

Funding Opportunity Number: NOAA-NOS-IOOS-2022-2007482



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

Applying under Topic Areas 1 and 2

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Topic Area 2: Mary Conley, TNC

CVs located in Appendix A

Initial period of performance: 12/1/2022 - 11/30/2024 for funding that will continue through 11/30/2027

Proposed total budget for Years 1 & 2:

	Year 1	Year 2	Total
Topic Area 1	\$582,000	\$587,000	
Topic Area 2	\$368,500	\$368,500	
Combined Total	\$950,500	\$955,500	\$1,906,000

Background

The Southeast Coastal Ocean Observing Regional Association (SECOORA) is one of eleven regional associations (RAs) that comprise the National Oceanic and Atmospheric Administration (NOAA) led U.S. Integrated Ocean Observing System (IOOS). SECOORA prioritizes, gathers, manages, and distributes observation data for North Carolina, South Carolina, Georgia, and Florida, and has the data management architecture, policies, and procedures to support these activities.

SECOORA was incorporated in 2007. It is a mature 501(c)3 organization with a history of sustaining long-term observations critical for the coastal SE. Our members include a cross-section of regional interests from private industry, academia, non-governmental organizations (NGOs), and state and federal government. The results of our most recent comprehensive stakeholder engagement effort are reflected in our [Regional Coastal Ocean Observing System Strategic Operational Plan](#) (RCOOS Plan), adopted by the SECOORA Board December 18, 2019. The RCOOS Plan covers the period 2020-2025 and presents stakeholder identified priorities for all the RCOOS subsystems, excluding governance and management. SECOORA integrates observations, models, data and information management, and outreach to sustain and advance an RCOOS responsive to societal needs. Our data management and cyberinfrastructure (DMAC) component transforms and delivers data and value-added products and services consistent with priorities identified through stakeholder needs assessments. SECOORA is a certified Regional Association (RA). This certification acknowledges SECOORA meets NOAA standards for DMAC and RA management. In simple terms, this means that users can have confidence that ocean and coastal data and information from SECOORA meets rigorous quality control and assurance standards. SECOORA will continue efforts to ensure a strong and sustained IOOS. SECOORA is a member of the [IOOS Association](#), working with 10 other RAs to assure the needs and positions of on-the-ground users in the regions are adequately reflected in national policy and priority setting.

Project Description

Priorities for SECOORA for the next five years are to sustain, repair and expand critical observing infrastructure, and enhance data management, data sharing, and delivery of data products, to stakeholders throughout the southeast, including underserved communities. SECOORA is proposing work under Topic Area 1: *To support improved and enhanced coastal, ocean, and Great Lakes observing systems* and Topic Area 2: *To enhance associated sharing and integration of Federal and non-Federal data to inform the most pressing regional coastal and ocean management challenges*. Proposed activities that fall under each topic are provided below.

Topic 1. To support improved and enhanced coastal, ocean, and Great Lakes observing systems

Goal A: Invest in new observing infrastructure for the Southeast

SECOORA is enhancing and expanding its regional coastal ocean observing system to better serve stakeholder needs for maritime, biological, and coastal flooding data.

Water Level Network: SECOORA is establishing a real-time, regional, cost-efficient, accurate water level network to address needs for real-time flooding information. The southeast is plagued by flooding events (e.g., storm surge, King Tides, high tide flooding) which lead to public inconveniences such as road closures, and it is becoming increasingly common as sea levels rise (Sweet et al., 2019). At present the region does not have the density of water level data required to fully understand variations in water level at

the appropriate spatial and temporal scales required for decision making (e.g., emergency management, habitat/environmental management, agriculture). Based on [A Network Gaps Analysis for the National Water Level Observation Network](#), there are major spatial gaps in water level measurements from NC to the west coast of FL. Water level network team members will install sensors each year as follows:

Florida International University:

- Year 1: Install 2 water level sensors (1 in Monroe County, FL and 1 in Miami-Dade County) and deploy a webcam to monitor coastal flooding in Coral Gables, FL.
- Year 1: Conduct citizen science data collection during two King Tide events. 40 participants for each event will collect water quality samples and visually monitor flooding during King Tides.
- Year 2: Maintain the water level sensors and webcam installed in Year 1
- Year 2: Deploy two webcams to monitor coastal flooding in Miami-Dade County and/or Monroe County, FL
- Year 2: Conduct citizen science data collection during two King Tide events. 40 participants for each event will collect water quality samples and visually monitor flooding during King Tides.

