SECOORA
SOUTHEAST
COASTAL OCEAN OBSERVING
REGIONAL ASSOCIATION

2024 SECOORA
Data Challenge

Integrating Monitoring Systems to Support Coastal Communities

Applications Due by November 22, 2024, 5 PM ET

Two Awards of $3,500 Each

SECOORA Data Challenge:
Integrating Monitoring Systems to Support Coastal Communities

The Southeast Coastal Ocean Observing Regional Association (SECOORA) Data Challenge invites undergraduate students, graduate students, and early career professionals to develop a project that combines multiple southeast datasets (see Table 1) to support one or more coastal communities by addressing a timely and relevant issue.

There are two $3,500 prizes available. Proposals are due **5:00 PM, Friday, November 22, 2024** via egrants.secoora.org.

SECOORA is committed to building inclusive research, extension, communication, education, and outreach programs that serve people with unique backgrounds, circumstances, needs, perspectives, and ways of thinking. We encourage applicants from all backgrounds to apply for this competitive opportunity.

Overview

A coastal ocean observing system (COOS) is a combination of many components—from hardware to humans—used to gather data and turn it into scientifically-sound products that support human populations, coastal economies, and a healthy, sustainable environment.

SECOORA is the COOS for North Carolina, South Carolina, Georgia, and Florida. A main goal of SECOORA is to collect, discover, integrate, and provide access to a variety of coastal ocean data – biological, physical, and more – to meet the needs of communities.

SECOORA is looking to our next generation of coastal and ocean scientists, managers, decision makers, coders, and entrepreneurs to integrate coastal observing data to address an issue faced by one or more coastal communities that impacts quality of life, such as sunny-day flooding, harmful algal blooms, shoreline erosion, etc.

The Data

We are encouraging the integration of data across disciplines from two or more categories in Table 1. The projects must use publicly available data and **at least one dataset must be downloaded through the SECOORA Data Portal or using SECOORA Data Services** (i.e., Webcamera Coastal Observation System (WebCOOS),

Southeast Water Level Network, How's The Beach, etc.).

Below are examples of data sources that could be used for this data challenge. If you have any questions regarding eligible datasets, please email communications@secoora.org.

Table 1: Data source examples that could be used for this data challenge. Applicants are encouraged to integrate data across disciplines from two or more categories below. At least one dataset must be downloaded through the SECOORA Data Portal or using SECOORA Data Services.	
Buoy and Mooring Datasets	- University of North Carolina Wilmington Coastal Ocean Research Monitoring Program (CORMP) - University of South Florida Coastal Ocean Monitoring Prediction System (COMPS) - NOAA National Data Buoy Center (NDBC) - Coastal Data Information Program (CDIP)
Glider Datasets	IOOS Glider Data Assembly Center
Public Health, Social, and Community Datasets	- NOAA ENOW Explorer - National Health and Nutrition Examination Survey - American Community Survey - Environmental Justice Screening and Mapping Tool - Climate and Health Outcomes Research Data Systems (CHORDS) - How's The Beach - ShellCast
Satellite and Model Datasets	- National Centers for Environmental Information (NCEI) - GOES Imagery Viewer - NOAA / NESDIS / STAR - NASA Worldview - Coupled Northwest Atlantic Prediction System (CNAPS) - NOAA Global Forecast System - North Carolina Spatial Data Download - Multi-Resolution Land Characteristics Consortium - Sea Level Affecting Marshes Model (SLAMM)	U.S. Climate Resilience Toolkit

Shore Stations, Water Level, and Water Quality Datasets	- Southeast Water Level Network - NOAA CO-OPS National Water Level Observation Network - USGS Stream Gauges - EPA Water Quality Exchange - NOAA NERRS System-Wide Monitoring Program - FL DEP Aquatic Preserves Continuous Water Quality Monitoring Program - NC FIMAN - USF Tampa Bay Observatory
Web Cameras	Webcamera Coastal Observation System (WebCOOS)

Project Ideas

Integrating COOS data to address issues faced by communities can result in many valuable products. Below are some example project ideas to get you started*:

- Develop visualizations of public health impacts related to weather or ocean phenomena (e.g., harmful algal blooms and impacts to local recreational waters and swimming beaches).
- Integrate water level data and web camera imagery to monitor and document flooding in a community.
- Development of a community notification system to alert residents of environmental hazards, such as road flooding.
- Webstory on a multi-year water level data analysis for a community and provide information on water level trends.
- Create lessons or outreach materials to increase awareness of sunny-day flooding impacts to communities.

You do not have to propose something on this list; these are just examples.

Prizes

SECOORA is offering one prize for each of the two categories. Applicants can work as an individual or in teams for either category. If working as a team, all team members must meet the eligibility requirements.

Category 1: Undergraduate Student
Prize: $3,500

Eligibility

Applicants must 1) attend an academic institution and reside in the United States, 2) have an advisor/mentor from the institution they attend, 3) be enrolled as an undergraduate student during the Fall 2024 semester, and 4) propose a project that incorporates at least one set of data downloaded through the SECOORA Data Portal or using SECOORA Data Services.

