



## Progress Report

**Project Title:** Southeast Coastal Ocean Observing Regional Association (SECOORA):  
Delivering actionable coastal and ocean information from high-quality science and observations for the  
Southeast

**Award number:** #NA21NOS0120097

**Period of Activity:** 7/01/2021 – 12/31/2021

**Principal Investigator(s):** Debra Hernandez, SECOORA Executive Director

\*Annual Addendums are included as appendices, linked via Google Drive worksheets, or are uploaded as separate files in Grants Online. All addendums are referenced within the progress report.

### I. PROJECT MILESTONES:

Milestone Table. Milestones from the SECOORA Year 1 Descope table are identified by SECOORA subsystem in Section II Progress and Accomplishments. High-level milestones/deliverables, accomplishments and any issues are included for each project. Status of each milestone/deliverable is reported as complete, on-track, or delayed. If the milestone is delayed, a justification for the delay and description of activities employed or to be employed to mitigate the delay are provided.

### II. Progress and Accomplishments

Project and Task(s)	Status
<b>GOVERNANCE SUBSYSTEM</b>	
<b>Maintain the SECOORA governance and operational structure through implementation of SECOORA <a href="#">bylaws</a> and <a href="#">Strategic Plan</a>.</b>	
This is an on-going requirement for SECOORA. <ul style="list-style-type: none"> <li>The SECOORA Annual meeting was hosted 12/2/21 and the SECOORA Board meeting was hosted 12/3/21 in St. Petersburg, FL. The Annual meeting had two focal areas: 1) HABs in the southeast region; and 2) DEI in Ocean Sciences. The Board meeting included a roundtable discussion with the SECOORA, MARACOOS, and GCOOS executive directors to identify overlapping regional priorities. Opportunities for collaboration were identified. Number of attendees: 50 in person, 44 virtual.</li> </ul>	On-track
<b>Maintain SECOORA’s certification as a RICE</b>	
<ul style="list-style-type: none"> <li>SECOORA Data Sharing Plans are reviewed and updated annually. Draft data sharing plans for new observing systems (e.g., water level sensor network) are due in January.</li> </ul>	On-track



<p>All data sharing plans are found on the SECOORA certification webpage: <a href="https://secoora.org/certification/">https://secoora.org/certification/</a>, section III. Data Management and Cyberinfrastructure, Appendix F.</p>	
<p><b>Update the SECOORA RCOOS Plan</b></p>	
<ul style="list-style-type: none"> <li>• An update to the HF Radar (HFR) Plan is currently underway with assistance from PIs. This document will provide overall guidance on HFR operations, siting requirements, and priority locations for any new HFR funding. Anticipated completion is 2/28/2021.</li> <li>• SECOORA is drafting a Harmful Algal Bloom (HABs) Plan which is being reviewed by regional HABs experts. This document will be used to guide SECOORA investments in HABs observing by identifying regional hotspots or priority locations and HABs species of concern.</li> </ul>	<p>On-track</p>
<p><b>OBSERVING SUBSYSTEM</b></p>	
<p><b>HF Radar Operations &amp; Maintenance</b></p>	
<p>SECOORA HF Radar (HFR) operators provide surface current data in near real-time from 20 HFRs with a targeted up-time of 85%. Hourly data is provided to SECOORA and to the <a href="#">HFR National Network</a>. Operational and quality metrics are routinely checked. These include assessment of daily variations in coverage and uptime using metrics such as database latency, range of coverage, and number of solutions as implemented by the National HFR Network. The SECOORA HFR network supports both operational and research communities by providing high quality, ocean surface current data in near real-time. PIs in the SECOORA region operate CODAR and WERA systems. Core funding and Fill the Gaps funding for SECOORA HFR operations totals: \$680,000</p> <p>HFR operators, system status, and IT infrastructure information by site is available here: <a href="https://docs.google.com/spreadsheets/d/1L1w00TPG1K7xXyh_iXXw6T7JaGT8rLZwnZMWfrnIXOI/edit?usp=sharing">https://docs.google.com/spreadsheets/d/1L1w00TPG1K7xXyh_iXXw6T7JaGT8rLZwnZMWfrnIXOI/edit?usp=sharing</a></p> <p><b>Annual HFR reports</b></p> <ul style="list-style-type: none"> <li>• Annual Staffing Report: <a href="https://docs.google.com/spreadsheets/d/1dC4Tgh7x1BRLcFL62urO3sbWwp6FEUteO-c0J5OgwEw/edit?usp=sharing">https://docs.google.com/spreadsheets/d/1dC4Tgh7x1BRLcFL62urO3sbWwp6FEUteO-c0J5OgwEw/edit?usp=sharing</a></li> <li>• Annual HFR Expenditures Report is uploaded to Grants Online as a separate Excel file.</li> </ul>	<p>On-track</p>
<p><b>SECOORA Glider Network</b></p>	
<p>The SECOORA glider team includes Skidaway Institute of Oceanography (SkIO), University of South Florida (USF), UNC-Chapel Hill (UNC-CH), and Georgia Tech. The goal for the team is to conduct 4 SECOORA glider missions annually. See table <b>IOOS, NOAA, Other Agency Funding</b> for details on hurricane glider missions and Navy glider support.</p> <p>Accomplishments:</p> <ul style="list-style-type: none"> <li>• Three missions for a total of 85 days at sea were completed during the reporting period. Mission details are provided in the table below.</li> </ul>	<p>On-track</p>

Team Lead	Glider Name	Deployment Date	Recovery Date	Days in Water
SkIO	Salacia	9/25/21	11/2/21	38
USF	Bass	10/21/21	11/17/21	26
SkIO	Angus	11/10/21	12/1/21	21

- Georgia Tech continues to develop the glider piloting software, GENIoS, including the development of new visualization tools for glider navigation. The team developed a neural-network based belief abstraction algorithm for state estimation in glider navigation tasks, and is developing an integrated task and motion planning algorithm for missions in unknown environments. Currently the software and tools are based on MATLAB but Python versions are in development.
- Data from the glider missions were incorporated into Navy and NOAA models, including RTOFS (operational ocean model coupled with meteorological models for tropical storm prediction).