Coastal Carolina University with partners at Florida Atlantic University:

- Year 1: Install and maintain 15 water level sensors (7 in Florida and 8 in South Carolina)
- Year 2: Install and maintain 15 water level sensors (7 in Florida and 8 in South Carolina) and maintain the 15 sensors installed in Year 1.

Both teams have submitted the locations for the sensors and webcams to the NOAA IOOS Environmental Compliance Manager for the environmental compliance review. Note that planned sensor deployment documentation is shared here: [Google Drive spreadsheet](#).

Ocean Acidification Monitoring: The Southeast is the only continental US region with expansive shallow-water coral reefs. The Florida reef tract is made up of zones of living coral reefs and associated habitats that parallel the Florida Keys. The adjacent Florida Bay lies between the Florida Everglades freshwater ecosystem and the seagrass and coral-reef ecosystems of the Keys and often feeds fresher water into the Keys, causing large seasonal variations in temperature, salinity, and turbidity on the reefs, especially those nearshore. The lower Keys, Bahia Honda Key to Key West, harbor high biodiversity and the most abundant coral cover within the region (Burman et al. 2012). Looe Key is the second longest established Marine Protected Area (MPA) in the Florida Keys and has been studied for decades. These reefs represent one of the most vulnerable habitats to coastal ocean acidification (OA) in the US.

OA, or the pH decrease due to anthropogenically-induced pCO₂ increase, is a concern for the Florida Keys region and beyond. Coral reef species vary in susceptibility to environmental stressors, which leads to shifts in community structure. Recent studies indicate that OA is already impacting net reef accretion rates within some regions of the Florida Keys and that pCO₂ in Southeast sub-tropical waters is increasing. The increase in oceanic and coastal pCO₂ could profoundly affect organismal physiology, the carbonate structure of the substrate, and overall ecosystem functioning. The Southeast currently lacks a cohesive OA monitoring approach and network. SECOORA team members at Mote Marine Laboratory will help fill a gap in OA monitoring by deploying and operating non real-time SeapHOx OA sensors at one seafloor station near Looe Key in the Florida Keys. The SeapHOx directly measures salinity, temperature, pH, and percent dissolved oxygen (DO%) at hourly intervals.

The SECOORA Regional Coastal Ocean Observing System (RCOOS) Plan, pages 24-26 and page 36 (http://secoora.org/wp-content/uploads/2020/01/Strategic_RCOOS-Priorities_2019_FINAL.pdf) and the Southeast Ocean and Coastal Acidification Network (SOCAN) Monitoring Report (2017) identify the need to establish a long-term seafloor OA monitoring site in the Florida Keys. Stakeholders from across the

southeast have expressed the need for an OA site near Looe Key at meetings held by SOCAN for actionable information about OA progression and identification of particularly vulnerable areas and species groups such as coral reefs. Once a time-series of carbonate chemistry parameters have been collected (by Year 5), the team can establish a site-specific relationship between salinity (S) and total alkalinity. Using TAlk and pH, the team will calculate time series of carbonate chemistry variables, dissolved inorganic carbon (DIC), aragonite mineral saturation state (Ω_{AR}), Revelle Factor, and pCO₂ using the program CO2SYS.

- Year 1: Conduct site selection within the Florida Keys National Marine Sanctuary. Permits for the site will be acquired through NOAA National Marine Sanctuaries. The NEPA environmental compliance review will be coordinated with IOOS and the NOAA National Marine Sanctuaries.
- Year 1: SeapHox will be calibrated and conditioned in a seawater tank at Mote Marine Laboratory facilities.
- Late Year 1 or early Year 2: Deployment of the sensors (post permitting and NEPA review).
- Year 2: Station maintenance will be required every 3-6 months, depending on biofouling. Sensors will be downloaded when swapped at 6-month intervals and data shared with SECOORA.

Florida Buoy Deployment: The SECOORA Regional Coastal Ocean Observing System (RCOOS) Plan (http://secoora.org/wp-content/uploads/2020/01/Strategic_RCOOS-Priorities_2019_FINAL.pdf) on page 36 identified 5 locations where buoy observations are needed on the east coast of Florida. In order to fill gaps in buoy data, SECOORA is soliciting proposals to deploy two buoys off the east coast of Florida that meet the observing needs outlined in the SECOORA RCOOS Plan. The RFP can be found here: <https://secoora.org/request-for-proposals-fill-regional-observational-gaps-on-the-florida-east-coast/>. The RFP outlines the requirements for the team that receives the subaward. SECOORA will have experts review the proposals submitted for this opportunity and plans to award a two-year subaward agreement to the selected team by December 15, 2022.

