



# Coastal Science Serving North Carolina

**\$3,378,854**

Funding to benefit North Carolina's communities, economies and ecosystems

**\$3,240,941**

Economic impacts derived from Sea Grant activities

**272,975**

People engaged in Sea Grant-supported informal education programs

**58**

Sea Grant-supported graduates employed in a career related to their degree within two years of graduation

**40**

Communities in eight coastal counties received safety information about rip currents and sharks

**5:1**

Minigrant return on investment



Jean Dent

## Assisting Industry Partners in Manufacturing and Marketing Value-Added Seafood

While the demand for local seafood remains strong, a growing number of consumers want seafood products that require minimal in-home preparation. North Carolina Sea Grant and our North Carolina Cooperative Extension partners assisted five businesses in developing value-added foods for retail sale. The products are in various stages of product development, marketing and distribution research and/or initial sales. The businesses will continue to work with seafood specialists. Learn more about North Carolina seafood at [go.ncsu.edu/seafood](http://go.ncsu.edu/seafood).

## Protecting and Restoring Wetlands in Hyde County

A wetland restoration project designed to improve water quality by diverting nutrient-rich water from Lux Farms away from the Pamlico Sound concerned partners because of potential impacts on high-quality, downstream waters in the Alligator River National Wildlife Refuge. Hydrologic and water-quality studies funded by North Carolina Sea Grant provided key information for approval of the restoration design and development of a water-management plan. Construction on the wetlands restoration project to restore 1,200 acres has started. Learn more at [go.ncsu.edu/wetlands-restoration](http://go.ncsu.edu/wetlands-restoration).



Rhett Register



Courtesy AVS

## Data Alters How North Carolina Division of Marine Fisheries Constructs Oyster Sanctuaries

Efforts to restore oyster habitats in North Carolina estuaries often meet with limited success. North Carolina Sea Grant-funded research supports the assertion that carbonate-boring sponges are major threats to the sustainability of oyster-based communities in North Carolina's estuaries. The data collected from these reefs inform the North Carolina Division of Marine Fisheries best practice restoration methods for oyster habitats. This collaborative research helped spur a new business. Learn more at [go.ncsu.edu/oyster-reef-restoration](http://go.ncsu.edu/oyster-reef-restoration).

## Helping Communities Identify Building Codes that Meet or Exceed Insurance Requirements

The Building Code Effectiveness Grading Schedule, a review process of the insurance industry, rates local building inspection departments and building codes. North Carolina Sea Grant extension efforts resulted in a state building code update and local leaders having a better understanding of the insurance ratings system. This means property owners in eligible North Carolina coastal communities save nearly \$1 million in insurance costs annually. Learn more about the recommendations developed by Sea Grant that help owners fortify their buildings against hurricanes at [go.ncsu.edu/coastal-construction](http://go.ncsu.edu/coastal-construction).



Spencer Rogers

## Building Capacity for Environmental Education Programs & Evaluation

To ensure environmental education is effective, it must be evaluated, but few models exist. Baseline data is necessary for comparison. This is true for local, regional, and international programs. With North Carolina Sea Grant funding, an NC State team conducted such an evaluation and distributed the new model, other findings and their experience widely, resulting in increased conversations and interest in environmental education evaluation across North Carolina and the Southeast. Learn how researchers are identifying factors that build environmental literacy in students at [go.ncsu.edu/env-literacy](http://go.ncsu.edu/env-literacy).



James Dame



Lee Robertson

## Research Leverages External Funding for Sustainable Crustacean Bait Production

The blue crab supports North Carolina's most important commercial fishery. Having previously developed a new man-made crustacean bait called Organobait, researchers received minigrant funding from North Carolina Sea Grant to refine the formulation and pilot test the product's effectiveness. The team further leveraged the proof-of-concept results to obtain an additional \$760,000 in funding from the National Science Foundation to further develop this new product and business. Learn more about the development of this novel bait at [go.ncsu.edu/fishing-for-funding](http://go.ncsu.edu/fishing-for-funding).

