

**Southeast Coastal Ocean Observing Regional Association (SECOORA):  
Coordinated Monitoring, Prediction and Assessment to  
Support Decision-Makers Needs for Coastal and Ocean Data and Tools**

**Program Performance Report**

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**Principal Investigator:**

Debra Hernandez, Executive Director  
SECOORA  
PO Box 13856  
Charleston, SC 29422  
P: 843-906-8686  
E: [debra@secoora.org](mailto:debra@secoora.org)

**Associate Investigator:**

Dr. Richard Dodge, SECOORA Board Chair  
Nova Southeastern University Oceanographic Center  
Dania, FL  
P: 954-262-3651  
E: [dodge@nova.edu](mailto:dodge@nova.edu)

**Associate Investigator:**

Megan Lee, Business Manager  
SECOORA  
PO Box 13856  
Charleston, SC 29422  
P: 843-864-6755  
E: [mlee@secoora.org](mailto:mlee@secoora.org)

**Associate Investigator:**

Vembu Subramanian, RCOOS Manager  
SECOORA  
PO Box 13856  
Charleston, SC 29422  
P: 727-525-1926  
E: [vembu@secoora.org](mailto:vembu@secoora.org)

**Project Summary**

Southeast Coastal Ocean Observing Regional Association (SECOORA) and its members are integrating and augmenting existing observational, modeling, data management and education assets in the southeastern US domain to create an end-to-end Regional Coastal Ocean Observing System (RCOOS) in support of user-defined needs for improved coastal and ocean decision making.

With this grant funding SECOORA is:

1. Sustaining SECOORA as a Regional Information Coordination Entity (RICE). This will ensure that stakeholder needs are met through assessment and governance mechanisms that effectively prioritize the distribution of RCOOS-related funding, and coordination of projects and other resources that are required to meet critical regional needs;
2. Sustaining and expanding a coastal and ocean observing subsystem for the Southeast that provides coordinated monitoring, assessment and prediction, and includes moored and coastal stations, high frequency radars (HFR), gliders and storm event monitoring subcomponents;
3. Supporting a multi-scale modeling subsystem that includes regional ocean, shelf and estuarine circulation (nowcast/forecast); estuarine and surge/inundation prediction (nowcast/forecast); beach/shellfish water quality advisories; species specific habitat models; and which uses the observing subsystem for validation, assimilation, and operation;
4. Supporting the Data Management and Communication (DMAC) subsystem to optimize operations, facilitate technology evolution / transfer, and address structural / project management complexities; and
5. Supporting an education and outreach subsystem by SECOORA core staff partnered with other RAs and marine education efforts that engages diverse education and stakeholder audiences to understand the benefits of ocean observing to society.

## Progress and Accomplishments

### SECOORA Project Contractual sub-awards Update

For the NOAA Year 2 (FY12) award, SECOORA issued no cost extensions to 10 sub-awardees as they were behind schedule in expending their funds. We received NOAA Year 3 (FY13) tentative notification funding level during this reporting period. After we receive the final notification, we will be submitting our Year 3 descope proposal to NOAA issuing year 3 sub-awards. There is no change in goals and objectives for Year 2 activities. Specific details regarding progress made on goals and objectives in each subsystem projects are detailed in the following sections.

### Goal 1: Sustain SECOORA as a Regional Information Coordination Entity (RICE)

**Milestones:** The following provides updates for this goal. Additional details are described in the table that follows.

- A. Provide timely grant reports to NOAA:** Ongoing.
- B. Hold Board Meeting Fall 2012 and Annual Meeting 2013:** Held Dec 5-6, 2012 Board meeting and SECOORA annual meeting (Board, Members, stake holders and RCOOS PI) May 13-15, 2013.
- C. Publish e-newsletters and other outreach material:** Compiled and sent relevant news and distributed the same via e-newsletters and emails to members. We continue to post events based news (hurricane, red tide etc.) and outreach materials on the “Latest News” section of our web site.
- D. Coordinate with GCOOS on FL activities:** Continue to have discussions with GCOOS-RA and other FL state entities on coordinating FL coastal ocean observing activities. GCOOS Board member, representatives from Fish and Wildlife Research Institute (FWRI) and Gulf of Mexico Research Initiative PI attended and presented talks at the Annual meeting held May 13-15, 2013. SECOORA and GCOOS-RA collaborated with IOOS on the implementation of IOOS Biological data project in their respective regions.
- E. SECOORA Web site updates focused on data portal expansion, and PI project news:** Ongoing.
- F. Work with IOOS Association and IOOS Program Office to effectively respond to NOAA and other National level requirements:** Debra Hernandez, Vembu Subramanian and Megan Lee attended the monthly IOOS Association calls. Vembu attended the monthly IOOS RA DMAC calls. Dave Easter, our regional POC, periodically attended SECOORA staff calls to insure effective coordination and updates on SECOORA projects and activities. SECOORA staff coordinated input on QARTOD waves and currents, temperature and salinity, the Glider strategy, and the Modeling strategy and submitted comments to IOOS program office.
- G. Refine and maintain RCOOS Conceptual Operations Plan:** Ongoing.
- H. Support regional collaboration:** IOOS Biological Project – GCOOS-RA and IOOS; Eye On Earth – NANOOS, SECOORA and IOOS; GSAA RIMS Project – SE states, TNC, EcoTrust and NOAA; IOOS Vocabulary efforts and Asset Inventory efforts – SECOORA, IOOS and all other RAs; and Beach swimming advisory – SECOORA and NERACOOS; Hurricane Sandy Supplemental Proposal Coordination – NERACOOS, MARACOOS, CariCOOS, GCOOS-RA, IOOS Association; HF Radar Steering team and Glider Strategy – SECOORA and GCOOS-RA
- I. Evaluate mechanisms to track operational statistics, product usage, and outcome measures and metrics:** We continue to use Google Analytics to track our data and products access via our web site. From May 2012 to May 2013 there were approximately 51,000 unique visitors to SECOORA web site and 60% of them looked at the Marine Weather Portal web pages, a product that was integrated into SECOORA web site in early 2012. Our HF Radar operators use the National HF Radar site for reporting the priority radar site uptime statistics. We will be working