Goal B: Reinvestment in existing observing infrastructure for the Southeast

High Frequency Radar (HFR) Reinvestment: HFR is one of the longest supported ocean observing technologies in the SECOORA region. Many of the original HFR were deployed in the early 2000's. Through this IJA opportunity, SECOORA will reinvest in older HFR systems to increase the resilience of the network. One HFR replacement in NC will be supported in Year 1 and CODAR HFR replacement parts and equipment will be purchased for multiple HFR in FL.

- Year 1: The HATY HFR is a 5 MHz long-range CODAR operated by the ECU Coastal Studies Institute. It is located on the NC Outer Banks, in Buxton, NC. This system was installed in 2003, making it 19 years old and well past its replacement date. A new 5 MHz system will be purchased to replace the older HATY system. The 2016 and 2021 NEPA Environmental Compliance reviews for SECOORA included the approval to operate and maintain the HATY HFR.
- Year 2: The University of South Florida (USF) operates 3 CODAR HFR supported by SECOORA and 1 CODAR that was funded by the National Academies of Science, Engineering, and Medicine. The 3 SECOORA supported HFR are located at Redington Shores (RDSR), Venice (VENI), and Naples (NAPL). The systems were installed in 2003, 2004, and 2005, respectively. Over the years, USF has received funding to upgrade some parts of each system; therefore, the purchase of completely new HFR systems is not required. USF does need to upgrade some parts of the HFR to ensure FCC compliance and increasing sparing for parts that are often damaged. The 2016 and 2021 NEPA Environmental Compliance reviews for SECOORA included the approval to operate and maintain the RDSR, VENI, and NAPL HFR.

Buoy Reinvestment: SECOORA team members at USF Coastal Ocean Monitoring and Prediction System (COMPS) operate 4 real-time buoys and 2 non real-time moorings on the West Florida Shelf. To maintain continuity of operations, the following equipment will be purchased:

- Year 2: Replacement Nortek Signature 1000, 5-beam head current profiler for deployment on USF real-time buoys.

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.

For topic 2, SECOORA has three goals to sustain and enhance data accessibility in the region. These goals are focused on high priority coastal and ocean management issues in the region, as prioritized by the coastal zone managers in the southeast.

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: Proposed offshore projects such as wind energy development or sand dredging have the potential to impact marine species and habitats across the South Atlantic. To sustain the region's rich marine diversity, it is important that the siting, construction, and operation of offshore development is done with the environment in mind. Environmental Impact Statements are required for every offshore development project, but stakeholders reviewing these projects often do not have the time or capacity to compile and analyze all the available information. In addition, datasets are often viewed in isolation, without any interpretation to the broader context across the region. To help overcome these challenges, The Nature Conservancy (TNC) worked with partners to develop a beta [Southeast Marine Mapping Tool](#) that was released in May 2022. This tool provides access to synthesized regional ocean features, species, and management data.

The next stage of this project will focus on engaging decision-makers and stakeholders across the region to help refine the Southeast Marine Mapping Tool, ensuring it is readily accessible and provides relevant information in a digestible format. Outreach will include virtual user group meetings, quarterly steering committee team meetings, and the development of communication materials. Feedback will be used to update datasets, refine the online tool, and develop downloadable reports.

- Year 1 and first 6 months of Year 2: Three areas of the Southeast Marine Mapping Tool will be enhanced: (1) expand the people (management) section, (2) add relevant contextual layers and area-based features, and (3) develop downloadable reports based on user needs. TNC will also work to ensure that the tool remains up-to-date and accessible.
- Years 1 and 2: SECOORA and TNC will engage the project steering committee, regional data experts from NOAA and other federal agencies, state agencies, academic partners, and NGOs via phone calls and webinars to receive feedback on the continued development of the Southeast Marine Mapping Tool.
- Year 2: Additional modifications to how data are displayed and communicated through the online tool will be made based on feedback.
- Year 2: Efforts will be made to connect the Southeast Marine Mapping Tool to other related online resources such as products from SECOORA, the South Atlantic Fishery Management Council, and NOAA's OceanReports.

Expansion of water level monitoring in underserved communities: As described in Topic Area 1, SECOORA is supporting the installation and long-term operation of new water level stations in the Southeast. The

network will provide 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 agencies in each state to help identify locations in underserved communities where water level is vital.

