Supporting the Blue Economy - SECOORA 2018 Annual Meeting

SECOORA Principal Investigator Abstracts

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Operate and Maintain UNCW Moored Stations as part of SECOORA

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As part of the larger SECOORA coastal observing enterprise, and in cooperation with partner that include US Army Corps of Engineers (USACE) and UCSD Coastal Data Information Program (CDIP), UNCW's Coastal Ocean Research and Monitoring Program (CORMP) operates nine real-time coastal and offshore moorings in NC and SC. These systems provide hourly reports of core meteorological and oceanographic parameters. In Year 2, UNCW added acoustic receivers to 4 moorings in Onslow Bay, NC; 3 on real-time moorings and 1 on a subsurface, non real-time station. Additionally, UNCW and Skidaway Institute of Oceanography (SkIO) entered into an MOU whereby the UNCW Pelagia glider was loaned to SkIO through 2021 to support the SECOORA glider observatory. In Year 2, CORMP hosted two UNCW undergraduate interns and three high school interns from the New Hanover County Schools' Marine Science Academy. In addition, CORMP mentored 11 undergraduate student research projects and two graduate student theses. The CORMP staff were also instrumental in the development a new "underwater technologies course" that served 8 BS Oceanography and 10 MS Geosciences/Marine Science students in Spring 2018.

CORMP implements QARTOD for real-time data QA/QC and, in partnership with Second Creek Consulting, developed an interactive QA/QC report that provides daily alerts when data are "suspect" or "failed". CORMP provides all data to SECOORA, including QARTOD roll-up flags, and archives the data on UNCW servers. Real-time mooring data are ingested for use in existing products and applications by local, state, and federal agencies and industry partners (e.g. University of South Carolina, SECOORA, NWS, USACE, Roffer's Ocean Fishing Forecasting Service, SaltwaterCentral.com). Currently, supported applications include: 1) data verification points to support hind-casting and real time applications (USACE Wave Information Study, USCG Search and Rescue, Voulgaris HF Radar surface current velocity study); 2) daily validation of the Coastal Waters Forecast and rip current forecasts produced by NOAA NWS offices; 3) meteorological and physical oceanographic data for data poor areas of Onslow Bay and Long Bay; 4) observational data to support continued operation and enhancement of ongoing and proposed SECOORA products such as the Marine Weather Portal and How's the Beach; and, 5) long-term data records for assessment of environmental change. By providing observations in the Carolinas portion of the SECOORA footprint, the data provided by UNCW fills what would

otherwise be large gaps in coastal oceanographic observations, including areas not covered by existing HF Radar or federal assets in the region. The UNCW observing program supports SECOORA goals in the areas of Marine Operations; Coastal Hazards; and Living Marine Ecosystems.