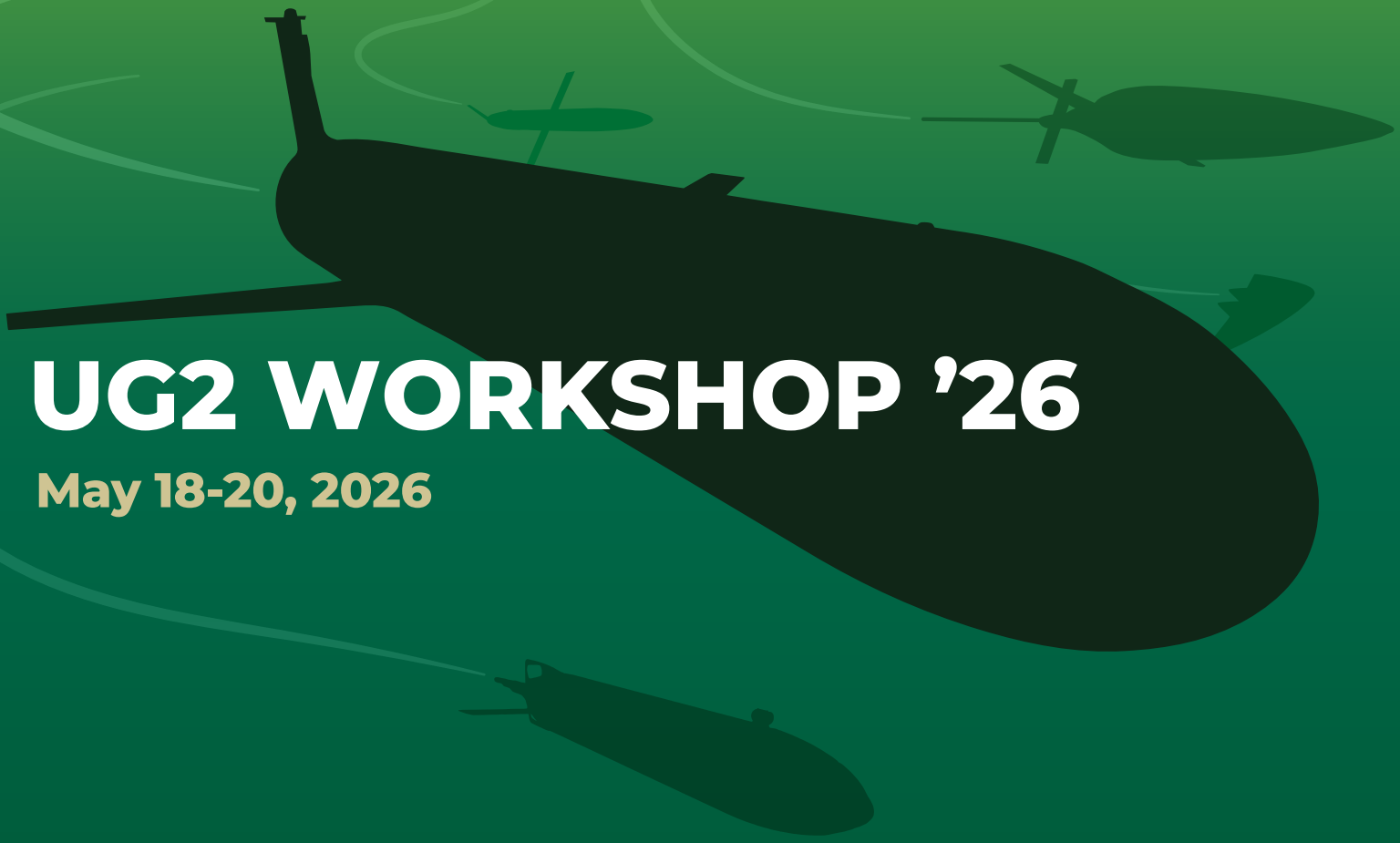
Center for Ocean Leadership

IOOS Integrated Ocean Observing System

University of South Florida College of Marine Science

UG2 Underwater Glider User Group



UG2 WORKSHOP '26

May 18-20, 2026

University Student Center · USF St. Petersburg · 200 6th Avenue South · St. Petersburg, FL

Final Report

Compiled by the UG2 Coordinator and UG2 Steering Committee

Underwater Glider User Group

Our Mission:

To be a community-based coalition aimed at bolstering scientific collaboration, information, and resource sharing for gliders.

underwatergliders.org

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UG2 Coordinator's Remarks

Photo credit: *Cassie Wilson*

The Underwater Glider User Group (UG2) is a vibrant and growing community of passionate and dedicated glider users from across North America and around the world. Over the past decade, both the community and the technology have experienced remarkable growth, driven by innovation, expanding operational capabilities, new glider laboratories, and strong partnerships across scientific, governmental, and industry sectors.

For me, what has been particularly remarkable is the resilience of the UG2 community. As technology has evolved, priorities shifted, and the demands on ocean observing have increased, this community has consistently adapted, collaborated, and found new ways to advance the use of underwater gliders in support of science, operations, and stewardship of the ocean. The willingness of members to share expertise, solve challenges collectively, and support one another has been a defining strength of UG2 and continues to drive its success.

The fifth UG2 Workshop was organized with the goal of bringing this diverse community together to strengthen collaboration, share knowledge, and advance the collective use of underwater gliders for ocean monitoring, operational services, and scientific research. We were thrilled to welcome such a large and diverse group of glider users with many early career and student participants, and individuals attending a UG2 workshop for the first time.

Throughout the planning process, I was continually encouraged by the enthusiasm and support of our industry partners, sponsors, and collaborating organizations. Their commitment to the success of this workshop reflects the strength and vitality of the broader glider community, and I am deeply grateful for their contributions. I would also like to extend a special thanks to the University of South Florida College of Marine Science for their outstanding hospitality and support in hosting the workshop despite the tragedy at their lab just a few weeks earlier. Their efforts helped create a welcoming and productive environment that contributed greatly to the success of the event.

Finally, I extend my sincere thanks to the UG2 Steering Committee and workshop planning team, whose dedication, creativity, and countless hours of effort made this workshop possible.

As we look ahead to the next UG2 Workshop in 18-24 months, I am excited to see how the ideas, partnerships, and momentum generated during these three days will continue to strengthen our community and expand the role of underwater gliders in addressing the challenges and opportunities of ocean observing worldwide.

Georgia Coward
UG2 Coordinator

Workshop Overview

Photo credit: *Cassie Wilson*

Purpose

The fifth Underwater Glider User Group (UG2) Workshop was held May 18 - 20, 2026, at the University Student Center on the University of South Florida St. Petersburg campus in St. Petersburg, Florida. The workshop brought together underwater glider users, researchers, operators, industry representatives, students, and resource managers from across the United States and around the world to share knowledge, strengthen collaborations, and discuss the future of autonomous ocean observing.

UG2 is a community-based coalition dedicated to strengthening scientific collaboration, information exchange, and resource sharing among the underwater glider community. The workshop serves as a forum for advancing marine monitoring, operational services, and scientific research through coordinated discussions and collaboration among glider stakeholders. The 2026 Workshop continued this mission by providing opportunities for participants to exchange experiences, identify community priorities, and develop action items that will support future growth and innovation.

Objectives

The workshop was organized around five primary objectives:

1. **Harmonize glider efforts** through improved data management, partnerships, documentation of best practices, and collaboration within the U.S. and international glider communities.
2. **Share new developments** in glider technologies, sensors, emerging requirements, and novel applications.
3. **Refine operational activities** related to sustained observing, reliability, sampling strategies, and ocean modeling impacts.
4. **Identify action items and future needs for UG2**, including communication platforms, international partnerships, and community engagement activities.
5. **Strengthen networking and collaboration** among glider users from diverse sectors and regions.

Workshop Overview

The three-day program featured oral presentations, poster sessions, breakout discussions, industry engagement, and networking activities designed to foster collaboration across disciplines and sectors. Scientific sessions highlighted advances in ecosystem monitoring, regional observing systems, data infrastructure, next-generation autonomy, workforce development, and international partnerships. Dedicated breakout sessions provided opportunities for participants to address technical operations, piloting, fisheries applications, data interoperability, and workforce development topics in greater depth. Industry engagement included exhibitor participation, technology demonstrations, and a community-focused panel discussion on future needs and priorities. Early-career events, mentoring opportunities, and networking activities further supported professional development and community building for the next generation of glider users.

The workshop welcomed 145 participants representing 70 organizations, 21 U.S. states, and 13 countries, reflecting the continued growth and global reach of the underwater glider community. Students and early-career professionals accounted for approximately one-third of attendees, highlighting the community's commitment to workforce development and the next generation of glider scientists, engineers, and operators.

Throughout the workshop, participants emphasized the importance of collaboration, resilience, and innovation in addressing evolving challenges in ocean observing. The discussions and outcomes

documented in this report reflect the collective expertise of the UG2 community and provide guidance for future activities, partnerships, and priorities.

Components

Oral Presentations. Glider experts updated the community with science, practice, and case studies. Practitioners representing the full scope of the glider community, from federal, state, and local agencies to industry and academia, covered a wide breadth of examples, methodologies, key research findings, and general uses of gliders.

Breakout Sessions. The breakout sessions varied in format and created opportunities to interact with colleagues and work toward a specific outcome or goals, such as using gliders in the Gulf and their challenges, glider use in living ecosystem assessments, providing a space for pilot and operational questions, and aligning data management practices.

Poster Presentations. In order to promote networking between participants, the poster sessions coincided with extended morning and afternoon coffee breaks and a lightning advertisement presentation session. Research, tools, and information were showcased on a 36” x 48” poster.

Industry Sessions. There was an industry-focused session during the Workshop: a panel-based Q&A session with key industry partners to determine and outline community needs.

Early Career Events. A Mentor Match-Up and an interactive early-career lunch featuring a panel of ocean glider professionals were held.

Topics & Key Outcomes

Topics

The UG2 Workshop was centered around five key topics:

1. **Sustained Ocean Observing and Climate Applications**
   A major focus was the growing role of gliders in long-term ocean monitoring and climate research. Presentations highlighted decade-long observing efforts in regions such as the Gulf Stream, California Current, Mexican waters, Bermuda, the Caribbean, and the Scotian Shelf. Discussions emphasized the value of gliders for tracking ocean change, improving forecasting systems, documenting climate trends, and supporting sustained observations of essential ocean variables.

2. **Advancing Autonomy, Artificial Intelligence, and Operational Efficiency**
   The community showcased significant progress in next-generation autonomy, decision-support tools, and AI-enabled operations. Topics included autonomous mission planning, digital twins, onboard decision-making, route optimization, vessel-strike avoidance tools, machine-learning applications for image processing, and AI-native approaches to glider operations. These developments are helping increase mission complexity, reduce piloting burden, and expand operational capabilities.

3. **Ecosystem Monitoring and Biological Oceanography**
   A substantial portion of the workshop focused on expanding glider applications for ecosystem assessment and marine resource management. Presentations and breakout discussions explored fisheries assessments, zooplankton monitoring, passive acoustics, marine mammal detection, primary productivity, acoustic telemetry, and endangered species monitoring. New optical and acoustic technologies are enabling gliders to move beyond physical oceanography and become critical tools for ecosystem-based management.

4. **Data Infrastructure, Interoperability, and Community Standards**
   Participants repeatedly emphasized the importance of making glider data more accessible, interoperable, and ready for emerging applications. Discussions addressed next-generation data systems, FAIR data principles, quality control frameworks, AI-ready datasets, cloud-based workflows, controlled vocabularies, international standards, and improved data sharing through global networks. This theme underscored the community's commitment to maximizing the value and impact of glider observations.

5. **Building Community, Workforce Development, and International Collaboration**
   The workshop highlighted that technology advances depend on a strong and connected community. Sessions focused on training, mentorship, workforce development, microcredentials, proposal writing, international partnerships, and the growth of global observing networks. Discussions reinforced the importance of knowledge sharing, developing the next generation of glider operators and scientists, and strengthening collaborations across academia, government, industry, and international partners.