- Year 1: Submit the locations for 10 water level sensors to the NOAA IOOS Environmental Compliance Manager for review (note that planned sensor deployment locations will be added to the documentation shared here: [Google Drive spreadsheet](#)).
- Year 1: Install and survey 5 water level stations in underserved communities.
- Year 2: Install and survey of 5 water level stations in underserved communities.

Increase the visibility of regional ocean data sharing activities with a Regional Ocean Data Sharing Web Presence

SECOORA will develop a Regional Ocean Data Sharing Program webpage, similar to Southeast & Caribbean Disaster Resilience Partnership ([SCDRP](#)) or Southeast Ocean and Coastal Acidification Network ([SOCAN](#)). This will increase the level of visibility of these efforts to be more comparable to what is seen in the Mid-Atlantic and Northeast.

- Year 1: The SECOORA Communications Director will develop a robust program webpage for Regional Data Sharing Program with links to projects, resources, latest news, etc.
- Years 1 and Year 2: SECOORA contractor will coordinate organizing and facilitating Regional Ocean Data Sharing projects, representing the efforts at NOAA meetings, and developing and implementing outreach and communications strategies targeting CZMA managers.

Goal B: Establishment of Communities of Practice to address regional ocean data sharing needs in the southeast

Surface Elevation Tables (SETs): SETs are used to measure the changes in elevation of wetlands, such as coastal marshes. SETs, once a long-term record has been established, help determine if a marsh is retaining enough sediment to keep up with sea level rise or if it is being “drowned”. SETs have been in use by the U.S. Geological Survey and various NOAA organizations (e.g., NCCOS) for decades. Information on SETs the installation and use of SETs is available here:

<https://www.usgs.gov/centers/eesc/science/surface-elevation-table>.

The Southeast coastal zone managers have requested additional SET monitoring stations across the region to increase data available on marsh resilience to sea level change. Discussions with a number of regional experts revealed that various groups in each state install and manage SETs, including the NOAA National Estuarine Research Reserves and Sentinel Site programs, U.S Geological Survey offices, U.S. Fish and Wildlife Service, military installations, and others. Currently there is no regional coordination on SET installation or data management in the Southeast.

- Year 1: SECOORA will hire a contractor to develop a comprehensive regional inventory of SET stations for NC, SC, GA, and FL, conduct a gap analysis, and formalize a community of practice (CoP) focused on sharing best practices and creating new knowledge around the data and its applications.
- Year 2: The SET contractor will work with SECOORA to host a 2-day regional SET CoP workshop to focus on data standards and metadata.
- Year 2: SECOORA will fund a data management contractor to develop the framework for integration and viewing of standardized SET data for the region.

- Year 2: Based on the gap analysis and workshop outcomes, SECOORA will fund 16 SETS installations (4 stations in each state).

Support and expand the existing Drone Community of Practice: Uncrewed Aircraft Systems (UAS), or drones, are a rapidly growing component of research, assessment, and monitoring of coastal regions within the U.S. Southeast and the Caribbean. SECOORA, with SE NERRS, SECART, Duke University and the NOAA NCCOS Beaufort Lab, hosted the Drones in the Coastal Zone virtual workshop series in October 2020 (<https://secoora.org/drones-in-the-coastal-zone-workshop/>). This series covered aspects of drone technology including governmental policy and procedures, mission planning, data management, demonstrations on emerging drone technologies, and more. There were over 250 participants from NC, SC, GA, FL, and the Caribbean. A Drones in the Coastal Zone CoP is being established to continue supporting the sharing of knowledge and best practices related to the use of drone technologies to support coastal research. The following tasks will be supported in order to better establish the CoP:

- Year 1: The SECOORA Communications Director will develop the Drones in the Coastal Zone CoP webpage with links to projects, resources, latest news, and past and future workshop materials. The webpage will be hosted on the SECOORA website.
- Year 1: SECOORA will work with Duke University and NOAA NCCOS Beaufort Lab to host a 2-day regional workshop that builds off the virtual workshop hosted in 2020. The workshop will advance the understanding of applications of drone data to key coastal and ocean management issues.
- Year 1 and Year 2: SECOORA will host a competition for winners to attend a 3-part UAS executive education course offered by the Nicholas School of the Environment at Duke University to build capacity in the region for implementing the technology and understanding the data. SECOORA, in collaboration with CariCOOS, will sponsor six candidates each year from the US Southeast and Caribbean region to attend. Each online course is six weeks in duration, and includes asynchronous video lectures, weekly 1.5-hour virtual synchronous sessions, projects and assessments, and inclusion into a growing online community of UAS researchers. After successful completion of all three courses, applicants will receive a certificate of completion.