with our in-situ observations data providers and with NDBC (Emma Watson, NDBC and Ray Toll) to refine and standardize the performance statistics of our in-situ observing stations.

SECOORA Activities	Progress
<ul style="list-style-type: none"> <li>• Ensure continued and efficient Governance, Management and Operations of the RA.</li> <li>• Provide forums, i.e. workshops, meetings, that enable stakeholder assessment and engagement.</li> <li>• Coordinate with the Governor's South Atlantic Alliance (GSAA).</li> <li>• Ensure SECOORA plans and gaps analysis align with IOOS Association and IOOS office guidance and/or requirements.</li> <li>• Refine and maintain RCOOS Conceptual Operations Plan.</li> <li>• Develop materials for RA Certification (No Activity).</li> </ul>	<p><b>Staff fiscal activities:</b></p> <ul style="list-style-type: none"> <li>• Provided fiscal and overall project management for year 1 and year 2 awards, and continued to manage primary partner institutions sub-awards.</li> <li>• Held bi-monthly administration meetings to ensure efficient and effective fiscal operations.</li> <li>• A part time bookkeeper (Chiaki Kight) and business manager (Megan Lee) managed the contracts and financials for these awards.</li> <li>• SECOORA staff held a staff retreat at Charleston, Feb 4 -5, 2013</li> <li>• Megan Lee attended and completed five week on-line grant management course entitled Accountability for Federal Grants: Planning, Measuring, &amp; Reporting Grant Performance (through Management Concepts).</li> <li>• Federal Financial Report for IOOS funds was submitted during this reporting period.</li> <li>• Preparations are underway for FY13 SECOORA A-133 audit.</li> <li>• We have recruited four new SECOORA members: Florida Gulf Coast University, SRI International, Liquid Robotics and HACH Hydromet.</li> </ul> <p><b>SECOORA Board and PI Coordination</b></p> <ul style="list-style-type: none"> <li>• Continued to hold monthly conference calls with RCOOS PIs to ensure in-reach, coordination and collaboration within each RCOOS subcomponent and among PIs. Also held DMAC activities prioritization and coordination meetings and calls.</li> <li>• Executive Committee continued to meet monthly. The Finance and Audit Committee met every quarter.</li> <li>• Held Board meeting (Dec 5-6, 2012 – Atlanta), SECOORA data management meeting (Virtual – Dec 17, 2012), and SECOORA annual Members, Board and PIs meetings (May 13-15, 2013 – Jacksonville). Presentations and 2013 annual meeting materials can be accessed via <a href="#">SECOORA May meeting web site</a>.</li> </ul> <p><b>External Coordination Activities:</b></p> <ul style="list-style-type: none"> <li>• Attended GSAA Issue Area Technical Team Meeting in Jacksonville (May 1 -3, 2013) and coordinated SECOORA/GSAA Regional Information Management System team participation.</li> <li>• Executive Director continued to participate on monthly “Partner Arm” calls of the GSAA.</li> <li>• Participated in monthly IOOS Association and IOOS conference calls, including Debra Hernandez participation on the IOOS Association Executive Committee.</li> <li>• Debra Hernandez and Dick Dodge attended the IOOS Association Spring Meeting held in DC (March 2013).</li> <li>• Debra attended the NCA Climate study meeting and Coastal Hazards summit meeting.</li> <li>• Debra is working with IOOS Program office on the design of a “marketplace”, which will be a web-based database that will organize user requirements for IOOS products and services.</li> <li>• Vembu held meetings with National Weather Service, Tampa office on Marine Weather Portal and attended Weather Ready Nation stakeholders meeting held at St. Petersburg</li> <li>• Vembu delivered talks at West Central Florida American Meteorological Society Chapter March 2013 meeting and at University of Tampa Physical Oceanography class on SECOORA and IOOS</li> <li>• Vembu attended the USF C-IMAGE (GoMRI funded effort) data management</li> </ul>

