

CARICOOS Field Operations

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




Performance Period: June 1, 2019 – November 30, 2019

LONG-TERM GOALS

CARICOOS Field Operations subsystem operates and maintains CARICOOS network of observing assets including five real-time oceanographic buoys, one directional wave buoy, five land-based High Frequency Radar (HFR) antennas, and 16 coastal weather stations.

MILESTONES / OBJECTIVES

The following table includes the milestones/tasks as included in the FY19 scope of work and their status.

MILESTONE / TASK	Q1	Q2	Q3	Q4	STATUS (%)	STATUS / NOTES
Operate the CARICOOS data buoy network	■	■	■	■	 50	On Schedule
Operate the CARICOOS HF Radar network	■	■	■	■	 50	On Schedule
Operate the CARICOOS MESONET and WINDNET	■	■	■	■	 50	On Schedule
Quarterly inspections of CARICOOS Rincón wave buoy	■	■	■	■	 50	On Schedule
Yearly maintenance of the CARICOOS-U Maine data buoys				■	 0	On Schedule
Yearly maintenance of the CARICOOS Rincón wave buoy		■	■		 100	Completed
Yearly maintenance of the La Parguera MAP CO ₂ buoy			■		 0	On Schedule
Operation and maintenance of CARICOOS MESONET / WINDNET	■	■	■	■	 50	On Schedule
Maintenance of CARICOOS HF Radar network	■	■	■	■	 50	On Schedule
Operate the CARICOOS La Parguera CO ₂ buoy and provide data dissemination	■	■	■	■	 50	On Schedule
Install a new data buoy to replace the UVI owned buoy in St. Thomas destroyed by Hurricane Irma				■	 0	On Schedule
Install a HF Radar system in St. Thomas				■	 0	Delayed
Repair and replace the HF Radar equipment damaged by Hurricane María	■	■	■	■	 50	On Schedule
Install a new HF Radar system in Puerto Rico	■	■			 0	Delayed
Deployment, retrieval and refurbishment of NOAA-AOML gliders	■	■			 100	Completed
Deployment, retrieval and refurbishment of US NAVY gliders	■	■			 100	Completed
Beach pathogen monitoring	■	■	■	■	 50	On Schedule
Seasonal carbonate chemistry sampling	■	■	■	■	 50	On Schedule