Goal C: Support resilience planning in the southeast through the Southeast & Caribbean Disaster Resilience Partnership

The Southeast and Caribbean Disaster Resilience Partnership (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. Organized to coordinate regional disaster recovery and resilience planning, the SCDRP has emerged as a convening forum for professionals who are committed to building capacity and sharing their expertise to advance community resilience. The SCDRP Executive Director leads the partnership efforts, organizing monthly Partnership meetings, assisting in agenda development and updates at the monthly Board meetings, leading proposal development and fundraising efforts, and leading the planning of the SCDRP Annual Meeting (in-person). The SCDRP Executive Director works with the SCDRP Program Coordinator, Advisory Board, and Committees to execute the strategic goals of the partnership. The SCDRP has a very active and engaged Advisory Board of disaster and resilience professionals from across the region representing public, private, non-profit, and academic sectors.

- Year 1: Provide salary support for the SCDRP Executive Director and support travel for the Executive Director and Program Coordinator to meet with partners.
- Year 1: The CZMA managers will participate in the 2023 SCDRP Annual Meeting (<https://www.scdrp.secoora.org/>) which will be hosted January 24-25 in Miami, FL. SECOORA will

support travel for 2 CZMA managers from each state (total of 8 people) for the event. This meeting will allow the CZMA managers to liaise with the SCDRP Board so that the SCDRP is apprised of state CZM priorities.

- Year 2: Funding will be used for salary support for the SCDRP Executive Director.
- Year 2: The SCDRP hosts its annual meeting each January. Funding will be used to support meeting costs (e.g., meeting space, A/V rental, honorariums for invited speakers) and staff travel for the 2024 SCDRP Annual Meeting.

Data Sharing Plan

SECOORA is committed to collecting and sharing scientifically accurate coastal and ocean data, models, and products in a timely manner, and developing a useful decision-support system. SECOORA is one of 11 NOAA IOOS regional associations. SECOORA, and its data management and communications system, is a NOAA certified Regional Association. The SECOORA Data Management team is led by Axiom Data Science ('Axiom'), and SECOORA and Axiom are the data management partners for this proposed effort. SECOORA has a mandate to follow [Data Management and Cyberinfrastructure core capability requirements](#) for IOOS Regional Associations and other IOOS grant recipients who are contributing data to the U.S. IOOS. To fulfill this mandate Axiom organizes data in a way that is easily findable and accessible via regional and national data assembly centers, allowing policy makers, researchers, managers, and the general public access to the data and information they need to make informed decisions. Axiom has considerable experience developing scientific data management infrastructure and provides experienced personnel to manage data standardization, archival, and metadata documentation. This project will use the shared data management infrastructure developed and maintained by Axiom with support from IOOS. Among this infrastructure is the Research Workspace, a web-based scientific collaboration and data management tool used by researchers to secure and centralize project data, generate standards-compliant metadata, and ultimately publish data files openly on public data portals, such as the SECOORA and MBON data portals, and archive data to NOAA's NCEI.

SECOORA will assure that all data generated under Topic 1 and Topic 2 areas is discoverable by, and accessible to, the general public in a timely fashion. As described in the proposal, under Topic 1 this project will generate physical oceanographic data (water level, water temperature and salinity) and water quality data (pH, DO) to support ocean acidification and coastal flooding applications. Additionally, HFR data (through system improvements) will continue to be collected and made available in real time via SECOORA and the HFR data centers at Scripps Institute of Oceanography and NOAA National Data Buoy Center (NDBC). Ocean current data from buoys (through sensor upgrades) will continue to be made available in real-time through the SECOORA data portal and NOAA NDBC. Under Topic 2, the project will generate datasets, applications, and online tools related to marsh elevation, ocean planning, and coastal flooding. All data and online tools will be made publicly available through the SECOORA data portal, data catalog, or on the SECOORA website (e.g., CoP materials). SECOORA does not embargo real-time data (i.e., the data is open and accessible via the SECOORA data portal and data services within minutes of the data being collected). Non real-time data is quality controlled by the PI and shared via Research Workspace within 6 months of the data being downloaded from the sensor. Axiom then ingests the data into the SECOORA data portal and data catalog where it is freely accessible.