SECOORA Activities	Progress
	<p>meeting to explore collaborations.</p> <ul style="list-style-type: none"> <li>Vembu along with Matt Howard (GCOOS-RA) and Hassan Moustahfid (IOOS PO) organized and hosted the second in-person meeting of the IOOS Biological Data Project in SECOORA and GCOOS-RA at St. Petersburg (March 21-22, 2013)</li> </ul> <p><b>Efforts to Leverage IOOS Funding:</b></p> <ul style="list-style-type: none"> <li>Continued partnership with the NERRS CDMO, SCDNR on Biological project and NANOOS and IOOS on Eye on Earth.</li> <li>Continued partnership with GSAA, and launched the Regional Information Management System portal for the GSAA.</li> </ul>

## Goal 2: Sustain an Observing Subsystem for the SE

**Milestones:** The following provides updates for this goal. Additional details are included in the table that follows..

- A. Operate and maintain moored and coastal stations (COMPS, SEAKEYS and Carolina RCOOS):** COMPS and Carolina RCOOS assets are maintained. FIO SEAKEYS operations were shutdown in December 2012.
- B. Report moored and coastal stations data to secoora.org and NDBC:** Ongoing.
- C. Operate and Maintain Priority Radars**
  - i. **Hourly surface current maps from the various subregions via individual and SECOORA web sites:** Ongoing.
  - ii. **Estimates of significant wave heights from the HF radar data:** Estimates of significant wave heights from the HF radar data are carried out on an experimental basis by WERA HF Radar operators ([USF](#), [UM](#), [SKIO](#), [USC](#)) within the region.
  - iii. **Develop/report performance metrics of CODARs and WERAs throughout the SE including accuracy estimates of the surface currents:** HF Radar operators in our region use the National HFR site to report the site performance metrics. The work on accuracy estimates of the surface currents is being continued.
  - iv. **Provide the radial currents to the National Servers (SIO/Rutgers) for the National HF radar network:** Ongoing.
- D. Update Asset inventory and provide performance metrics:** SECOORA asset inventory work was completed and integrated into the [SECOORA web site](#). During this reporting period, SECOORA's asset inventory tool was also presented during an IOOS RA DMAC coordinators call, and we also provided a demo to IOOS PO and comments on the IOOS Asset Inventory and catalog efforts. HF Radar operators use the National HF Radar network to provide their site uptime performance metrics, which are summarized for each station in the table below. In-situ operators currently use their in-house performance metrics to report their uptime metrics. SECOORA will work with NDBC and SECOORA in-situ monitoring system operators and SECOORA DMAC to standardize the reporting of uptime statistics of in-situ monitoring stations. We will work with Emma Watson and Ray Toll of NDBC to carry out this activity.

Objective 2.1: Sustain Moored and Coastal Stations	
Institution/Activities	Progress
University of South Florida (Weisberg) Support COMPS moorings	Support is continued for four surface moorings (C10, C12, C13 and C14) and two sub-surface moorings (C11 and C15) and C21 near shore tower. Data acquired from the functional real-time moorings are sent to SECOORA and NDBC. C14 mooring is pulled out of the water during this reporting period and C13 may also be pulled out of water, leaving C10, C12, C11 and C15 being maintained and operated in Year 3 with SECOORA funds.
University of South Florida (Merz) Support in-shore tidal meteorological stations	Support is continued for USF COMPS Coastal Stations. Data acquired from the stations are sent to SECOORA and NDBC. Periodic station repair, maintenance visits of stations and tidal well survey are continued. Continued to engage local stakeholders groups such as Friends of Fred Howard Park. Work is being carried out to consolidate Egmont Key and Anna Maria stations into one and in Year 3 it is expected that USF will maintain 5 coastal stations (Shell Point, Aripeka, Fred Howard Park, Big Carlos Pass and the consolidated Egmont/Anna Maria site).
Florida Institute of Oceanography (Virmani) – SEAKEYS network	SEAKEYS network was shut down in December 2012 and this network is no longer funded by SECOORA.
University of North Carolina - Wilmington (Leonard)- Support Carolina RCOOS network	University of North Carolina Wilmington (UNCW) continued to operate and maintain 6 oceanographic buoys and 2 wave buoys in Onslow and Long Bay and one pier station in Brunswick County, NC. All data collected are provided to SECOORA and NDBC and made available via Global Telecommunication System (GTS).
Objective 2.2: Maintain High Frequency Radar Operations	
Institution/Activities	Progress
HF Radar data delivery from all SECOORA priority stations	The data from all radars are being continuously provided to SECOORA and the US National HFR Network in near real-time.
University of South FL (Weisberg) Support three CODAR and two WERA radar arrays on the West Florida Shelf	USF currently operates, maintains and delivers data from three CODAR priority radar sites (Naples, Venice and Reddington Shores). Acquisition of CODAR equipment spares for installing the fourth site is in progress. USF maintains the two co-located WERA stations and assessment of CODAR and WERA HF Radars in mapping currents were performed. Operational uptime statistics of three priority codar sites for this reporting period: NAPL – 90.7%, VENI – 95.8% and RDSR – 95.8%.
University of South Carolina (Voulgaris) Support two WERA radar arrays in Long Bay, SC	USC currently maintains, operates and delivers data from two priority radar sites (Fort Caswell and Georgetown) covering Long Bay, SC. The sites provide half-hourly surface current maps via the PI's and the SECOORA web sites and estimates of significant waves heights on an experimental basis. Operational uptime statistics of two priority HF Radar sites for this reporting period: CSW – 98.2% and GTN – 97.9%
Skidaway Institute of Oceanography (SkIO) (Savidge) Support two WERA radar arrays on St. Catherine's and Jekyll Island, GA	SkIO continued to operate two WERA HF-radars on St. Catherine's Island and Jekyll Island GA for this reporting period. Estimates of wave and wind parameters are also made, as experimental products. SKIO has established improved QA/QC for their archived data and plans to implement the same for near real-time data. Operational uptime statistics of two priority HF Radar sites for this reporting period: CAT – 96.7% and JEK – 98.6%

