

TECHSURGE REPORT

FISHERIES & BENTHIC MONITORING TECHSURGE

October 8-9, 2025 | Narragansett, Rhode Island

MTS marine technology society

Sea Grant RHODE ISLAND

THE UNIVERSITY OF RHODE ISLAND GRADUATE SCHOOL OF OCEANOGRAPHY | CRC COASTAL RESOURCES CENTER

ROSA Responsible Offshore Science Alliance

NROC Northeast Regional Ocean Council

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BAIRD SYMPOSIUM Ronald C. Baird Sea Grant Science Symposium

ABOUT

IIn October 2025, the Marine Technology Society (MTS) Offshore Renewable Energy Committee in partnership with the University of Rhode Island, the Responsible Offshore Science Alliance (ROSA), the Northeast Regional Ocean Council (NROC), Rhode Island Sea Grant, the Inner Space Center, and the Ocean Exploration Cooperative Institute (OECI), hosted the Fisheries & Benthic Monitoring TechSurge at the University of Rhode Island (URI) Bay Campus in Narragansett, Rhode Island. The event convened more than 150 experts to examine the latest advancements in fisheries and benthic monitoring technologies supporting responsible offshore development. The two-day program featured curated panels, lightning talks, over 25 presentations, and a student poster session addressing topics including benthic mapping, new survey methods, and emerging monitoring technologies. Sessions explored how to transition from traditional sampling techniques toward integrating more state-of-the-art, autonomous, innovative methods, systems, and analyses.

Key themes included:

- Advancements in seafloor and benthic community mapping technologies
- Use of technology and/or methodologies to transition from traditional survey
- Monitoring technologies applicable to offshore development



GOALS

Convene Cross-Sector Expertise
Bring together technology developers, researchers, resource managers, offshore energy stakeholders, and the fishing community to identify shared monitoring challenges.

Accelerate Technology Adoption
Examine advancements in seafloor mapping, fisheries survey methods, and offshore monitoring technologies that support the transition from conventional approaches.

Identify Prioprity Investment Areas
Pinpoint specific technical gaps, data challenges, and partnership opportunities representing the most fundable and impactful next steps for the field.

A dedicated fisheries panel added valuable stakeholder perspectives from the fishing community, underscoring the importance of collaboration in developing effective monitoring solutions.

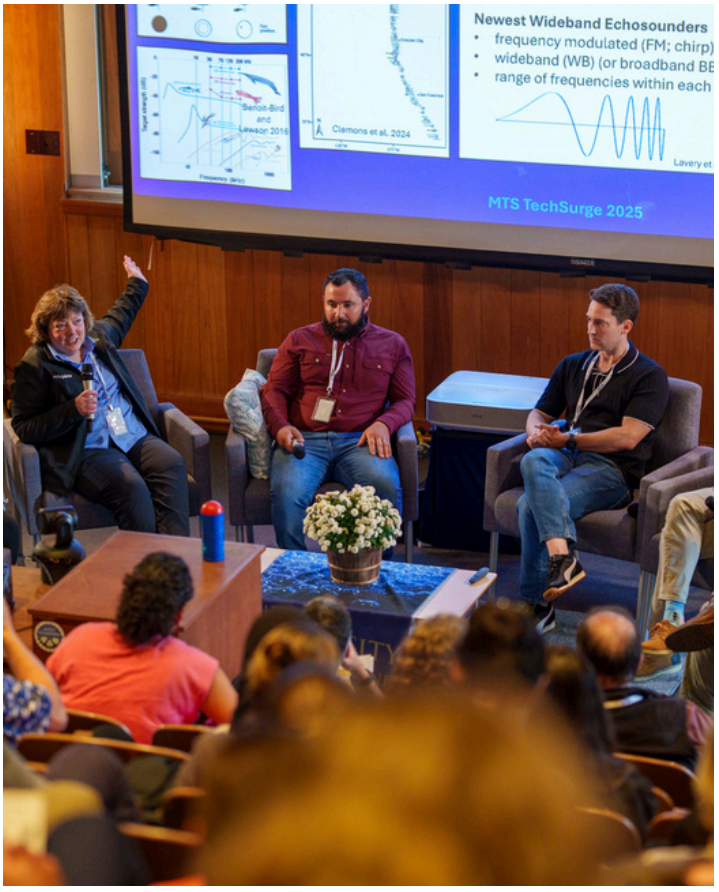
The Fisheries & Benthic Monitoring TechSurge demonstrated the collective progress being made in advancing tools, methodologies, and partnerships for ocean observation. Through continued collaboration and technology integration, our community is laying the foundation for more efficient, inclusive, and science-informed approaches to support responsible offshore development.