Technological Advancements

Key advancements in underwater glider technology were discussed throughout the workshop. Presentations highlighted emerging AI applications for mission planning, adaptive sampling, autonomous decision-making, and automated processing of large biological datasets. Several groups demonstrated new tools that improve operational efficiency through optimized routing, vessel avoidance systems, and enhanced shoreside support for piloting. Significant progress was also reported in sensor development, including next-generation CTDs, pH sensors, acoustic echosounders, optical imaging systems, passive acoustic monitoring payloads, and biogeochemical instrumentation. These advances are enabling gliders to collect increasingly diverse datasets that support ecosystem monitoring, fisheries assessments, marine mammal studies, ocean acidification research, and climate observations.

Complementing these technological developments were efforts to modernize data infrastructure through improved quality control procedures, interoperable data standards, cloud-based workflows, and AI-ready data products. Together, these innovations demonstrate the continued evolution of underwater gliders from specialized oceanographic platforms into versatile, intelligent observing systems capable of addressing a growing range of scientific and operational challenges.

Community Challenges

We also addressed several challenges faced by the underwater glider community that must be addressed to fully realize the potential of underwater gliders as a sustained and globally coordinated ocean observing technology.

Operations and sensing. As glider deployments continue to increase in duration, geographic scope, and scientific complexity, operators face ongoing challenges related to vehicle reliability, energy management, battery performance, navigation, and communications. Missions in remote regions, high-traffic shipping

Photo credit: *Christopher Campbell*

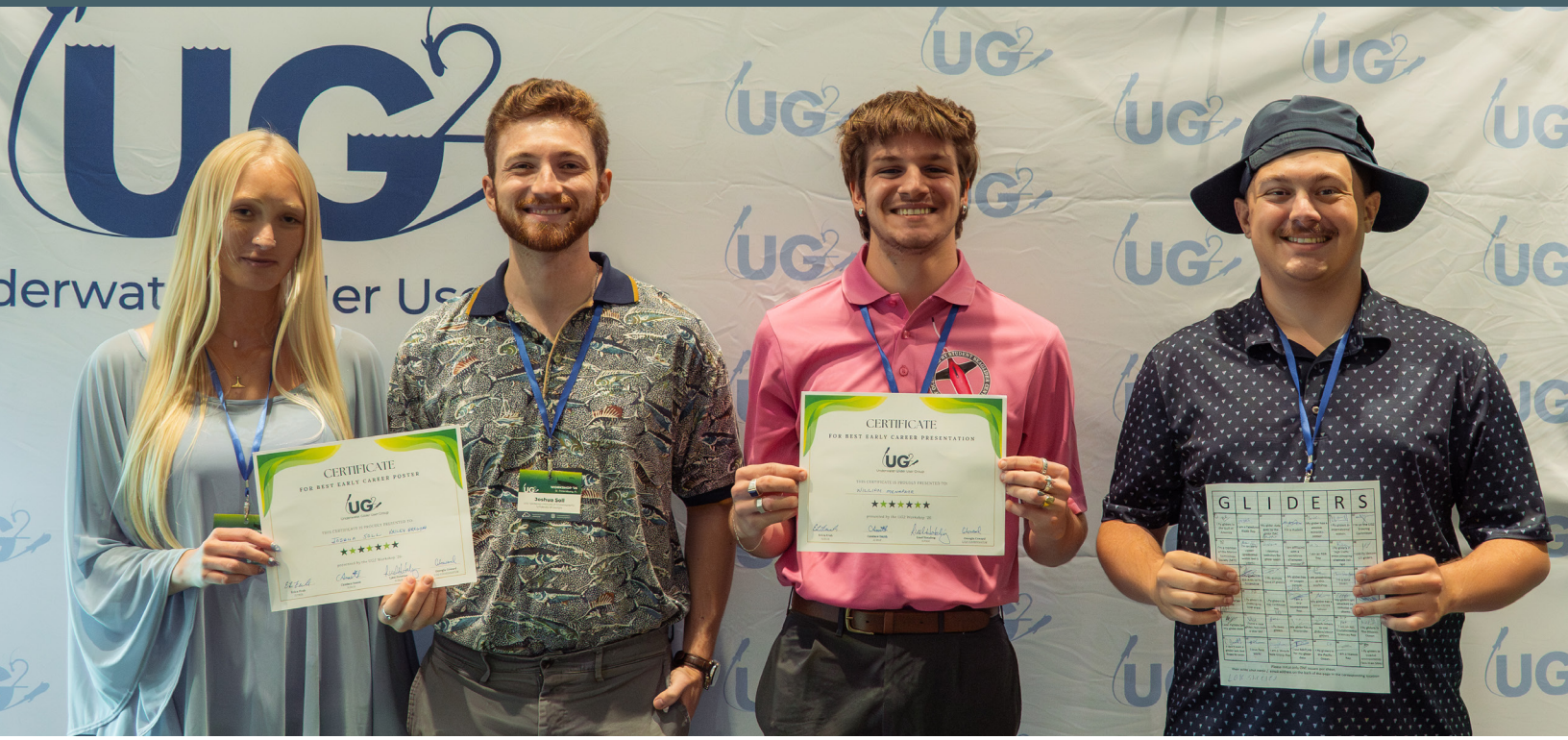
corridors, under-ice environments, and dynamic coastal systems require increasingly sophisticated piloting strategies, risk mitigation tools, and autonomous decision-support capabilities. The rapid growth of biological, acoustic, optical, and biogeochemical sensing also presents challenges in sensor integration, calibration, quality assurance, and long-term maintenance.

Data management. The community further recognized the need for continued advancement in data management and interoperability. Increasing data volumes, diverse sensor payloads, and expanding international participation require standardized data formats, controlled vocabularies, quality-control procedures, and interoperable workflows that support real-time applications, forecasting systems, and long-term archiving. Participants emphasized the importance of implementing emerging community standards such as OG1.0 and developing AI-ready data systems that can support automated analysis and next-generation scientific applications.

Workforce development. As the community grows, there is a need to train new pilots, engineers, technicians, and scientists while preserving institutional knowledge and operational best practices. Participants highlighted the importance of expanding training opportunities, mentorship programs, and workforce development initiatives to support both established and emerging glider programs.

Continued support. Finally, the workshop underscored the importance of sustained funding, stronger international coordination, and enhanced community engagement. Continued success will depend on maintaining robust partnerships among academia, government agencies, industry, and international organizations while improving communication channels, resource sharing, and collaboration across the global glider community. Addressing these challenges will help ensure that underwater gliders remain a resilient, innovative, and increasingly indispensable component of the global ocean observing system.

Early Career



From left to right: *Keiley Gregory and Joshua Soll, Center for Marine and Environmental Studies, The University of the Virgin Islands – joint winners, Best Poster; William Menapace, University of Washington – winner, Best Oral Presentation; Cole Sheeley, The University of the Virgin Islands – winner, Networking G-L-I-D-E-R-S Game. Photo credit: Cassie WIlson.*

A key highlight of the workshop was the strong participation from early-career professionals and students, who comprised approximately one-third of all attendees. Their enthusiasm, engagement, and diverse perspectives brought significant energy to the meeting and underscored the continued growth and vitality of the underwater glider community. Recognizing these participants as the next generation of glider scientists, engineers, operators, and program leaders, the workshop included several activities specifically designed to support their professional development and integration into the broader community.

Dedicated sessions focused on proposal and grant writing, providing practical guidance on securing funding and developing successful research and operational programs. In addition, the workshop hosted an interactive early-career lunch featuring a panel of professionals working with ocean gliders across academia, government, and industry. Following brief introductions, the majority of the session was dedicated to audience questions and discussion, providing attendees with the opportunity to receive candid advice on career pathways, professional development, and opportunities within the glider community.

In addition, the newly launched mentor-match initiative connected students and early-career professionals with experienced members of the glider community, fostering relationships that will help support career development, knowledge transfer, and long-term engagement within UG2. The program included 14 mentors and 21 mentees who were matched based on questionnaire responses designed to align career interests, experience, and mentoring goals.

Early Career

Beyond their participation in technical sessions, many early-career attendees played an active role in the success of the workshop itself. Volunteers assisted with note-taking during breakout discussions, managed microphones during question-and-answer sessions, and helped keep presentations and activities on schedule. Their contributions were invaluable in supporting the smooth operation of the meeting while also providing opportunities to engage more directly with workshop participants and discussions.

The strong presence of students and early-career professionals throughout the workshop reflects the resilience and sustainability of the UG2 community. By investing in workforce development, mentorship, and training opportunities, UG2 continues to build a strong foundation for future innovation, leadership, and collaboration within the global underwater glider community.

Following the success at the 2024 Workshop, UG2 leadership offered constructive feedback on all student and early career posters and presentations, culminating in awards for the highest scoring in each category. This initiative highlighted and encouraged student and early career engagement and fostered the collaborative UG2 spirit! William Menapace (University of Washington) received the best oral presentation for their presentation entitled “Training Students Through Repeated Seaglider Missions: Investigating Seasonal Dynamics in Puget Sound” and the joint poster presented by Keiley Gregory and Joshua Soll (Center for Marine and Environmental Studies, The University of the Virgin Islands) entitled “Assessing baleen whale species composition, diel patterns, and habitat preferences in the USVI and Puerto Rico using PAM-equipped Slocum gliders” received the best poster award.

To help participants, especially early-career researchers and students, network more effectively and keep track of who they spoke with about specific topics, the UG2 Early Career Sub Focus Group created a “Networking G-L-I-D-E-R-S” game for the workshop (think BINGO!). Cole Sheeley from the University of the Virgin Islands was our lucky winner, continuing his winning streak from 2024.

Session Outcomes

Breakout and plenary sessions were a key component of this dynamic workshop. We held multiple sessions and their summaries, themes, and action items are listed below.

MTS Microcredentials

Facilitator: Liesl Hotaling, MTS

SUMMARY

This breakout session focused on sharing the MTS microcredentials initiative and the utility of earning microcredentials to codify the use of various marine technologies. Presenters shared the framework, completed competencies and evaluation rubrics, and approach to creating and awarding microcredentials through MTS and through Partners. Attendees were invited to discuss the application and relevance of the microcredential framework and offer comments and suggestions for revision, improvement and future topics for microcredentials.

To increase workforce capacity, we must collectively take action to establish attractive, innovative, agile and equitable educational opportunities. These opportunities should capitalize on skill sets for a diverse range of workers and encourage engagement pathways for life-long learning through stackable microcredentials and professional certificates to promote personal growth. The Marine Technology Society (MTS), in collaboration with community members, is creating an infrastructure to issue a variety of stackable microcredentials addressing core competencies required for employment in the blue economy.

THEMES AND ACTION ITEMS

DISCUSSION TOPICS	OPPORTUNITIES/CHALLENGES
Structure of the microcredentials program	Current structure of foundational, intermediate and advanced seems a reasonable approach. Do the assessors need to have earned the microcredential themselves? In response to the suggestion in 2024 to create an Advanced Glider microcredential, the Advanced Glider Hardware microcredential will be available in autumn 2026 for awarding to professionals already working with gliders. In response to another 2024 conversation, MTS created a “visitor” program for instructors to visit other organizations/locations implementing microcredentials to learn from each other and as a community improve instruction.

(Continued on next page)

Session Outcomes

DISCUSSION TOPICS	OPPORTUNITIES/CHALLENGES
Potential for adoption and growth	Splitting the glider microcredentials into “hardware” and “software/piloting” is a strategic approach to addressing future needs. Utility of the microcredential approach for a variety of learners – traditional students, reskilling/upskilling, recognition of existing skill sets. Assistance with local implementation questions will need individualized attention – as implementation models emerge, provide those on the MTS site to help future organizations envision how they might formulate adoption.
Foundational competencies	Agreement to the glider “species” agnostic approach as the competencies address foundational topics applies to all glider types.
Advanced competencies	Agreement to the glider “species” agnostic approach as the competencies address Advanced glider hardware topics applies to all glider types.
Evaluation rubrics	Agreement that the rubrics are a good method to create a common evaluation strategy across partner institutions. Agreement with an independent online quiz for all participants to complete, coupled with a completed evaluation rubric prior to issuing a microcredential to a learner.
Expiration of microcredentials	Agreement that the Foundational microcredentials should not expire, however the Intermediate and Advanced microcredentials will have a “date received stamp” and let the employer decide if that credential is still valid, with an eye toward an expiration date of the microcredential if needed.

