

Ocean Worlds Working Group Update

Cynthia Philips and Mike Bland



- New cross-AG working group chartered by OPAG, SBAG, and NOW
- Co-Chairs: Cynthia Phillips (JPL) and Mike Bland (USGS)
- **Goal: Create an actionable ocean worlds exploration strategy**
 - Specific, prioritized science goals
 - Identify needed technology development
 - Multi-decadal timescale
 - Fit within NASA's existing framework
- Objective: The production of a strategy document by the end of the calendar year

Why do we need the OWWG? How is it different from OPAG/SBAG/NOW?



- The OWWG is a response to the 2023 Decadal Survey's call for an Ocean Worlds program.
- OPAG and SBAG have diverse constituents with different priorities
 - OPAG includes the both the giant planets and OW community
 - SBAG includes everything from dust to KBOs
- The OWWG is specifically “cross-AG” and open to entire OW community

What is an Ocean World?



- OPAG/SBAG/NOW fall under PSD and we therefore are focused on Oceans beyond Earth.
- The OWWG is focused on missions that explore ocean worlds and we therefore focus on our Solar System (**visit!**).
- We include bodies that currently either have or may have substantial subsurface liquid water reservoirs.
 - Europa, Ganymede, Callisto, Mimas, Enceladus, Dione, Titan, Uranian Satellites, Triton, Ceres, Pluto, large KBOs.
- We explicitly do not include Mars and Venus (ancient oceans) and Io (magma oceans)

Objective: Create a document that describes a strategy for exploring ocean worlds in our Solar System

Approach:

- Community driven
- Survey existing literature to identify relevant material
- Identify gaps in scientific understanding and technology development
- Prioritize science goals to inform the most urgent technology needs.
- New innovative technology solutions can enable new scientific investigations.

Two subgroups:

- Science Goals
 - Tasked with identifying and prioritizing specific science goals that drive future exploration of ocean worlds
- Technology Roadmap
 - Tasked with identifying the technology development needed to explore ocean worlds.
 - Instruments and architectures

Outcome:

- A prioritized strategy that combines science goals, technology development, and future mission opportunities over the next 3-5 decades



Co-Chairs



Cynthia Phillips (JPL)



Michael Bland (USGS)

We have created two subgroups:



Science Goals Subgroup Leads



Angela Marusiak
(U of Arizona)



Misha Zolotov
(Arizona State)

Joining Today

Technology Roadmap Leads



Paula do Vale Pereira
(Florida Tech)



Kate Craft
(APL)



Peter Willis
(JPL)

Future Panel



February

March/April

June

July

August

September

Science

Feb. 14th

April 10th

Meeting 3

Meeting 4

LPSC
Discussion

Joint
Meeting
June 17th

Joint
Meeting

Technology

Feb 21st

April 10th

Meeting 3

Meeting 4

Review and
summarize
existing
documents

Collate existing
goals/ documents.
Begin to look for
gaps.

Interchange of
ideas between
groups.

Leadership Prioritization
and Writing

Draft out to the
community for comment
period

Current Activity



- Subgroups have reviewed relevant community documents
 - Decadal Surveys
 - Roadmaps (ROW, Technology)
 - Strategy documents (Astrobiology)
 - White papers
 - Publications
- Science subgroup is formulating key questions to be discussed at joint meeting in June
 - Joint meeting breakout sessions will include Science and Technology subgroup representatives working through these questions to begin to identify critical measurements.

How to help...



Participation is welcome at the June 17th meeting

- Previous participation is not required.

Join the OWWG mailing list:

<https://www.lpi.usra.edu/owwg/>

Join the OWWG Slack workspace:

