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Trip Report: Vetlesen Caribbean Hurricane Ocean Glider Launch Event & Technical Collaboration Sessions

IOCARIBE-GOOS collaborates with the Caribbean Institute for Meteorology and Hydrology (CIMH), Rutgers University's RU COOL Gliders Lab, and the University of Virgin Islands to host an at-sea glider launch, technical demonstrations for engaging local students, and discussions with regional partners on expanding glider work in the Caribbean.

Dates: July 15–16, 2025
Location: Caribbean Institute for Meteorology and Hydrology (CIMH), Barbados
Hosted by: CIMH in collaboration with IOCARIBE-GOOS, Rutgers University (RUCOOL), and the University of the Virgin Islands (UVI)

Overview: This two-day hybrid event convened local, regional, and international experts to launch a new ocean glider mission in the southern Caribbean and advance Caribbean-led ocean observing under the IOCARIBE-GOOS program. Hosted by CIMH and conducted in the waters off Barbados, the event combined technical presentations, an interactive glider session, and a live deployment witnessed by partners, CIMH staff, and local students. Strategic discussions on day two emphasized CIMH's emerging role as a regional hub for gliders and ocean observing systems, underscoring the importance of expanding capacity in support of Caribbean SIDS and strengthening ocean hazard forecasting in line with the UN Decade of Ocean Science for Sustainable Development.

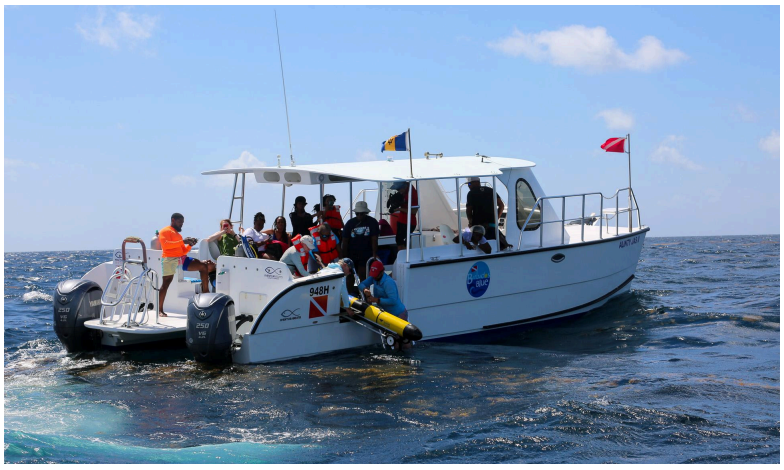


Image credit: Courtney Forde, Technical Officer, CIMH (captured via drone camera)

Caribbean Institute for Meteorology and Hydrology
CIMH
RUTGERS–NEW BRUNSWICK
Center for Ocean Observing Leadership
School of Environmental and Biological Sciences
IOCARIBE
GOOS
Global Ocean Observing System

Day 1 – Tuesday, July 15, 2025: Ocean Glider Launch & Demonstration

The first day at CIMH featured an educational session on underwater glider systems, designed for regional scientists, marine stakeholders, and students. Dr. David Farrell (CIMH), Dr. Lorna Inniss (IOCARIBE), and Dr. Doug Wilson (UVI/IOCARIBE) opened the morning session with remarks amplifying the relevance of autonomous ocean observing for Caribbean small island nations' climate hazard resilience. Dr. Scott Glenn (Rutgers RUCOOL Marine Science Lab) then delivered an accessible technical overview on glider technology, their role in hurricane forecasting and long-term climate monitoring, and specific details about the glider mission launched from Barbados. Dr. Travis Miles presented the glider to virtual and in-person audiences, giving us an up-close tour of the technology and how it functions.

A lively Q&A session followed, including engagement from national institutions such as the Barbados Ministry of the Environment, The Coastal Zone Management Unit (CZMU), and CIMH, and students and teachers from seven local high schools and colleges, representing the majority of the parishes on the island. Participants had the opportunity to view past mission videos while the glider team prepared the equipment for field deployment.

In the afternoon, the in-person group convened at the Barbados Blue Dive Shop on the western side of the island for the launch operation. A press briefing preceded the launch, highlighting the collaboration among CIMH, Rutgers, IOCARIBE-GOOS, and regional stakeholders. Two vessels departed from the dock around 1:00 PM with technical teams and observers. The glider was successfully deployed offshore around 2:00 PM, and CIMH captured drone footage of the launch to be used for future videography projects and promoting the projects in local media. This mission marks Barbados's first international ocean glider deployment and contributes to the 2025 International Challenger Mission, supported by the G. Unger Vetlesen Foundation.

Day 2 – Wednesday, July 16, 2025: Regional Planning & Technical Collaboration Session

Following the successful glider deployment, the second day convened technical and institutional leaders back at CIMH for a full-day regional strategy session. The morning included a strategy session with Dr. David Farrell, discussing the current glider project, explored further opportunities and collaborations within the IOCARIBE-GOOS Global Ocean Observing System (GOOS) framework.