Issues: Nothing to report

**Sustain the SECOORA Real-Time and Non-Real-Time Mooring Network**

<p>All real-time moorings/instrumentation have a targeted up-time of 85%.</p> <p>UNCW-Wilmington (UNCW) maintains 10 real-time moorings and 1 non-real-time mooring along the coasts of NC and SC. Non-real-time data is provided to SECOORA via Research Workspace. Real-time quality-controlled (QC) data is provided to SECOORA and NDBC. UNCW also supports the FACT Network (ATN) by deploying acoustic receivers on the 4 existing Onslow Bay, NC moorings to record tagged fish passage near the receivers.</p> <p>Accomplishments – See <b>Expand the SECOORA Real-time Observing Network</b> section</p> <p>UNCW up-time statistics are for the month of December only. Up-time statistics for July – November were provided in the SECOORA progress report for award NA16NOS0120028, submitted 12/16/2021.</p> <table border="1"> <thead> <tr> <th>UNCW</th> <th>ILM2</th> <th>ILM3</th> <th>LEJ3</th> <th>SUN2</th> <th>CAP2</th> <th>FRP2</th> </tr> </thead> <tbody> <tr> <td>Air Temperature</td> <td>100%</td> <td>100%</td> <td>51%</td> <td>100%</td> <td>100%</td> <td>99%</td> </tr> <tr> <td>Air Pressure</td> <td>100%</td> <td>100%</td> <td>51%</td> <td>100%</td> <td>100%</td> <td>99%</td> </tr> <tr> <td>Wind Speed, Gust, Direction</td> <td>100%</td> <td>100%</td> <td>51%</td> <td>100%</td> <td>100%</td> <td>99%</td> </tr> <tr> <td>Salinity</td> <td>100%</td> <td>100%</td> <td>51%</td> <td>99%</td> <td>90%</td> <td>99%</td> </tr> <tr> <td>Surface Water Temperature</td> <td>100%</td> <td>100%</td> <td>51%</td> <td>99%</td> <td>90%</td> <td>99%</td> </tr> <tr> <td>Waves</td> <td>100%</td> <td>N/A</td> <td>100%</td> <td>100%</td> <td>78%</td> <td>N/A</td> </tr> </tbody> </table> <p>Note: ILM, LEJ3, SUN2, and CAP2 have two buoys on site: a met buoy and a wave buoy</p> <p>Issues:</p> <ul style="list-style-type: none"> <li>LEJ3: On 12/16/21 the LEJ3 buoy was struck by a vessel resulting in significant damage to the buoy tower and complete outage in data. On-site repairs were not feasible, and the entire buoy will be replaced as soon as a ship is available. The LEJ3 wave buoy is still onsite and reporting normally.</li> <li>CAP2WAVE: The Sofar Spotter buoy began showing issues with power supply in early</li> </ul>	UNCW	ILM2	ILM3	LEJ3	SUN2	CAP2	FRP2	Air Temperature	100%	100%	51%	100%	100%	99%	Air Pressure	100%	100%	51%	100%	100%	99%	Wind Speed, Gust, Direction	100%	100%	51%	100%	100%	99%	Salinity	100%	100%	51%	99%	90%	99%	Surface Water Temperature	100%	100%	51%	99%	90%	99%	Waves	100%	N/A	100%	100%	78%	N/A	<p>On-track</p>
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December 2021 causing the buoy to intermittently telemeter data.																																
<p>USF maintains 2 real-time moorings (C10 and C12) and 2 non-real-time moorings (C11 and C15). All moorings are located on the West Florida Shelf. QC flags based on QARTOD standards are provided to SECOORA with real-time data. Real-time data flows to SECOORA and NDBC. Non-real-time data are shared via Research Workspace. USF supports the FACT Network (ATN) by deploying acoustic receivers on two USF buoys (C12 and C22) to record tagged fish passage near the receivers.</p> <p>USF up-time statistics are for the month of December. Up-time statistics for July – November were provided in the SECOORA progress report for award NA16NOS0120028, submitted 12/16/2021.</p> <table border="1"> <thead> <tr> <th>USF</th> <th>C10</th> <th>C12</th> </tr> </thead> <tbody> <tr> <td>Wind</td> <td>97%</td> <td>94%</td> </tr> <tr> <td>Air Pressure</td> <td>97%</td> <td>94%</td> </tr> <tr> <td>Water Temperature</td> <td>97%</td> <td>94%</td> </tr> <tr> <td>Salinity (Surface)</td> <td>97%</td> <td>94%</td> </tr> <tr> <td>Air Temperature</td> <td>97%</td> <td>94%</td> </tr> <tr> <td>Relative Humidity</td> <td>97%</td> <td>94%</td> </tr> <tr> <td>Longwave Radiation</td> <td>97%</td> <td>N/A</td> </tr> <tr> <td>Shortwave Radiation</td> <td>97%</td> <td>N/A</td> </tr> <tr> <td>Currents</td> <td>97%</td> <td>63%</td> </tr> </tbody> </table> <p>Issues:</p> <ul style="list-style-type: none"> <li>The C12 ADCP failed at the bulkhead connector to data transmission cable interface, causing the battery to short out followed ultimately by instrument failure. The ADCP has been replaced and the transmissions are on track again.</li> </ul>		USF	C10	C12	Wind	97%	94%	Air Pressure	97%	94%	Water Temperature	97%	94%	Salinity (Surface)	97%	94%	Air Temperature	97%	94%	Relative Humidity	97%	94%	Longwave Radiation	97%	N/A	Shortwave Radiation	97%	N/A	Currents	97%	63%	
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<b>Expand the SECOORA Real-time Observing Network</b>																																
<p>UNCW to site, deploy, and maintain a wave buoy near the CAP2 met buoy.</p> <p>Accomplishments:</p> <ul style="list-style-type: none"> <li>SECOORA and UNCW worked with the IOOS Environmental Compliance coordinator to complete the NEPA process and receive approval for the mooring from the USACE Charleston office.</li> <li>UNCW sited and deployed 1 SoFar wave buoy near the existing CAP2 met buoy on 7/5/2021. Data from this buoy, named <a href="#">CAP2Wave</a>, are flowing to SECOORA and NOAA NDBC.</li> <li>CAP2Wave buoy statistics are included in the UNCW statistics for the month of December in the above section.</li> </ul>		On-going																														
<p>UNCW to site, deploy, and maintain Charleston Harbor, SC buoys (met and wave buoys)</p> <p>Accomplishments:</p> <ul style="list-style-type: none"> <li>In late October, the project team members met with representatives from the SC Port Authority and Charleston Pilots Association to finalize the locations for the met and</li> </ul>		Delayed																														

<p>wave buoys.</p> <ul style="list-style-type: none"> <li>• UNCW and SECOORA completed NEPA documentation for the Charleston Harbor buoys and submitted to the IOOS Environmental Compliance Coordinator on 12/21/21.</li> </ul> <p>Issues:</p> <ul style="list-style-type: none"> <li>• The USACE compliance process is taking longer than anticipated due to an exceedingly slow response time from the USACE Charleston office. For a previous UNCW buoy deployment, NOAA/IOOS facilitated the conversation with the USACE Charleston office and received very timely responses.</li> <li>• UNCW and SECOORA have been informed that we can no longer expect assistance from NOAA/IOOS for USACE consultation. This will negatively impact UNCW's ability to meet the deployment schedule of March 2022 for the Charleston Harbor Buoys.</li> <li>• Given that USACE is a formal IOOS partner agency, improving the process for permitting/approvals is critical to this and other IOOS funded projects. USACE is not issuing a permit for this and other buoys deployed in federal waters, but instead emails a statement stating that the buoy operator must comply with NWP 5. This email statement is required in order to receive a USCG Private Aid to Navigation permit.</li> </ul>	
<p>RD Sea International plans to site and permit two buoys off the east coast of Florida based on stakeholder identified gaps in mooring data. Buoy deployments are planned for Years 2 and 3.</p> <p>Accomplishments:</p> <ul style="list-style-type: none"> <li>• Project meeting with Steven Lazarus, Florida Institute of Technology (FIT), to look at the Treasure Shores and proposed Hightower Beach Park HFR offshore coverage area. The goal is to deploy one new buoy within the overlapping footprint of the two HFR.</li> <li>• RD Sea contacted the USCG District #7 PATON manager to identify permitting requirements.</li> </ul> <p>Issues:</p> <ul style="list-style-type: none"> <li>• The contract between RD Sea and SECOORA was not fully executed until 9/21/2021, resulting in a three-month delay in the project start date. Identification buoy site 2 will occur during the next reporting period.</li> </ul>	On-track
<p>Water Level Initiative: The SECOORA water level team includes the American Shore and Beach Preservation Association (ASBPA)/Hohonu, Coastal Carolina University (CCU), Georgia Tech, and Florida International University (FIU). The team is in the process of siting and deploying 66 water level sensors within the SECOORA region in Year 1.</p> <p>Accomplishments:</p> <ul style="list-style-type: none"> <li>• NEPA approval for the Year 1 sensor deployments was submitted in September. Approval was received at the end of November.</li> <li>• Project teams installed sensors at the test location in Fernandina Beach, FL. This site is being used to evaluate water level data against an existing, co-located NWLON station.</li> <li>• Water Level Advisory committee was established to guide the project. Quarterly meetings are on-going.</li> <li>• Georgia Tech is collaborating with key governmental and community stakeholders in</li> </ul>	On-track