Category 2: Graduate Student or Early Career Professional
Prize: $3,500

Eligibility
Applicants must 1) reside in the United States, 2) be a graduate student <u>OR</u> an early career professional (working less than five years from your most recent graduation date), 3) have an advisor/mentor, and 4) propose a project that incorporates at least one set of data downloaded through the SECOORA Data Portal or using SECOORA Data Services.

How to Apply
Each applicant or team must submit their proposal by **5:00 PM, Friday, November 22, 2024** through egrants.secoora.org**.** All proposals will be evaluated based on the review criteria in this announcement, and if chosen as the winning project, the successful applicant will have until **December 15, 2025** to complete the project. All winning projects will be featured on secoora.org. Proposals can only be submitted in one category.

Proposal Format
All proposals must follow the required format below. ***Proposals that do not follow the required format will not be evaluated.***

Maximum page length is five pages (does not include appendices). Text should be

12-point font, 1-inch margins, and must include the following components:
1. Title Page (Proposal Cover Sheet) is limited to **one page** and must include:
    a. Proposal title
    b. Identify the category under which you are applying:
        i. Category 1: Undergraduate Student
        ii. Category 2: Graduate Student or Early Career Professional
    c. Lead applicant's name and contact information (include team members, if any, and contact information for each team member)
    d. Advisor name and contact information (i.e., professor supervising work)
    e. Project summary (one paragraph)
2. Project Description is limited to **four pages** and must include:

a. Statement of the issue or event your project is addressing, including the identification of which communities are impacted.
b. Description of study location (the project must occur within one or more locations within the SECOORA region – North Carolina, South Carolina, Georgia, Florida.) If working with a specific community, please indicate.
c. Statement of how the project directly aligns with one or more of SECOORA's focus areas:
    i. [Ecosystems, Living Marine Resources and Water Quality](#)
    ii. [Coastal Hazards and Climate Variability](#)
    iii. [Marine Operations](#)
d. Goals, objectives, and anticipated results
e. Methodology or approach, including:
    i. Explanation of community engagement approach/plan
    ii. Explanation of the technical approach
    iii. Data analysis and/or visualization techniques that will be employed, including links to the datasets/platforms you plan to use.
f. Describe the project deliverables noting the anticipated audience and how interested parties would benefit. Upon completion of the project you will need to:
    i. Provide a brief report on how the data was used for the project, including anticipated outcomes/outputs.
    ii. Produce a short video that describes the project's process, results, and value to coastal communities.
    iii. Products, algorithms, curriculum, etc. should allow for unrestricted distribution via GitHub or integration on the SECOORA website.

The following appendices are required; however, they do not count towards the 5 page proposal limit. Note that the appendices will be uploaded as individual documents upon submission in egrants.secoora.org.

Appendix 1: Project timeline (1-page maximum) that lists the project objectives and when you plan to complete each objective and submit your final results to SECOORA. The project must be completed by **December 15, 2025**.

Appendix 2: For undergraduate and graduate students, **a signed letter of support from their major professor is required** stating you are a student in good standing. Early career professionals should include a letter of support from their supervisor or mentor.

Appendix 3: One or two-page resume or curriculum vitae (CV). If working in a team, please provide a one or two page resume or CV for all team members.

Proposal Submission
Please submit the application package electronically in PDF format through egrants.secoora.org. The submission deadline is **5:00 PM, Friday, October 25, 2024.** You must complete the registration process in order to upload a proposal and associated appendices to egrants.secoora.org. This is a two-part verification system (phone and email confirmations are required). Once you have registered, please select the RFP to which you are applying, complete the required fields, and upload your proposal and appendices.

Evaluation Criteria
Evaluation criteria are the same for ALL categories.
- Technology/scientific merit – 20%
- Clear methodology – 25%
- Achievable deliverables, including relevance to identified communities – 25%
- Creativity and innovation – 15%
- Demonstrated value and relevance to SECOORA Focus Area(s) – 15%

Timeline
September 13, 2024: Award opens
November 22, 2024: All proposals are due via egrants.secoora.org by 5:00 PM ET.
November 22 - December 15, 2024: Proposal review period. Applicants may be contacted and asked for project/proposal clarifications.
December 15, 2024: Winners are notified.
December 15, 2025: Full projects are completed. Final product deliverables are submitted to SECOORA and include the product/application and all appropriate documentation. The use of open-source software is encouraged, and all final products should allow for unrestricted distribution on the SECOORA website.

Questions
Questions regarding proposal submission may be submitted to communications@secoora.org. Good-faith efforts will be made to answer as many questions as possible, but an answer is not guaranteed for every question.

Award Distribution Information
Winners will receive half of the award ($1,750) when the initial contract is signed. Upon completion of the project, winners will need to provide a brief report and a video on the project that describes the value/impact of the work. Once deliverables are approved,

winners will receive the remaining portion ($1,750) of the award. Award winners will be responsible for all tax liabilities associated with the winnings and a 1099 will be disbursed by SECOORA by **February 1, 2025**.

This is an open and competitive process. SECOORA reserves the right to reject any and all applications/proposals received as a result of this process. SECOORA reserves the right to request that applicants make modifications to proposals at any time before an award is made.