GOALS	OBJECTIVES
Develop microcredentials for learners – foundational, intermediate and advanced	Finalized Foundational Glider Hardware and Glider Software competencies and evaluation rubrics are available for awarding through partners.. Advanced Hardware competencies and evaluation rubric are available, and the workshop to award the microcredential is in development and is on target to be available by Autumn 2026.. Discussions of creating a Comms microcredential that would support Glider use. Discussion of an electronics microcredential and data microcredentials to support glider users.

Piloting

Facilitators: Karen Dreger, Skidaway Institute of Oceanography; Bill Lingsch, IOOS; Kevin Martin, University of Southern Mississippi; Doug Wilson, University of the Virgin Islands

SUMMARY

This breakout session focused on glider piloting, with four panelists sharing the challenges and successes they have experienced during missions. Their presentations covered a broad range of topics, including piloting trans-Atlantic voyages, navigating strong currents and freshwater outflows, understanding environmental conditions prior to deployment, and coordinating logistics and communications during mission operations.

Ben Allsup, National Oceanography Centre, UK presented on trans-oceanic glider operations, highlighting the *Silbo* mission and the extensive preparation required for the more than year-long Magellan Mission. He outlined a 13-step framework for establishing and sustaining a successful glider program: (1) acquire a glider, (2) hire and train staff—including technicians, pilots, data specialists, and IT support, (3) establish a glider laboratory, (4) acquire a ballast tank, (5) set up Iridium and Argos accounts, (6) establish a dockserver, (7) prepare and test the glider, (8) deploy the glider using a purchased or chartered vessel, (9) evaluate real-time data, (10) recover the glider, (11) download the complete dataset, (12) evaluate the collected data, and (13) maintain the glider for future deployments through battery replacement, calibrations, and ballast adjustments. His presentation emphasized the significant planning and infrastructure required to support long-duration missions.

Kevin Martin, University of Southern Mississippi discussed operational challenges and the importance of understanding the environment in which a glider is deployed. He highlighted the need for knowledge of local currents, density structures, infrastructure, marine life, and biofouling conditions. Drawing from his experience operating in the northern Gulf of Mexico, he shared lessons learned navigating the Mississippi River plume and working around offshore oil and gas infrastructure.

Travis Miles, Rutgers University focused on the importance of planning and partnerships in successful glider operations. He emphasized the value of local knowledge and the use of multiple guidance products, including ocean models and satellite imagery, to support decision-making. Using the analogy of "relax and ride the wave," he encouraged pilots to leverage favorable currents whenever possible while maintaining backup and tertiary plans to adapt to changing conditions.

Cordi Goodrich, Teledyne Marine highlighted the role of organization and team culture in successful glider piloting. She stressed the importance of maintaining clear file organization and mission plans, producing consistent mission summaries, and following established data review protocols. This level of organization enables sound decision-making during high-impact operational moments. She also emphasized that a positive team culture fosters effective communication and creates an environment where personnel feel comfortable discussing challenges and developing solutions collaboratively.

THEMES

- Successful glider operations require significant planning, infrastructure, and trained personnel.
- Understanding local environmental conditions is critical for mission success and risk mitigation.
- Partnerships, local knowledge, and the integration of multiple forecasting and observational tools improve operational decision-making.
- Strong organizational practices and standardized workflows support effective piloting and mission management.
- Positive team culture and open communication are essential for addressing challenges and maintaining operational excellence.
- Use UG2 Slack to communicate (share and ask questions).

Technical Operations

Facilitators: Karen Dreger, Skidaway Institute of Oceanography; Bill Lingsch, IOOS; Kevin Martin, University of Southern Mississippi; Doug Wilson, University of the Virgin Islands

SUMMARY

This breakout session focused on the logistics and technical operations required to conduct successful glider missions. A panel of five experienced practitioners shared challenges they encountered during various stages of glider operations and discussed the solutions that enabled mission success. Topics ranged from laboratory preparation and mission planning to overcoming operational challenges at sea and ensuring the safe recovery and return of gliders to the laboratory.

Hank Statscewich, University of Alaska discussed how mission planning and piloting flexibility can save vehicles even during catastrophic failures. He shared an example from the Bering Sea involving a glider leak in a remote area, where operators adapted by using "bathtub dives" and thruster-assisted swimming to transit approximately 200 km to a safe recovery location.

Karen Dreger, Skidaway Institute of Oceanography presented an excellent logistics case study on transferring communications and piloting responsibilities to the Texas A&M/GERG dockserver as Hurricane Irma approached Florida and Georgia, prompting mandatory evacuations. She also highlighted USF's JaiAlai hurricane evacuation plans for Hurricanes Helene and Milton in 2024. These examples demonstrated the importance of inter-institutional collaboration and how the glider community can support one another during emergencies.

Doug Wilson, University of the Virgin Islands spoke about establishing a glider laboratory in the Virgin Islands and the critical support provided by Rutgers University during the process. His presentation emphasized the value of mentorship and collaboration when building new operational capabilities.

Chad Lemke, University of South Florida shared a successful glider recovery effort involving a vehicle that had become buried in sediment. By leveraging regional ocean models to estimate the glider's location

following severe weather and triangulating signals from Vemco transceiver transmissions, the team was able to successfully locate and recover the vehicle.

THEMES

- Flexible mission planning and adaptive piloting are critical for vehicle recovery during unexpected failures.
- Emergency preparedness and response planning are essential components of sustained glider operations.
- Collaboration across institutions strengthens operational resilience and expands technical capabilities.
- Innovative use of modeling tools and acoustic tracking technologies can significantly improve recovery success in challenging environments.
- Use UG2 Slack to communicate (share and ask questions).

ACTION ITEM > Time for another "What Is in My Garage" webinar.

International Projects and Logistics

Facilitators: Jorge Brenner, GCOOS; Doug Wilson, University of the Virgin Islands

SUMMARY

Participants discussed the unique challenges associated with conducting underwater glider operations in international and remote regions. A recurring theme was the importance of developing strong partnerships and leveraging existing infrastructure to support deployments, logistics, and community engagement.

THEMES

Partnerships and Remote Operations

Operating in remote locations often requires creative approaches and collaboration with non-traditional partners. Participants highlighted successful partnerships with commercial cruise operators, such as Viking Cruises, which have provided logistical support, hosted scientists onboard, and facilitated scientific outreach activities. In many cases, relatively small contributions, such as presentations for passengers explaining the science and mission objectives, have fostered mutually beneficial relationships. Cruise vessels frequently employ naturalists with scientific backgrounds who can assist with educational and outreach efforts.

ACTION ITEM > Develop a community-maintained list of cruise lines, shipping operators, and other organizations that have previously supported glider operations.

Session Outcomes

Regulatory and Jurisdictional Challenges

Exclusive Economic Zones (EEZs), national boundaries, and differing regulatory frameworks continue to present challenges for rapid deployment and sustained operations. Participants noted that permitting requirements, operational restrictions, and bureaucratic processes can vary significantly between countries, often complicating cross-boundary missions. These challenges were particularly noted in the Caribbean, where multiple EEZs and diplomatic considerations can affect mission planning.

Participants emphasized the importance of establishing long-term partnerships and operational presence within regions where future glider activities are anticipated. Building relationships with local institutions, governments, and stakeholders can help streamline permitting processes and facilitate future operations.

A successful example cited during the discussion was the use of gliders to support response efforts following a pipeline rupture in the Baltic Sea through VOTO, demonstrating the value of established international partnerships and operational readiness.

Community Engagement and Capacity Building

Participants stressed the importance of involving local communities in glider projects, particularly in remote and developing regions. Community engagement and local workforce development help build trust, foster long-term partnerships, and increase regional capacity for ocean observing. Local training opportunities and collaborative research activities were identified as effective mechanisms for supporting these goals.

Transportation, Batteries, and Hazardous Materials

Transporting gliders and associated equipment internationally presents significant logistical challenges. Battery shipping requirements were identified as a particular concern. Participants noted that:

- International Air Transport Association (IATA) training is often required.
- Some airlines and routes are designated to carry specific battery types.
- Regulations differ between air and sea transport and among countries.
- Requirements can change frequently, in some cases annually.
- Hazardous materials (HazMat) training is often necessary for personnel responsible for shipping equipment. *Recommended*: infotrac.net, located in Florida. They tailor the training to your needs. They are familiar with gliders and have helped UG2 members with different challenges associated with HazMat paperwork. They are also our 24 emergency number that holds on the SDS sheets.

Participants emphasized the importance of early logistical planning and maintaining awareness of evolving transportation regulations.

Insurance and Legal Considerations

Insurance and registration requirements vary significantly among countries. In some jurisdictions, underwater gliders may be classified similarly to vessels or vehicles, particularly when operating in national

waters or when the platforms are foreign-owned. Participants noted that Canada requires registration and liability insurance for glider operations and has specific operational protocols, including navigation lighting requirements.

Additional discussion focused on the need for improved communication materials that clearly explain what underwater gliders are and how they operate, particularly for regulatory agencies unfamiliar with autonomous ocean observing systems. Some countries may also require documentation similar to a "passport" for scientific instruments entering or operating within their jurisdictions.

Data Governance and Security

Participants discussed emerging concerns surrounding data ownership, data residency, and data governance. Questions were raised regarding whether ownership and management responsibilities are determined by where data are collected, processed, or stored. As ocean data become increasingly valuable, these considerations are expected to grow in importance.

Additional concerns included communication interference, geofencing restrictions, and the potential for signal jamming in geopolitically sensitive regions. These issues may affect both operational planning and data transmission strategies.

Shipping and Operational Support

Reliable shipping and customs support were identified as critical components of successful international operations. Participants emphasized the value of working with trusted shipping agents and logistics providers who are familiar with local regulations and customs processes.

> **ACTION ITEM >** Develop a community resource identifying trusted shipping companies and logistics providers with experience supporting glider operations.

Operations in Politically Sensitive Regions

For deployments in politically sensitive or hostile regions, participants recommended working through established diplomatic channels and existing governmental frameworks. Memoranda of Understanding (MOUs) between countries can help facilitate scientific operations and data sharing. The U.S. Department of State was identified as a valuable resource for navigating international permissions and diplomatic processes.

> **ACTION ITEM >** Explore opportunities for introductions and information exchange between U.S. Department of State representatives and the glider community, potentially coordinated through Rutgers University.

Contingency Planning

The discussion concluded with consideration of contingency scenarios, including the potential for a glider to lose propulsion or communications and effectively become a drifting asset. Participants noted the need for clear operational procedures, regulatory guidance, and recovery strategies to address such situations, particularly when they occur in international waters or near national boundaries.

Proposal Writing Training

Facilitators: Travis Miles and Joe Gradone, Rutgers University

SUMMARY

This session focused on general considerations for submitting proposals to a range of funding agencies. Topics included strategies for crafting competitive proposals for agencies such as NSF, NOAA, and NASA; guidance on developing the different components of a proposal; and key considerations for building a realistic budget. The session was open to all workshop participants, with content specifically tailored to support early-career researchers preparing to write their first proposal. It was extremely well attended and received, providing practical advice and encouraging discussion among participants at all career stages.

Industry Community Session

Facilitator: Bill Lingsch, IOOS

Panel Members: Shea Quinn, Slocum Glider Product Line Manager, and Cordie Goodrich, Slocum Glider Technical Support and Field Operations Manager, Teledyne Marine; Mat Dever, Research Scientist, RBR; Candace Smith, Sales Manager for North America, and Nicolai von Oppeln-Bronikowski, Field and Support Team Manager, Rockland Scientific; Dean Fougere, Vice President of D-2 Incorporated; Matthew Green, Engineer, WASSOC

SUMMARY

The Workshop's Industry Panel and Community Q&A session brought together representatives from leading ocean technology organizations to discuss the evolving needs of the glider community and the future of autonomous ocean observing. Participation on the panel was offered as a benefit to organizations supporting the workshop at the "Community Contributor" and higher sponsorship levels, recognizing their significant contributions to the UG2 community and the broader ocean observing enterprise.

