



Progress Report

Project Title: Southeast Coastal Ocean Observing Regional Association (SECOORA):
Implementation of the Infrastructure Investments and Jobs Act

Award number: NA23NOS0120081

Period of Activity: 12/1/2024 – 05/31/2025

Progress Report Submission Date: 6/25/2025

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

Progress and Accomplishments:

Progress and accomplishments for the No Cost Extension period are listed by Topic in the below tables. High-level milestones/deliverables, accomplishments and any issues are included for each project. Status of each project is reported as “not started”, “in-progress”, “not on schedule” or “complete” as required by the IOOS Performance Reporting Guidance for BIL Awards. If a specific milestone is delayed, a justification for the delay and description of activities employed or to be employed to mitigate the delay are provided.

SECOORA requested a No Cost Extension on this award and it was approved by NOAA on 10/22/24. The new end date is 11/30/2025.

NEPA SACs are complete for the following Topic 1 activities:

- East Coast Florida Buoy Deployments
- Ocean Acidification Sensor Deployment in the Florida Keys.

NEPA SAC for Topic 2 activities:

- Surface Elevation Table (SET) locations - The EC questionnaires for the new Surface Elevation Table installations were submitted to NOAA IOOS via eRA Commons for the following project teams: University of North Carolina Wilmington (submission date 1/8/2025); Bald Head Island Conservancy (submission date 1/8/2025); South Carolina Geological Survey (submission date 2/11/2025); Port Royal Sound Foundation (submission date 3/19/2025). All project teams scheduled installations beginning in June and July.

Project and Task(s)	Status
TOPIC 1: To support improved and enhanced coastal, ocean, and Great Lakes observing systems	
Goal A: Invest in new observing infrastructure for the Southeast	
Water Level Network	
Coastal Carolina University (CCU, Lead PI Paul Gayes) and partner Florida Atlantic University (FAU) are operating water level stations in South Carolina (SC) and Florida (FL). FAU is the data management team for this project. FAU shares data with SECOORA from all sensors that are deployed in SC and FL, even those not funded by SECOORA. The NEPA review for these stations has been conducted under award NA21NOS0120097 by the IOOS program office. Further NEPA documentation for each site is found here on the CCU-FAU tab: https://docs.google.com/spreadsheets/d/10KN3sdkzaUR-Kf_TbC-Yl0d1mcCqWH6pvWowcQVbB8o/edit?usp=sharing. Accomplishments The CCU/FAU team installed 3 new stations in FL this reporting period. SECOORA funds were used to purchase supplies for the 3 sites; however, the stations were installed using State of Florida funding. SECOORA shares the data from these stations on our water level site: wl.secoora.org. • Tarpon Springs City Marina (Pinellas County, March 2025) • Horton Park and Boat Ramp (Lee County, April 2025) • Lavender Landing (Lee County, May 2025) Overall, the team has successfully maintained 37 sensors in FL, 16 in SC, and 1 in GA. A list of all CCU/FAU water level stations is found here: https://portal.secoora.org/#metadata/150/sensor_source. The following CCU/FAU stations did not meet the SECOORA 85% up-time requirements for this reporting period: <i>Florida Stations</i> • Floridatown Park - 82%: Vandalism • Pompano Fishing Pier 1 - 48%: Sensor was offline due to pier construction but reinstalled in the same location once construction was complete. • FAU Engineering East - 66%: Removed permanently • FAU Main Pond - 54%: Removed permanently • Seatech 1 - 84%: Removed permanently • Seatech 2 - 33%: The sensor from Seatech 1 was in good working order so it was swapped for the non-working Seatech 2 sensor.	Complete 5/31/2025

