PRIMRE BLAST

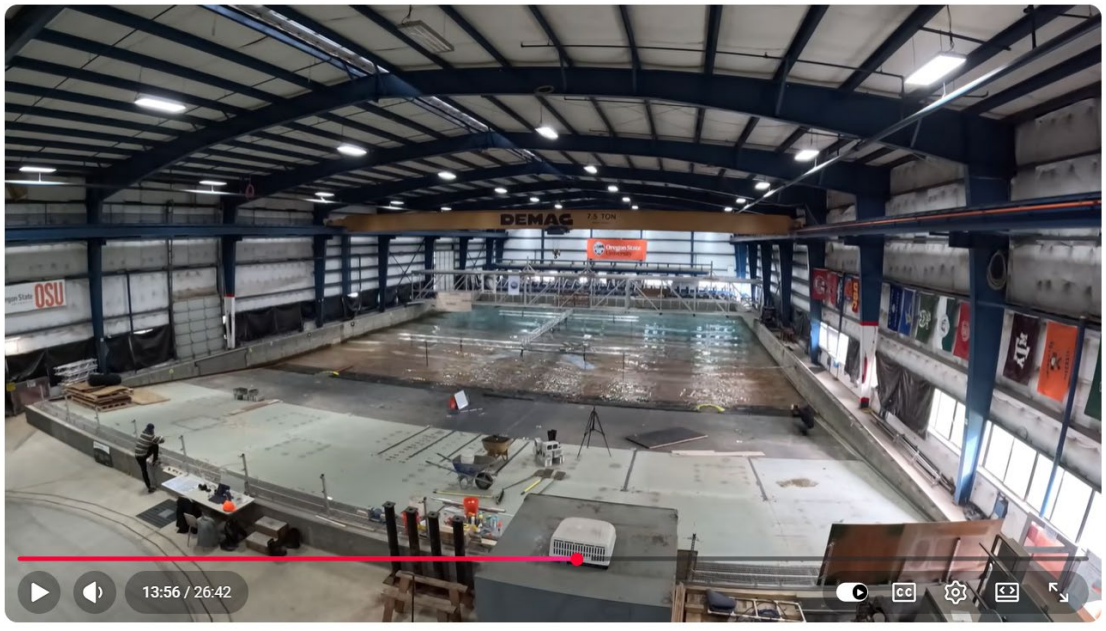
26 June 2026

The Portal and Repository for Information on Marine Renewable Energy (PRIMRE) provides access to marine energy data, information, and resources in the U.S. and internationally. The bi-weekly PRIMRE Blast highlights relevant announcements and upcoming events; new content in the Knowledge Hubs; and international marine energy news. Email us to contribute!

Announcements

New PBS Episode on Wave Energy

PBS released a new Changing Seas episode, Engineering the Power of Waves, that features scientists and engineers at the O.H. Hinsdale Wave Research Laboratory at Oregon State University working to recreate ocean waves and test artificial breakwaters and underwater energy converters.



ORISE Applications Open

Applications for the U.S Department of Energy (DOE) Oak Ridge Institute for Science and Education (ORISE) Science and Technology Fellowship are now open! ORISE offers early-career professionals the opportunity to contribute their expertise to energy research by guiding strategy, designing funding programs, and managing projects. Apply by 31 July 2026.

NSF Request for Information

The U.S. National Science Foundation Directorate for Technology, Innovation and Partnerships (NSF TIP) recently introduced the NSF Tech Accelerators initiative to enhance the process of transforming research outputs from basic research into scalable, market-ready technologies that strengthen the U.S. economy and enhance national security. NSF has released a Request for Information on the NSF Tech Accelerator program model, organizational structures, and suitable deep-tech areas (including ocean technologies). Respond by 14 July 2026.

Calls for Abstracts & Proposals

The Call for Town Halls and Panel Sessions for OCEANS 2026 Monterey is open until 20 July 2026. OCEANS 2026 Monterey will take place on 21–24 September 2026 in Monterey, California, USA.

The Call for Abstracts for the 12th International Ocean Thermal Energy Conversion (OTEC) Symposium is open until 15 September 2026. The symposium will take place from 30 November to 4 December 2026 in Bora Bora, French Polynesia.

Funding & Testing Opportunities

Interreg North Sea has launched the 4th Support Call for the OASIS Accelerator Programme, which supports start-ups and SMEs from the North Sea region with technical and commercial trainings, networking opportunities, and a dedicated Pressure Cooker event on 21–24 September 2026 in Hamburg, Germany, hosted by The German Aerospace Center. Apply by 6 July 2026.