The session generated a highly engaged discussion between industry representatives and workshop participants, covering topics ranging from workforce development and career pathways to sensor innovation, manufacturing scalability, data interoperability, artificial intelligence, and the future drivers of technology development. Attendees shared feedback on current capabilities, identified emerging needs, and explored opportunities for stronger collaboration between industry, academia, and government partners.

A recurring theme throughout the discussion was the importance of maintaining open communication and fostering community-driven innovation. Panelists emphasized their commitment to supporting the UG2 community and encouraged continued engagement through the UG2 Slack workspace, which serves as a valuable forum for technical support, knowledge sharing, troubleshooting, and broad dissemination of information. The discussion reinforced the strong partnership between industry and the

user community and highlighted the collective effort required to advance autonomous ocean observing capabilities and meet future scientific and operational challenges.

THEMES

The community Q&A and industry discussion provided valuable insight into current challenges, opportunities, and emerging priorities across the ocean technology and autonomous systems community. Discussion topics spanned workforce development, technology innovation, industry-academia collaboration, artificial intelligence, sensor development, and the future direction of the glider and uncrewed systems sector.

Workforce Development and Career Growth

Several questions focused on career pathways and professional development within the ocean technology sector. Early-career participants were interested in understanding how scientific and research experience can translate into industry roles and what skills are most valuable in a rapidly evolving workforce. Discussion highlighted the growing demand for individuals who can bridge traditional disciplinary boundaries, particularly between ocean science, engineering, software development, and data science.

Participants also explored the balance between specialization and versatility. While deep technical expertise remains highly valued, panelists emphasized that individuals who can communicate across disciplines and understand multiple aspects of system development, operations, and science are increasingly important in collaborative ocean observing programs.

Industry-Academia Collaboration

Questions from both panelists and attendees reflected a strong interest in strengthening relationships between industry and the research community. Industry representatives sought feedback on what users most value from commercial partners, while attendees discussed desired improvements in existing technologies and areas where future innovation should be focused.

A recurring theme was the importance of maintaining open communication and collaboration while balancing the proprietary knowledge, intellectual property, and competitive advantages that enable companies to remain successful. The discussion highlighted the mutual benefits of partnerships between academia, government, and industry in advancing ocean observing capabilities.

Operational Capability and Scaling

Participants expressed interest in operational flexibility, including the availability of glider platforms that could be rapidly mobilized for short-notice missions. This reflects a broader community need for responsive observing capabilities that can support emerging events, field campaigns, and time-sensitive scientific questions.

The conversation also addressed the challenges associated with scaling production as demand for uncrewed systems continues to grow. Industry representatives discussed the increasing interest in autonomous platforms and the need to expand manufacturing, support infrastructure, and operational capacity to meet future demand.

Session Outcomes

Sensor Development and Technology Innovation

Discussion highlighted continued interest in sensor development and integration. Participants questioned whether highly specialized applications can justify the investment required for new sensor development and commercialization. The conversation underscored the ongoing challenge of balancing niche scientific requirements with broader market demand.

Community members also emphasized the value of sensor intercomparison studies and collaborative technology evaluations, recognizing their importance for validating performance and building confidence in emerging technologies. However, limitations in funding, personnel, and access to instrumentation remain barriers to conducting such efforts at scale.

Specific interest was expressed in expanding commercially available biogeochemical sensing capabilities, including the need for robust pH sensors suitable for deployment on autonomous platforms such as Slocum gliders.

Data Systems and Interoperability

Questions around onboard data processing and data management reflected the community's growing focus on interoperability and efficient data workflows. Participants discussed opportunities to improve data handling by generating self-describing formats, such as NetCDF, earlier in the data lifecycle to streamline processing, sharing, and long-term accessibility.

These discussions aligned with broader workshop themes surrounding data infrastructure, standardization, and reducing barriers to data use across organizations and platforms.

Artificial Intelligence and Automation

Artificial intelligence emerged as one of the most discussed topics during the session. Participants explored the potential for large language models (LLMs) trained on technical documentation, operational procedures, and historical datasets to assist with troubleshooting, user support, and knowledge transfer.

Additional discussion considered the role of AI throughout the technology development lifecycle, including the possibility of leveraging AI-assisted documentation and design workflows. While enthusiasm for these applications was high, participants also acknowledged the continued importance of expert oversight, data quality, validation, and maintaining trust in AI-generated outputs.

Defense, Global Markets, and Future Technology Drivers

Attendees examined the relationship between defense-driven and science-driven technology development. Discussion suggested that while defense investments often accelerate advances in autonomy, sensors, and vehicle capabilities, many technological priorities overlap with those of the academic and research communities, allowing innovations to benefit multiple sectors.

The global nature of the autonomous systems market was also discussed, including the growth of glider development and manufacturing capabilities outside the Western Hemisphere. Participants considered both opportunities for international collaboration and the competitive dynamics associated with an increasingly global technology ecosystem.

Session Outcomes

Key Takeaways

Across all discussions, several common themes emerged:

- Continued demand for stronger collaboration between industry, academia, and government.
- Growing need for interdisciplinary workforce development that combines ocean science, engineering, software, and data skills.
- Interest in expanding operational flexibility and scaling autonomous observing capabilities.
- Continued investment in sensor innovation, validation, and biogeochemical observing technologies.
- Increasing focus on data interoperability, standardization, and efficient workflows.
- Significant community interest in AI-enabled tools for troubleshooting, documentation, and operations.
- Recognition that global competition and defense investments will continue to influence future technology development.

Overall, the discussion reflected a community that is simultaneously addressing immediate operational challenges while preparing for a future characterized by greater autonomy, advanced sensing technologies, artificial intelligence, and increasingly interconnected partnerships across the ocean observing enterprise.

The Industry Community Session: *Featuring panelists from Teledyne Marine, RBR, Rockland Scientific, D-2 Incorporated, and WASSOC. Photo credit: Cassie Wilson.*

Data Management

The primary focus of the Data Management Subcommittee activities at the 2026 UG2 Workshop was steering the ocean observing community away from traditional, siloed data practices toward addressing the operational impacts of Artificial Intelligence—specifically the development of "AI-Ready Data" (datasets that are fully discoverable, interoperable, and optimized for next-generation analytical frameworks). Across the three-day workshop, presentations and panels emphasized that the upcoming decade of glider science will be defined not just by advancements in hardware sensors, but by the robust data infrastructure that mediates between environmental observations, computational models, and public policy.

To bridge the gap between technical developments and real-world impact, the workshop convened data scientists, regional Integrated Ocean Observing System (IOOS) representatives, and policy experts. Key sessions focused on scaling cloud-native processing systems, automating quality control via adaptable JSON-based QARTOD frameworks, and evaluating live production AI tools (such as automated vocalization detection and natural language data querying). A major strategic takeaway was the imperative of upfront data standardization (such as global OG1.0 compliance). The community established that high-quality, standardized metadata is a strict prerequisite for mitigating AI hallucination risks and producing the highly reliable, predictive environmental narratives required by coastal resource managers and environmental policymakers.

DATA MANAGEMENT SESSION 1:

Data Infrastructure and Interoperability

Facilitators: Jennifer Bowers, NOAA NCEI; Jenn Sevadjian, Scripps Institution of Oceanography

SUMMARY

This session examined the evolution of ocean observing from traditional data archiving toward creating truly "AI-Ready Data." The block was structured as a 30-minute live software demonstration followed by a 1-hour interactive panel discussion.

Technical workflow discussions evaluated the current operational landscape, examining cloud-integrated processing systems and identifying remaining infrastructure gaps needed to scale up automated pipelines. The panel featured a collaborative mix of data experts and regional representatives:

Bob Currier evaluated operational AI implementations for glider data management, GANDALF systems, and Natural Language Search applications.

Josh Hill demonstrated the cloud-based data assembly capabilities, AI readiness, and Large Language Model (LLM) integration of the USM Data Assembly Hub.

Sarina Mann addressed ongoing cloud migration hurdles as they related to the GDAC and strategies for maintaining QARTOD data integrity.

Jenn Sevadjian highlighted data interoperability frameworks and international OG1.0 standards.

Dr. Barbara Kirkpatrick led the discussion on bridging technical data pipelines to applied science, regional policy, and broader stakeholder needs.

DATA MANAGEMENT SESSION 2:

Plenary: Looking Forward: AI and Gliders Discussion

Chairs: Jennifer Bowers, NOAA NCEI; Bob Currier, GCOOS

SUMMARY

This plenary session focused on how Artificial Intelligence is rapidly transitioning from an experimental tool into fully embedded, operational glider workflows. The central thesis of the session was that the next decade of glider science will be defined less by the engineering of new hardware sensors and more by the robust data infrastructure that connects observations, numerical models, and public decision-makers.

THEMES

Operational AI Implementations

The session featured a primary presentation by Bob Currier titled *Going AI-Native: Production AI in Glider Operations*. In the discussion, Currier highlighted three active production systems demonstrating how AI enhances monitoring, accessibility, and species detection:

- **OLORIN**: Conversational AI interface tracking 4,300+ autonomous assets and logs in real time.
- **Lethe**: Open-source tool for denoising acoustic hydrophone data layers.
- **GUARDIAN**: A tool identifying endangered Rice's whale vocalizations with 97% accuracy via verifiable heatmaps.

The session concluded with a lively community discussion reviewing data integrity, data commoditization, and the practical safeguards required to prevent model hallucinations when delivering scientific figures to public stakeholders. The high level of audience participation left attendees wishing the slot had been extended for further open-floor debate.

TAKEAWAYS

The data management sessions at the 2026 workshop made it clear that the community's focus is evolving from basic data ingestion to maximizing data utility for advanced analytics and public policy. While there is strong enthusiasm for integrating AI and natural language tools into glider workflows, maintaining data integrity through strict adherence to standards like OG1.0 and QARTOD remains the essential baseline.

Session Outcomes

Moving forward, the Data Management Subcommittee should focus on the following action items.

ACTION ITEM > *Finalize the Slido Pulse Check Report:* Clean up the audience survey data metrics, compile the open-text feedback on model risks, and distribute the final report to the community.

ACTION ITEM > *Archive Session Material:* Upload all technical panel introductions, demonstration software workflows, and session notes to the shared repository and public communication channels.

ACTION ITEM > *Address Time Constraints:* Based on the high engagement and limited time during the Day 3 Plenary, future workshop planning will allocate longer open-floor discussion blocks for emerging technology debates.

Acoustic Telemetry on Underwater Gliders

Facilitators: Hank Statscewich, University of Alaska Fairbanks (U.S. Animal Telemetry Network); Adam Comeau, Dalhousie University (Ocean Tracking Network)

SUMMARY

This breakout session explored opportunities to integrate acoustic telemetry receivers into underwater glider operations to enhance biological observations and strengthen collaboration between the oceanographic and animal tracking communities. Discussions focused on the value of mobile acoustic telemetry, practical considerations for sensor integration, data management pathways, and incentives for broader adoption.

Participants agreed that gliders can extend acoustic telemetry observations beyond the limitations of fixed receiver arrays by pairing animal detections with concurrent environmental measurements. Key barriers to adoption included payload and power constraints, integration complexity, data processing requirements, and uncertainty surrounding data ownership and stewardship. The group highlighted the need for standardized best practices, clear partnership frameworks, and improved interoperability between the IOOS Glider Data Assembly Center (GDAC) and the U.S. Animal Telemetry Network Data Assembly Center (ATN DAC). Participants emphasized that data integration challenges should be addressed through the coordinated development of automated data exchange pathways between the two systems, rather than by creating additional reporting burdens for glider operators.

THEMES

- Strong interest exists within the glider community to expand the use of acoustic telemetry receivers on underwater gliders.
- Mobile acoustic telemetry was recognized as a valuable complement to fixed receiver arrays, particularly for studies of offshore and migratory species.
- Standardized guidance is needed for receiver integration, deployment procedures, metadata requirements, and data sharing.