<p>Camden and Glynn counties. The team met with county officials and the Brunswick Environmental Justice Advisory Board about the expansion of water level sensors throughout coastal GA.</p> <ul style="list-style-type: none"> <li>• FIU has installed 5 of 8 water level and salinity stations in south Florida – 3 sensors in Coral Gables, 1 in Miami, and 1 in Hollywood. The team will work with Axiom to share the data during the next reporting period. The team is also incorporating a citizen science flood monitoring program. Flood monitoring events were conducted in October and November.</li> <li>• ASPBP/Hohonu has installed 3 of 15 water level sensors in South Carolina – specifically, Port Royal Sound, City of Beaufort, and North Myrtle Beach. The team also installed 12 sensors in North Carolina – Currituck County, Town of Holden Beach, Village of Bald Head, Kure Beach, Town of Duck, Topsail Beach, Surf City, Avon, South Core Banks, Hyde County, Ocean Isle Beach, and Indian Beach. Finally, 2 water level sensors were installed in Lee County, FL. All stations are currently being surveyed to NAVD88.</li> <li>• CCU is planning a stakeholder workshop for 2/11/22. This workshop will be used to help identify Year 2 water level sensor locations.</li> </ul> <p>Issues:</p> <ul style="list-style-type: none"> <li>• Project team contracts were not fully executed until October 2021 and NEPA approvals were not received until late November 2021; therefore, the project team kick off was 5 months delayed. The team will review the deployment schedule in January 2022 to determine if all 66 stations can be installed by 6/30/22.</li> </ul>	
<p><b>SECOORA Biological Data Collection</b></p>	
<p>University of South Carolina Beaufort (USCB) - Operate and maintain the SC estuarine soundscape observatory using 9 passive acoustic recorders.</p> <ul style="list-style-type: none"> <li>• Acoustic receivers capture 2-minute recordings every hour.</li> <li>• Routine (monthly) sensor cleaning and maintenance were conducted.</li> <li>• Analysis of sound files to determine soundscape patterns in South Carolina estuaries is on-going.</li> </ul> <p>Accomplishments: USCB lead PI, Eric Montie, is working with Chris Kehrer at the Port Royal Sound Maritime Center to create a bottlenose dolphin exhibit that will highlight the passive acoustic monitoring and visual survey program in SC estuaries.</p> <p>Issues: Nothing to report</p>	<p>On-track</p>
<p><b>DMAC AND MODELING &amp; ANALYSIS SUBSYSTEMS</b></p>	
<p><b>SECOORA DMAC subsystem</b></p>	
<p>Axiom Data Science is the SECOORA data management team. Axiom provides the following support on an on-going, annual basis:</p> <ul style="list-style-type: none"> <li>• Ongoing maintenance, operation, and development of SECOORA cyberinfrastructure to</li> </ul>	<p>On-track</p>

<p>sustain long-term data stewardship for our partners and stakeholders.</p> <ul style="list-style-type: none"> <li>• Promote data standardization and automation through Research Workspace and standardized data ingestion processes for SECOORA-operated and non-SECOORA data assets, including moored sensors, ship-based sensors, gliders, HFR, models, and historical legacy time series data sets.</li> <li>• Promote data discovery and public access through the SECOORA data catalog and data portal.</li> <li>• Strengthen data stewardship within SECOORA to improve data quality, access, attribution, exchange, delivery, and storage.</li> <li>• Implement real-time sensor QARTOD compliant quality control systems.</li> <li>• Annually archive physical oceanographic, biogeochemical, and meteorological data with NOAA’s NCEI.</li> </ul> <p><b>Required Annual Reports:</b></p> <ul style="list-style-type: none"> <li>• SECOORA/Axiom DMAC Annual Report is found in Appendix A.</li> <li>• SECOORA Asset Inventory is uploaded as a separate file in Grants Online due the file format.</li> </ul>	
<b>CNAPS Model</b>	
Issue: Due to contract negotiations regarding product/software development and intellectual property language, SECOORA does not have a fully executed contract with NCSU or Fathom Science.	Delayed
<b>WFS Model</b>	
Both the West Florida Coastal Ocean Model (WFCOM) and the Tampa Bay Coastal Ocean Model (TBCOM) daily nowcast/forecast systems have been maintained consistently during the reporting time period, producing simulated currents, temperature and sea surface height fields with an “up time” of 100%. Model output: <a href="#">WFCOM</a> and USF maintains a THREDDS server with access to netCDF files for <a href="#">TBCOM</a> output.	On-track
<b>AI Portal</b>	
Florida Wildlife Research Institute (FWRI) and Axiom are building an artificial intelligence annotation data portal (AI portal). The team is currently identifying existing standards, tools, and resources for AI development (e.g., <a href="#">NIST documentation</a> ). The team maintains a Google drive folder with a list of identifiable domain experts, marine AI stakeholders, and associated project resources. Axiom team members are registered to attend the ESIP January 2022 meeting including sessions on creating AI ready datasets and FAIR within an AI context.	On-track
<b>SEAMAP-SA Data and Analysis</b>	
<ul style="list-style-type: none"> <li>• The SC Department of Natural Resources (SCDNR) and Axiom are improving and expanding biological data analysis tools for the SECOORA data portal. The initial focus is to convert all current survey tagging data, turtle data, supplementary survey life history data (e.g., diet), and accompanying code tables into DarwinCore format for</li> </ul>	On-track

