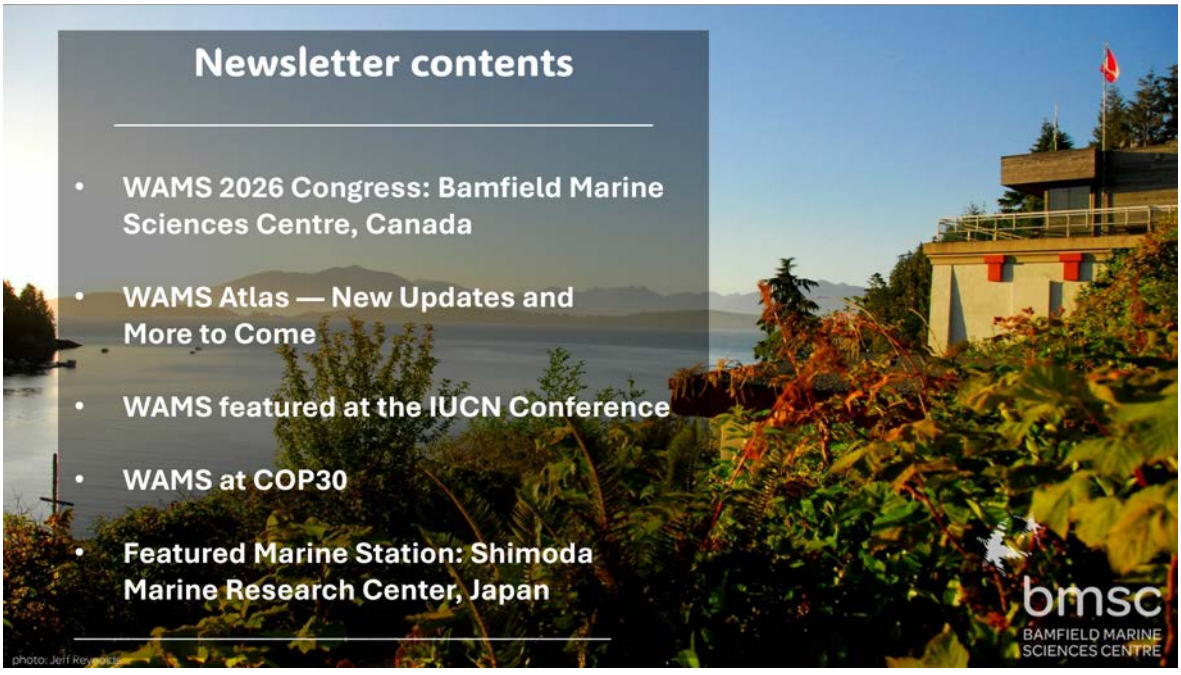
View this email in your browser

WAMS
Autumn Newsletter



WAMS 2026 Congress: Bamfield Marine Sciences Centre, Canada

We're delighted to confirm that the next World Congress of Marine Stations will be held at the Bamfield Marine Sciences Centre (BMSC) on the spectacular west coast of Canada, 1–4 September 2026.

Planning is progressing smoothly thanks to an energetic Local Organising Committee, and the team in Bamfield are eager to welcome participants from across the globe. Expect 3-4 days of inspiring science, coastal exploration, and west-coast hospitality!

Stay tuned for the call for sessions and travel details early in 2026.

WAMS Atlas — New Updates and More to Come

The WAMS Atlas has just been refreshed following a thorough review and quality-check of global data.
Special thanks go to Dr. Jani Tanzil, Ms. Liesel Tjin, Ms. Denise McIntyre and team from St John's Island National Marine Laboratory, and the NaGISA team for their careful validation work, which greatly improves the consistency of our metadata layers.
We're now preparing several new data layers and visual features—so, as always, watch this space for upcoming releases!

WAMS featured at the IUCN Conference

WAMS representatives took part in the IUCN World Conservation Congress in Abu Dhabi, where over 10,000 delegates gathered to advance a global vision for nature and sustainable development. The Congress endorsed a 20-year Strategic Vision and a new 4-year Programme, adopting 148 resolutions—including IUCN's first synthetic biology policy and a call to recognise ecocide as a crime—culminating in the Abu Dhabi Call to Action.