The TechSurge featured a flipped model of participation. All presentations were pre-recorded and shared with attendees in advance. By providing presentations in advance, the TechSurge created space for deeper discussion, collaboration, and solution-oriented dialogue during the in-person program.

PRE-TECHSURGE ACTIVITIES

The week began with a virtual pre-event webinar, Collaborative Approaches to Advance UUVs for Offshore Wind, held on October 6. The session featured five projects funded by the National Offshore Wind Research and Development Consortium (NOWRDC), each focused on developing and testing uncrewed systems for environmental monitoring. Though each project had just kicked off recently, investigators were able to share the innovative approaches they were each planning to implement offshore.





KEY TAKEAWAYS

TECHNOLOGY, DATA, & STANDARDS

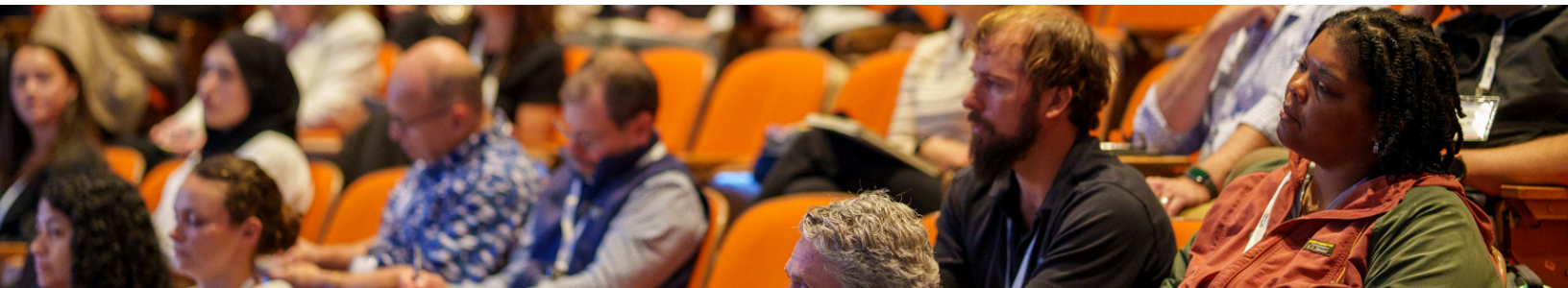
- Newer technologies offer the potential to collect data more efficiently, but surveys using legacy methods should continue (at perhaps lower levels of effort) to ensure integrity of long-term time series and points of comparison with new approaches.
- RWSC Subcommittees can provide the forum for coordination around the use and standardization of new tools/methods.
- A major gap across monitoring efforts is the lack of physical oceanographic context for biological observations (i.e., understanding currents, temperature, Gulf Stream dynamics). At the same time, many technology development projects need help placing their individual project in the context of other data collection/research and current conditions (e.g., regional oceanography). RWSC Subcommittees and ROSA Working Groups can provide this, making that context more readily accessible to researchers planning surveys and interpreting results.
- Getting maximum value from offshore research projects requires ensuring data are structured for reuse from the outset. Rather than developing standards for new technologies independently, projects and institutions should rely on existing regional coordination bodies to co-create recommendations. Standards recommended collaboratively through these entities are more likely to be adopted and are more efficient use of limited resources.
- ROSA and RWSC are actively tracking offshore research (including technology innovation and validation) through the Atlantic Offshore Research Funder Coordination Working Group and their respective databases, connecting researchers across projects to maximize collaboration and efficiency. MTS can play a key role in fostering these collaborations to help accelerate this adoption and encourage development of new technologies.