<p>ingestion into the SECOORA data portal.</p> <ul style="list-style-type: none"> <li>The SEAMAP-SA Surveys (Coastal Trawl Survey, Reef Fish Survey, Pamlico Sound Survey, and Coastal Longline Surveys) completed their sampling efforts for 2021 during this reporting period. Data QA &amp; QC efforts have begun. We anticipate data from the new sampling year for each survey to be delivered to Axiom during the next reporting period. The surveys are funded by SEAMAP-SA, MARMAP, and the Southeast Fisheries Science Center.</li> </ul>	
<b>OUTREACH, ENGAGEMENT, PRODUCT DESIGN SUBSYSTEM</b>	
<b>Support Community Driven Networks</b>	
See "NOAA, IOOS, Other Agency Funding" table	
<b>SECOORA Outreach and Engagement &amp; Student Engagement</b>	
See "Section V. EDUCATION, MEDIA ENGAGEMENT, AND OUTREACH MATERIALS"	On-track
<b>Product Development</b>	
A new project team comprised of representative from three existing products, How's the Beach (University of South Carolina), ShellCast (NC State University), and Beach Condition Reporting System (BCRS, Mote Marine Lab) are working to consolidate into one regional water quality product. The project team is conducting a stakeholder needs assessment in South Carolina and North Carolina to better understand how stakeholders want to receive data and information. The team is also addressing technical capabilities required for data sharing between products (e.g., BCRS sharing beach water quality data to the How's the Beach app and website).	On-track
The Situational Awareness Tool (UNCW) will support weather forecasters and ocean rescue groups. Initial design discussions have been held with NWS offices and Wrightsville Beach Ocean Rescue. Development of a prototype of the tool is underway.	On-track
Water Level Initiative User Interface (SECOORA) is tied to the water level initiative (see Observing Subsystem section). Due to delays in access to IOOS Year 1 funds, the interface development start date was pushed to January 2022. The project team will begin product needs/requirements identification as a first step.	Delayed

<b>IOOS, NOAA, Other Agency Funding</b>		
See Google Drive worksheet for funding level and invoicing through 12/31/21 for each project: <a href="https://docs.google.com/spreadsheets/d/1kCMuWvrs4PtFjTrgWwyQXBj-YcVCYdavg4ywu1Ttfmg/edit?usp=sharing">https://docs.google.com/spreadsheets/d/1kCMuWvrs4PtFjTrgWwyQXBj-YcVCYdavg4ywu1Ttfmg/edit?usp=sharing</a>		
<b>Funding</b>	<b>Funding Area/Recipient</b>	<b>Task and status update</b>
Provided \$ 350,000	Restoration/CETACEAN, Lead PI	Status: On-track



	Lauren Showalter, Axiom Data Science	<p>Accomplishments: Proof of concept portal developed and approved by CETACEAN Executive and Steering Committees. Axiom is now developing:</p> <ul style="list-style-type: none"> <li>• A customized user interface.</li> <li>• A pipeline to ingest data types including marine mammal stock, health, telemetry, photo ID, genetics, acoustics, stranding, physical oceanography, fisheries and aquaculture, human interactions, and other relevant data (on-track).</li> <li>• An end-to-end data management strategy for identifying, curating, documenting, and archiving CETACEAN products (on-track).</li> </ul> <p>Issues: None</p>
\$244,444	Regional Ocean Partnership, Lead PI Debra Hernandez, SECOORA	<p>Status: Delayed</p> <p>Accomplishments: Initial brainstorming regarding water level product development is underway along with assessment of subject matter experts, specifically the members of the Water Level Advisory Committee.</p> <p>Issues: Water-level products abound, necessitating thorough user assessment before a contractor is tasked with design requirements. Additionally, prior year funding is still being expended.</p>
\$10,000	SECOORA/OMAO funding to support Navy glider missions, Lead PI Catherine Edwards, UGA SkIO	<p>Status: Delayed</p> <p>Accomplishments: Nothing to report since prior year funding is still being expended. See progress report for NA16NOS012008.</p> <p>Issues: The burn rate for Navy glider support is dependent on the timing of Navy glider missions and their need for support. We anticipate using the \$10,000 in funding provided in this new award for summer or fall 2022 Navy glider missions.</p>
\$10,000	UNC-Chapel Hill, Lead PIs Brian Blanton & Rick Leuttich	<p>Status: On-track</p> <p>Accomplishments: The project team is computing a long-term (41 year) reanalysis of coastal water levels for the US eastern and Gulf of Mexico coasts. A recent data assimilation scheme for the ADCIRC model allows for corrections to model predictions based on errors between a prior solution and observations of water levels. Using NOAA/NOS gauge observations, time-series of prior errors are processed to compute a daily sequence of dynamic water level correction surfaces on the ADCIRC grid. The team prepared the meteorological forcing (ECMWF's ERA5) for the entire simulation area, computed several short (1 year) test simulations, and then computed the 41-year prior solution. The simulations were conducted on RENCIs high-performance cluster</p>

		<p>in 13-month “annual” chunks where the previous year’s December was used at the spin-up period for tides and meteorology. Each 13-month simulation took approximately 72 wall hours on 512 cores, with 3-4 concurrent runs.</p> <p>The main project deliverable is the resulting 41-year dataset of coastal water levels on the ADCIRC grid. Each year is stored in netCDF and posted to RENCi’s primary THREDDS Data Server at the following URL:  <a href="http://tds.renci.org:8080/thredds/catalog/Reanalysis/ADCIRC/ERA5/hsofs/catalog.html">http://tds.renci.org:8080/thredds/catalog/Reanalysis/ADCIRC/ERA5/hsofs/catalog.html</a></p> <p>The processed ERA5 meteorology is also posted at:  <a href="http://tds.renci.org:8080/thredds/catalog/Reanalysis/Forcing/Winds/ERA5/catalog.html">http://tds.renci.org:8080/thredds/catalog/Reanalysis/Forcing/Winds/ERA5/catalog.html</a></p> <p>Issues: None</p>
\$190,000	UNC-Chapel Hill, Lead PIs Brian Blanton & Rick Leuttich	SEE ABOVE – this is one project with two funding lines.
\$10,500	SECOORA – SECART support for:  1) SCDRP Coordinator, PI Meredith Hovis  2) SE Shellfish workshop, PIs AK Leight & John Schmidt	<p>1) Status SCDRP: On-Track</p> <p>Accomplishments SCDRP: Four Partnership meetings and 7 Advisory Board meetings were hosted. Hovis assisted in organizing the Annual Meeting Steering Committee by conducting meetings with speakers and sponsors, setting up registration and website pages, and identifying meeting times and virtual space. Hovis maintained communication with the Partnership Google Group listserv participants and members through emails and publicized and recruited new participants weekly via social media outlets.</p> <p>Issues SCDRP: None</p> <p>2) Status Shellfish Workshop: On-Track</p> <p>Accomplishments Shellfish Workshop: Meeting planning to begin in January 2022 with goal of hosting an in-person meeting in summer 2022.</p> <p>Issues Shellfish Workshop: None</p>
\$90,000	Filipe Fernandes	<p>Status: On-Track</p> <p>Accomplishments: Assisted with the development of IOOS documentation by archiving old notebooks and moving into one notebook with JupyterBook. Updated Google Analytics trackers</p>

