

## UMERC 2025 Abstract for Tethys Poster

**Title:** OES-Environmental & Tethys: Helping the Marine Energy Community Understand Environmental Effects

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**Presentation Type:** Poster

### **Abstract:**

As the marine energy industry continues to expand worldwide, many siting, permitting, and deployment barriers continue to revolve around insufficient data and information on the potential effects on marine animals, habitats, or ecosystem processes. To support sustainable marine energy development, the International Energy Agency's Ocean Energy Systems (OES) Environmental task and Tethys website are making marine energy and environmental effects information more broadly available and actionable.

OES-Environmental is a collaboration among several countries dedicated to studying the environmental effects of marine energy, disseminating the state of the science, and developing useful resources for different stakeholders. OES-Environmental recently published the *2024 State of the Science Report: Environmental Effects of Marine Renewable Energy Development Around the World*, which summarizes the latest information on the potential environmental effects of marine energy development, shares helpful resources, and identifies a path forward to advance the marine energy industry in a responsible manner. OES-Environmental has also collected and curated information on marine energy projects around the world and the environmental monitoring efforts conducted at each, including links to related reports and studies. In its next phase (2024-2028), OES-Environmental will focus on four new areas of research: exploring environmental acceptability, examining potential environmental effects of off-grid applications, delving further into potential system-wide effects as the industry scales up to arrays, and investigating potential social and economic effects of marine energy development globally.

All materials developed under OES-Environmental are hosted on Tethys (<https://tethys.pnnl.gov>), an online knowledge hub with documents, information, and resources on the potential environmental effects of marine energy. The main feature of Tethys is its comprehensive document library with thousands of journal articles, conference papers, and grey literature reports that can be filtered, searched, and sorted by various topics. Tethys also hosts a variety of educational resources, such as coloring pages, video games, and career panel recordings, to help increase awareness of marine energy and support students, educators, and other groups (e.g., aquariums, museums). Additional features include an events calendar with relevant conferences, webinars, and workshops; a suite of archived webinars; a variety of online tools; a list of related databases; and a bi-weekly Tethys Blast newsletter that highlights relevant announcements, opportunities, and news.

OES-Environmental and Tethys are both led by multidisciplinary teams at the Pacific Northwest National Laboratory and funded by the U.S. Department of Energy's Water Power Technologies Office. Tethys is one of seven knowledge hubs within the Portal and Repository for Information on Marine Renewable Energy (PRIMRE) (<https://primre.org>), which hosts additional marine energy data, information, and resources. This presentation will highlight recent OES-Environmental products and the main features of

Tethys that can help students, educators, and other stakeholders better understand the potential environmental effects of marine energy development around the world.