COLLABORATION & ENGAGEMENT

- Co-production of science consistently produces more usable and trusted results than science developed in disciplinary silos. Events like this TechSurge are valuable because they create the conditions for cross-sector dialogue among engineers, development industry representatives, biologists, physicists, fishermen, and managers.
- Pushing for integrated ecosystem monitoring that leverages new technologies through state permitting processes is a practical near-term lever. States have demonstrated capacity to drive meaningful change through funding and permit conditions.
- On the East Coast, engagement with tribal communities around environmental monitoring technology is advancing through regional ocean partnerships (NROC, MARCO), which maintain tribal caucuses. Tribal engagement around environmental programs requires careful, partner-led approaches.
- Coordination, documentation, relationship-building, and knowledge transfer are all essential to scientific progress, but are systematically undervalued and underrecognized. Organizations and funders should explicitly build in time, credit, and career pathways for people doing this work.
- Internship pipelines between small ocean technology companies and students (high school and college) are highly effective at retaining talent in the field, but small companies lack funds to support them. A coordinated funding mechanism could address this gap.

COOPERATIVE RESEARCH & TRUST

- Embedding fishermen as active participants in data collection rather than passive subjects builds trust, improves survey design, and produces data that managers and the fishing community alike will accept.
- Fishermen bring irreplaceable ecological knowledge that augments what sensors and autonomous systems can provide. Involving them in survey design improves both data quality and community buy-in.
- There is an unmet need to integrate physical oceanography data (e.g., bottom temperature, CTD casts, warm core ring dynamics) into fisheries management decision-making. Fishermen already understand these connections intuitively; the science and funding communities need to bridge the traditional separation between oceanographic and fisheries research programs.



TECH CAFÉ

Throughout the event, participants had multiple opportunities to engage directly with technology developers, researchers, and resource managers. The Tech Café — an interactive exhibit hall — featured hands-on demonstrations, lightning talks, and the student poster session showcasing applied innovation. Exhibitors included:

- Nortek
- OceanSpace
- JASCO Applied Sciences
- Tetra Tech
- Echoview Software Pty Ltd
- Orpheus Ocean
- Grow Blue + University of Rhode Island Research Foundation
- University of Rhode Island

The MTS URI Student Section played a leading role in hosting attendees for campus and JASCO Applied Sciences tours, offering first-hand views of local research and instrumentation facilities. Informal mentor connections throughout the event supported relationship-building and knowledge transfer between established professionals and early career participants.

NEXT STEPS

The Fisheries & Benthic Monitoring TechSurge made clear that the tools and partnerships needed to support responsible offshore development are advancing rapidly. Across two days of presentations, demonstrations, and discussion, a consistent message emerged: no single technology, institution, or sector can answer the regional, cumulative questions that offshore development demands. Progress depends on integrating new monitoring platforms with long-term time series, embedding physical oceanographic context in biological observations, structuring data for reuse from the moment of collection, and ensuring that the fishing community's ecological knowledge and lived experience shape how science is designed and interpreted. The conversations started at URI's Bay Campus in October 2025 are exactly the kind that turn observation into understanding, and understanding into action. This community is well positioned to see that through. The MTS Offshore Renewable Energy Committee is excited to be able to continue to partner with RWSC, ROSA, and other organizations to foster these important conversations and collaborations to continue to advance the use of technology to better understand our critical ocean environments.



APPENDICES

Appendix A: Agenda
Appendix B: Recordings of Live Presentations
Appendix C: Pre-Recorded Presentations - password: mts (all lowercase)
Appendix D: Presentation Slides



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