VentureWell has opened applications for Stages 0 and 1 of its Ocean Enterprise Accelerator, which supports U.S. innovators with the development, commercialization, and adoption of new ocean data technologies and services. The Stage 1 Fall 2026 application deadline is July 7. The Stage 0 Fall 2026 application deadline is August 25. A Stage 0 informational session will take place on 10 August 2026 from 4:00-5:00pm EDT (8:00-9:00pm UTC).

Fondation OPEN-C has opened the OPEN SEA Demo call for offshore technology developers to test their technologies in real sea conditions at the grid-connected SEM-REV offshore test site. Apply by 10 July 2026.

UK Research and Innovation (UKRI) has opened applications for the Clean Maritime Demonstration Competition 7: Deployment trials, which will fund real world demonstrations of innovative clean maritime technologies in an operational setting. UK organizations and collaborators can apply by 15 July 2026.

Ocean Exchange, in partnership with the Marine Environmental Observation, Prediction and Response Network (MEOPAR), has launched a new Call for Solutions focused on advancing ocean, Great Lakes, and St. Lawrence River sustainability through the innovative use of artificial intelligence and ocean data. One Canadian startup, nonprofit, researcher, or organization will receive a CAD $100,000 Ocean Exchange Neptune Award. Apply by 25 August 2026.

The U.S. Testing Expertise and Access for Marine Energy Research (TEAMER) program, which supports marine energy testing and development projects, is accepting Request for Technical Support (RFTS) 19 applications until 2 October 2026. TEAMER now provides expertise, non-open water, and open water support, as well as commercialization support.

Career & Internship Opportunities

The University of Western Australia and Blue Economy Cooperative Research Centre are offering two PhD scholarships focused on Advancing electrical knowledge to scale and predict wave energy and Field-data-informed hydrodynamics optimisation of self-reacting, weathervaning wave energy converters. The projects will integrate unique field data from the M4 deployment alongside advanced numerical modelling to unlock the knowledge necessary for reliable scale-up to commercial systems. Apply by 10 July 2026.

Oregon Sea Grant, based at Oregon State University, is seeking a Strategic Communications Lead to enhance the awareness of, access to, engagement with, and support of Oregon Sea Grant and its programs for internal and external audiences. Apply by 13 July 2026.

The University of Campania *Luigi Vanvitelli* has opened its call for applications for its PhD program in Science and Engineering for the Environment and Sustainability. Attention will be given to research topics related to innovative harbor breakwaters for wave-energy conversion, with reference to field experiments on the Overtopping Breakwater for Energy Conversion (OBREC) at the Marine Renewable Energy Laboratory in Naples, Italy. Apply by 17 July 2026.

The Hawai‘i Natural Energy Institute (HNEI) and the Department of Ocean and Resources Engineering at the University of Hawai‘i at Mānoa are recruiting an Assistant Professor or Associate Professor in Marine Energy. Application review begins on 1 August 2026 and will continue until the position is filled.

SMRU (Sea Mammal Research Unit) Instrumentation, which designs, builds, and sells advanced biologging and telemetry systems, is hiring a Research Scientist & Technical Support Specialist and an Instrumentation Technician. These positions are open until filled.

Upcoming Events

The PRIMRE Events Calendar highlights key events from around the world related to marine energy, including conferences, webinars, workshops, and more.

Upcoming Webinars

Ocean Energy Europe, along with the International Renewable Energy Agency (IRENA) and the European Commission, is hosting a webinar, "Global ocean energy resource report: The largest untapped renewable energy resource", on 29 June 2026 from 1:00-2:00pm CEST (11:00am-12:00pm UTC). The webinar will present the key findings of the first Global Ocean Energy Resource Report, which is a literature review bringing together existing studies to quantify the worldwide ocean energy generation potential.

The National Laboratory of the Rockies (NLR) is hosting the next webinar its *Marine Energy Microgrid and Power Electronics Webinar Series*, "Advancing Power Electronics for Wave Energy Converters", on 9 July 2026 at 12:00pm MDT (6:00pm UTC). Participants will gain a deeper understanding of advanced power electronic solutions to unique challenges in wave energy that improve the efficiency and performance of wave energy converters.

NLR is also hosting "Microgrid Power Hardware-in-the-Loop Modeling" on 10 August 2026 at 12:00pm MDT (6:00pm UTC). The webinar will demonstrate NLR's power hardware-in-the-loop (HIL) microgrid model for marine energy integration with microgrid testing. This demonstration will feature a repurposed tidal energy generator mounted on NLR's 20-kW test bench connected to a bidirectional grid emulator and an HIL device.

The Portal and Repository for Information on Marine Renewable Energy (PRIMRE) is hosting a webinar, "From Design to Ocean Deployment: Lessons Learned from the SURF-WEC Project in Hawaii", on 11 August 2026 from 1:00–2:00pm MDT (7:00–8:00pm UTC). Join for an in-depth overview of the Small Underwater Research Flap Wave Energy Converter (SURF-WEC), a 1m x 1m oscillating surge device developed by NLR in partnership with the Hawai'i Marine Energy Center (HMEC), which has been successfully deployed off the coast of Oahu, Hawaii.