		<p>and interactive maps. Improved automation on IOOS GitHub and fixed metadata. Updated and improved software packages.</p> <p>For more details, see report submitted to SECOORA and the IOOS program office - <a href="https://docs.google.com/document/d/1LxeAbjrtbzqG0Zjvw4vnzUL-ZIYiGiO81nuvoQZKtXU/edit#">https://docs.google.com/document/d/1LxeAbjrtbzqG0Zjvw4vnzUL-ZIYiGiO81nuvoQZKtXU/edit#</a></p> <p>Issues: None</p>
\$41,365	Ocean Acidification, Lead PI Scott Noakes, UGA	<p>Status: Delayed</p> <p>Accomplishments: See progress report for NA16NOS0120028 submitted 12/16/2021 for most recent updates.</p> <p>Issues: Funding for this project was not in place until November 2021; therefore, work did not start until December 1, 2021. Several scheduled trips to the buoy were cancelled due to weather, personnel availability, and COVID concerns. The project team will be on track by next reporting period.</p>
\$30,000	Ocean Acidification, SOCAN Network, Lead PIs Emily Hall (Mote Marine Lab) and Janet Reimer	<p>Status: On-track</p> <p>Accomplishments: The SOCAN team:</p> <ul style="list-style-type: none"> <li>• Set up and maintained a Twitter account to increase its social media presence.</li> <li>• Developing a full proposal for the NOAA-NOS-NCCOS-2022-2006972 opportunity: Understanding multi-stressor impacts on marine ecosystems under climate change</li> <li>• Convened a stakeholder workshop on December 1, 2021. Participants and speakers included scientists, students, resource managers, educators, aquaculture industry representatives, and tribal representatives. Discussions are being turned into a meeting summary that will be presented to the OA Interagency Working Group as the Southeast's contribution to the national report.</li> </ul> <p>Issues: None</p>
\$10,000	Florida Atlantic University (FAU), HFR support, lead PI Bill Baxley	<p>Status: Delayed</p> <p>Accomplishments: Nothing to report</p> <p>Issues: PI has not provided SECOORA with a list of items to purchase for the HFR systems. Will continue following up with PI in 2022.</p>
\$10,000	SECOORA/ROWG Meeting support, Lead PI Mike Muglia, ECU	<p>Status: Delayed</p> <p>Accomplishments: Nothing to report</p>

	Coastal Studies Institute	Issues: The ROWG meeting planning team decided to delay the meeting until late 2022 in hopes of being able to host an in-person event.																				
\$110,000	Fill the Gaps – Glider one-time support for hurricane missions, Lead PI Catherine Edwards, UGA SkIO	<p>Status: On-track</p> <p>Accomplishments: Conducted three SECOORA glider missions for a total of 38 days at sea. SkIO, USF, and SECOORA participate in weekly Hurricane Glider team calls led by the IOOS office.</p> <table border="1"> <thead> <tr> <th>Team Lead</th> <th>Glider Name</th> <th>Deployment Date</th> <th>Recovery Date</th> <th>Days in Water</th> </tr> </thead> <tbody> <tr> <td>SkIO</td> <td>Pelagia</td> <td>7/6/21</td> <td>7/14/21</td> <td>7.5</td> </tr> <tr> <td>SkIO</td> <td>Franklin</td> <td>7/29/21</td> <td>8/26/21</td> <td>28</td> </tr> <tr> <td>SkIO</td> <td>Pelagia</td> <td>9/7/21</td> <td>9/9/21</td> <td>2</td> </tr> </tbody> </table> <p>Issues: Gliders Pelagia and Franklin experienced equipment malfunction and/or damage.</p> <ul style="list-style-type: none"> <li>• Pelagia experienced a mission ending buoyancy pump failure. The glider is at UNC-CH to see if technicians can fix the problem.</li> <li>• Franklin suffered damage to the CTD with the pump failing midway through the mission.</li> </ul>	Team Lead	Glider Name	Deployment Date	Recovery Date	Days in Water	SkIO	Pelagia	7/6/21	7/14/21	7.5	SkIO	Franklin	7/29/21	8/26/21	28	SkIO	Pelagia	9/7/21	9/9/21	2
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\$150,000	Harmful Algal Blooms (HABs), Lead PI Chuanmin Hu, USF	<p>Status: Delayed</p> <p>Accomplishments: Algorithm work has been carried out to develop and validate algorithms suitable for high-resolution satellite data to map and quantify Sargassum distribution and abundance.</p> <p>Issues: The contract was issued in October 2021 and the award was established at USF in November 2021. This has resulted in overall delays to the project start and first year deliverables.</p>																				
\$75,000	Marine Biodiversity Observations Network, Lead PI Neil Hammerschlag, University of Miami	<p>Status: Delayed</p> <p>Accomplishments: Nothing to report</p> <p>Issues: The contract between SECOORA and UM was delayed until October 2021. Funding will be used to support a post-doc to lead research activities. Funding delays caused a delay in posting the post-doc position. The position was advertised, and a candidate selected; however, the offer fell through. UM is in the process of re-advertising for a post-doc for this project with the goal of hiring a post-doc in March. Work will commence once the post-doc is hired</p>																				
\$75,000	SECOORA/FACT Data Wrangler, Lead PI Joy Young, Fisheries Data Solutions	<p>Status: On-track</p> <p>Accomplishments: Conducted two major telemetry data processing events. Young is working with PIs to resolve incomplete telemetry datasets.</p>																				

		Issues: None
\$80,000	Georgia Department of Natural Resources (GA DNR), Lead PI Chris Kalinowski	Status: Delayed  Accomplishments: Nothing to report  Issues: Contract not established with GA DNR for Year 1. COVID restrictions impacted project performance and the project team requested a 1 year no cost extension in Year 5 of grant NA16NOS0120028. See progress report submitted for NA16NOS0120028 on 12/16/21.
\$5,000	SECOORA/Vembu Scholarship	Status: On-track  Accomplishments: SECOORA worked with Frank Muller-Karger, USF, to submit a Hollings Scholar Opportunity related to SECOORA and the South Florida MBON. Anna Finch, 2021/22 Hollings Scholar interviewed the USF and SECOORA team on 12/15/21.  Issues: None

### III. PROJECT CHALLENGES/MODIFICATIONS:

- The overall delay in access to year 1 funding caused a cascading delay in project funding being received by PIs.
- Many meetings, such as the SOCAN Workshop, SCDRP Annual Meeting, and other partner events continue to be virtual events due to COVID related travel and meeting restrictions.
- COVID has impacted ship scheduling for the Grey’s Reef OA buoy team.
- COVID travel restrictions have increased travel costs as many universities are limiting the number of people that can ride in one vehicle (i.e. only 1-2 people per vehicle so more vehicles are needed to transport people and supplies).