- Clear partnership frameworks are required to address sensor ownership, data stewardship, and collaborative research products.
- Participants supported closer coordination between the glider community, regional telemetry networks, and the U.S. Animal Telemetry Network.
- Interoperability between the IOOS Glider Data Assembly Center (GDAC) and the U.S. Animal Telemetry Network Data Assembly Center (ATN DAC) was identified as a critical requirement for scaling glider-based acoustic telemetry observations.

TAKEAWAYS

ACTION ITEM > Develop a community-led "Best Practices for Acoustic Telemetry on Underwater Gliders" document.

ACTION ITEM > Establish recommended metadata and data exchange standards to facilitate the transfer of detections to ATN and regional telemetry nodes.

ACTION ITEM > Identify funding opportunities and pilot projects that lower barriers to first-time adoption.

ACTION ITEM > Continue engagement between oceanographic and animal telemetry communities through future UG2 workshops and webinars.

ACTION ITEM > Convene GDAC and ATN DAC data managers to explore automated DAC-to-DAC data exchange pathways, common metadata standards, and translation tools for acoustic telemetry observations collected on gliders.

Gliders in Fisheries/Living Marine Resource Assessment

Facilitator: Erica Fruh, NOAA Uncrewed Systems Operations Center

Presenters: Jen Walsh and Anthony Cossio, NOAA SW Fisheries Science Center; Selene Fergosi, Oregon State University/NOAA, Pacific Islands Fisheries Science Center; John Horne, University of Washington

SUMMARY

This session was to discuss how the scientific community has utilized gliders in support of living marine resource (LMR) assessments. Expert panelists presented an overview of the current status of glider-based living marine resource assessments, to highlight work across sectors, ocean basins, sensors/platforms, and study species. The remainder of the session engaged in facilitated discussion to push the ball forward regarding improved understanding of glider-based living marine resource assessments, the community working on this, existing limitations/gaps, and areas to engage in the future.

Session Outcomes

DISCUSSION TOPICS	DISCUSSION

Current LMR assessment using gliders?	• Zooplankton
	  – Active acoustics
	  – Shadowgraph
	• Fish
	  – Acoustic tag receivers
	• Cetaceans
	  – Passive Acoustics
	  ° WISPR - higher frequency recording capabilities; ongoing work for real-time detection of odontocetes; available on Seaglider, Slocum, Oceanscout
	  ° DMON - mostly low frequency with real-time detection capabilities; latest version has some higher frequency capabilities but limited storage space; available on Slocum (and possibly Seaglider with custom integration?)
	  ° Survey durations up to ~10-12 weeks and 1500+ km
	  ° Work ongoing (but more needed) to take whale detections from a glider to stock assessment/population density estimation

What platforms and sensors work best in support of LMR observations?	• eDNA sample capability • Underwater Vision Profiler 6 - Alseamar/Slocum
What is the current status and future of multi-mission glider deployments?	• Glider Rodeo example for cetaceans in Hawaii
How can the community better coordinate ship and glider surveys in support of LMR work? Is there a need for this?	• Share lessons learned and resources • There will always be a need to ground truth acoustic data • Yes, there is a need for this from a whale monitoring perspective. Need to validate glider-collected data as it is incorporated into stock assessments

(Continued on next page)

Session Outcomes

DISCUSSION TOPICS	DISCUSSION
How is the community handling the deluge of data that can be gathered via glider surveys? What is the current status of automated data processing and/ or the incorporation of AI/ML into data processing?	• Data volume is an issue, NOAA Fisheries is moving things to the Cloud – Passive acoustic data (NOAA collected) ° PAM-SI GCP currently houses all PAM glider data ° PAM data collected by NOAA is reviewed by the Navy (MOU) ° Processing is being moved to the cloud using Google Workstations. Getting appropriate software installed/permissions is difficult for some newer PAM systems still being developed/tested. Standardized pipelines still being developed ° All data will eventually be backed up by NCEI (unless Navy flags as sensitive) ° Environmental data (CTD) is housed with PAM data; work needed to get this to the glider DAC and other NCEI repositories • Scale up data management – How to prepare and get data to NCEI? – How to get data back easier/better, in larger volume? – There is a much larger volume being generated now. How do we mature the data pipeline? ° Data to the cloud ° Can NCEI get it from the Cloud? NOAA PAM-SI says yes, hopefully, working on this ° Is NCEI able to grab data directly from ERDAPPs? – Cost of storage? – Importance of metadata being correct and included
How can glider data best support LMR ecosystem-based management goals?	• How do we make glider collected data less supplemental and more primary for ecosystem management? – Statistical frameworks needed to account for unique aspects of glider-collected data (3D movement, slow speeds, ??) • Comparability to historic/ ship-based data? – Need dedicated comparison surveys, over a time series, not just a one time intercalibration. • Are there existing frameworks for this e.g. HAB monitoring requirements, or laws for ecosystem studies e.g. U. S. AMLR Act? Need to ensure that we are looking more broadly than NOAA.
In an ideal scenario, what role does the community envision government, industry, and academia playing in an operationalized LMR glider program?	• AMLR has had good luck working with industry partners to develop or modify tools for use on gliders. This should be encouraged (perhaps UxS OC would be amenable to an RFP to further these kinds of developments?)

Community Feedback

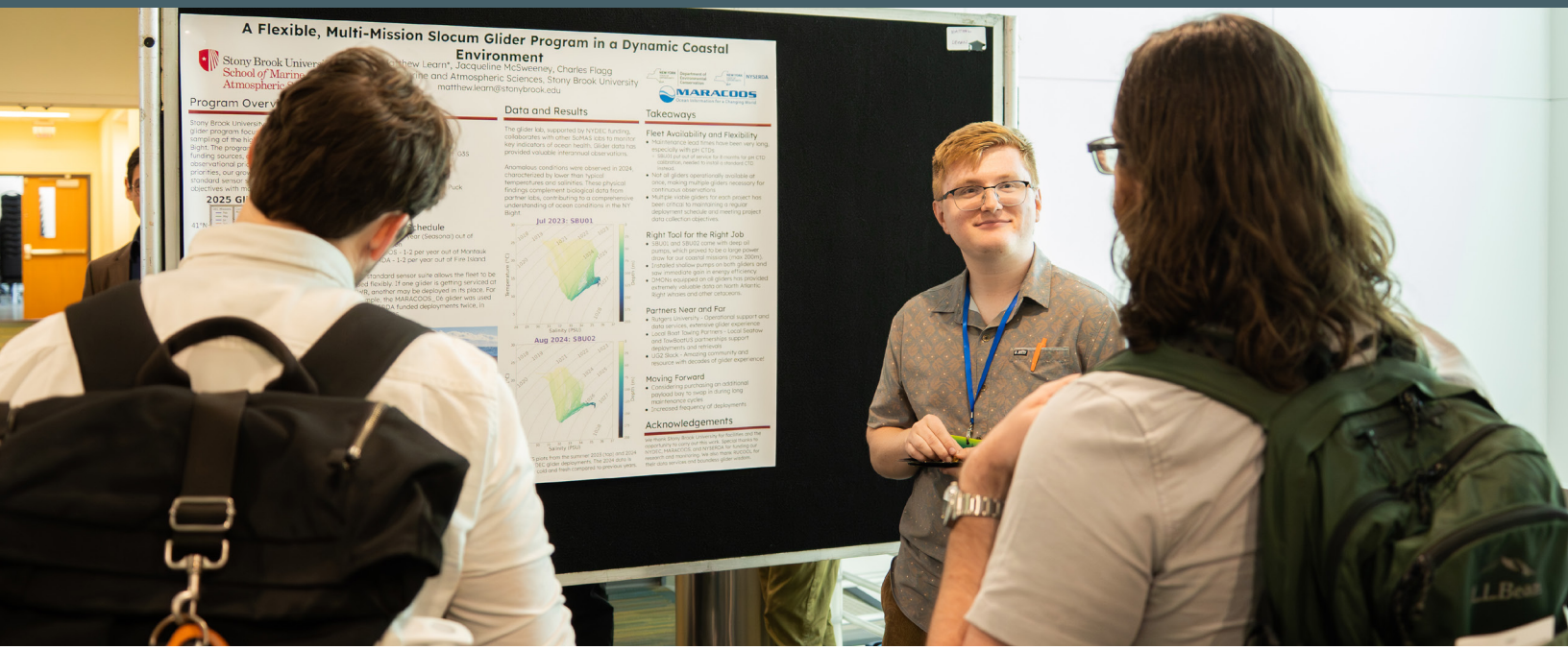


Photo credit: *Cassie Wilson*

Priority Areas of the Workshop by Audience

Early-Career Participants

Networking was by far the highest priority for early-career attendees, selected by 78% of respondents. Beyond networking, early-career participants showed strong interest in workforce development (31%), artificial intelligence (31%), and data infrastructure (31%). Interest was also high in international projects (28%) and next-generation autonomy (28%). These results suggest that newer members of the community are focused on building professional connections while simultaneously developing technical skills and exploring future career opportunities.

Non-Early-Career Participants

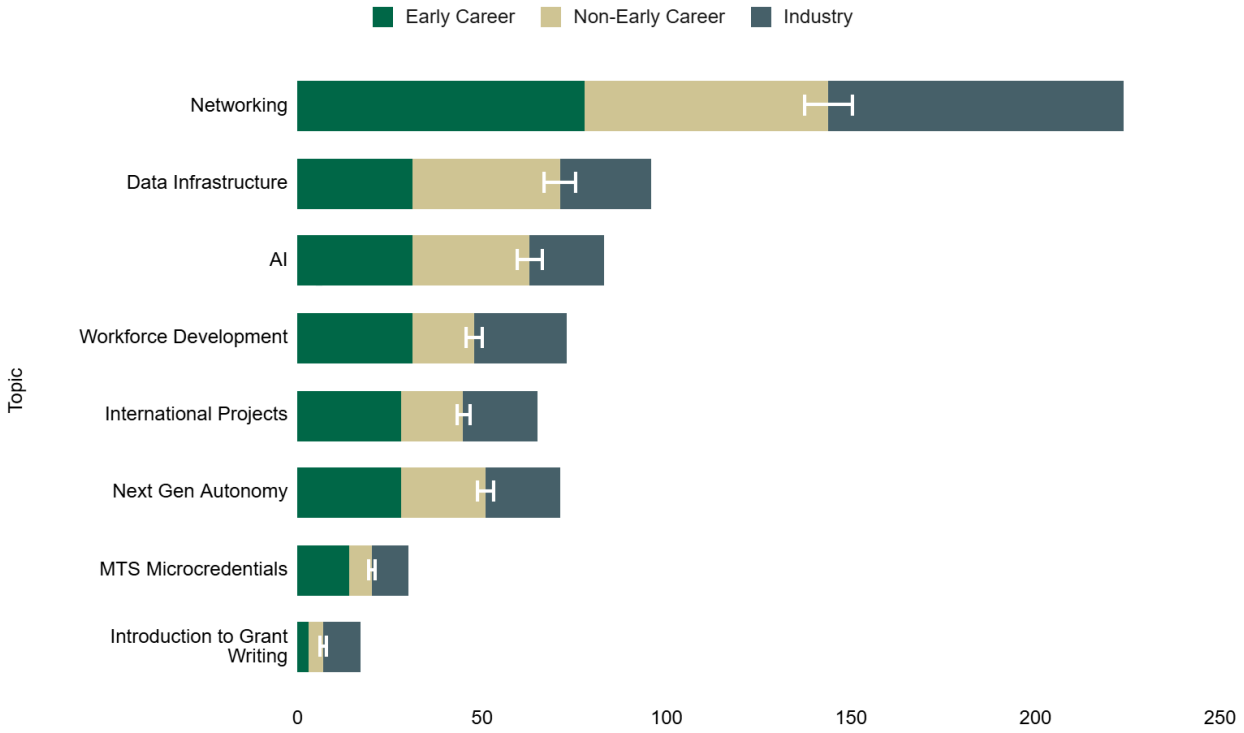
Networking also emerged as the top priority among more established community members, selected by 66% of respondents. However, compared to early-career participants, non-early-career attendees placed greater emphasis on data infrastructure (40%) and artificial intelligence (32%), indicating a stronger focus on improving operational efficiency, data management, and emerging analytical tools. Interest in next-generation autonomy remained important (23%), while workforce development (17%) and international projects (17%) were lower priorities than among early-career respondents.