WAMS used the opportunity to highlight the role of marine stations as critical hubs for long-term ecosystem observation, innovation and capacity building within this shared vision; by engaging with IUCN partners, WAMS continues to strengthen ties between marine-station networks and international

strengthen ties between marine station networks and international conservation efforts—ensuring the ocean's voice remains central to the global conversation on nature and sustainability.

WAMS at COP30

WAMS representatives will take part in the 30th UN Climate Change Conference (COP 30) this November in Belém, Brazil. This COP30 is particularly important as it marks a critical halfway point to 2030, when countries are expected to meet their climate pledges under the Paris Agreement. With this year, 2025, the deadline for countries to submit their updated national climate plans, known as NDCs under the Paris Agreement.

Global cooperation has long been essential to understanding the ocean, even before the global marine stations network emerged in the 19th century. Today's challenges such as climate change, resource overexploitation, sustainable high-seas governance & equitable access to marine capacity reinforce the urgency of working together across borders. Yet, achieving meaningful cooperation is increasingly complex and the pace of human-driven ocean impacts continues to accelerate, set against a backdrop of rapid societal transformation & geopolitical uncertainty.

On the 19th of November WAMS, with partners, will explore with COP30 delegates how international cooperation is evolving across sectors, discuss best practices & identify actionable strategies to strengthen collaborative efforts in addressing pressing ocean challenges in the side event titled **Addressing global Ocean challenges in a dynamic Landscape: Science, Solutions and Diplomacy.** Professor Matt Frost, Chair of WAMS and Head International Office at Plymouth Marine Laboratory, will be Moderating the event. The event will take place in the Ocean Pavilion from9-10am and you can find further details on the Pavilion here COP30 Ocean Programming Themes – Ocean Pavilion.

Featured Marine Station

Discover Japan's Shimoda

Discover Japan's Shimoda Marine Research Center

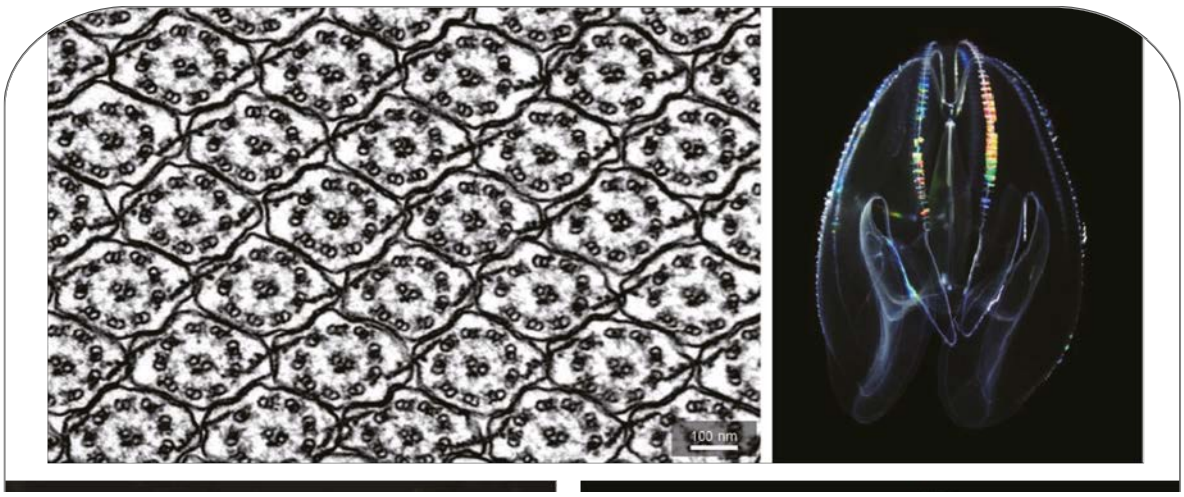
On Japan's southern Izu Peninsula, where the Kuroshio Current brings tropical warmth against temperate shores, the Shimoda Marine Research Center (SMRC) of the University of Tsukuba stands at the frontier of discovery. Since its founding in 1933, this coastal institute has bridged two worlds—the microscopic and the ecological, uniting molecular-level insight with field-based ocean research to understand life's complexity under changing seas.