### IV. PUBLICATIONS:

See Google Drive links for a Publications list and Workshops, Conferences and Symposia lists. There are two worksheets found in this file. These worksheets are updated for each progress report period: [https://docs.google.com/spreadsheets/d/1k1Z\\_u7o1TH24HyqNxFl7bpb73gYMubSpDJeD6J2XaPo/edit?usp=sharing](https://docs.google.com/spreadsheets/d/1k1Z_u7o1TH24HyqNxFl7bpb73gYMubSpDJeD6J2XaPo/edit?usp=sharing)

### V. EDUCATION, MEDIA ENGAGEMENT, AND OUTREACH MATERIALS:

- The SECOORA section of the IOOS outreach [document](#) was completed on 1/23/22.
- Details on media engagement and outreach for SECOORA staff and project PIs are found here: <https://docs.google.com/spreadsheets/d/189a6FgoOAJMvGxDxmYuf0QnEoHuPXgpNqjMWn5YFv94/edit?usp=sharing>
- SCDRP launched a Spanish language version of its website. Visit <https://www.scdrp.secoora.org/> and click on “Espanol”. Social media graphics were created and shared during Hispanic/Latinx Heritage month and Native American Heritage month. See Appendix B for examples of graphics used in social media posts.

### VI. PRODUCT DELIVERY:

- See page 8 for SECOORA funded product updates.

- The SECOORA data portal provided glider data access for 7 missions within this reporting period: [https://portal.secoora.org/-search?type\\_group=platform&page=1](https://portal.secoora.org/-search?type_group=platform&page=1)
- Eyes on Elsa was published on 7/6/21 and provided tools and information to track the hurricane as it moved across the region: <https://secoora.org/eyes-on-elsa-data-resources/>
- Doug Calh, Uof SC, developed code for eddy identification using HFR. Python and Matlab codes are available: Douglas Cahl. (2021). dougcahl/eddy\_identification\_winding: Eddy identification in HF radar surface currents (v1.0). Zenodo. <https://doi.org/10.5281/zenodo.5765640>
- Zaid Al-Attabi, Doug Cahl, and George Voulgaris, all from UofSC, developed code for wave inversion from beam forming HFR: Al-Attabi, Zaid, Douglas Cahl, & George Voulgaris. (2021). Swell and Wind Wave Radar Inversion Code (SWaveRIC): version 1.0.1 (v1.0). Zenodo. <https://doi.org/10.5281/zenodo.5159956>
- SECOORA's Text a Buoy system provides quick access to your favorite buoy. Click on the link to sign up: <https://secoora.org/text-a-buoy/>

## VII. CERTIFICATION UPDATES

- See page 1, Governance Subsystem for information related to Certification.
- SECOORA will submit its recertification documents to the IOOS office in 2022.

## VIII. BUDGET SUMMARY:

- Were the oldest ASAP TAS BETC accounting lines invoiced first?
  - This is Year 1 of the award. SECOORA is spending Year 1 ASAP TAS BETC lines first.
- Give details on any delays with initiating a contract/subaward. Note any issues with the previous year funds or other issues that occurred during the reporting period. Will this result with a work stoppage or cause significant problems with the partnership?
  - SECOORA has issued all subawards and subcontracts related to this award. Issuance of subcontracts and subawards was delayed until October 2021 as the Year 1 funds were delayed. Three contracts (NCSU, Fathom Science, Georgia Tech (for glider work only) have not been fully executed. Work has not begun for these projects.
- Give a brief update on project invoicing for the reporting period. Were there any delays with invoicing or payment?
  - Contracts were delayed so the majority of Year 1 invoices will not be received until the next reporting period.
- Provide details on any property or equipment charged directly to the award having a useful life of more than one year and an acquisition cost of \$5,000 or more per unit during the period.
  - No property was purchased during this reporting period.
- Include changes in key scientific, technical or management personnel, not included in certification.
  - No changes to personnel.
- Include changes to the organizational structure such as: changes in status or partners organizations and points of contact. As a reminder, a change to the award's Principal Investigator and a change in an award's Key Person Specified in the Application requires NOAA approval through Grants Online. Guidance for both these Award Action Requests is available on Grants Online at [http://www.corporateservices.noaa.gov/grantsonline/Documents/AAR\\_Assistance/Recipient\\_AR\\_Help.htm](http://www.corporateservices.noaa.gov/grantsonline/Documents/AAR_Assistance/Recipient_AR_Help.htm)
  - No changes to organizational structure.
- Provide an update about travel completed during the reporting period.
  - No travel has occurred on this award.
- Are there any plans to initiate a new partnership (contract or subaward) during the next reporting period?

- o In the Year 1 Descope, related to the Georgia Department of Natural Resources ATN pass through funding, SECOORA stated: *The Georgia Department of Natural Resources (GA DNR) maintains 24 existing acoustic receivers in Georgia’s nearshore and offshore waters. During Year 1, GA DNR will continue to service and maintain the array which is used to track the movement of tagged animals. Additionally, projects that expand the ATN data collection or data management efforts may also be supported. ATN activities are coordinated with the IOOS ATN program manager. Per IOOS ATN program manager request, SECOORA will issue a subaward to the University of Hawaii for ATN support. The funds for this support will come out of the GA DNR ATN line (see Appendix C). This support is within the scope of what was written in the SECOORA Year 1 project descope. This does not affect SECOORA’s core funding.*

Cost Categories	Funding Budget	Funds Expensed	Funds Remaining
Personnel	\$280,128.00	\$53,233.12	\$226,894.88
Fringe	\$75,635.00	\$12,085.14	\$63,549.86
Travel	\$16,141.00	\$0	\$16,141.00
Equipment	\$0	\$0	\$0
Supplies	\$17,692.00	\$0	\$17,692.00
Contractual	\$906,070.00	\$85,764.84	\$820,305.16
Other	\$3,111,697.00	\$56,495.11	\$3,055,201.89
Total Direct Charges	\$4,407,363.00	\$207,578.21	\$4,199,784.79
Indirect Charges	\$145,082.00	\$12,152.31	\$132,929.69
Total Amounts	\$4,552,445.00	\$219,730.52	\$4,332,714.48

## IX. SUCCESS STORIES

Success Story	Brief Description	Contact
SCDRP, Meredith Hovis	Over the past six months, SCDRP has received approximately \$10,000 in sponsorship and registration fees.	meredith@secoora.org
Robert Weisberg	In response to the discharge of wastewater from the old Piney Point fertilizer stack, USF set up a tracer model nowcast/forecast based on TBCOM. The work received wide attention from media and society, resulting in a representative from Oracle offering an award of Oracle cloud computing credit worth \$50,000.	Bob Weisberg, USF, <a href="mailto:weisberg@usf.edu">weisberg@usf.edu</a> Dr. Bryan Barker, Oracle for Research, ORACLE, <a href="mailto:bryan.barker@oracle.com">bryan.barker@oracle.com</a>
Robert Weisberg	Tracer models for old Piney Point fertilizer stack used by Tampa Bay Estuary Program and Florida DEP for	Bob Weisberg, USF, <a href="mailto:weisberg@usf.edu">weisberg@usf.edu</a>