In the afternoon, an in-person technical session gathered CIMH leadership with key IOCARIBE-GOOS and partner experts (Doug, Lorna, Devin, Scott) to define operational next

steps. Opening remarks were provided by Dr. Farrell and Dr. Inniss, the IOCARIBE-GOOS team. Discussion topics included:

- **Glider Expansion:** Positioning CIMH as a glider operations hub to support wider Eastern Caribbean deployments, including partnerships for logistics, training, and vessel support.
- **HF Radar Demonstration:** Suggestions for CIMH-hosted demonstrations and technical assessments for future network expansion.
- **Decade & GOOS Contributions:** Identifying CIMH's role in IOCARIBE Decade projects, including contributions to Ocean Observing Co-Design and ocean-climate early warning efforts.
- **Exploring Opportunities:** Discussed investment opportunities to sustain glider operations, HF radar, and other uncrewed observing platforms.
- **Partnership Outreach:** Coordination with Eastern Caribbean institutions and intergovernmental mechanisms to facilitate collective planning, negotiation, and joint resource mobilization.

The session concluded with a commitment to continued coordination, beginning with a commitment to work with CIMH in support of their programs, including presenting on marine and ocean science for the CIMH Water Camp for high school students, and planning for the return glider retrieval mission in which a number of scientists will return to Barbados to collect the glider upon the completion of its route through the Southern Caribbean. Additional goals will be to develop a concept note for glider expansion in the Caribbean, taking steps to establish a CIMH as a technical hub, and discuss the potential future opportunities for hosting an HF radar demonstration at CIMH.

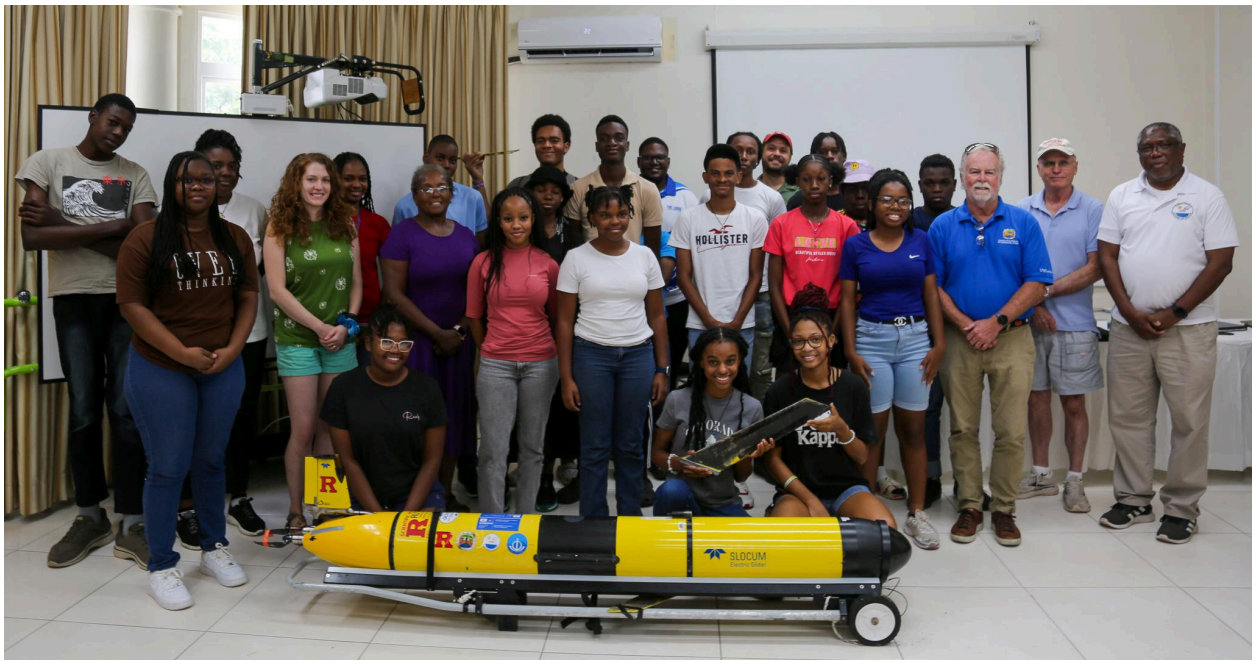
Discussions will continue at the Gulf and Caribbean Fisheries Institute's conference, GCFI78, "Partnering for the Oceans: Merging Ocean, Climate, and Biodiversity Efforts Through Regional Marine Data and Innovation" held from **27-31 October 2025 in Cartagena, Colombia**, and through upcoming IOCARIBE-GOOS Working Group meeting, tentatively scheduled for November, 2025.

Key Outcomes:

- Successful glider deployment off the coast of Barbados contributing to the International Challenger Mission.
- Launched CIMH role as a Caribbean marine science hub and ocean observing coordination center.
- Defined priorities for regional HF radar and glider expansion.
- Initiated planning for technical and policy engagement with Eastern Caribbean entities.

- Identified funding pathways and partner engagement opportunities under the Ocean Decade framework.

This event marked a significant milestone for collaborative ocean observing in the Caribbean and laid the groundwork for sustainable, SIDS-driven marine data systems to support climate resilience and regional forecasting.



Pictured: Participants of the CIMH Glider Technical Session — including high school and university students and teachers from schools across Barbados, attendees of CIMH's Summer 2025 Water Camp, and local experts and partners — joined CIMH staff and leadership, IOCARIBE-GOOS, Rutgers University, and UVI scientists for a hands-on technical demonstration and discussion on ocean observing technologies.

Image credit: Ben Lerner, Rutgers University student