Industry Participants

Industry respondents demonstrated priorities that closely mirrored those of the broader community. Networking was again the highest-ranked topic, selected by 80% of respondents. Workforce development

Community Feedback

(25%) and data infrastructure (25%) were the next most important priorities, followed by artificial intelligence (20%), international projects (20%), and next-generation autonomy (20%). These results suggest that industry partners are focused not only on technology advancement but also on developing the future workforce and strengthening partnerships across the community.



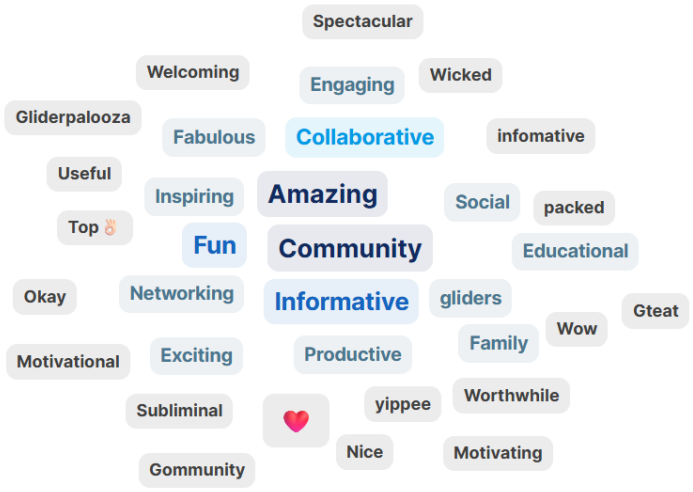
Key Takeaways

Across all groups, **networking was overwhelmingly identified as the most valuable aspect of community engagement**, reinforcing the importance of the UG2 Workshop as a venue for building connections and fostering collaboration. Early-career participants were particularly focused on workforce development and career-building opportunities, while non-early-career participants prioritized data infrastructure and AI-related topics. Industry respondents demonstrated a balanced interest across workforce development, data infrastructure, AI, international collaboration, and autonomy, reflecting their role in supporting both technological innovation and community growth.

This strong emphasis on networking aligns closely with the broader workshop feedback, where attendees frequently described the workshop as “community,” “collaborative,” “engaging,” and “networking-focused,” and many testimonials cited professional connections as one of the most valuable outcomes of participation.

Workshop Takeaways

One hundred percent of testimonial comments were overwhelmingly positive, with recurring references to networking, community, collaboration, learning, and professional growth. The strongest and most consistent message from attendees was the value of the people and relationships that make up the UG2 community.



Comments from the workshop:

"The networking alone was 100% worth attending the workshop."

"If you use underwater gliders, you are family."

"I'm leaving the workshop feeling inspired and well-connected."

"Amazing community of practice that should be replicated across other tech user groups."

Acknowledgements

The success of the 2026 UG2 Workshop was made possible through the dedication, collaboration, and support of many individuals and organizations across the glider community.

We extend our sincere gratitude to the UG2 Steering Committee, Workshop Planning Committee, and Center for Ocean Leadership (UCAR) staff, notably Cassie Wilson, for their months of planning, coordination, and behind-the-scenes efforts that brought this event to fruition. Special thanks are due to the many session chairs, facilitators, and volunteers who contributed their time and expertise to developing a diverse and engaging program.

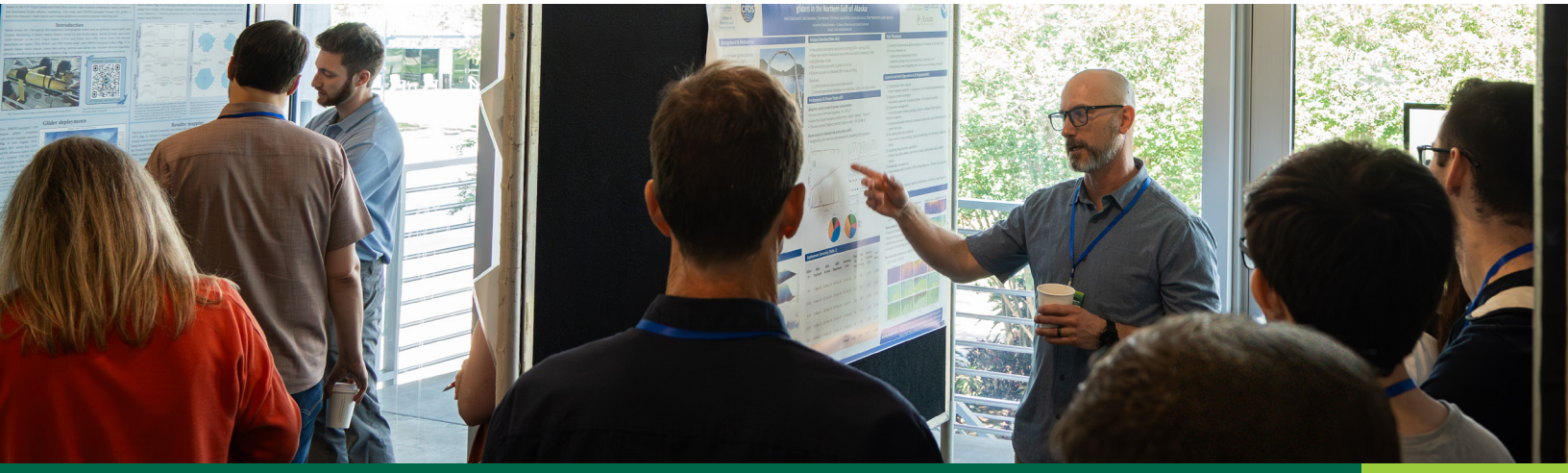
We are especially grateful to the University of South Florida College of Marine Science, in particular Chad Lembke and Sherryl Gilbert, for hosting the workshop in St. Petersburg and for their logistical support and local coordination. The resilience and hospitality demonstrated by the USF team helped create a welcoming environment for productive discussions, networking, and collaboration throughout the workshop.

We thank all presenters, poster authors, breakout session facilitators, industry panelists, mentors, exhibitors, and attendees whose contributions made the workshop a vibrant forum for sharing scientific advances, operational experiences, and community priorities. The active participation of students and early career professionals was particularly valuable and reflects the continued growth and strength of the global glider community.

We also gratefully acknowledge the workshop sponsors, exhibitors, and workforce development supporters whose contributions helped make the event possible. We extend particular thanks to NOAA's Integrated Ocean Observing System (IOOS) Program Office and Kathleen Bailey for their continued support of UG2 and its mission to foster collaboration, innovation, and sustained ocean observing. Additional appreciation is extended to our sponsors: Teledyne Marine, RBR, Rockland Scientific, D-2 Incorporated, WASSOC, MTS, Ocean Tracking Network, ASL Environmental Sciences, Woods Hole Group, and Nortek.

Finally, we thank the broader national and international glider community for its continued commitment to collaboration, knowledge sharing, and advancing the use of autonomous ocean observing technologies. The enthusiasm and participation of all attendees made the 2026 UG2 Workshop a success and will help guide future community activities and partnerships.

Photo credit: *Cassie Wilson*



Appendix A: Presentations/Posters

Oral Presentations

The following workshop presentations are listed in order of their appearance in the Workshop Agenda.

CLIMATE TRENDS AND REGIONAL OCEANOGRAPHY	
PRESENTATION TITLE	**PRESENTERS**
The mean coastal upwelling circulation in the Southern California Current System	**Daniel L. Rudnick**, Scripps Institution of Oceanography; T. M. Shaun Johnston, SIO, UCSD
A decade gliding through Mexican waters	**Miguel Tenreiro**, Centro de Investigación Científica y de Educación Superior de Ensenada, Baja California, México (CICESE); Enric Pallàs Sanz, CICESE
Gliders in the Gulf Stream: Looking toward the second decade of sustained observing	**Robert E. Todd**, WHOI
Comparison of glider-derived and modeled sound speed profiles as hydrographic tools on the West Florida Shelf	**Sean Beckwith**, Chad Lembke, Mark Luther, Matt Hommeyer, Grace Angeli, Eloise Cole, Alex Silverman, Heather Broadbent, Randy Russell, Kaili Qiao, Haibo Xu, Yonggang Liu: University of South Florida
An assessment of mean conditions, trends, and variability on the central Scotian Shelf using ship-based observations and autonomous vehicles	**Hana Hourston[1]**, Ruth Musgrave[1], Clark Richards[12], Mathieu Dever[13], Carolyn Buchwald[1] [1]Dalhousie University; [2]Fisheries and Oceans Canada; [3]RBR

NEXT GENERATION AUTONOMY	
PRESENTATION TITLE	**PRESENTERS**
Increasing operational capabilities of Slocum gliders at NOC	**Ben Allsup**, National Oceanography Centre
What's new at ASL: AZFP developments	**Steve Pearce**, Jan Buermans, Amanda Dash: ASL Environmental Services
Creating a glider piloting tool to avoid strikes in high vessel traffic areas	**Ellis Keener-LaCroix**, Ocean Tracking Network

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Appendix A: Presentations/Posters

NEXT GENERATION AUTONOMY	
PRESENTATION TITLE	**PRESENTERS**
The Glider Guidance System 3: Advances in shoreside support of AUV operations	**Patrick Spezzano** , Scott Glenn, Joe Gradone, Oscar Schofield, Alexander Lopez: Rutgers University
Wassoc Shadowgraph: Collaborative Innovation	**Matthew Green**, Wassoc

INTEGRATED ECOSYSTEM MONITORING (ACOUSTICS AND OPTICS)	
PRESENTATION TITLE	**PRESENTERS**
Sound evolution: How we have used glider-integrated active acoustic systems for zooplankton density and biomass estimates	**Anthony Cossio**[1], Christian Reiss[2], Jennifer Walsh[1], George Cutter[3] [1]Ecosystem Science Division, Southwest Fisheries Science Center, NOAA; [2]Marea Oceanographic Services, San Diego, CA; [3]University of Delaware
What we do in the shadows, part II: Advances in NOAA's artificial intelligence/machine learning pipelines for automated analysis of shadowgraph imagery from gliders	**Jennifer Walsh**[1], Christian Reiss[2], Andrew Leising[1], Samuel Woodman[1], Anthony Cossio[1], George Cutter[3] [1]Ecosystem Science Division, Southwest Fisheries Science Center, NOAA; [2]Marea Oceanographic Services, San Diego, CA; [3]University of Delaware
In-situ estimates of net primary production on the West Florida Shelf with underwater gliders	**Bo Yang**, Weiyi Tang, Chad Lembke, Heather Broadbent: University of South Florida College of Marine Science
Utilization of gliders for Rice's whale understanding	**Chad Lembke**[1], Melissa Soldevilla[2], Kevin Boswell[3], Bob Currier[4], Megan Howson[4], Héloïse Frouin-Mouy[5], Ashley Cook[5], David Mann[6], Alex Silverman[1], Heather Broadbent[1], Sean Beckwith[1] [1]University of South Florida; [2]NOAA SEFSC; [3]Florida International University; [4]NOAA/IOOS/GCOOS; [5]University of Miami; [6]Loggerhead Instruments
Characterizing zooplankton communities and maximizing near-real-time information content transfer using ShadowMetrics	**Mark T. Yamane**, University of Washington; John K. Horne, University of Washington