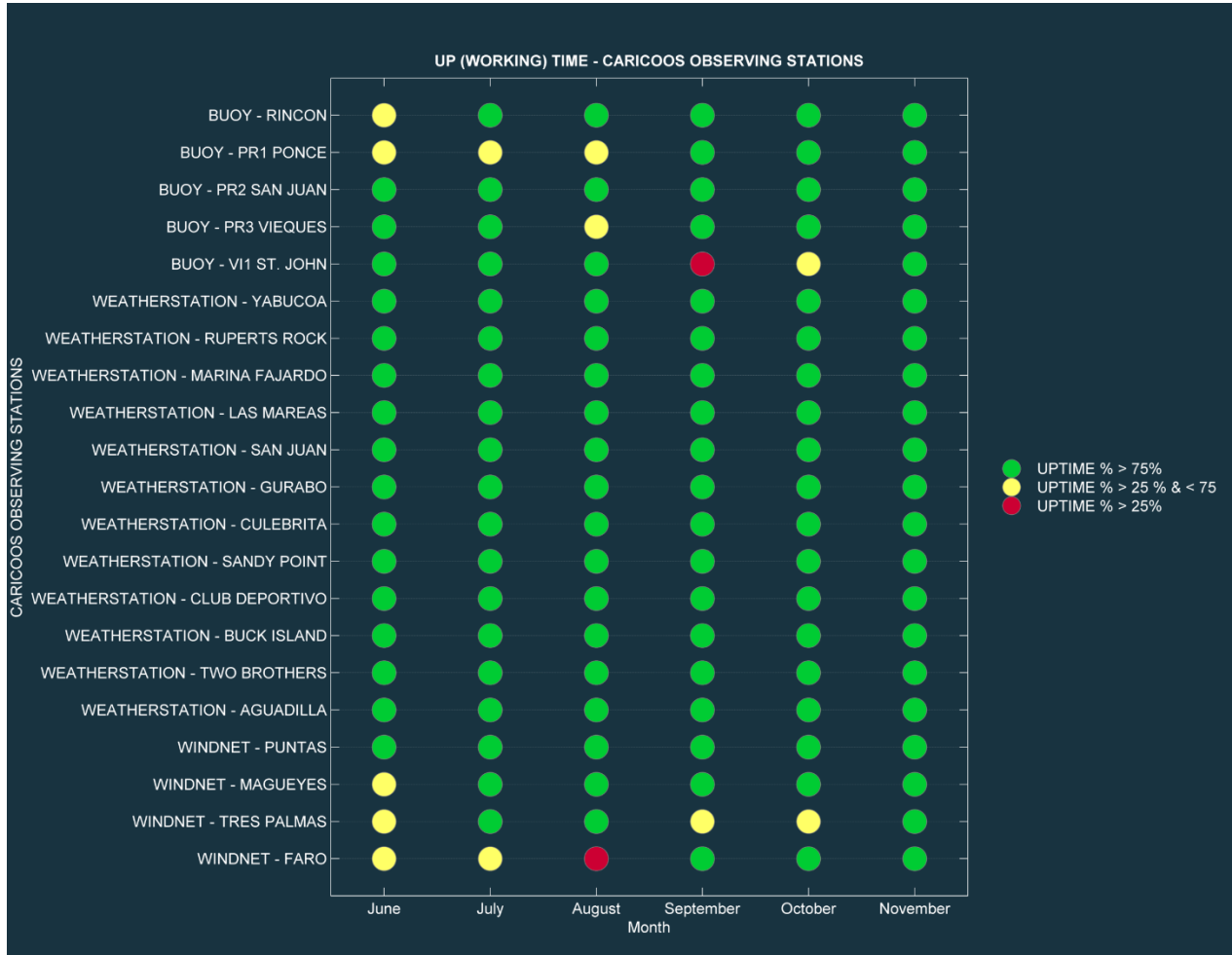


WORK COMPLETED

- Activities toward full recovery of the observing capabilities from hurricane damage are still underway after the reception of the hurricane supplemental funding, particularly the purchase of a new oceanographic buoy for St. Thomas to replace UVI's buoy lost during Hurricane Irma.
- Deployed and retrieved 8 underwater gliders during the 2019 Atlantic hurricane season.
- CARICOOS oceanographic data buoys were recovered in August 2019 from their current location and transported to the closer facility for maintenance. University of Maine personnel, with assistance from CARICOOS personnel, refurbished all buoys.
- St. John buoy broke free on August 28, 2019, when Tropical Storm Dorian passed over the U.S. Virgin Islands. The buoy washed up on Great St. James Island. It was recovered by Lighthouse Marine Corp. and towed back to The West Indian Company Limited (WICO) on August 29, 2019. University of Maine personnel, with assistance from OCOVI personnel, repaired the buoy. The buoy was redeployed on September 30, 2020 when weather conditions permitted.
- CARICOOS Rincón wave buoy was recovered by CARICOOS personnel on June 18, 2019 for annual maintenance and was redeployed on June 26, 2019. On September 14, 2019, the internal heave accelerometer failed. The buoy was removed from its mooring and sent to Datawell for repair and calibration. A spare wave buoy was deployed on September 16, 2019.
- Several components (antenna and electronic chassis) of CARICOOS HF Radars were replaced with new ones. The servicing was performed by CARICOOS HFR technician, Colin Evans.

MAJOR OUTCOMES

During this performance period, were able to operate efficiently and reliably with minimal downtime.



WORK PLAN FOR UPCOMING PERFORMANCE PERIOD (December 1, 2019 – May 31, 2020)

- Install HF Radar antenna in St. Thomas and Puerto Rico to expand CARICOOS surface current observations.
- Install a new oceanographic data buoy to replace the UVI owned buoy in St. Thomas destroyed by Hurricane Irma.
- Continue to operate and maintain CARICOOS network of observational assets.



CARICOOS

CARIBBEAN COASTAL OCEAN OBSERVING SYSTEM

PUBLICATIONS & PRODUCTS

Domingues, R., Kuwano-Yoshida, A., **Chardon-Maldonado, P.**, Todd, R. E., Halliwell, G., Kim, H.-S., ... Goni, G. (2019). Ocean Observations in Support of Studies and Forecasts of Tropical and Extratropical Cyclones. *Frontiers in Marine Science*, 6.

<https://doi.org/10.3389/fmars.2019.00446>

Domingues, R., **Chardón-Maldonado, P.**, Todd, R., Halliwell, G., Kim, H., Lin, I., et al., (2019). Ocean Observations in Support of Studies and Forecasts of Tropical Cyclones. Presented at the Oceans Obs' 19 Meeting, Honolulu, HI.

Testor, P., de Young, B., Rudnick, D. L., Glenn, S., Hayes, D., Lee, C. M., ... Wilson, D. (2019). OceanGliders: A Component of the Integrated GOOS. *Frontiers in Marine Science*, 6.

<https://doi.org/10.3389/fmars.2019.00422>