	environmental monitoring.	Stakeholders Contacts: Mr. Ed Sherwood, Tampa Bay Estuary Program (TBEP), <a href="mailto:esherwood@tbep.org">esherwood@tbep.org</a> Dr. Mark Rains, Florida Department of Environmental Protection (Florida DEP), <a href="mailto:mrains@FloridaDEP.gov">mrains@FloridaDEP.gov</a>
Lynn Leonard	UNCW CORMP wave data incorporated into CDIP wave summaries for Hurricane Elsa (7/2021) and an east coast low pressure event available at: <a href="https://cdip.ucsd.edu/themes/cdip?zoom=auto&amp;tz=UTC&amp;ll_fmt=dm&amp;numcolorbands=10&amp;palette=cdip_classic&amp;high=6.096&amp;r=999&amp;un=1&amp;pb=1&amp;d2=p12">https://cdip.ucsd.edu/themes/cdip?zoom=auto&amp;tz=UTC&amp;ll_fmt=dm&amp;numcolorbands=10&amp;palette=cdip_classic&amp;high=6.096&amp;r=999&amp;un=1&amp;pb=1&amp;d2=p12</a>	contacts: Lynn Leonard, <a href="mailto:lynnl@uncw.edu">lynnl@uncw.edu</a> , Ross Timmerman, <a href="mailto:rtimmerman@ucsd.edu">rtimmerman@ucsd.edu</a>
Lynn Leonard	At the request of the NWS Charleston office, UNCW CORMP increased the reporting frequency of the FRP2, CAP2 and SUN2 buoys to 15-minute intervals during Hurricane Elsa. The	Lynn Leonard, <a href="mailto:lynnl@uncw.edu">lynnl@uncw.edu</a> NWS Charleston, Pete Mohlin, <a href="mailto:pete.mohlin@noaa.gov">pete.mohlin@noaa.gov</a>

End Report



## 2021 SECOORA DMAC Annual Progress Report

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### ACTIVITIES DURING THE REPORTING PERIOD

*Provide a summary of any DMAC implementation activities undertaken over the previous year.*

#### **Task 1: Base DMAC Services**

##### **Objective 1. Core Cyberinfrastructure Support- Ongoing**

- The Axiom data system is the back-bone of the cyber infrastructure that is leveraged to acquire, archive and share SECOORA data and information products. The open-source interoperability and data stewardship systems of the SECOORA infrastructure were maintained to provide full-lifecycle data management services.
- Throughout this performance period project, Axiom ensured that the SECOORA Data System was healthy, secure, and monitored; provided technical support to system problems; and mapped out future upgrade strategies.
- During this performance period, Axiom maintained ongoing continuous performance of the SECOORA data system following IOOS DMAC guidelines. Additionally, Axiom initiated a new data center build out in August 2021 to increase data storage and compute resources for system optimization. This work included: building 60 new m620 compute blades with CPUs, building 3x ceph storage heads, racking 4x m1000e compute and 5x c6320 database chassis, and sledding 120 new 10TB drives.

##### **Objective 2. Cyberinfrastructure Enhancements - Completed**

- Maintained IOOS compliant services and applications for integration with national products.
  - THREDDS 4.6.15 - <https://thredds.secoora.org>
  - ERDDAP 2.02 - <https://erddap.secoora.org>
  - SECOORA ISO WAF - <https://thredds.secoora.org/iso>
  - NCEI Archive - <https://ncei.axiomdatascience.com/secoora/>
- Frontend and backend work occurred to develop features for the next version 2.14 release, scheduled for late December 2021. This work includes: symbology changes to sensor layer for better contrast with lighter base layers (OpenStreet Map), user settings for coordinate management, palette manager for color bar management, animation tool to export custom timeseries animations of mapped data layers, print charts and data views as jpg file, and tabular view of latest observations for real-time sensors.
- During this performance period, basic QARTOD tests were applied for 180 [real-time and historical timeseries datasets](#) that are accessible through the SECOORA data portal. Quality flags are summarized on both the [station](#) and [sensor](#) pages within the data portal for visual exploration. In addition, the documentation of the test code and thresholds are displayed on sensor pages ([example](#)) with links available to the v 1.0 version [QARTOD GitHub library](#) accessible through the portal.
- Expanded SECOORA data portal holdings to include:
  - Hohonu [water level stations](#), North Carolina
  - CORMP [CAP2WAVE](#) buoy
- Maintained the [SECOORA Glider System](#) for the management SECOORA glider assets (Bass, Modena, Pelagia, Ramses, Salacia, Saltdawg, Angus, and Franklin). The SECOORA glider data was

## Appendix A

updated for visualization in the portal ([here](#)), as well as submitted to the DAC. Progress was made in improving collaboration with the DAC on running QC on glider data.

- Maintained submission of 30 sensor feeds to NCEI for long-term preservation.

### **Objective 3. DMAC Support to Existing Programs- Completed**

- Maintained bi-monthly DMAC progress calls with SECOORA staff.
- Participated in all SECOORA regularly-scheduled PI calls.
- Maintained the Jira SECOORA DMAC task board to track all data management work progress.
- Maintained the Trello SECOORA DMAC feedback board to track and manage portal feedback.
- Maintained, documented, and improved upon the existing SECOORA Glider System.

### **Objective 4. Develop New Products and Capabilities- Completed**

- Continued the redesign changes for SECOORA home webpage. This task is ongoing relative to additional requested changes from SECOORA.
- Maintained technical support for the Florida Atlantic Coast Telemetry Project (FACT) group, including:
  - Supported the OTN FACT Node at SECOORA, which included progress towards making the FACT data discoverable through the IOOS Animal Telemetry Network data portal.
  - Developed a visualization tool for species diversity and distribution that will be used to inform the general public and fisheries managers
- Maintained a Station Observatory data product that allows end users to access SECOORA funded station data in a more user-friendly way. The data product is available on the SECOORA website: <https://stage-secoora-maps.srv.axds.co/stations/>. This provides station landing page to access and display end products, including a visual summary of data availability in the region.

### **Objective 5. External/Special Projects**

#### **Task 1: Compilation of Environmental, Threats, and Animal Data for Cetacean Population Health Analyses (CETACEAN) Continuous, Ongoing**

- Participated in weekly planning meetings with implementation team and bi weekly Executive Team meetings
- Maintained data catalog/portal for data related to the CETACEAN project
- Began ingestion of relevant datasets into the CETACEAN catalog
  - GoMMAPS 2018 cruise and aerial survey
  - Relevant GoM specific oceanographic datasets (MODIS, HYCOM, PO.DAAC)
- Continued development of the Gulfmap data system for eventual inclusion in the CETACEAN platform

#### **Task 2: DMAC support for the Harmful Algal Bloom Observation & Forecast System for the Eastern Gulf of Mexico- Continuous; Ongoing**

- Maintained a dedicated campaign for data sharing, documentation, and storage in the Research Workspace.
- Initiated ingestion of AOML cruise data

**Task 3: DMAC support for the Mote Marine Laboratory Fisheries Acoustics and Habitat Ecology program datasets- Continuous; Ongoing**

- Maintained a dedicated campaign for data sharing, documentation, and storage in the Research Workspace.
- Completed initial Black Grouper detector based on data provided by project team
- Training data, notebook, and initial attempt at model developed
- A Python package to process data started black-grouper-analysis and posted to git.axiom.