## New Guidance Products Expand Audience for Hurricane Wave and Flooding Forecasts

In a project supported by North Carolina Sea Grant, an interdisciplinary team has expanded the utility and accuracy of wave and storm-surge forecasts using a high-resolution modeling system. New guidance products allow flooding predictions to be combined with other geospatial data, leading to better-informed decisions about evacuation and resource deployment during storm events. Learn how this research was used to track Tropical Storm Erika at [go.ncsu.edu/tropical-storm-erika](http://go.ncsu.edu/tropical-storm-erika).



Jessica Whitehead



John Brumac

## Reducing Bycatch in NC Shrimp Trawl Fisheries

An amendment to the N.C. Shrimp Fishery Management Plan mandated new gear be tested to reduce observed shrimp trawl bycatch by 40 percent. North Carolina Sea Grant received funding to test multiple gears that achieved bycatch reductions near the target with minimal shrimp loss. Experimental gear reduced bycatch by an average of 31 percent, meaning that nearly 8 million pounds of bycatch annually could be avoided or not caught if the gear is used. Learn more about research to improve shrimp trawl gear at [go.ncsu.edu/shrimp-trawl-gear](http://go.ncsu.edu/shrimp-trawl-gear).

# What Is North Carolina Sea Grant

North Carolina Sea Grant provides research, education and outreach opportunities relating to current issues affecting the North Carolina coast and its communities. Since 1970, North Carolina Sea Grant has prided itself on being a valuable resource for scientists, educators, local officials, government agencies, coastal businesses and the public to find unbiased, scientifically sound information about the state's coastal ecosystems.



## How We Work

North Carolina Sea Grant facilitates funding for millions of dollars of research, outreach and education programs each year. Our initiatives and projects touch a broad range of topics, including fisheries, seafood science and technology, water quality, aquaculture, community development, law and policy, marine education, coastal hazards and resilience.

Through a combination of federal and state dollars, we facilitate university-based research to answer complex questions about the state's diverse coastal ecosystems and meet the needs of coastal communities. This research fuels outreach and education programs that promote discovery, learning, new research and awareness across the state and the nation.

North Carolina Sea Grant is committed to advancing coastal and ocean literacy and building a well-trained workforce to address future challenges through informed, science-based decision making. We support more than 90 students each year through ten state and national fellowships and student stipends.

As part of the National Sea Grant Network, we receive funding from the National Oceanic and Atmospheric Administration, through the U.S. Department of Commerce.

## Where We Work

Headquartered at North Carolina State University, we are an inter-institutional program within the University of North Carolina system. In addition to our Raleigh office, Sea Grant has coastal offices in Manteo, Morehead City and Wilmington. Our researchers come from public and private universities across the state, often working in collaborations with various agencies and organizations.

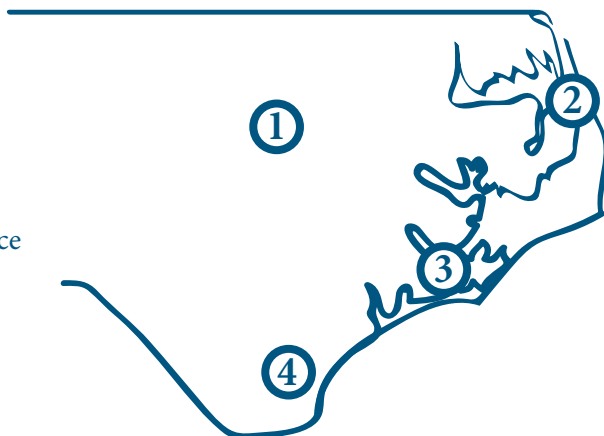
### North Carolina Sea Grant Offices

1. Raleigh Office  
919-515-2454

2. Manteo Office  
252-475-3663

3. Morehead City Office  
252-222-6307

4. Wilmington Office  
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*Numbers represented in this snapshot are from the 2015-2016 reporting period.*