

SECOORA Data Challenge

Integrating Data to Understand a
Coastal Ocean Event

TWO \$3,500 PRIZES

PROPOSALS DUE THURSDAY SEPTEMBER 22, 2022



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 to understand a coastal ocean event.



There are two \$3,500 prizes. Proposals are due **5:00 PM ET on Thursday September 22, 2022** and must be submitted 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 information and turn it into useful 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 stakeholders.

SECOORA is looking to our next generation of coastal and ocean scientists, managers, decision makers, coders, and entrepreneurs to integrate COOS data to tell a meaningful story or to better understand an environmental coastal ocean event (hurricanes, harmful algal blooms, floods, dredging, etc.).

The Dataset

There is no specific dataset for this year's data challenge. Rather, the challenge is to integrate available data and models. SECOORA is encouraging the integration of data across disciplines from two or more categories of data found in Table 1 (for example combining socioeconomic data with physical ocean data). 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](#).

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](#).

Satellite and Model Datasets	<ul style="list-style-type: none">● 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● SECOORA Data Portal
Buoy and Mooring Datasets	<ul style="list-style-type: none">● University of North Carolina Wilmington Coastal Ocean Research Monitoring Program● University of South Florida Coastal Ocean Monitoring Prediction System● NOAA National Data Buoy Center (NDBC)● Coastal Data Information Program (CDIP)
Shore Stations, Water Level and Water Quality Datasets	<ul style="list-style-type: none">● NOAA CO-OPS National Water Level Observation Network● USGS Stream Gauges● SECOORA Water Level Sensors● EPA Water Quality Exchange● NOAA NERRS System-Wide Monitoring Program● FL DEP Aquatic Preserves Continuous Water Quality Monitoring Program● NC FIMAN
Glider Datasets	<ul style="list-style-type: none">● IOOS Glider Data Assembly Center
Public Health, Social, and Community Datasets	<ul style="list-style-type: none">● NOAA ENOW Explorer● National Health and Nutrition Examination Survey● American Community Survey● Environmental Justice Screening and Mapping Tool

Ideas

Integrating coastal ocean observing data 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 phenomenon (e.g., harmful algal blooms and impacts to tourism)

- AcrGIS Story Map that analyzes or explains socioeconomic impacts of an event (e.g., harmful algal bloom, flood, or hurricane) based on physical oceanographic observations and baseline economic data near the event
- Webstory on a multi-year water quality data analysis for one location and provide information on water quality trends related to land use and development
- Create lessons or an educational tool for students using physical, meteorological, and public health coastal ocean observing data to understand hurricane impacts on the built environment

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

Prizes

SECOORA is offering two prizes in two different categories. Applicants can work as an individual or in teams. If working as a team, all members must meet the eligibility requirements.

Category 1: Undergraduate

Prize: \$3,500

Eligibility

Applicants must 1) reside in and attend an academic institution in the United States, 2) be an undergraduate student, 3) have an advisor/mentor from the institution they attend, 4) be enrolled as an undergraduate student during the Fall 2022 semester, and 5) 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 / Early Career

Prize: \$3,500

Eligibility

Applicants must 1) reside in the United States, 2) be a graduate student OR 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 ET on September 22, 2022** through egrants.secoora.org. All proposals will be evaluated based on the evaluation criteria and, if chosen as the winning project, the successful applicant will have until December 15, 2023 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, margins 1-inch and must include the following components:

1. Title Page (Proposal Cover Sheet) is limited to one page and must include:
 - a. Proposal title
 - b. Category under which you are applying: Category 1: Undergraduate or Category 2: Graduate / Early Career
 - c. Lead applicant's name and complete contact information
 - d. Team members, if any, and complete contact information
 - e. Advisor name and contact information (i.e. professor supervising work)
 - f. Project summary (one paragraph)
2. Project Description is limited to four pages and must include:
 - a. Statement of the issue or event
 - b. Study location - note project must occur within one or more locations within the SECOORA region (North Carolina, South Carolina, Georgia, or Florida)
 - c. Statement of how the project directly aligns with one or more of SECOORA's focus areas:
 - [Ecosystems, Living Marine Resources and Water Quality](#)
 - [Coastal Hazards and Climate Variability](#)
 - [Marine Operations](#)
 - d. Goals, objectives, and anticipated results
 - e. Methodology or approach, including:
 - i. Explanation of the technical approach
 - ii. Data analysis and/or visualization techniques that will be employed
 - f. Describe project deliverables and types of stakeholders interested in this project and how the stakeholders 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.
 - ii. Produce a short video on the project, and its value to you and potential stakeholders.
 - 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 page limit.

Appendix 1: Project timeline that lists the project objectives and when you plan to complete each objective and submit your final results to SECOORA (note the project must be completed by December 15, 2023). (1-page maximum)

Appendix 2: For undergraduate and graduate students, a signed letter of support from their major professor or academic advisor stating you are a student in good standing.

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

Proposal Submission

Please submit the entire application package electronically in PDF format through egrants.secoora.org. The submission deadline is **September 22, 2022**. You must complete the registration process to upload a proposal to egrants.secoora.org. This is a two-part verification system (phone and email confirmations are required). Once you have registered, please select the Request for Proposals to which you are applying, complete the required fields, and upload your proposal as one PDF.

Evaluation Criteria

Evaluation criteria are the same for ALL categories.

- Technology / scientific merit – 20%
- Clear methodology – 20%
- Achievable deliverables – 20%
- Creativity and innovation – 15%
- Demonstrated value to one or more stakeholder groups and SECOORA Focus Areas – 15%
- Follows proposal guidelines – 10%

Timeline

September 22, 2022: All proposals are due via egrants.secoora.org at 5:00 PM ET.

September 16 - October 21, 2022: Proposal review period. Applicants may be contacted and asked to discuss their project with judges on a webinar.

October 31, 2022 (or earlier): Winners are notified.

November 7, 2022: Project start date.

December 15, 2023: 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 video on the project, and 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, 2023.

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.