Axiom data analysts work with appropriate project team members to process physical oceanographic data sets into CF-compliant netCDF file collections and relevant biological data sets to the Darwin Core standard (<https://dwc.tdwg.org/>). Processing data into these open and self-describing formats will provide an additional examination of the data for any errors and inconsistencies. The result will be standardized data that is readily available for data integration, visualization, and archive submission. Axiom

and project PIs have extensive experience archiving data with NCEI, from the data submission process to requesting accession numbers or DOI's tied to previous and ongoing funded research efforts.

Comprehensive metadata using the latest national and international technology and community standards will be required for new datasets generated through this award. Research Workspace includes an integrated metadata editor, allowing researchers to generate metadata conforming to the FGDC-endorsed ISO 19110 and 19115-2 and suite of standards and Ecological Metadata Language (EML). Axiom will provide technical assistance to data providers via workshops and one-on-one meetings to ensure robust and standards-compliant metadata are generated.

The Axiom data center and services are housed on highly redundant storage and compute resources at a data center in Portland, OR, and are geo-replicated using Amazon Glacier Cloud Archive Services. All databases and code repositories are routinely backed-up, and servers undergo routine maintenance to swiftly address security vulnerabilities. Servers containing source code and databases are located behind an enterprise-level firewall and are physically secure with environmental regulation systems, redundant power, and fire suppression.

All data and outputs will be openly available to the public adhering to the NOAA Data Sharing Procedural Directive. Data will be accessible free of charge through NOAA NCEI, SECOORA and MBON data portals and catalogs, and other NOAA databases. Every member in the project team understands and agrees to follow the FAIR Guiding Principles (findable, accessible, interoperable, and reusable). The complete SECOORA Data Management and Cyberinfrastructure Plan is available here:

http://secoora.org/wp-content/uploads/2022/05/00_SECOORA_DMxAC_Plan_2022-05-06.pdf

Years 1 & 2 Budget Breakdown by Topic Area

Table 1: Annual Costs for Topic 1 projects by Goal			
Goal	PI/Contractor & Affiliation	YR 1	YR 2
Program Management			
Goals A and B	SECOORA Staff	\$18,736	\$25,548
Goal A: Invest in new observing infrastructure for the Southeast			
OA Mooring	Emily Hall, Mote Marine Lab	\$100,000	\$100,000
Water Level Sensors	Tiffany Troxler, Florida International University	\$75,000	\$75,000
Water Level Sensors	Paul Gayes, Coastal Carolina University	\$75,000	\$75,000
FL Buoys (2)	PI/Contractor TBD	\$145,000	\$163,000
Goal B: Reinvestment in existing observing infrastructure for the Southeast			
HFR Replacement	Coastal Studies Institute	\$168,264	
HFR Reinvestment	University of South Florida		\$127,970
Buoy/Sensor Reinvestment	University of South Florida		\$20,482
Total Costs – Topic 1		\$582,000	\$587,000

Table 2: Annual Costs for Topic 2 projects by Goal			
Goal	PI/Contractor & Affiliation	YR 1	YR 2
Program Management			
Goals A, B, and C	SECOORA Staff and Megan Trembl (contractor)	\$98,303	\$28,909
Goal A: Data and product development to support high priority regional management issues			
Southeast Marine Mapping Tool	Mary Conley, The Nature Conservancy	\$75,000	\$25,000
Water Level Sensors	PI/Contractor TBD	\$30,000	\$30,000
Website development	Regional Ocean Data Sharing webpage design & development	Under program management	
Goal B: Establishment of Communities of Practice to address regional ocean data sharing needs in the southeast			
SET CoP	PI/Contractor TBD to lead CoP, gap analysis, workshop planning	\$65,000	\$30,000
	SET CoP Workshop and Travel		\$15,391
	TBD/SET Data Management Contract		\$50,000
	Installation of 16 SETS in SE		\$64,000
Drone CoP	Drone CoP Workshop and Travel	\$14,997	
	Duke University Drone Executive Courses	\$25,200	\$25,200
	Drone CoP Website development	Under program management	
Goal C: Support resilience planning in the southeast through the SCDRP			
SCDRP	Heather McCarthy, SCDRP Executive Director	\$40,000	\$80,000
	Networking with Resilience Team/Stakeholders	\$11,085	
	CZMA manager participation in the 2023 SCDRP Annual Meeting	\$8,915	
	2024 SCDRP Annual Meeting		\$20,000
Total Costs – Topic 2		\$368,500	\$368,500

References

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