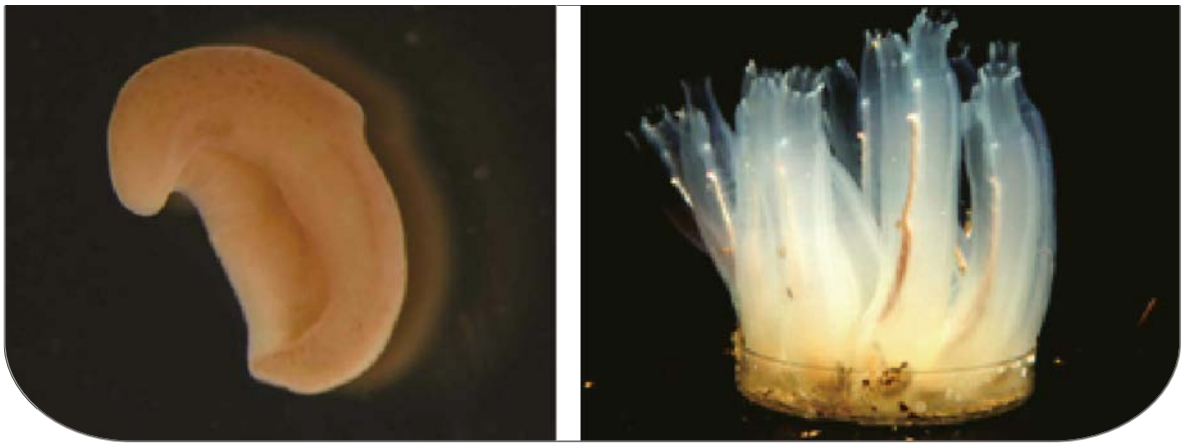
Shimoda's coastline marks one of the most striking biogeographic boundaries in the western Pacific. Here, temperate and subtropical species co-exist within a few kilometres, creating a natural laboratory to explore biodiversity, evolution, and adaptation.

Molecular Insights Beneath the Waves

Inside the SMRC's main facility, researchers delve into the cellular and genetic processes that define marine life. The center is home to Japan's leading ascidian model system, *Ciona intestinalis*, and to the **National BioResource Project for Ascidians**, which supplies transgenic and mutant lines to scientists worldwide. Researchers use metagenomics, genome editing, single-cell transcriptomics, and high-resolution imaging to explore phylogeny, metamorphosis, neurogenesis, and the evolution of cilia and flagella, revealing how ancient marine organisms develop and interact with their environment.

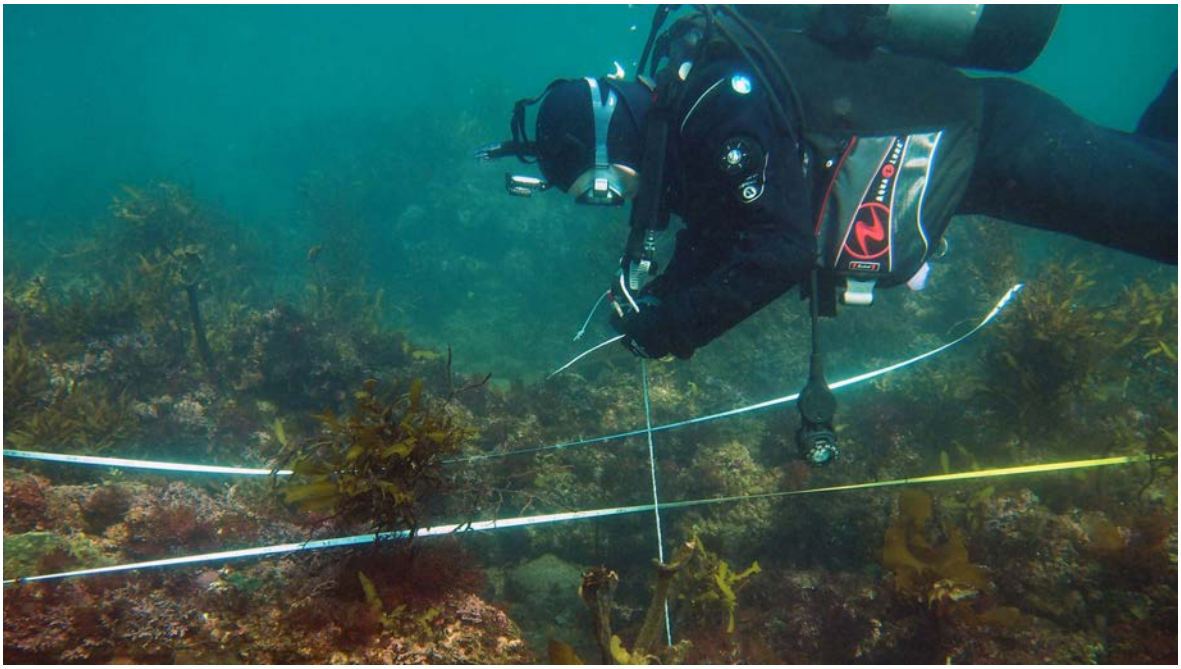
Sea urchins (*Hemicentrotus pulcherrimus*) add another layer to this genetic tapestry, with the SMRC's **HPBase genome database** serving as a vital international reference. These molecular and developmental studies not only uncover how marine species function but also illuminate evolutionary links across the animal kingdom—from simple placozoans to complex chordates.