• HBOI Water Level Water Level 3 - 83%: Removed for service. Will be reinstalled in June. • Black Island - 53%: Malfunction in weatherhead causing water to get into system • Skeleton Key Marina – 74%: Dead battery <i>South Carolina Stations</i> • Horry-Loris county Danny Knight Landing - 81%: Dead Battery • St. Phillips Island-SCPRT dock - 8%: Cellular Issue • Hunting Island State Park - 41%: Cellular Issue Stations in Florida that were permanently removed were on FAU’s main campus. These stations were set up as initial testing sites on each campus and they are no longer required. The Seatech stations in Dania Beach, FL were very close to each other and there was no real difference in water level for the two sites. The team made the decision to remove one station since the location is well served by the Seatech 2 station.	
Florida International University (FIU, lead PI Tiffany Troxler) operates seven water level sensors in South Florida. Accomplishments: The FIU team participated in two outreach events this reporting period: • Citizen science promotes people-powered solutions at the intersection of science, tech, and society - TEDx St Thomas Aquinas High School – 3/20/25 • Resilient 305 Discussion Panel with Chief Resilience Officers of Miami-Dade County, City of Miami, and City of Miami Beach, and Dr. Amy Clement, University of Miami – Resilience 365 Conference, University of Miami, Miami, FL – 3/25/25 (https://news.miami.edu/stories/2025/03/a-call-to-find-innovative-solutions-for-environmental-challenges.html) The FIU water level stations are reporting; however, the team’s budget has been completely expended and there are no funds remaining for continued sensor maintenance. During this reporting period, 4 out of 7 sensors were below the 85% uptime threshold since FIU could not support field maintenance. As stations go offline, they will remain offline. • Cocoplum Bridge - 100% • Fernandina Beach - 100% • Ramrod Key - 100% • Blue Road - 79% • El Portal - 82% • Key Largo - 70%	Complete 5/31/2025

Hollywood Beach - 67%	
Ocean Acidification (OA) Monitoring	
Mote Marine Laboratory (MML, Lead PI Emily Hall) deployed a SeapHOx OA mooring in Looe Key, FL within the Florida Keys National Marine Sanctuary (FKNMS). The sensor produces directly measured climate-quality pH and other carbonate chemistry data. The MML team will use the data to establish a unique time series of seafloor OA for the lower Florida Keys. This data will also support the Southeast Coastal and Ocean Acidification Network (SOCAN) objective for OA monitoring in the FL Keys. Of note, the Seaphox OA mooring will be removed from service in November 2025 if there is no new funding to support its ongoing operations. Accomplishments: - The SeapHOx seafloor mooring was redeployed in January 2025 after the 2024 hurricane season. The Mote team worked with FKNMS staff to slightly shift the deployment location within the permitted Looe Key boundary. The previous location within the permitted area was prone to sedimentation, with sand almost covering the entire mooring. It is hoped that the new location will be less prone to sedimentation. - Evaluation of validation samples (sea water samples collected from the Looe Key site) against the SeapHOx data is ongoing. - SeapHOx data will be uploaded to Research Workspace (and then to the SECOORA data portal) after 1 year of data has been collected, evaluated, and undergone quality control. - This work has been presented to the Florida Keys Water Quality Protection Program and Mission Iconic Reefs, and presented at the Association of Marine Laboratories of the Caribbean meeting in Puerto Rico June 2-6.	In Progress
Florida Buoy Deployments	
The University of North Carolina Wilmington (UNCW, PI Lynn Leonard)/Florida Atlantic University (FAU, co-PI Jordan Beckler) team have deployed and are maintaining three buoys off the east coast of FL: two met/ocean buoys (PNC and FTP) and one Spotter wave buoy (PNCWave). Without additional IJA/BIL funding, UNCW will recover and decommission these sites in late August 2025. Accomplishments: A buoy turnaround cruise onboard the R/V <i>Savannah</i> was conducted in December and the FTP, PNC, and PNC Wave buoys were all swapped on 12/9/24.	In Progress

