

Ocean Worlds Working Group Update

Cynthia Phillips and Mike Bland



- 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

Co-Chairs



Cynthia Phillips (JPL)



Michael Bland (USGS)

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, including ExoPAG

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



Science Goals Leads



Angela Marusiak (U of Arizona)



Misha Zolotov (Arizona State)

Technology Roadmap Leads



Paula do Vale Pereira (Florida Tech)



Kate Craft (APL)



Peter Willis (JPL)

Status Update



- June 2023 – first community meeting
- Regular status reports to OPAG, SBAG, NOW, PAC, ExoPAG
- Subgroups are meeting approximately monthly with periodic OWWG-wide Town Halls
- Next community Town Hall meeting in mid-June
- Initial drafting of science and technology documents scheduled for fall of 2024.



How can I get involved with the OWWG?

- Participation in the WG is open to everyone!
- Join the OWWG mailing list:
<https://www.lpi.usra.edu/owwg/>
- Join the OWWG Slack workspace:

