Exploration forum at National Geographic.
- Planning activities are underway at HQ to consider strategic and practical aspects of such a program.



Questions?