Appendix A: Presentations/Posters

INTEGRATED ECOSYSTEM MONITORING (ACOUSTICS AND OPTICS)	
PRESENTATION TITLE	**PRESENTERS**
NOAA Fisheries Glider Challenge: Accelerating the use of passive acoustic-equipped gliders to monitor and assess cetacean populations in the Pacific	Erin M. Oleson[1], **Shannon Rankin**[2], Selene Fregosi[3], Kourtney Burger[4], Anthony Cossio[2], Calla Lloyd-Lim[1], David K. Mellinger[5], Erik Norris[1] [1]NOAA Fisheries, Pacific Islands Fisheries Science Center; [2]NOAA Fisheries, Southwest Fisheries Science Center; [3]Marine Mammal Institute, Oregon State University; [4]University of California, Santa Cruz, Institute of Marine Sciences' Fisheries Collaborative Program; [5]Cooperative Institute for Marine Ecosystems and Resources Studies, Oregon State University and NOAA Pacific Marine Environmental Laboratory (PMEL)

PAYLOAD ENGINEERING AND OPERATIONAL READINESS	
PRESENTATION TITLE	**PRESENTERS**
The D-2 Hybrid CTD sensor: Description and evaluation	John Toole, Alan Fougere, Jeffrey K. O'Brien, **Dean Fougere**: D-2 Incorporated
Getting the most out of RBR instruments on gliders: Best Practices for RBRlegato[4], RBRlegato[3], RBRcoda T.ODO and RBRtridente	**Mat Dever**, RBR; Jean-Michel Leconte, RBR
Sustained pH observations from underwater glider networks in the US	**Benjamin Werb**[1], Yuichiro Takeshita[1], Shawnee Traylor[1], Daniel Rudnick[2], Robert Todd[3], David Nicholson[3] [1]Monterey Bay Aquarium Research Institute; [2]Scripps Institution of Oceanography; [3]Woods Hole Oceanographic Institution
Satellite telemetry for gliders: Present and future capabilities	**Jimmy Spore**, Woods Hole Group

Appendix A: Presentations/Posters

WORKFORCE DEVELOPMENT & EDUCATION	
PRESENTATION TITLE	**PRESENTERS**
PLOCAN Glider School: Fifteen years of training and international engagement in ocean glider technology	**Carlos Barrera**[1], Andrea Caburlotto[2], Alejandro Rueda[1], Joaquin Hernandez-Brito[1] [1]Oceanic Platform of the Canary Islands - PLOCAN, Spain; [2]National Institute of Oceanography and Applied Geophysics - OGS
Training students through repeated seaglider missions: Investigating seasonal dynamics in Puget Sound	**William Menapace**, Catherine Holman, Ayden van den Berg, Sasha Seroy: University of Washington
Building an ocean technician workforce using microcredentials	**Liesl Hotaling**, Marine Technology Society

DATA INFRASTRUCTURE AND INTEROPERABILITY	
PRESENTATION TITLE	**PRESENTERS**
Next generation data systems for the California Underwater Glider Network	**Jenn Sevadjian**, Daniel Rudnick, Ben Reineman, Jeffrey Sherman, Miguel Cubilla: Scripps Institution of Oceanography
Gliding clearly: The role of open-source and non-academic actors in global ocean glider data	**Aaron Mau**, Callum Rollo, Martin Mohrmann, Louise Biddle: Voice of the Ocean Foundation
Configurable QARTOD quality control for environmental variables: A data-driven, JSON-based approach for GDAC submissions	**Leila Bagdad Brahim**[1], Adams Benjamin[1], Donald Moretti[1], Sarina Mann[2], Kathleen Bailey[3] [1]Tetratech; [2]NOAA Affiliate; [3]NOAA Federal

Posters

The following workshop posters are listed in alphabetical order by presenting author's last name. Posters with a bolt (⚡) feature Lightning Talks.

POSTER TITLE	PRESENTERS
⚡ *Mesoscale ocean dynamics in the Caribbean: Insights from the RU-29 autonomous glider*	**Xinara Bascombe**, David Farrell, Joe Gradone, Scott Glenn, Travis Miles: Caribbean Institute for Meteorology and Hydrology, Center for Ocean Observing Leadership, Department of Marine and Coastal Sciences Rutgers University, and The University of the Virgin Islands
⚡ *OceanGliders: Two decades of progress in global glider deployments*	**Mariarita Caracciolo**: OceanGliders
⚡ *Glider observations around BATS: MAGIC and beyond*	**Jonny Chapman**, Alice Ren
Investigating Slocum glider lithium rechargeable battery health and performance	**Karen Dreger**, Joshua Soll, Catherine Edwards: Skidaway Institute of Oceanography
Real time monitoring of North Atlantic right whales in the Southeast US calving ground	**Catherine Edwards** (absent): Skidaway Institute of Oceanography
⚡ *When is a glider not a glider? When it's legally a ship!*	**Cassandra Elmer**, Eleanor Haigh, Jasmin McInerney, Jacob Hall, Jim Drury: ESNZ; Nina Heatley: Clever Fox Projects
Shadowgraph: Subsea Telecentric Imaging System	**Caleb Flaim**, Matthew Green, Freshy Millsap, Rob Millsap, Max Schlereth: Williamson and Associates Technologies (Wassoc)
⚡ *Passive acoustic gliders as a complement to ship-based marine mammal surveys*	**Selene Fregosi**[12], Shannon Rankin[3], David K. Mellinger[4], Erik Norris[2], Calla Lloyd-Lim[2], Megan Wood[5], Kourtney Burger[36], Anthony Cossio[3], Jen Walsh[3], Erin M. Oleson[2] [1]Marine Mammal Institute, Oregon State University; [2]NOAA Fisheries, Pacific Islands Fisheries Science Center; [3]NOAA Fisheries, Southwest Fisheries Science Center; [4]Cooperative Institute for Marine Ecosystems and Resources Studies, Oregon State University and NOAA Pacific Marine Environmental Laboratory (PMEL); [5]Saltwater, Inc., contracted to NOAA Pacific Islands Fisheries Science Center; [6]University of California, Santa Cruz, Institute of Marine Sciences' Fisheries Collaborative Program

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Appendix A: Presentations/Posters

POSTER TITLE	PRESENTERS
ϟ *Advancing glider passive acoustic monitoring for cetacean baseline data and impact assessment in the U.S. Caribbean*	**Héloïse Frouin-Mouy**[1], Doug Wilson[2], Joshua Soll[2], Keiley Gregory[2], Travis Hamlin[2], Travis Miles[3], Matthew Bowers[4], Lance Garrison[4], Melissa Soldevilla[4] [1]University of Miami, Cooperative Institute for Marine and Atmospheric Studies; [2]University of the Virgin Islands, Center for Marine and Environmental Studies; [3]Rutgers University, Center for Ocean Observing Leadership; [4]NOAA NMFS SEFSC, Marine Mammal and Turtle Division
ϟ *Optimization of passive acoustic data collection from autonomous underwater gliders*	**Cordielyn Goodrich**[1], Thomas Altshuler[2], Shea Quinn[1], John Moloney[3], Andrew Gelder[2], Michael Brissette[1], Brad Joseph[1], Ben Anthony[1] [1]Teledyne Webb Research, North Falmouth, United States; [2]Teledyne Marine, North Falmouth, United States; [3]JASCO Applied Sciences, Dartmouth, Canada
Hands on with AQUAVIEW and the AQUAVIEW API	**Joshua Hill**: Institute for Advanced Analytics and Security
ϟ *World Ocean Database: Building a search engine for 200 years of ocean data*	Safak Yamali, **Pappu Jha**, Bibas Kandel, Abhiyan Poudel, Joshua Hill: The University of Southern Mississippi
ϟ *Ocean observations for hurricane prediction in 2025 from multiple platforms*	**Matthieu Le Henaff**, NOAA AOML; L. Looney, G. Foltz, C. Stienbarger
Lessons from Stony Brook's growing glider program	**Matthew Learn**, Charlie Flagg, Jacqueline McSweeney: Stony Brook University
ϟ *From glider missions to model-ready data: Building repeatable pipelines for novel ocean observations*	Daniel Amrhein[1], Georgia Coward[2], Nate Crossette[3], Helen Kershaw[1], Scott Landolt[1], **Enrico Milanese**[4], Nicholas Rome[2], Travis Sluka[3] [1]NSF National Center for Atmospheric Research; [2]UCAR Center for Ocean Leadership; [3]Joint Center for Satellite Data Assimilation; [4]Woods Hole Oceanographic Institution
ϟ *The Slocum Sentinel Glider: Facing the challenges of tomorrow with an increased capability buoyancy-driven autonomous vehicle*	**Shea Quinn**, Cordielyn Goodrich, Clayton Jones, Anthony Westphal, Salvatore Fricano, John Volpe, Ben Anthony, Garrett Miller: Teledyne Webb Research
Documenting cross-basin transport in the north Indian Ocean through glider observations	**Saraswathy Sabu**, Abhisek Chatterjee, N Suresh Kumar, Aneesh Lotliker, E Pattabhi Rama Rao: NCOIS, Hyderabad, India

(Continued on next page)

Appendix A: Presentations/Posters

POSTER TITLE	PRESENTERS
ϟ *Investigating the oceanic variability of coral reefs in the US Virgin Islands on a shallow to mesophotic gradient*	**Cole Sheeley**, Doug Wilson, Tyler Smith, Travis Hamlin
Assessing baleen whale species composition, diel patterns, and habitat preferences in the USVI and Puerto Rico using PAM-equipped Slocum gliders	**Joshua D. Soll**[1], **Keiley Gregory**[1], Doug Wilson[1], Héloïse Frouin-Mouy[2], Melissa Soldevilla[3] [1]Center for Marine and Environmental Studies, The University of the Virgin Islands, St. Thomas, U.S. Virgin Islands; [2]Cooperative Institute for Marine and Atmospheric Studies (CIMAS), University of Miami, Miami, Florida; [3]NOAA Southeast Fisheries Science Center, Key Biscayne, Florida
ϟ *Lessons learned from a year of operating underwater gliders in the Northern Gulf of Alaska*	**Hank Statscewich**, University of Alaska Fairbanks; Seth Danielson, Tyler Hennon, Thilo Klenz, Isaac Reister, Jenny Grischuk, Kate Hedstrom, Lydia Sgouros
A quiet approach: Seaglider deployment of the WISPR system	David Mellinger1, Jace Marquardt2, Jay Turnbull1, Erik Norris3, **Jeremy Taylor**3 [1]Cooperative Institute for Marine Ecosystems and Resources Studies, Oregon State University and NOAA Pacific Marine Environmental Laboratory (PMEL); [2]College of Earth, Ocean, and Atmospheric Sciences, Oregon State University; [3]Uncrewed Marine Systems Program, Pacific Islands Fisheries Science Center (PIFSC), NOAA Fisheries
ϟ *Strengthening the monitoring of the Mexican Pacific during hurricane season using underwater gliders*	Enric Pallàs Sanz, **Miguel Tenreiro**: Centro de Inbestigación Científica y de Educación Superior de Ensenada (CICESE)
ϟ *Low salinity, high ocean heat content, and warm core eddy effects on the upper ocean response during Hurricane Sally (2020): An analysis of a hurricane glider observations and coupled atmosphere-ocean model*	**Senam Tsei**, University of Southern Mississippi
In-situ calibration procedure of a Kongsberg WBT-mini in a Slocum glider wet-bay	**Rebecca Walsh**[1], Yuleny Gomez Rodriguez[1], Amy Duh[1], Hank Statscewich[2], George R. Cutter[1], Rachel Lazzaro[1], Quinn Eisenmann[3], Chad Lembke[4], Alex Silverman[4], Edmund Hughes[4], Matthew J. Oliver[1] [1]University of Delaware, College of Earth, Ocean, and Environment - Lewes, DE; [2]University of Alaska, Fairbanks, College of Fisheries and Ocean Science - Fairbanks, AK; [3]Cape Henlopen High School - Lewes, DE; [4]University of South Florida, College of Marine Science - St. Petersburg, FL

(Continued on next page)

Appendix A: Presentations/Posters

POSTER TITLE	PRESENTERS
The integrated physical-biochemical modeling system for the Chesapeake Bay: Coupling atmospheric, coastal oceanic, and groundwater dynamics	**Meng Xia**, Long Jiang, Haoran Liu, Seyedeh Fardis Pourreza Ahmadi, Sreelakshmi Sreenivasan, Yiyang Xu, Adnan Khairullah, Bishnupriya Sahoo: Department of Natural Sciences, University of Maryland Eastern Shore, Princess Anne, MD

