PICES-2026
Annual Meeting Briefing

Attendees

567 Total Participants

41% Early Career Ocean Professionals (ECOP)

Presentations

298 Oral Presentations

88 Poster Presentations

Events

19 Sessions

10 Workshops

33 Business Meetings

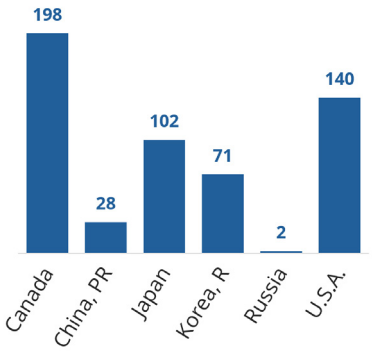
3 Other Events

Representation

20 Countries Represented

13 Observer Organizations

Number of Participants by Member Country



More Information

https://meetings.pices.int/meetings#annual

Summary

Building on decades of research on the North Pacific Ocean, PICES-2026 placed renewed emphasis on linking scientific knowledge to decision-making and practical solutions, reflecting its theme, "Actionable Science for a Changing Ocean."



"Call of the Sea," artwork by Yvonne Acheson.

Held in Nanaimo, Canada, from 24–30 October, this year's Annual Meeting showcased research and innovation across ocean and ecosystem science, emerging technologies, and the human dimensions of environmental change. Presentations reflected a progression from understanding ocean and ecosystem change to improving predictions and exploring how science can inform effective responses.

A recurring message was that scientific understanding and improved predictions alone are not enough to turn knowledge into action. This also requires building trust, strengthening international and interdisciplinary collaboration, co-designing research with end users, and incorporating diverse perspectives to address real-world needs.

A Digital Twin of the Ocean: Testing Solutions Before Acting

What if we could explore the consequences of an ocean-management decision before acting?

Digital twins (DTs) of the ocean are emerging tools that integrate ocean observations, computer models, and other knowledge to explore "what-if" scenarios, anticipate environmental changes, and evaluate potential management responses.

As part of the Session on "Advancements in DT applications", a panel discussion explored their potential to integrate knowledge, reveal new insights, and help decision-makers understand trade-offs, while questioning what benefits they could provide beyond existing models and assessments.

Participants emphasized the importance of involving scientists, managers, stakeholders, and diverse knowledge holders from the outset to address real management needs. Building trust through scientific evaluation and clear communication of uncertainties is equally important. In most cases, DTs are best used to explore options and their consequences, rather than automate solutions.

For PICES, DTs offer opportunities to advance collaborative science across the North Pacific. While countries face shared environmental challenges, their policies, priorities, and data-sharing arrangements differ. PICES could connect scientific expertise, share approaches to evaluating predictions, and support integrated scenarios of future ocean conditions that inform responses within different national management frameworks.

By connecting international scientific expertise with practical management needs, DTs could help translate ocean science into actionable information.



Digital twin panelists Shin-ichi Ito, Enrique Curchitser, Alan Haynie, and Anne Hollowed (left to right).

Weaving Knowledge Systems for Actionable Ocean Science



Invited speaker Ken Paul discussing Indigenous Knowledge Systems in ocean research

Addressing complex ocean challenges requires drawing on diverse ways of observing, understanding, and caring for marine ecosystems (e.g., "two-eyed seeing" wisdom). At PICES-2026, discussions explored how different knowledge systems can strengthen science and management through their distinct methods, ecological understandings, and approaches to stewardship.

As knowledge holders and active partners, First Nations co-developed research projects in British Columbia that demonstrated how Indigenous Knowledge Systems, archaeological evidence, and historical records can help reconstruct past ecosystems and understand centuries of environmental change. Other examples of meaningful collaborations between Indigenous knowledge holders and Western scientists showed how Indigenous stewardship practices and governance principles guide conservation efforts (e.g., herring restoration), tsunami risk mitigation, and intergenerational knowledge transmission (e.g., Ulukhaktok Cultural Calendar).

A central message was that weaving knowledge systems does not mean merging them. It means respecting their distinctiveness, integrity, and governance while finding ways to work alongside one another. This includes jointly setting research priorities, developing methods, and deciding how knowledge informs decisions. Making science actionable requires respectful, lasting relationships that recognize First Nations and other Indigenous Peoples as rights holders and governing authorities, with an active role and authority to shape research and decisions from the outset.

When Fish Cross Borders: Connecting Science and Management

Fish don't recognize boundaries—but scientific surveys and management often have to.

As changing ocean conditions reshape species distributions, international cooperation is increasingly important for understanding and managing shared marine resources.

Scientists examined commercially and ecologically important species across the North Pacific, from salmon, dogfish, Pacific hake, and sablefish in the east to Pacific saury and chub mackerel in the west. Discussions highlighted challenges in tracking species across borders, where differences in monitoring, data availability, and scientific approaches complicate understanding and predicting their movements.

But sometimes the science is only half the challenge. Turning shared scientific understanding into coordinated action can be even more difficult when management responsibilities, priorities, and policies differ across jurisdictions.

Participants emphasized that actionable transboundary science requires more than data sharing. Conducting collaborative research, helping users understand the reliability and limitations of scientific results, and engaging managers and policymakers early can help ensure findings address practical management needs.

These discussions reinforce PICES' role in connecting scientific expertise and strengthening international cooperation on shared North Pacific challenges.

Beyond the Sessions: Building Connections for ECOPs

With strong participation from Early Career Ocean Professionals (ECOPs), PICES-2026 provided valuable opportunities to meet face-to-face, build connections, and become more involved in the PICES community. This year, the PICES Mentorship Program grew to 83 participants, up from 28 last year. Other activities included an informal ECOP lunch, a group trip to Deep Bay Marine Station, and a "Welcome to PICES" mini-session. Committee and working group meetings offered more ways to participate, with AP-ECOP members and experienced participants helping newcomers feel welcome.



Group photo of Early Career Ocean Professionals at PICES-2026.

2026–27 El Niño: Anticipating Impacts

PICES scientists have contributed to predictions of the developing 2026–27 El Niño and are preparing research to better understand its impacts. Several speakers at PICES-2026 discussed potential early ecological effects. In September 2026, exceptionally high levels of domoic acid—a potent neurotoxin produced by certain harmful algae—were detected along the west coast of North America. Presentations suggested a possible link to El Niño. Participants also shared atypical observations from California, including reports of unusually high nesting activity among Least Terns, anchovy schools close to shore, and numerous marine mammal strandings. While it is too early to know whether these events are connected to El Niño, they point to some of the many important questions that PICES will continue to investigate as the event develops.

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