**Task 4: DMAC support for Soundscape project Continuous, Ongoing**

- Maintained a dedicated campaign for data sharing, documentation, and storage in the Research Workspace.
- Continued integrating feedback into the interactive project page <https://stage-sons.srv.axds.co/>

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**UPCOMING/PLANNED ACTIVITIES**

Upcoming SECOORA DMAC activities include:

- Final development and release of v2.14 SECOORA Data portal in Q1 2022.
- Development of v2.15 SECOORA Data portal in Q3 2022.
- Reassessment of the QARTOD tests and parameter thresholds that are being applied to SECOORA assets.
- Ingest new datasets, as identified and prioritized by SECOORA.
- Support data submission, visualization, and metadata generation for SECOORA funded projects.
- Participate on behalf of SECOORA in state and regional groups as determined by SECOORA, as well as national IOOS and IOOS Association data management committees and working groups and international organizations.
- Development and release of glider dashboard to compare real-time observations to WOA climatologies.
- Support existing products, as identified by SECOORA and its partners..
- Technical discussion, scoping, documentation, and build-out of model testbed approach, including assessing the performance of existing coastal and ocean models in the SECOORA region.

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**SUCCESES OR CHALLENGES**

SECOORA continues to persist a robust system for continuous integration of real-time observation stations ([LINK](#)). Below are metrics for the past two quarters.

SECOORA data portal metrics (July 1, 2021 - January 31, 2022):

- Sensor Stations
  - Total number of sensor stations: 1,796
  - Number of sensor types: 87
  - Number of affiliates: 64
  - Total stations with data from the past year: 1,441

## Appendix A

- Moving Platforms
  - Total number of moving platforms: 62
  - Number of affiliates: 3
  - Total platforms with data from the past year: 7
- Data Layers
  - Total number of data layers: 626
  - Number of affiliates: 20
  - Total datasets with data from the past year: 118

### For comparison- SECOORA data portal metrics (December 1, 2020 - May 31, 2021):

- Sensor Stations
  - Total number of sensor stations: 1,697
  - Number of sensor types: 87
  - Number of affiliates: 64
  - Total stations with data from the past year: 1,344
- Moving Platforms
  - Total number of moving platforms: 62
  - Number of affiliates: 3
  - Total platforms with data from the past year: 7
- Data Layers
  - Total number of data layers: 625
  - Number of affiliates: 20
  - Total datasets with data from the past year: 118



**CELEBRATE HISPANIC/LATINX  
HERITAGE MONTH!**

**¡CELEBRA EL MES DE LA  
HERENCIA HISPANA Y LATINX!**

SCDRP is celebrating this month by launching our new website in Spanish!

Visit [scdro@secoora.org](mailto:scdro@secoora.org) to join our efforts today!

¡SCDRP está celebrando este mes con el lanzamiento de nuestro nuevo sitio del web en español! ¡Visite [scdro@secoora.org](mailto:scdro@secoora.org) para unirse a nuestros esfuerzos hoy!





SOUTHEAST AND CARIBBEAN  
DISASTER RESILIENCE PARTNERSHIP

*October Partnership  
Meeting*

THURSDAY, OCT. 28TH 2021  
10 AM - 11 AM EST  
VIRTUAL

SIGN UP TO RECEIVE MEETING DETAILS AT  
[SCDRP.SECOORA.ORG](https://scdrp.secoora.org)





**Southeast and Caribbean  
Disaster Resilience Partnership**

**Join us for SCDRP's Annual Meeting on**

**Unique Communities, Shared Challenges:  
Addressing Resilience, Equitably**

**January 26th - January 27, 2022**

Register today at  
[scdrp.secoora.org/meet22](https://scdrp.secoora.org/meet22)





SOUTHEAST AND CARIBBEAN DISASTER RESILIENCE PARTNERSHIP

# Celebrate Native American Heritage!



**SCDRP wants to know how you're celebrating Native American Heritage this month! Tag us and use hashtag, #NativeAmericanHeritageMonth**



[Facebook.com/SCDRP](https://www.facebook.com/SCDRP)



[@SCDRP\\_resilient](https://twitter.com/SCDRP_resilient)



[linkedin.com/company/scdrp](https://www.linkedin.com/company/scdrp)



SOUTHEAST AND CARIBBEAN  
DISASTER RESILIENCE PARTNERSHIP

# Annual Meeting Scholarships

SCHOLARSHIPS ARE AVAILABLE FOR  
STUDENTS AND INDIVIDUALS WHO WISH  
TO ATTEND THE 2022 SCDRP ANNUAL  
MEETING. THE DEADLINE FOR APPLYING  
IS JANUARY 6, 2022 AT 5 PM EST

FOR MORE INFORMATION ON HOW TO  
APPLY, PLEASE VISIT  
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**SOUTHEAST AND CARIBBEAN  
DISASTER RESILIENCE PARTNERSHIP**

# **JOIN THE ANNUAL MEETING STEERING COMMITTEE**

**SCDRP IS LOOKING FOR  
INDIVIDUALS TO SERVE ON THE  
ANNUAL MEETING STEERING  
COMMITTEE TO HELP PLAN THE  
EVENT**

For interested participants, please email  
[lindy.betzhold@noaa.gov](mailto:lindy.betzhold@noaa.gov)  
by 12 PM EST Thursday, September 2



**From:** Bill Woodward - NOAA Affiliate bill.woodward@noaa.gov   
**Subject:** Sub-Award Request from SECOORA to PACIOOS  
**Date:** December 15, 2021 at 3:59 PM  
**To:** Jennifer Dorton jdorton@secoora.org



*Bill Woodward 12/13/21*

## **PIRAT: Pacific Islands Regional Acoustic Telemetry Node**

### Background

The Pacific Islands Fisheries Science Center and PACIOOS have partnered to establish a regional acoustic telemetry detection data node in the Pacific Islands called PIRAT. The successful implementation of the FACT and ACT nodes on the U.S. East Coast leadership by the Canadian Ocean Tracking network (OTN) have provided successful data and metadata management methods and procedures. The implementation of PIRAT will mimic closely the functional components of FACT, ACT and OTN.

### ATN Support of PIRAT

A Data Manager/Wrangler position is key to the productive and effective operation of the node and PIRAT has successfully filled that Wrangler position. The Animal Telemetry Network (ATN) has committed to partially fund the PIRAT Data Wrangler position at a level of \$20,000.

### Sub-Award from SECOORA to PACIOOS

The IOOS ATN has passed \$80,000 of FY-21 funds to SECOORA for support of the Georgia Department of Natural Resources (GA DNR) Coastal Receiver Array and/or for any other efforts approved by the ATN. Due to Covid restrictions related travel and fieldwork, GA DNR is only able to spend a portion of those funds (~\$40K). The IOOS ATN Manager has requested that SECOORA issue a Sub-Award to the Cooperative Institute for Marine and Atmospheric Research (CIMAR) at the University of Hawaii for \$27,300 from the GA DNR identified funds to help support the PIRAT Data Wrangler position. This is a one-time request for SECOORA to issue a subaward to assist with the PIRAT Data Wrangler position.

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<https://ioos.noaa.gov/project/atn/>

<https://portal.atn.ioos.us>

".....To live on the Land We Must Learn from the Sea...." *Calyпсо* - John Denver



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