Appendix B: Registrants

Kyle Aaron – *JASCO Applied Sciences*

Ehsan Abdi – *Akvaplan-niva*

Ben Allsup – *National Oceanography Centre*

Leila Baghdad Brahim – *Tetratech, Ocean Science*

Kathleen Bailey – *NOAA/U.S. IOOS Office*

Carlos Barrera – *PLOCAN*

Xinara Bascombe – *The Caribbean Institute for Meteorology and Hydrology*

Sean Beckwith – *University of South Florida College of Marine Science*

Jennifer Bowers – *NOAA NESDIS NCEI*

Olivia Braswell – *University of Southern Mississippi*

Jorge Brenner – *GCOOS*

Heather Broadbent – *University of South Florida*

Brian Buckingham – *Rutgers University Center for Ocean Observing Leadership (RUCOOL)*

Kourtney Burger – *University of California, Santa Cruz & NOAA SWFSC*

Naomi Ciampaglio – *CSA Ocean Sciences Inc.*

Mariarita Caracciolo – *ENSTA - OceanOPS*

Jonny Chapman – *Bermuda Institute of Ocean Sciences - ASU*

Adam Comeau – *Ocean Tracking Network*

Brady Conlon – *Mote Marine Laboratory & Aquarium*

Anthony Cossio – *NOAA/ Southwest Fisheries Science Center*

Bailey Counts-Morgan – *Sea-Bird Scientific*

Georgia Coward – *UCAR Center for Ocean Leadership*

Robert Currier – *GCOOS*

Mathieu Dever – *RBR / WHOI*

Karen Dreger – *Skidaway Institute of Oceanography*

Amy Duh – *University of Delaware*

Brian Dzwonkowski – *University of South Alabama*

Cassandra Elmer – *Earth Sciences New Zealand*

David English – *University of South Florida*

Caleb Flaim – *Williamson & Associates Technologies*

Dean Fougere – *D-2 Incorporated*

Michael Fraser – *Teledyne Marine*

Selene Fregosi – *Marine Mammal Institute, Oregon State University/PIFSC*

Héloïse Frouin-Mouy – *University of Miami (CIMAS) / NOAA SEFSC*

Erica Fruh – *NOAA Uncrewed Systems Division*

Yao Fu – *University of South Florida*

Andrew Gadbois – *Teledyne Marine*

Salvador Garcia – *Woods Hole Group, Inc.*

Lori Garzio – *Rutgers University*

Scott Glenn – *Rutgers University*

Cordie Goodrich – *Teledyne Webb Research*

Donglai Gong – *Virginia Institute of Marine Science - William & Mary*

Matthew Green – *Williamson & Associates Technologies*

Keiley Gregory – *University of the Virgin Islands*

Michael Hall – *Advanced Oceanics*

Travis Hamlin – *University of the Virgin Islands*

Chaz Hartmann – *Investor*

Joshua Hill – *Institute for Advanced Analytics and Security (USM)*

John Horne – *University of Washington*

Liesl Hotaling – *Marine Technology Society*

Hana Hourston – *Dalhousie University*

Ed Hughes – *CSA Ocean Sciences*

George Jacobs – *US Navy*

Pappu Jha – *University of Southern Mississippi*

Shaun Johnston – *SIO, UCSD*

Brad Joseph – *Teledyne Marine*

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Ellis Keener-LaCroix – *Ocean Tracking Network*

Barbara Kirkpatrick – *Texas A & M*

Jochen Klinke – *Sea-Bird Scientific*

Appendix B: Registrants

Ana Krelling – *UMD/NOAA/NCEI*
Gerhard Kuska – *MARACOOS*
Rachel Lazzaro – *University of Delaware*
Matthieu Le Henaff – *NOAA/AOML*
Matthew Learn – *NOAA/AOML*
Jean-Michel Leconte – *RBR*
Chad Lembke – *University of South Florida*
Bill Lingsch – *IOOS*
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Joanne Muller – *Florida Gulf Coast University*
Korie Novak – *University of South Florida*
Erin Oleson –*NOAA Pacific Islands Fisheries Science Center*
Sage Otulo – *University of Washington*
Enric Pallàs-Sanz – *Centro de Inbestigación Científica y de Educación Superior de Ensenada (CICESE)*
Jenn Patterson Sevadjian – *Scripps Institution of Oceanography*
Lydia Paulic – *University of Windsor-RAEON*
Mike Parsons – *Florida Gulf Coast University*
Nick Pawlenko – *Uncrewed Systems Operations Center / NOAA*
Steve Pearce – *ASL Environmental Sciences*
Nicholas Peckich – *Naval Oceanographic Office*
James Pegg – *DFO/C-PROOF*
Dawn Petraitis – *NOAA/NWS/ National Data Buoy Center*
Brandon Pinelli – *Teledyne Marine*
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Evan Price – *Nortek*
Xiao Qi – *GCOOS*
Shea Quinn – *Teledyne Webb Research*
Shannon Rankin – *NOAA Fisheries*
Dev Rao – *University of South Alabama and Dauphin Island Sea Lab*
Grant Rawson – *NOAA/OMAO/UxSOC*
Christian Reiss – *Marea Oceanographic Services*
Calvin Rose – *Student*
Daniel Rudnick – *Scripps Institution of Oceanography*
Saraswathy Sabu – *Indian National Centre for Ocean Information Services (INCOIS)*
Christian Saiz – *University of Miami & NOAA/AOML*
Kristen Sauby – *NOAA/NESDIS/NCEI*
Victoria Scriven – *ESA*
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Robert Shapiro
Cole Sheeley – *University of the Virgin Islands*
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Brad Smith – *SURF Robotics*
Joshua Soll – *University of the Virgin Islands; Skidaway Institute of Oceanography, University of Georgia*
Patrick Spezzano – *Rutgers University*
Jimmy Spore – *Woods Hole Group (CLS)*
Hank Statscewich – *University of Alaska Fairbanks*
AJ Stewart – *Dauphin Island Sea Lab*
Jeremy Taylor – *NOAA/PIFSC*
Miguel Tenreiro – *CICESE*

Appendix B: Registrants

Robert Todd – *Woods Hole Oceanographic Institution*

Senam Tsei – *University of Southern Mississippi*

Jay Turnbull – *Oregon State University / CIMERS*

Jude van der Meer – *Ocean Tracking Network - Dalhousie University*

Eduardo Vaz – *Rockland Scientific*

Ravi Chandra Vedula – *INCOIS*

Nicolai von Oppeln-Bronikowski – *Rockland Scientific*

Robyn Walker – *Fisheries and Oceans Canada*

Jen Walsh – *NOAA Southwest Fisheries Science Center*

Becca Walsh – *University of Delaware*

Benjamin Werb – *Monterey Bay Aquarium Research Institute*

Doug Wilson – *University of the Virgin Islands*

Cassie Wilson – *UCAR Center for Ocean Leadership*

Wendy Wilz – *NAVOCEANO*

Megan Wood – *Saltwater, Inc.*

Dr. Meng Xia – *University of Maryland Eastern Shore*

Safak Yamali – *Institute for Advanced Analytics and Society, The University of Southern Mississippi*

Mark Yamane – *University of Washington*

Bo Yang – *University of South Florida*

Appendix C: Committees

Primary Organizing Committee

The organizing committee would like to thank the community for coming together to highlight the successes of the national and international Glider Community and for taking the time to tackle the difficult challenges we face. The organizing committee includes:

Jennifer Bowers – *UxS Data Enterprise Project Manager, NOAA*

Jorge Brenner – *Executive Director, Gulf Coast Ocean Observing System*

Patricia Chardón-Maldonado – *Technical Director, Caribbean Coastal Ocean Observing System*

Georgia Coward – *UG2 Coordinator, Center for Ocean Leadership (UCAR)*

Karen Dreger – *Research Professional, Skidaway Institute of Oceanography at the University of Georgia*

Erica Fruh – *Program Specialist, NOAA Uncrewed Systems Operation Center*

Cordie Goodrich – *Teledyne Webb Research*

Joe Gradone – *Assistant Professor, Rutgers University*

Sherryl Gilbert – *USF, College of Marine Science*

Barbar Greg Johnson – *RBR*

Barbara Kirkpatrick – *Senior Advisor, Gulf Coast Ocean Observing System*

Chad Lembke – *USF, College of Marine Science*

Bill Lingsch – *Glider Contractor, National Oceanic and Atmospheric Administration*

Kevin Martin – *University of Southern Mississippi*

Russ Miller – *Observing System Engineer and the Observing Systems Theme Lead for the Cooperative Institute for Great Lakes Research (CIGLR) University of Michigan*

Jennifer Sevadjian – *Data Systems Analyst, Scripps Institution of Oceanography*

Cassie Wilson – *Program Specialist, Center for Ocean Leadership (UCAR)*

Doug Wilson – *Director, UVI Ocean Glider Laboratory*

Appendix C: Committees

UG2 Steering Committee, from left to right: *Jorge Brenner, Bill Lingsh, Jennifer Bowers, Georgia Coward, Kevin Martin, Doug Wilson, Karen Drefer, Barb Kirkpatrick, Kathleen Bailey, Eric Fruh. Not pictured: Cordie Goodrich, Greg Johnson, Jennifer Sevadjian, Joe Gradone, Russ Miller, Patricia Chardón-Maldonado. Photo credit: Cassie Wilson.*

UG2 Steering Committee 2023-2026

Georgia Coward – ***UG2 Coordinator****, Center for Ocean Leadership (UCAR)*

Kathleen Bailey – *Glider Program Manager, U.S. IOOS, National Oceanic and Atmospheric Administration*

Jennifer Bowers – *UxS Data Enterprise Project Manager, NOAA*

Jorge Brenner – *Executive Director, Gulf Coast Ocean Observing System*

Patricia Chardón-Maldonado – *Technical Director, Caribbean Coastal Ocean Observing System*

Karen Dreger – *Research Professional, Skidaway Institute of Oceanography at the University of Georgia*

Erica Fruh – *Program Specialist, NOAA Uncrewed Systems Operation Center*

Cordie Goodrich – *Teledyne Webb Research*

Carl Gouldman – *Executive Liaison, U.S. IOOS, NOAA*

Joe Gradone – *Assistant Professor, Rutgers University*

Greg Johnson – *RBR*

Barbara Kirkpatrick – *Senior Advisor, Gulf Coast Ocean Observing System*

Bill Lingsch – *Glider Contractor, National Oceanic and Atmospheric Administration*

Kevin Martin – *Senior Marine Instrumentation Specialist – Ocean Observing Manager, University of Southern Mississippi*

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Jennifer Sevadjian – *Data Systems Analyst, Scripps Institution of Oceanography*

Hank Statscewich – *Physical Oceanographer, University of Alaska Fairbanks College of Fisheries and Ocean Sciences*

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Joshua Soll
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Joshua Soll, MSc is a marine technology and uncrewed systems professional with hands-on experience in end-to-end AUV operations, data processing and analysis, passive acoustics, and scientific communications. His interests lie at the intersection of ocean observing systems, environmental conservation, and public engagement.

Keiley Gregory
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TRACKING NETWORK

Keiley Gregory is a master's student and research assistant in the Ocean Glider Laboratory at the University of the Virgin Islands conducting research on the habitat use and preferred oceanographic and geomorphic conditions of cetaceans in the Caribbean, particularly in waters surrounding Puerto Rico and the Virgin Islands. This project aims to contribute to ecosystem-based management and conservation by enhancing cetacean monitoring capabilities and informing management decisions for numerous protected species in the Caribbean region.

William Menapace
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RBR

William Menapace is an undergraduate studying Oceanography and Marine Biology and is the Co-Chief Scientist of the Student Seaglider Center at the University of Washington. He is interested in understanding the biophysical dynamics within marine ecosystems using modern ocean technology to better predict future ecological effects of climate change.

Underwater Glider User Group

A community-based coalition aimed at bolstering scientific collaboration, information, and resource sharing for gliders

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