NCCOS NATIONAL CENTERS FOR COASTAL OCEAN SCIENCE

Fiscal Year 2022 Community-Directed Spending

Coastal Infrastructure and Resilience Research Initiative

Recipient: Georgia Institute of Technology

Requested by: Senator Raphael Warnock and Representative Buddy Carter

Project Period: September 2022 - August 2027

Location: Georgia

FY22 Funding: $5,000,000

Project Summary: The proposed project aims to develop the fundamental knowledge and tools to design adaptive coastal infrastructure and equitable resilience strategies under projected future sea-level rise scenarios along the vulnerable Georgia coastline. This project in particular has a strong focus on low-income, historically marginalized communities of color in Savannah, Georgia, building on existing partnerships between Georgia Tech, City and County officials, and several local environmental justice organizations. The project will develop a comprehensive and geographically relocatable Coastal Equity And Resilience (CEAR) framework that incorporates expertise from the physical and natural sciences, technology and engineering, and social sciences, as well as indigenous experts, community-based practitioners, and policymakers. The project will build on an existing network of “Smart Sea Level Sensors” and a state-of-the-art water-level modeling and forecasting system based in Chatham County by expanding the sensor network and modeling along the Georgia coastline. The network and modeling will be the foundation of a GA Stakeholder Decision Support System (GA-SDSS) that will provide real-time data to emergency planners and responders charged with protecting lives and infrastructure from flood events that have become more frequent and more severe in recent years. This project will also pilot a GA Community Support and Engagement Strategy (GA-CSES) through established partnerships with local underserved communities around Chatham County and contribute to Education K-12 and Workforce Development by establishing a number of curriculum modules for K-12 schools, partnering with schools in the Chatham/Savannah district. Learn more.

Biscayne Bay PhycoNet

Recipient: Florida International University

Requested by: Representative Maria Salazar

Location: Florida

Project Period: September 2022 - August 2025

FY22 Funding: $2,000,000

Project Summary: The proposed project will establish a Biscayne Bay monitoring program to document phytoplankton and related water quality characteristics to establish a baseline for future observations under changing conditions. This project builds on two of EPA's longest coastal water quality monitoring programs in Biscayne and Florida Bays and proposed monitoring and research are part of a larger Greater Biscayne Bay Monitoring Program involving multiple universities, Federal Agencies, local management agencies and nonprofit that has to date focused on water quality, bacteria, oxygen, seagrass beds, fisheries and marine mammals and turtles. The monitoring program has three components:

1. Routine Monitoring - Sample 10 sites throughout the bay 8 times per year to capture the diversity of phytoplankton communities and related water quality measurements (light & SEM + Metabarcoding for species; Metabolomics for toxins)
2. Remote Detection - Real-time data will be acquired using Imaging FlowCytoBots (IFCBs) for the detection of algal cells to predict the occurrence of AB species and their likely severity and impacts on coastal ecosystems. Buoys for water quality measurements.
3. Data Dissemination. Data will be posted on FIU Institute of Environment website, shared with local and state resource managers (i.e. Miami-Dade DERM and FL's FWRI) and with regional entities (i.e.SECOORA).

Learn more.

Traveling HAB Laboratory Education Program

Recipient: Montclair State University

Requested by: Senator Bob Menendez and Senator Cory Booker

Project Period: September 2022 - August 2024

Location: New Jersey

FY22 Funding: $400,000

Project Summary: This project will design and implement an environmental education program to boost environmental awareness of harmful algal blooms (HABs), water quality, and water

conservation in New Jersey. The mobile program will identify participants to join a proposed citizen science program that will generate data to help New Jersey monitor phytoplankton and cyanobacteria taxa in its rivers, lakes, and estuaries. Learn more.

Oregon Kelp Forest Survey

Recipient: The Ocean Foundation Fiscal Sponsor for the Oregon Kelp Alliance

Requested by: Senator Jeff Merkley

Project Period: September 2022 - August 2024

Location: Oregon

FY22 Funding: $945,000

Project Summary: This project will perform a coast-wide snapshot of the extent and status of kelp forests in Oregon. This information is critical for enabling informed management, conservation, and restoration initiatives. These activities will promote public engagement and collaboration with multiple stakeholders through the Oregon Kelp Alliance. These efforts will help provide a barometer of ecosystem health of Oregon's kelp forests, enable informed science-driven management, conservation, and restoration activities, and serve as a baseline to measure the impacts of climate change and management efforts. Learn more.

University of Rhode Island Integrated Plastics Research

Recipient: University of Rhode Island

Requested by: Senator Jack Reed and Representative Langevin

Project Period: September 2022 - August 2024

Location: National

FY22 Funding: $1,000,000

Project Summary: This project will:

A) Increase connectivity by convening members from academia, industry, government and non-government organizations in support of addressing nationally and globally important issues relating to plastics pollution
B) Expand reach of information through accessible communications strategies and educational techniques to inform and engage diverse audiences
C) Strengthen capacity and capabilities by fostering diverse and inclusive collaborations across sector, disciplines and borders
D) Advance solutions by accelerating knowledge to inform individual and institutional behavior change, science and innovation investments, and public policies to reduce plastics pollutants

Learn more.