Exploring the Ecology of a Warming Sea

Beyond the lab, Shimoda's researchers investigate how entire ecosystems are transforming under climate change, ocean acidification, and marine heatwaves. The center's teams dive into kelp forests, coral communities, and barren grounds, quantifying how shifts in temperature and chemistry reshape biodiversity and productivity.



A key site in this research is the CO_2 seep system on Shikine Island, a natural analogue for future ocean acidification conditions. The SMRC maintains a field station there, enabling international collaborations that link local expertise with global networks. Complementing this fieldwork is a state-of-the-art 128-tank experimental aquarium system at Shimoda, allowing precise manipulation of pH and temperature to simulate ocean futures.

The RV Tsukuba II research vessel supports this work, facilitating benthic surveys, oceanographic sampling, and student training in Shimoda Bay and beyond. Inside the laboratories, an array of mass spectrometers, elemental analyzers, and confocal microscopes allows data from the field to be traced down to the biochemical level—bridging ecosystem ecology with physiology and molecular function.

Collaboration Without Borders

SMRC's mission extends far beyond the Japanese coastline. It was instrumental in founding **JAMBIO, the Japanese Association for Marine Biology**, which connects marine stations nationwide to share facilities, data,

and training opportunities. Internationally, Shimoda is a founding partner of **ICONA, the International CO_2 Natural Analogues Network**, linking scientists in Japan, Italy, and France to study ecosystem-scale responses to ocean acidification (a UN Decade of the Ocean Action).

Through these networks, SMRC nurtures collaboration across disciplines and continents—integrating molecular biology with global ocean-change science.

ICONA

International CO_2 Natural Analogues Network

Educating the Next Generation

Educating the Next Generation of Ocean Scientists

Teaching and outreach are integral to Shimoda's identity. The center hosts field courses, international internships, and public lectures, offering students and visitors a firsthand experience of marine science in one of Japan's most biodiverse coastal regions. These programs welcome participants from universities across Japan and abroad, cultivating skills in taxonomy, reproduction, physiology, field ecology, and environmental monitoring.

A Vision for Integrated Ocean Science

The Shimoda Marine Research Center embodies a holistic approach to marine science: one that connects genes to ecosystems, microscopy to fieldwork, and local waters to global networks. As the world's oceans continue to change, SMRC remains a place where curiosity meets conservation, and where the smallest cells help explain the fate of entire ecosystems.

To learn more about the SMRC's research, facilities, and programs, visit:
https://www.shimoda.tsukuba.ac.jp/en/

Be the Next 'Featured Marine Station'!

Would you like your marine station to be featured in our next newsletter?
We're looking for volunteers for the upcoming *"Featured Marine Station"* spotlight.
If you'd like to showcase your research, infrastructure, or outreach programs, simply send us a few photos and a short paragraph about your activities—we'll do the rest!
Get in touch via worldmarinestations.com/contact

Stay Connected
Follow us on **LinkedIn**

World Marine Stations
Connecting Marine Stations Globally

https://worldmarinestations.com/
Hosted by Plymouth Marine Laboratory