University of Miami (Shay) Support three WERA radar arrays at Crandon, Virginia Key and Dania Beach	The University of Miami currently operates priority WERA HF-radar installations on Key Biscayne, Virginia Key and Dania Beach. These radars are estimating significant wave heights for the National Weather Service marine forecast models . Operational uptime statistics of three priority HF Radar sites for this reporting period: CDN – 86.0%, STF – 81.2% and 81.2%
University of NC - Chapel Hill (Seim) Support two CODAR radar arrays on the Outer Banks of NC	UNC-CH operates two CODAR-radar installations on the Outer Banks of North Carolina. . Progress is being made to extract Gulf Stream position information. The PI upgraded the CODAR software to new version (SS7). Operational uptime statistics of two priority HF Radar sites for this reporting period: DUCK – 98.9% and HATY – 89.3%

**Goal 3: Support a Multi-Scale Multi-Resolution Modeling Subsystem**

**Milestones:** The following provides updates for this goal. Additional details are included in the table that follows..

- A. Support and enhance SABGOM model**
- B. Provide real-time forecasting of inundation and storm surge**
  - i. Begin forecasting in Domain 3 (Northern Gulf of Mexico - NGOM) and 4 (Southeast Florida – SE)
  - ii. Establish Necessary Data Standards with DMAC
- C. Develop data products derived from satellite and in situ observations for fisheries stock assessment**
- D. Provide decision support tool for beach/shellfish WQ advisories**
  - i. Develop Geographic Information Systems-based modules to extract and visualize radar derived rainfall data and modeled currents and salinity estimates over user specified boundaries (e.g. watershed boundaries)

Objective 3.1: Support Regional SABGOM model	
Institution/Activities	Progress
North Carolina State University (He) Support and enhance SABGOM model	NCSU South Atlantic Bight Gulf of Mexico (SABGOM) model provides daily 84 hour nowcast/forecast of 3-D regional ocean predictions. The model output (temperature, salinity and currents) is made available via <a href="#">SECOORA web site</a> and <a href="#">NCSU PI's web site</a> . The NCSU SABGOM modeling team, SECOORA DMAC and Roffer's Inc. worked together to make the model data available via THREDDS web server as well as in GIS format. In addition, varieties of model data products are made available via PI's web site. Model validation and skill assessment work through appropriate comparisons with SECOORA regional observations (in-situ and remotely sensed) is in progress.
Objective 3.2: Implement Forecasting of Storm Surge, Inundation and Coastal Circulation	
Institution/Activities	Progress



<p>University of Florida (Sheng) and North Carolina State University (Xie)</p> <p>Provide real-time forecasting of inundation and storm surge.</p>	<p>UF completed 2D Forecasting system coupled with SWAN wave model for the entire Florida coast and provides 2 to 3 days forecast depending on forecast wind fields. The model current fields were compared with SECOORA HF Radar observations and more validation will be performed. Implementation of 3D baroclinic quasi-operational 24/7 nowcast/forecast system for entire Florida coast is in progress. NCSU maintained the near-real-time CMAEPS forecast system and provides atmospheric, sea surface wave, and storm surge forecasts for the SECOORA region, and high-resolution storm surge forecasts for the Northern Florida Coast domain. Test runs are completed for the high-resolution storm surge forecasts for the Georgia and South Carolina (GASC) domain and the South Carolina and North Carolina (SCNC) domain. Exposing the model data and products via THREDDS server (SECOORA) as well as PIs web site is in progress.</p>
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**Objective 3.3 Develop Nearshore Circulation Model for Rip Current Forecasting**