- UNCW was able to successfully redeploy and recover the buoys and save ship time funds by leveraging their December cruise with an EPA cruise that needed to occur at the same time (the EPA had work planned in the Ft. Pierce dredge spoil area). Both projects were completed on the same cruise, allowing a cost savings for both teams while supporting the UNOLS fleet, specifically the R/V <i>Savannah</i>. Uptime stats for each sensor on board each buoy for the period 12/1/2024 – 5/31/2025 are provided in the table: <table><tr><th></th><th>FTP</th><th>PNC & PNCWAVE</th></tr><tr><td>Air Temperature</td><td>95%</td><td>87%</td></tr><tr><td>Air Pressure</td><td>95%</td><td>87%</td></tr><tr><td>Wind speed, gust, direction</td><td>95%</td><td>87%</td></tr><tr><td>Surface (1 m) salinity</td><td>95%</td><td>87%</td></tr><tr><td>Surface (1 m) water temperature</td><td>95%</td><td>87%</td></tr><tr><td>Waves</td><td>N/A</td><td>100%</td></tr></table> - The PNC buoy had a datalogger malfunction and lost communications on 5/17/25. UNCW shipped a replacement datalogger/telemetry enclosure and power control enclosure to FAU. FAU personnel have scheduled time to conduct the repairs on 06/10/25. - FAU staff asked local fishing charters and the Coast Guard to send photographs of the PNC buoy after the 5/17/25 issues were encountered. FAU staff received two sets of photos that helped diagnose the issue. This allowed UNCW to quickly ship the required repair supplies to FAU and saved FAU from having to conduct an initial site visit to diagnose the issues.		FTP	PNC & PNCWAVE	Air Temperature	95%	87%	Air Pressure	95%	87%	Wind speed, gust, direction	95%	87%	Surface (1 m) salinity	95%	87%	Surface (1 m) water temperature	95%	87%	Waves	N/A	100%	
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Goal B: Reinvestment in existing observing infrastructure for the Southeast																						
High Frequency Radar (HFR) Reinvestment																						
ECU Coastal Studies Institute (CSI) – SECOORA purchased a 5 MHz long-range CODAR (Lead PI, Mike Muglia).	Complete 5/31/23																					
University of South Florida (USF) –SECOORA purchased spare CODAR equipment for the USF HFR program (Lead PI, Cliff Merz).	Complete 11/30/23																					
Buoy Reinvestment																						
USF - purchased a new YSI XO2 multiparameter water quality sonde (Lead PI, Yonggang Liu).	Complete 9/18/23																					
TOPIC 2: To enhance associated sharing and integration of Federal and non-Federal data to																						

inform the most pressing regional coastal and ocean management challenges	
Goal A: Data and product development to support high priority regional management issues	
Improve access to regional ecological data to help inform offshore ocean use decisions through stakeholder engagement and mapping tool refinement	
Southeast Marine Mapping Tool (TNC, lead PI Mary Conley) – the site is live: https://www.maps.tnc.org/marinemap/se/#7/34.5/-76.5	Complete – 11/30/24
Expansion of water level monitoring in underserved communities	
SECOORA is supporting the installation and long-term operation of new water level stations in the Southeast. The network provides real-time local water level data to town managers, emergency managers, design engineers, and the public. This data is vital for monitoring coastal flooding and keeping citizens informed of hazardous conditions. This network will enable localized flooding alerts and improve community resilience. SECOORA is working with Sea Grant offices in each state to help identify locations where water level data is key to community resilience. Accomplishments: SECOORA is working with NC Sea Grant to identify a location for a water level sensor in Tyrrell County, NC as this area experiences flooding due to its location between the Albemarle Sound and Alligator River. After site visits in April, a good location in the town of Alligator, NC was identified; however, there is no cell phone reception in the area. This makes installation of a water level sensor cost prohibitive since satellite service would be required. SECOORA is regrouping with the NC Sea Grant team to determine if one of the other locations visited is an option.	In Progress
Increase the visibility of regional ocean data sharing activities with a Regional Ocean Data Sharing Web Presence	
SECOORA’s regional ocean data-sharing program is a partnership with coastal zone managers from NC, SC, GA, and FL. The Southeast Regional Ocean Data Sharing Initiative webpage is found here: https://secoora.org/southeast-regional-ocean-data-sharing-initiative/	Complete 12/16/23
Goal B: Establishment of Communities of Practice to address regional ocean data sharing needs in the southeast	
Surface Elevation Tables (SETs)	
The Surface Elevation Table (SET) project and Community of Practice (CoP)	In Progress

aim to foster regional collaboration for coordinated SET management. This initiative unites stakeholders to deepen our understanding of coastal resilience in the face of rising sea levels. The project is led by Jacksonville University (JU) PI Dr. Nisse Goldberg.

