## International Challenger RU29 Mission Update

Update 4: 13 September 2019

## Across the Anegada Passage

Late on the night of 12 September, RU29 headed toward the coast of Virgin Gorda, BVI, to begin its transect of the Anegada Passage. Oceanographers from the US NOAA, University of Miami, and the University of the Virgin Islands have a historical record of ocean data taken from shipboard sampling stations across the passage (AN-1 through AN-8). One goal of the International Challenger mission is to see how well the glider can sample the same section. The result should be better – the glider does an up and down profile every 3 to 4 kilometers, so there will be *more* stations. And while the gliders are not inexpensive, their operational costs are a tiny fraction of those of a research vessel and crew.

A team of experienced glider pilots at Rutgers University's Center for Ocean Observing Leadership guide the glider along this path. This particular section is difficult for several reasons. The first is strong currents that set different the glider directions at different depths. Pilots must estimate and try to compensate for those unknown currents. In this instance, RU29's path lies a little SW of the transect due to strong currents in that direction. The other difficulty is the Barracuda Bank, a steep seamount that rises from 1 mile to 100 feet deep in a distance of a little over 3



RU29 status at 0200 UTC, 14 September 2019. Glider is in the process of maneuvering around the shallow waters of the Barracuda Bank to continue the eastern part of the Anegada Passage transect.

nautical miles. RU29 has just successfully cleared to southern edge of the Bank, and will pick up the transect on the other side.

The International Challenger RU29 Mission is a collaboration among Rutgers University (New Brunswick, NJ) Center for Ocean Observing Leadership, Ocean and Coastal Observing - Virgin Islands (OCOVI, an affiliate of the US Integrated Ocean Observing System (IOOS) Caribbean Coastal and Ocean Observing System (CARICOOS)), and the University of the Virgin Islands. This mission will collect upper ocean data to improve hurricane forecasting models; study conditions in the Anegada Passage, an important region for NE Caribbean climate change; and build international cooperation for ocean observing and glider activities. The mission will work in the waters of the US Virgin Islands, British Virgin Islands, and Anguilla, under international Marine Science Research permit. Funding for the project comes from the U.S. National Oceanic and Atmosheric Adminstration through the IOOS, Rutgers University, and the G. Unger Vetlesen Foundation.