Proposed for Year 4 start

**Objective 3.4: Provide Species Specific Habitat Models that integrate remotely sensed data and in-situ data to enhance South Atlantic Fisheries Management Council Stock Assessments**

Institution/Activities	Progress
<p>ROFFS (Roffer), University of Miami CIMAS (Muhling), and SAFMC (Pugliese)</p> <p>Develop data products derived from satellite and in situ observations for fisheries stock assessment.</p>	<p>SCDNR MARMAP Chevron Fishery Independent trap survey data (Catch, effort and hydrographic station data) were analyzed using neural networks and Habitat model predictions were overlaid on observed catches for June and July 2008. Balistes (trigger), Pagrus (porgy) and Rhomboplites (snapper) were most abundant in central northern study area and Centropristis (seabass) was most common in shallower waters throughout the survey region in SE. Comparisons of Snapper and Trigger models with bottom temperatures show that both the species more likely to be found where bottom temperatures are warmer at moderate longitudes.</p>

**Objective 3.4: Improve Beach/Shellfish water quality advisories**

Institution/Activities	Progress
<p>University of South Carolina (Porter)</p> <p>Provide a decision support tool for beach/shellfish water quality advisories.</p>	<p>USC and University of Maryland continued to enhance and support the decision support web and mobile app tools for issuance of beach swimming advisories by South Carolina Department of Health and Environmental Control (SCDHEC).</p>

**Goal 4: Enhance the DMAC Subsystem**

**Milestones:** Updates on activities are described in “progress” column of the following table.

Institution	Progress
<p>University of South Carolina (Porter), University of NC – Chapel Hill (Seim)</p> <ul style="list-style-type: none"> <li>• Service data providers and RCOOS subsystem PIs</li> <li>• Assess SOS response formats</li> <li>• Integrate SECOORA asset inventory into the SECOORA webpage</li> <li>• Review QARTOD activities</li> <li>• Work with IOOS Program office and GCOOS-RA on a pilot project to</li> </ul>	<p>Support and service for data providers and RCOOS PIs were continued during this reporting period. We are actively recruiting new data providers, and integrate new their data into the SECOORA data portal. During this reporting period, we added data USACE/Scripps stations offshore of New River Inlet and Wilmington Harbor should be added. Their NDBC identifiers are: 41109 and 41108. We also added data from Florida Institute of Technology (FIT) Sebastian Inlet State Park (NDBC Identifier: SIPP1) station. We held a virtual data management meeting (Dec 17, 2012) between the two funded hubs (UNC-CH and USC) and the SECOORA RCOOS Manager to prioritize data management activities. Beginning this reporting period we will start to</p>

Institution	Progress
<p>implement IOOS DMAC Biological Observations Standards in SECOORA</p>	<p>provide progress on the following data management topics/activities:</p> <p><b>Maintenance of SECOORA Data Management server Infrastructure</b>  During this reporting period, we have consolidated our data management operations from two hubs (UNC-CH and USC) to single hub (USC). <a href="#">SECOORA Asset Inventory application</a> was completed and the VMware image of the application is running on USC server infrastructure. The application was demonstrated on an IOOS RA DMAC conference call, and to some data providers in our region regarding utilization of the same.</p> <p><b>Servicing Data Providers and RCOOS subsystem PIs</b>  We continue to recruit new data from data providers and also provide services on data management related solutions to data collectors and providers within the region. We also maintain a <a href="#">Wiki site</a> in which documentation and notes on technologies we use are made available. We are ingesting FIT real-time Sebastian Inlet Met and ADCP data and the Scripps buoys deployed off of NC Coast. We worked with SABGOM model PI, ROFFS™ and FWC/FWRI to make SABGOM model data accessible via GIS format.</p> <p><b>IOOS Program Office DMAC Activities</b>  We held a call with Derrick Snowden and Rob Ragsdale (IOOS PO) on the <b>IOOS Sensor Observation Service (SOS) reference implementation</b> and will be implementing SOS as well as register our services on or before August 31, 2013. We continued to attend the IOOS RA DMAC calls and provide input on <b>QARTOD</b> manuals as well as other data management related issues. We are continuing work with IOOS PO and NANOOS on advancing the <b>Eye On Earth project</b>. SECOORA and GCOOS-RA together with Hassan Moustahfid co-hosted the <b>IOOS Biological Data Project</b> Workshop II in St. Petersburg to demonstrate the ERDDAP services deployed by SECOORA and GCOOS-RA. This was a multi-institutional collaborative (data providers and customers) initiative to demonstrate easy access to biological observations. SECOORA used SCDNR MARMAP and FWC/FWRI Fisheries Independent Management data and the ERDDAP instance for both can be accessed Via the <a href="#">SECOORA ERDDAP server</a>. We are in the process of refining the services and wrapping up the project with final project report with Hassan. <b>IOOS Parameter Vocabulary</b> work was continued during this reporting period - Published IOOS Parameter Vocabulary (v2.0) with relationships to CF standard names (v19) and IOOS core variables list; Published IOOS Platform Vocabulary with mappings to MMI platform ontology and SEAVOX platform classes; Registered vocabularies and mapping under IOOS.</p> <p><b>Upgrade of SECOORA Interactive map</b>  We have implemented new <a href="#">interactive model map</a> that integrates and provides visualization of observations and model data. Based on our end users and RCOOS PIs input, we are in the process of improving our data portal for easy data discovery, download and visualization.</p>