Upcoming Conferences

The 2026 University Marine Energy Research Community (UMERC) Conference and Marine Energy Technology Symposium (METS) will take place on 4–6 August 2026 at the Stevens Institute of Technology in Hoboken, New Jersey, USA. Early bird registration is now available through 3 July 2026.

The National Hydropower Association is hosting Clean Currents 2026 on 21-25 September 2026 in Phoenix, Arizona, USA.

Ocean Energy Europe (OEE) and the Dutch Energy from Water Association (EWA) are co-hosting the 2026 International Conference on Ocean Energy (ICOE) and OEE Conference on 5-7 October 2026 in The Hague, Netherlands.

New Documents on Tethys Engineering

Tethys Engineering hosts thousands of documents on the technical aspects of marine energy research and development, including journal articles, conference papers, and reports.

Development of a real-time hybrid simulation framework for wave energy converter mooring applications – McConnell et al. 2026

> Experimental tank testing of wave energy converters (WECs) with representative mooring systems is challenging due to scaling limitations and the difficulty of reproducing full-scale, highly dynamic mooring loads in laboratory environments. Real-time hybrid simulation (RTHS) is a viable method to accelerate WEC development; however, its application to WEC-mooring interaction remains limited by communication delays, force-tracking challenges, and synchronization requirements between numerical and physical domains. This work develops and experimentally tests a mooring-focused RTHS framework for scaled WEC testing. A multi-stage framework is proposed: (1) physics-based hydrodynamic modeling for characterization of WEC dynamics; (2) software-only virtual RTHS for controller and filter development; and (3) physical implementation on a single-DOF linear test bed (LTB) with hardware-in-the-loop actuation to evaluate real-time performance under realistic actuator dynamics, system delays, and measurement noise.

Representation of Tidal Turbine Support Structures in a Regional-Scale 3D Hydrodynamic Model and Their Effects on Wake Prediction – Lam et al. 2026

> Tidal turbine wake predictions in regional-scale hydrodynamic models typically account for rotor thrust but neglect the drag of support structures. This study introduces a method for representing turbine support structures as permeable drag volumes within TELEMAC-3D and evaluates their influence on wake characteristics. The method is demonstrated for the 1 MW DeepGen-IV turbine deployed at the Fall of Warness test site at the European Marine Energy Centre, Scotland. The tripod foundation, tower, and nacelle are each implemented as momentum source terms alongside an actuator disc rotor in a regional-scale model with mesh resolution down to 1.5 m with 24 sigma layers and output at 60 s intervals (1 s at instrument locations), validated against seabed-mounted ADCP measurements. Including the support structures improves the agreement with measured wake profiles by 6–18% in root-mean-square error at 3.7 rotor diameters downstream and extends the hub-height 5% velocity deficit distance by an average of three rotor diameters (~54 m), with substantial variability across tidal conditions.

Hybrid multi-criteria and machine learning framework for site selection of PRO–based salinity gradient power plants – Paul et al. 2026

> Pressure Retarded Osmosis (PRO) is considered a promising approach to salinity-gradient energy harvesting at freshwater–seawater interfaces and enhances integrated

water–energy systems. But the efficiency and sustainability of PRO power generation systems are very sensitive to the site choice, requiring integrated evaluation of environmental, infrastructural, and economic factors. In this study, we propose a PRO-specific hybrid decision-support framework combining the AHP and GMDH to merge a structured multi-criteria prioritisation framework with a nonlinear interaction-based feedback-refinement methodology for a PRO-specific process. A key contribution of this work is the establishment of a standalone PRO Location Suitability Index (PLSI) that explicitly incorporates key PRO operational sensitivities into a unified hybrid AHP–GMDH decision structure, thereby allowing process-aware macro-scale screening framework.

Marine Energy Software Updates

Marine Energy Software is a collection of commercial and open-source software relevant to marine energy development, including software for simulating devices, and processing and analyzing data.

OWENS v1.0.5 Release

The Onshore/Offshore Wind/Water Energy Simulator (OWENS) is an open-source aero-hydro-servo-elastic toolkit that couples modular aerodynamic, structural, hydrodynamic, and control packages. Though originally created as part of the U.S. Department of Energy's wind energy software suite, the software's capabilities expand well into the marine energy realm. OWENS v1.0.5 includes a variety of fixes and improvements to the OWENS code base spanning aerodynamics, structures, the Julia environment, differentiability, and numerical methods.

Contribute to Marine Energy Software

Like most open-source resources, the more information users contribute, the better the resource becomes! The Marine Energy Software knowledge hub is no different. Visit the Register Software page to find step-by-step instructions on how to add your software to the Marine Energy Software knowledge hub today!