Accomplishments:

Comprehensive regional SET inventory

- The JU project team continues to update the inventory of SET stations in the SECOORA region. These SETs are affiliated with NWR, USGS, USFWS, NPS, and university researchers. This inventory is posted on the SECOORA SET network page (<https://secoora.org/surface-elevation-table-community-of-practice/>). During this process, the team has identified SETs that are active/inactive, and the number of SET publications per state. As members join the SET CoP, we add their SET stations to the inventory.
- The team has finalized information sheets that summarize existing SET station trends from North Carolina to Florida. The information sheets show those stations with positive/negative elevation trends and those stations keeping up/risk of being submerged due to sea level rise (found on the SET Resource Hub - <https://secoora.org/set-community-of-practice-resource-hub/>).

Gap analysis

- As part of the gap analysis, SET practitioners shared that increasing the diversity of wetland types where SET stations are located is important. The project team used this information when reviewing proposals for new SET installations (see RFP: <https://secoora.org/wp-content/uploads/2024/08/SECOORA-SET-Funding-Opportunity-2024.pdf>).
- SECOORA funded the expansion of the SET work to fill priority gaps through an RFP process. (see website: <https://secoora.org/set-call-for-proposals-winners/>). The following proposals were funded with proposed SET installations dates beginning June 2025:
 - Dr. William R. Doar III and Katie Luciano, South Carolina Geological Survey, will install six new SETs in the Charleston Harbor area.
 - Dr. Lori Sutter, University of North Carolina Wilmington will install SETs in six locations in swamps and marsh along the Northeast Cape Fear River.
 - Dr. Beth Darrow, Bald Head Island Conservancy, will install two SETs within on Bald Head Island.
 - Dr. Courtney Kimmel, Port Royal Sound Foundation, will install nine SETs in marsh areas located in Beaufort County, SC.
 - Dr. Scott Curtis, The Citadel, will install two SETs supporting

student education within the marsh on The Citadel property.
Community of Practice (CoP)

- The SET CoP includes practitioners from federal and state government agencies, NGOs, and academic institutions. A full list of SET CoP members is found here: <https://secoora.org/surface-elevation-table-community-of-practice/>
- The CoP members have evaluated existing SET locations, data sharing expectations, and data visualization needs required to more fully develop the CoP. A document outlining the purpose, criteria for membership, and activity expected from members of the SET CoP can be found here: <https://secoora.org/wp-content/uploads/2024/08/SECOORA-Surface-Elevation-Table-CoP.pdf>.
- An infographic showcasing the value of SET data for stakeholders was developed and is found here: <https://secoora.org/wp-content/uploads/2024/06/Applications-of-SET-Data-Infographic.pdf>
- The JU team also reached out to stakeholders Tom Austin (Edisto Island Open Land Trust) and Ryan Moyer (Blue Carbon) to understand their needs and utilization of SET data.

SET CoP Virtual Meeting

- The CoP meeting planning team is developing the program for the CoP virtual meeting which will be hosted July 17.
- The program includes:
 - Invited speaker Laura Fehrer (NPS)
 - Sessions devoted to:
 - Stakeholder engagement
 - Updates from SECOORA SET RFP awardees and progress towards installing new SETs
 - Updates on the data visualization platform
 - Discussion of metadata and data analysis
 - A general session on monitoring and collecting data, and maintaining SET stations

Develop SET website content

- The SET website is available here: <https://secoora.org/surface-elevation-table-community-of-practice>
- A resource hub that provides a clearinghouse of documents related to SET protocols, data visualization tools, publications, and an FAQ section was added here: <https://secoora.org/set-community-of-practice-resource-hub/>
- The JU team is continuing to work with Tetra Tech to develop the SET data visualization platform.
- The JU team is also using a R script (<https://nerrsciencecollaborative.org/project/Cressman18>) to