### Goal 5: Support a Targeted and Leveraged Education and Outreach Subsystem

**Important Note:** For Year 2, the primary focus of the Education and Outreach (E&O) subsystem is to engage stakeholders regarding observing technologies, data, products, and services. Note that Goals 1, 3, and 4 include outreach activities that complement and contribute to the E&O subsystem. We have listed work carried out during this reporting period below. No separately funded Education and Outreach PIs were funded in Year 2.



## Education and Outreach Activities (SECOORA staff and RCOOS PIs)

SECOORA continues to maintain and periodically update its [SECOORA's classroom web site](#). The SECOORA classroom web pages are tailored for the public, teachers and other educators to learn more about coastal ocean observing systems and related information on how to incorporate the same into classroom and other educational programs. The SECOORA data portal is also being upgraded for easy data discovery, visualization, access and download. SECOORA Education and Outreach committee held a conference call in May 2013.

SECOORA Outreach (Lectures and Meetings): SECOORA staff constantly engaged in either delivering a talk at institutions or at meetings to promote the need for the implementation of regional coastal ocean observing systems to address coastal zone issues. List of meetings attended and lectures delivered at Institutions are: Florida Gulf Coast University; SRI International; West Central Florida American Meteorological Society Chapter Meeting; University of Tampa, National Weather Service (Tampa), University of South Florida C-IMAGE (GoMRI funded project) Data Management Meeting; NOAA-NWS Tampa Weather Ready Network (WRN) Stakeholders meeting; and Coastal Hazards Summit. The outreach efforts with Florida Gulf Coast University, SRI International, Liquid Robotics and HACH Hydromet resulted in new membership to SECOORA and their support for IOOS/RAs. SECOORA Education and Outreach committee held a conference call

SECOORA continued to engage in marketing and outreach activities via e-newsletter, e-mails and web site. We continue to engage in outreach and education events as well as provide materials to RCOOS PI and board members who attend science meetings, provide information to governmental representatives, etc. During this reporting period, we provided a SECOORA Coastal Ocean Observing activities in Florida flyer to our board member Jyotika Virmani for distribution at the Florida Oceans Day (April 3-4, 2013) sponsored by FIO, Mote Marine Lab and Florida Ocean Alliance. We also met with National Weather Service (NWS) regarding utilization of our Marine Weather Portal product in their Marine Weather Pages. The NWS Brownsville (<http://www.srh.noaa.gov/bro/?n=marine>) and Corpus Christy (<http://www.srh.noaa.gov/crp/?n=marine>) WFOs in Texas are currently using our Marine Weather Portal Product.

May 2013 Annual Members and Stakeholders Meeting summary: During this reporting period we conducted our SECOORA Annual Meetings in Jacksonville, Florida (May 13-15, 2013). We held our [Board Members meeting](#) on Day 1, [Annual Stakeholders meeting](#) on Day 2 and [RCOOS PIs](#) meeting on Day 3. At the annual stakeholders meeting, we had participation from state, federal, academic and private sectors. During the meetings we highlighted SECOORA activities under the Ecosystem, Living Marine Resources, Water Quality and Coastal Hazards theme areas and invited eminent panelists to provide their views and recommendations as to how SECOORA can better meet stakeholder needs. All meeting materials are available via the SECOORA web site. Some highlights from the meeting include: Updates on the Southeast Regional Ocean Partnership from the Navy, the lead federal agency for our region, and from The Nature Conservancy on ongoing eco-regional assessments; discussion of ways to reach more stakeholders via improvements to the data portal, the addition of more water quality and biological data, working toward static and dynamic data integration, and the development of climatology products for some of SECOORA's observing data; coordinating with FL Fish and Wildlife Commission, and potentially other states regarding prediction of red tide, shellfish closures, and beach advisories (e.g. expand the SC Beach Water Quality Model into other SECOORA states) and increasing awareness of SECOORA activities and capabilities to state and national beach associations (e.g. American Shore & Beach Preservation Association; NC Beaches, Inlets, and Waterways Association; FL Beach Preservation Association). The RCOOS PIs meeting included showcasing the progress of PI projects and their engagement of stakeholders; see [presentations](#).