Check out the DOE Software Demo Days Recordings on YouTube

Last year, the DOE and PRIMRE team hosted a Software Demo Days series. This series was held internally between researchers at national labs and DOE to showcase open-source WPTO funded software and increase interoperability between these tools. A total of 8 recordings showcasing these software tools: PRIMRE, OpenFAST, WEC-Sim, MoorDyn, MHKiT, MBARI-WEC, WecOptTool, are available on YouTube! Check it out to hear from the software developers themselves on the mathematical theories behind the software, use cases and capabilities, and even see the software in action!

Telesto Highlight

Telesto provides information and resources about the development life cycle of marine energy, as well as information on lessons learned, metrics, economics, standards, and compliance.

Marine Energy Device Design and Build

Developing a marine energy device involves detailed design and construction considerations that ensure the device can efficiently harness ocean or inland water energy. Device developers focus on questions such as:

- How can the device structure withstand harsh marine environments?
- What design features optimize energy capture and conversion?
- Which materials and components enhance durability and performance?

Telesto's Design and Build page offers insights into the engineering and fabrication processes, including prototyping, testing, and refining device components. It highlights the importance of iterative design and material selection to create reliable, effective marine energy technologies.

News & Press Releases

Ocean Power Technologies Announces Deployment of PowerBuoy® System for Rutgers University and New Maritime Drone Order from Stevens Institute of Technology – Ocean Power Technologies

> Ocean Power Technologies recently announced the successful deployment and commissioning of a PowerBuoy® system off the coast of New Jersey in support of Rutgers, The State University of New Jersey. The Company also announced it has received a purchase order from Stevens Institute of Technology for one of its maritime drones, the WAM-V® unmanned surface vehicle. The Rutgers project, supported by the New Jersey Economic Development Authority, is now fully installed and operational. The PowerBuoy® replaces a legacy ocean monitoring system that relied on fixed seabed cables, providing continuous offshore power and communications without permanent infrastructure. The system will support ongoing ocean research, environmental monitoring, and integration of surface and subsea sensors.

Wave Swell Energy to deploy its wave energy technology at Spain's landmark Mutriku plant – Wave Swell Energy

> Wave Swell Energy (WSE), the Australian developer of patented wave energy conversion technology, and the Biscay Marine Energy Platform (BIMEP), the owner and operator of the Mutriku wave energy plant in Spain's Basque Country, have entered into a contract under which WSE will install and operate its unique, patented power take-off (PTO) technology at the world's most established coastal structure integrated wave energy facility. The Mutriku wave power plant stands out globally, not only for its fifteen uninterrupted years of operation, but also for hosting the most relevant OWC turbine

testing developments in recent years. The contract is WSE's first step into the European market and the first time its PTO will operate inside a working breakwater-integrated wave energy plant.

Seatrec Wins $75,000 from DOE to Advance Thermal-Powered Profiling Float to Measure Zooplankton – Seatrec

Seatrec, a leader in thermal-powered profiling floats, has been selected as a winner of the DEVELOP Phase of the U.S. DOE's Powering the Blue Economy™: Power at Sea Prize, earning a $75,000 award. The company is integrating ASL Environmental Sciences' Acoustic Zooplankton Fish Profiler (AZFP-pico) onto the infiniTE™ float powered by ocean thermal energy with a goal to measure vertical profiles of zooplankton and mesopelagic biomass. Seatrec previously won the CONCEPT Phase of the same competition in November 2024 with a $10,000 award. Seatrec's infiniTE™ float converts ocean temperature gradients into electricity using phase-change materials, enabling long-endurance missions with profiling as frequently as every few hours. That sampling frequency is critical for capturing the diurnal behavior of zooplankton and mesopelagic organisms central to the biological carbon pump.

Eco Wave Power Turns Waves Into Watts With NVIDIA AI Infrastructure and Digital Twins – NVIDIA

The next era of AI will not be defined by compute alone. Its growth will be determined by energy. As accelerated computing scales across AI factories, agentic AI, industrial AI, edge computing and physical AI — including robotics and autonomous systems — global electricity demand is rising at unprecedented speed. In many regions, expanding grid infrastructure to meet that need requires years of permitting, transmission upgrades, land acquisition and capital investment. This challenge is reshaping how the world thinks about energy infrastructure for AI. Eco Wave Power, a member of the NVIDIA Inception startup program's Sustainable Futures initiative, is developing technology — powered by NVIDIA AI infrastructure and digital twins — that converts energy from ocean waves into clean electricity using existing marine infrastructure. By using already-built coastal structures, wave energy generation can be deployed closer to areas with growing power demand — including ports, industrial zones and future AI infrastructure hubs.