NOAA/AOML Sea Gliders Collaboration

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Performance Period: December 1, 2018 – May 31, 2019

LONG-TERM GOALS

Our long-term goal is to continue the collaborative efforts with NOAA/AOML by assisting in the deployments, recoveries and refurbishment of SeaGliders. The gliders, deployed during the 2018 hurricane season, provided highly valuable open ocean data towards the improvement of hurricane intensity forecasts. Furthermore, the open ocean data is being used to assess the skill of numerical ocean models in the CARICOOS region.

MILESTONES / OBJECTIVES

The following able includes the milestones/tasks as included in the FY18 scope of work and their current status.

Milestone / Task	Q1	Q2	Q3	Q4	Expected Completion Date	Current Status
MONITORING UPPER OCEAN PROPERTIES AND CLIMATE VARIABILITY						
Deployment, emergency rescues, retrieval and shipping of 10 USN Gliders					November 2018	Completed
Deployment, retrieval and refurbishment of NOAA-AOML Gliders					November 2018	Completed
Secure and equip a facility to operate as a GLIDER maintenance, storage and ops center					May 2019	Delayed
Deployment of underwater 14 gliders in the region					November 2018	Completed
Seaglider refurbishment and piloting training sessions at AOML/UPRM facilities					February 2019	Completed in September 2018

WORK COMPLETED

- Navy gliders (NG616, NG617, NG618 and NG,619) were shipped with lithium batteries to Stennis Space Center, MS on February 21, 2019.

- Facilities in La Parguera, Lajas, PR were prepared to receive NOAA-AOML gliders.

MAJOR OUTCOMES

- The fourteen gliders deployed in the US Caribbean throughout the 2018 hurricane season measured subsurface ocean properties in the Caribbean Sea and tropical Atlantic Ocean.

- Glider based data have been used to evaluate the performance of current and experimental numerical models simulating the upper ocean temperature and salinity structure as well as mesoscale processes.

RELATED PROJECTS

None

WORK PLAN FOR UPCOMING PERFORMANCE PERIOD (June 1, 2019 – November 30, 2019)

- Foreseeing the addition of glider lines for the 2019 hurricane season in Puerto Rico, Dominican Republic and US Virgin Islands.

- Together with NOAA/AOML, CARICOOS will coordinate and execute the glider deployments and recoveries, including emergency recoveries and backup piloting.

PUBLICATIONS & PRODUCTS

Bringas, F., Goni, G., Morell, J., Chardón-Maldonado, P., Domingues, R., Rawson, G., Rivero, U., Halliwell, G., LeHenaff, M., and LaCour, B., (2019). AOML-CARICOOS contribution to NOAA hurricane underwater glider operations in support of tropical Atlantic and Caribbean Sea hurricane intensification studies and forecast. Presented at the 8th EGO Meeting and International Glider Workshore, Rutgers University, NJ.

Domingues, R., Kuwano-Yoshida, A., Chardón-Maldonado, P., Todd, R., Halliwell, G., Kim, H., Lin, I., et al., (2019). Ocean Observations in Support of Studies and Forecasts of Tropical and Extratropical Cyclones. Frontiers in Marine Science.