## Scope of Work

**Scope of work remains as proposed for Year 2. Funding for the Education and Outreach component remain unfunded as outlined in the revised scope of work for Year 2.**

## Personnel and Organizational Structure

No major changes in SECOORA personnel or organizational structure were made during this reporting period. At the May 2013 annual meeting we held the election for the Board of Directors. Roger Pugliese, SAFMC (Nonprofit/agebdt Institutional member), Lisa Adams, KSU (GA At-Large Seat), John Proni, FIU (FL At-Large seat), Conrad Lautenbacher, Geo Optics, Inc (Public Seat) and Nick Shay, UM (Sustaining member) were elected to the Board. Cliff Merz (USF), Shirley Pomponi (FAU), Bob Van Dolah (SCDNR), Jim Nelson (SKIO), Pat Welsh (UNF), Georges Weatherly (FSU) are rotating off the Board of Directors at the end of June 2013.

## Budget Analysis

SECOORA's financial records as of March 31, 2013 shows over \$1.7M of Year 1 funds and \$450K of Year 2 funds have been expensed. We are within budget and on track with spending. IOOS Year 2 funds are being drawn down rapidly. There were three six month no cost extensions, one seven month no cost extension, and six one year no cost extensions granted to sub-awardees. SECOORA continues to receive invoices regularly from our sub-awardees and we process them at one of two bi-monthly meetings. All invoices are paid within forty-five days. SECOORA continues to draw from ASAP monthly. As a reminder SECOORA pays out its monthly operational costs (i.e. payroll, etc.) and then conducts the ASAP draws in the middle of the following month for both the preceding month's operation expenses and the sub-awardee invoices.

## Publications and Presentations

- Liu, Y. and R.H. Weisberg, and C.R. Merz (2013), Assessment of CODAR and WERA HF Radars in Mapping Currents on the West Florida (submitted for publication)
- Zheng, L. and R.H. Weisberg (2012), Modeling the West Florida Coastal Ocean by Downscaling from the Deep Ocean, Across the Continental Shelf and into the Estuaries, *Ocean Modeling*, 48 (2012), 10 - 29, doi:10.1016/j.ocemod.2012.02.002.
- Weisberg, R.H., L.Zheng, Y.Liu, C. Lembke, J.M. Lenes and J.J. Walsh (2013), Why a red tide was not observed on the West Florida Continental Shelf in 2012. *Harmful Algae* (in press)
- Putnam, N.F and R. He (2013), Tracking the Long-distance Dispersal of Marine Organisms: Sensitivity of Ocean Model Resolutions, *Journal of the Royal Society Interfaces*, doi:10:20120979
- Xue, Z, R. He., Fennel, K., Cai, W.J., S. Lohrenz (2013), Modeling Ocean Circulation and Biogeochemical Variability in the Gulf of Mexico, *Biogeosciences Discuss*, 10, 7785-7830.
- Tang, Q., L. Xie, G. M. Lackmann, and B. Liu, 2013: Modeling the impacts of the large-scale atmospheric environment on inland flooding during the landfall of Hurricane Floyd (1999). *Advances in Meteorology*, in press.
- Li, R., L. Xie, B. Liu, and C. Guan, 2013: On the sensitivity of hurricane storm surge simulation to domain size. *Ocean Modelling*, 67, 1-12.

## June 2013 SECOORA Annual Supplemental Information

### Education and Outreach Activities (IOOS Education and Outreach Inventory Tool)

As advised/instructed, during this reporting period, we used the [2012-2013 IOOS Cloud/Education and Outreach](#) Inventory Tool (Google Collaboration tool spread sheet) and entered the SECOORA Education and Outreach activities.

### Regional Ocean Governance Organization Activities

#### Staff fiscal activities:

- Provided fiscal and overall project management for Year 1 and Year 2 awards, and continued to manage primary partner institutions sub-awards.
- Held bi-monthly administration meetings to ensure efficient and effective fiscal operations.
- A part time bookkeeper (Chiaki Kight) and business manager (Megan Lee) managed the contracts and financials for these awards.
- SECOORA staff held a staff retreat at Charleston, Feb 4 -5, 2013
- Megan Lee attended and completed five week on-line grant management course entitled Accountability for Federal Grants: Planning, Measuring, & Reporting Grant Performance (through Management Concepts).
- Federal Financial Report for IOOS funds was submitted during this reporting period.
- Preparations are underway for FY13 SECOORA A-133 audit.
- We have recruited four new SECOORA members: Florida Gulf Coast University (FGCU), SRI International, Liquid Robotics and HACH Hydromet.

