

## Supporting the Blue Economy - SECOORA 2018 Annual Meeting

*SECOORA Principal Investigator Abstracts*

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### **Maintain and Operate Priority USF COMPS Inshore Coastal Stations**

Mark E. Luther, PI, Jeff Scudder and Clifford Merz, Co-Investigators, University of South Florida College of Marine Science

University of South Florida College of Marine Science continues to maintain five COMPS in-shore Coastal Stations to the extent possible with the resources available. Data from three of these sites are sent to SECOORA and the NOAA National Data Buoy Center (NDBC) and to the Global Telecommunication System (GTS) via NDBC. The project team is in the process of re-establishing the Big Carlos Pass station as an NDBC reporting station. Data from all five stations are also sent to the GCOOS portal.

Sites collecting water level and surface meteorological parameters at Big Carlos Pass, Clam Bayou, Fred Howard Park, Aripeka, and Shell Point have remained operational with minimal down time. Additionally, the Clam Bayou site collects a suite of water quality parameters and the Big Carlos Pass site collects water temperature/salinity and fish acoustic data in collaboration with Jim Locascio at Mote Marine Lab.

Data from the inshore coastal sites and from the Tampa Bay PORTS sites during the passage of Hurricane Irma showed maximum wind gusts of over 100 knots at the Big Carlos Pass site and a negative storm surge of 6.14 ft below predicted tide at the Port of Tampa (MacKay Bay) water level gauge.

M. Luther, S. Meyers, and J. Scudder are working with St. Petersburg and Pinellas County water management staff to develop predictive tools based on short-term climate forecasts to help mitigate future wastewater releases into Tampa Bay and surrounding waters. Data from the water quality station on Clam Bayou have been very useful for assessing the impacts of the recent wastewater releases on dissolved oxygen, chlorophyll, and turbidity. We are working with city staff from St. Petersburg and from Gulfport to quantify the occurrence of low DO events and to distinguish naturally occurring from wastewater related events.

M. Luther makes quarterly updates to the Tampa Bay Harbor Safety and Security Committee and to the Vessel Movement committee on the status of real-time ocean observations in support of maritime transportation.

M. Luther and S. Meyers are working with the Tampa Bay Estuary Program, the US

Fish and Wildlife Service, and the Tampa Port Authority to analyze Automatic Identification System (AIS; see <https://www.navcen.uscg.gov/?pageName=AISworks>) vessel tracking data to estimate the impacts of ship wakes on critical marine habitat in Tampa Bay. They are mining the AIS data for other Maritime Domain Awareness applications, such as identification of optimal vessel transit windows and automated anomaly detection, in collaboration with the port authority, the Tampa Bay Pilots, and ARES Security (<http://aressecuritycorp.com/news/florida-ports>). Real-time products being developed will be incorporated into the CommandBridge vessel traffic system.