analyze available SET data to then share with the Tetra Tech team for more detailed SET data layers.	
Support and expand the existing Drone Community of Practice (CoP)	
Drones in the Coastal Zone (DITCZ) CoP – all work is complete.	Complete – 11/30/24
Goal C: Support resilience planning in the Southeast through the <u>Southeast & Caribbean Disaster Resilience Partnership</u>	
The Southeast and Caribbean Disaster Resilience Partnership (SCDRP)	
The SCDRP seeks to strengthen community resilience and support rapid recovery from storms and disasters by serving as the primary network for professionals in emergency management, climate adaptation, and disaster recovery in the US Southeast and Caribbean territories. The SCDRP coordinates regional disaster recovery and resilience planning and is a convening forum for professionals who are committed to building capacity and sharing their expertise to advance community resilience. Accomplishments: Monthly virtual partnership meetings: - SCDRP hosted and facilitated monthly partnership meetings. Meeting recordings are available here: https://www.youtube.com/playlist?list=PLN1Eo26yGEtC8u8bOQPazldbyfjWMK8Yi. - The 6 monthly meetings drew an average of 49 virtual participants (total of 295). SCDRP Annual Meeting: - The SCDRP 9th Annual Meeting was held in Wilmington, NC, from February 3-6, 2025, with 130 registered attendees and 57 guest speakers and moderators. 7 sessions and 2 special sessions covered topics on current climate and disaster resilience issues. - Sessions included: poster sessions, SCDRP regional initiatives, prospective mentor/mentee huddle, Battleship experience field trip, and post-meeting roundtable discussion on “A Stafford Act for the 21st Century.” - Meeting materials are found here: https://www.scdrp.secoora.org/annual-meeting-2025 Expand and diversify membership: - The Partnership Committee met monthly to identify and fill membership gaps, and to invite speakers to the monthly Partnership Meetings.	In Progress

• Added 25 Individual Members, 72 Observers/Newsletter Recipients, 1 new Group Member, 1 renewing Group Member, and 5 Student Memberships. Offer resources and educational opportunities: • Launched the SCDRP Mentorship Program with an inaugural cohort of 23 members. Conducted 2 mentee focus groups to gather feedback for future improvements. • New summer workshop series initiated to provide students and early career professionals with the opportunity to learn from expert mentors in a virtual small group setting. • Delivered 21 SCDRP weekly newsletters to 588 - 647 listserv recipients. • LinkedIn followers increased each month from 605 in December 2024 to 1020 by May 2025. • Redesigned SCDRP homepage and added new webpages for Annual Meeting archives and Newsletter archives. • Added, shared in newsletters, and archived on Resources web page: 32 new resources, 262 new job postings, and 69 new funding resources. • January 2024 set records for website visits with 1,798 sessions and 1,242 unique visitors recorded. Formalize new policies & procedures: • The Governance Committee met monthly and refined the Advisory Board Policies & Procedures. • Conducted Advisory Board Officer election and welcomed a new Chair and Vice Chair. Implement fundraising strategies to sustain the organization: • The Development Committee met monthly to develop and execute fundraising strategies including Annual Meeting sponsorships, philanthropic and corporate support, and increasing the number of dues-paying members. • Completed Annual Meeting sponsorship drive, meeting fundraising goals. • Submitted proposals to philanthropic organizations in March 2025. • The new Finance Committee met to review monthly finances and develop future budget scenarios. Participate in collaborative efforts to advance solutions that address regional resilience issues: • Participated in 10 virtual meetings with resilience professionals in the region to explore potential new collaborations. Leadership change:	
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Heather McCarthy's last day with SCDRP will be June 30 and Claire McGrath (SCDRP Program Coordinator) will become the Director effective July 1.	
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BUDGET SUMMARY:

Total Approved YEAR 1 Funds (Topic 1 + Topic 2)	\$ 950,500
Matching Funds	\$ 0 (no matching funds were required)
Total Funds Expended (YEAR 1 Topic 1)*	\$ 568,824.91
Total Funds Expended (YEAR 1 Topic 2)*	\$ 300,968.97
Total Unobligated Funds (Topic 1 + Topic 2)	\$ 0
Budget Deviations	None
Total Approved YEAR 2 Funds (Topic 1 + Topic 2)	\$ 955,500
Matching Funds	\$ 0 (no matching funds were required)
Total Funds Expended (YEAR 2 Topic 1)*	\$ 461,910.85
Total Funds Expended (YEAR 2 Topic 2)*	\$ 206,012.15
Total Unobligated Funds (Topic 1 + Topic 2)	\$ 0
Budget Deviations	None

* SECOORA pays 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 operational expenses and the sub-awardee invoices. SECOORA receives invoices on a quarterly basis. There is always a delay between when a subawardee or subcontractor conducts work and when it is invoiced to SECOORA.