#### SECOORA Board and PI Coordination

- Continued to hold monthly conference calls with RCOOS PIs to ensure in-reach, coordination and collaboration within each RCOOS subcomponent and among PIs. Also held DMAC activities prioritization and coordination meetings and calls.
- Executive Committee continued to meet monthly. The Finance and Audit Committee met every quarter. Board conference calls were held when needed.
- Held Board meeting (Dec 5-6, 2012 – Atlanta), SECOORA data management meeting (Virtual – Dec 17, 2012), and SECOORA annual Members, Board and PIs meetings (May 13-15, 2013 – Jacksonville). Presentations and 2013 annual meeting materials can be accessed via [SECOORA May meeting web site](#).

#### External Coordination Activities:

- Coordinated and held the SECOORA/GSAA Regional Information Management System Meeting in Jacksonville (May 1 - 3, 2013).
- Executive Director continued to participate on monthly “Partner Arm” calls of the GSAA.
- Participated in monthly IOOS Association and IOOS conference calls, including Debra Hernandez participation on the IOOS Association Executive Committee.
- Debra Hernandez and Dick Dodge attended the IOOS Association Spring Meeting held in DC (March 2013).
- Debra attended the NCA Climate study meeting and Coastal Hazards summit meeting.
- Debra is working with IOOS Program office on the design of a “marketplace”, which will be a web-based database that will organize user requirements for IOOS products and services.
- Vembu held meetings with National Weather Service, Tampa office on Marine Weather Portal and attended Weather Ready Nation stake holders meeting held at St. Petersburg
- Vembu delivered talks at West Central Florida American Meteorological Society Chapter March 2013 meeting and at University of Tampa Physical Oceanography class on SECOORA and IOOS
- Vembu attended the USF C-IMAGE (GoMRI funded effort) data management meeting to explore collaborations.
- Vembu along with Matt Howard (GCOOS-RA) and Hassan Moustahfid (IOOS PO) organized and hosted the Second in-person meeting of the IOOS Biological Data Project in SECOORA and GCOOS-RA at St. Petersburg (March 21-22, 2013)

### Efforts to leverage IOOS Funding

- Continued partnership with the NERRS CDMO, SCDNR on Biological project and NANOOS and IOOS on Eye on Earth.
- Continued partnership with GSAA, and launched of a Regional Information Management System portal for the GSAA.
- The Principal Investigators that we receive SECOORA sub-award also leverage either their institutional funds or external grants on carrying out their projects.

## Update to RA Membership, Board of Directors and Committee Members

### RA Membership

During this reporting period, the following four organizations joined SECOORA members:

- [Department of Marine Ecological Sciences, Florida Gulf Coast University](#) – Institutional Member
- [SRI International, St. Petersburg, FL](#) – Institutional Member
- [Liquid Robotics](#) – Institutional Member
- [HACH Hydromet](#) – Individual Member

### Board of Directors

The following Board Members are rotating off of the SECOORA Board of Directors at the end of June 2013:

Cliff Merz - USF

Shirley Pomponi - HBOI

Bob Van Dolah -SCDNR

Jim Nelson - SKIO

Pat Welsh - UNF

Georges Weatherly - FSU

The following members were elected to serve on the SECOORA board (starting July 1, 2013) at the May 2013 Board meeting:

Roger Pugliese, South Atlantic Fishery Management Council - NGO Institutional Member

Lisa Adams, Kennesaw State University - GA At-Large Seat

John Proni, FL International University - FL At-Large Seat

Conrad Lautenbacher, Geo Optics, Inc. - Public Seat

Nick Shay, University of Miami, RSMAS - Sustaining Member

### SECOORA Committees

#### Finance and Accounting Committee: Chair: Conrad Lautenbacher

Members:

Rick DeVoe – South Carolina Sea Grant Consortium

John Proni – Florida International University

Cliff Mertz – University of South Florida

Peter Sheng – University of Florida

#### Board Development Committee: Chair: Mitchell Roffer

Members:

Peter Hamilton

Michael Heithaus

Nick Shay

Bob Van Dolah

#### Funding Diversification Ad-Hoc Committee: Chair: Rick DeVoe

Members:

Conrad Lautenbacher

George Voulgaris

Steven Woll

Cliff Merz

Lynn Leonard

John Proni

#### Education and Outreach Committee: Chair: Lisa Adams

Members:

Angela Bliss

Chris Simoniello

Pat Welsh

Quint White

Meghan Buckley

**Note:** The RA membership, Board of Directors and Committee members are on the SECOORA web site, which is updated on July 1 of every year and periodically updated as and when necessary, and provided in IOOS PO template in Appendix A.

**Appendix A: Updates to SECOORA Board Membership**

Region	Type of Governance	Distribution of Governance Board Membership								Total Number of Board Members
		Government				Non-Government			Foreign (all sectors)	
		State*	Local	Tribal	Federal	Research Institute	Industry	NGO**		
SECOORA	501(c)(3)	1				10	4	2		17

\* includes Sea Grant and territorial governments

\*\* includes Fishery Management Councils

\*\*\* "bi-national" International Joint Commission