

Caribbean Ocean Glider Completes Mission, Advancing Hurricane Forecasting and Climate Science

Bridgetown, Barbados - October 15, 2025 - The Caribbean Institute for Meteorology and Hydrology (CIMH), in collaboration with Rutgers University's Center for Ocean Observing Leadership (RUCOOL), the University of the Virgin Islands (UVI), and the IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE-GOOS), successfully completed the recovery of the Vetlesen Caribbean Hurricane Ocean Glider on Tuesday, October 14, 2025.



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The recovery marks a major milestone in the region's efforts to strengthen ocean observation systems that enhance hurricane and tropical cyclone modeling for the Caribbean. The mission, supported by the G. Unger Vetlesen Foundation, forms part of the 2025 International Challenger Mission, a global initiative promoting ocean science collaboration and data sharing to support climate resilience.

Launched off the west coast of Barbados in mid-July, the glider collected critical data on ocean temperature and salinity from waters around Barbados, Trinidad and Tobago, and Guyana. Models constructed from the data will provide essential inputs for forecasting that will improve understanding of ocean-atmosphere interactions, a key factor in predicting hurricane intensity and trajectory.

Dr. David Farrell, Principal of the CIMH, highlighted the collaborative nature of the project has been a key factor in its success. "This mission demonstrates the power of regional and international collaboration in advancing scientific understanding of our oceans," remarked Dr. Farrell. "By leveraging technology and partnerships, we are taking a major step toward establishing CIMH as a regional hub for marine science and for ocean glider research and innovation. The data collected will directly support improved hurricane forecasting, ocean observing and modelling, and climate resilience across the Caribbean fisheries, among others."

Dr. Lorna Inniss, Regional Coordinator and Head of IOCARIBE-UNESCO, emphasized that the glider's mission is not only a scientific achievement but is also contributing to reduced fragmentation of regional ocean governance and the attainment of the 2030 Agenda, based on 'The Science we Need for the Ocean we Want'. Dr. Inniss stated, "When we see the how the glider data has positively impacted hurricane forecasting already, it is

clear that a fleet of Caribbean gliders and other monitoring platforms, interconnected as a regional ocean observing system, will assist in solving several ocean-related challenges.”



Dr. Doug Wilson, Director of the UVI Ocean Glider Laboratory and Project Coordinator for IOCARIBE-GOOS, emphasized the importance of regional partnerships in ocean observing. Dr. Wilson said, “The ocean and atmospheric phenomena that impact all Caribbean nations do not respect international boundaries, and this project - collecting ocean data and sharing with neighboring countries - shows the value of collaboration. Congratulations to CIMH and partners on leading the way in expanding regional ocean observing capabilities.”

The mission also highlights the transformative role of applied ocean science in advancing both regional and global weather research. Dr. Scott Glenn, Co-Director of RUCOOL and co-lead for the Global Ocean Observing System (GOOS) Co-Design Programme’s Tropical Cyclone Exemplar, noted that in addition to strengthening the Caribbean’s observing and forecasting capabilities, the data collected by the glider also contributes valuable insights to global research on ocean-atmosphere interactions. Dr. Glenn noted, “This glider mission is one of five globally coordinated pilot studies to better observe the essential ocean features and processes that impact hurricane intensity. What we learn here will be shared with other regions so that we all benefit from the improved accuracy and lead time for life-saving tropical cyclone forecasts.

Following the recovery of the hurricane glider, a technical session was held at the CIMH, bringing together students, scientists, and marine professionals to explore the glider’s mission and its role in advancing regional ocean observing capabilities. The event also included live data demonstrations and discussions on integrating ocean science into climate resilience and disaster risk reduction planning.

This mission represents the first in a series of collaborative glider recoveries and deployments planned for the Caribbean, furthering efforts to build capacity in marine science, strengthen partnerships, and improve

data-driven decision-making for disaster risk reduction and climate adaptation.