



Research and Resources for a Healthier Coast

\$5 million

in economic benefits to North Carolina

42

communities collaborating with us
to plan and adopt resilience practices

16,060

K-12 schoolchildren and teachers benefiting
from educational programming

222

undergraduate and graduate students benefiting from
fellowships and other educational opportunities

335,000

annual users of North Carolina Sea Grant's
online resources and information

90

resource managers partnering with
Sea Grant to protect our coast

Advancing Coastal Resilience



North Carolina Sea Grant spearheads and collaborates on a range of projects to help our state plan, recover, respond, and adapt to coastal hazards and heightening climate challenges.

- Recent hurricanes have exposed deep vulnerabilities to flooding in our state. We lead a multidisciplinary team evaluating the opportunities, costs, and benefits of using natural infrastructure solutions throughout the Neuse Basin.
- Riverine flooding imperils transportation infrastructure. North Carolina Sea Grant has partnered on major initiatives to characterize flooding impacts on transportation and identify solutions.
- Climate change also increasingly threatens the effectiveness of wastewater infrastructure, particularly in the coastal Carolinas. We're evaluating onsite wastewater technologies in order to help communities plan and adapt.
- North Carolina Sea Grant participated in development of the new *N.C. Climate Risk Assessment and Resiliency Plan*. Our team continues to coordinate a group of professionals who use surface elevation tables to understand coastal land changes relative to rising seas.
- We continue to work closely with the NC Division of Coastal Management and the NC Office of Recovery and Resilience on projects helping communities that have been hit by Florence, Matthew, and other storms.
- Our collaboration on stormwater master plans for 20 schools in the Neuse and Tar River Basin resulted in design and implementation of new stormwater wetlands, while a local watershed plan provided the impetus for projects that addressed stormwater runoff in Raleigh, as well as job training that led young adults to improve a wetland park.

- When homeowners on Topsail Island and local officials sought natural options to encourage dune recovery after storms, they followed Sea Grant guidance — and the dunes showed significant growth.
- Our Coastal Landscapes Initiative offers eco-friendly solutions to enhance resilience, including award-winning landscaping design templates, along with a plant guidebook and popular new video series.

Supporting Seafood

Despite the global pandemic, North Carolina Sea Grant continues to bring research and other expertise to blue economy industries in the coastal region and beyond. Our work helps sustain businesses and communities — and will continue to strengthen the sea-to-table supply chain in the post-pandemic world.

- The national StriperHub continues to position striped bass for increasing success in the marketplace. The project builds on Sea Grant's long history of partnerships with finfish growers and our groundbreaking research on farming striped bass at commercial scale. The initial commercial harvest was 48,000 pounds, with 100,000 more expected in 2022. (Photo below.)



- The state's growing interest in oyster aquaculture got a significant boost from our partnership with Carteret Community College on the NC Shellfish Farming Academy, which has trained prospective oyster farmers starting new businesses or joining existing operations.



Matt Smith, ECU

Research for Real-World Solutions

From its earliest days, North Carolina Sea Grant has supported established and up-and-coming scientists on research relevant to coastal communities and watersheds. Our research projects — along with our outreach efforts — address key topics that state agencies, scientists, and local leaders identify as critical.

- Our research results provide important data for local and state decision-makers, as well as key economic sectors.
- Outreach products from our research inform broad scientific and lay audiences.

- Our projects often spark ongoing partnerships that bring ongoing support for coastal ecosystems.
- Many studies incorporate and rely on active community engagement partnerships across disciplines, thus reducing barriers to collaboration and increasing real-world results.
- Sea Grant's dedication to relevant scientific research has generated a legacy of thousands of students through the years. Many past funded students are now leaders — or emerging leaders — at colleges and universities, businesses, agencies, and nonprofits.

- We co-founded the NC Oyster Trail, including leading the economic research and advising on messaging and media relations. Today, consumers use ncoystertrail.org to plan how to enjoy succulent shellfish and visit oyster farms. This blend of ecotourism and publicity benefits oyster growers, seafood markets, restaurants, and other community partners. (Photo below.)
- To meet changing market demands, seafood processors now must connect directly with consumers. Several businesses developed or enhanced their websites through our partnership with the NC Local Food Council. It is part of an award-winning awareness campaign that we spearheaded during the pandemic to strengthen links in the sea-to-table chain.



Justin Kase Conder

National Honors



Vanda Lewis

“The seafood industry is critical to the economy of North Carolina, and the steps taken to ensure its survival were nothing short of mouth-watering! Numerous articles on seafood preparation and seafood availability by species and season, along with numerous recipes, kept the observer's taste buds very active! Combine that with a dedicated portal to resources for seafood consumers, marine science educators, and seafood industry professionals, and you have a complete campaign to protect the viability of this important segment of the state's economy.”

— Judges' comments when honoring NC Sea Grant with a national APEX Grand Award for Excellence

Innovation in Education

K-12 teachers and students count on NC Sea Grant for relevant lessons that meet state and/or national standards. In the pandemic, many teachers needed to convert lessons for virtual classrooms and outdoor settings. We had solutions immediately available.

- *Lessons in Mariculture* offer career education and science for in-person and online learning.
- *Coastwatch Classroom* provides online content that compliments stories in our popular magazine.
- Education researchers created a water quality curriculum available online. Their workshops drew high school teachers from over 30 counties.
- Students across the state shared information they learned about impacts of marine debris, drawing praise for community presentations and online videos — thus demonstrating the power of youth bringing science-based information to decision-makers.
- Thanks to a collaboration with PBS NC and other partners, thousands of teachers and students have accessed our award-winning online *Watershed Wisdom* lessons.
- Our fellows often work with youth interested in science careers. Melinda Martinez, Ph.D., shares her research — and her experiences as a first-generation college student. (Photo at right.)



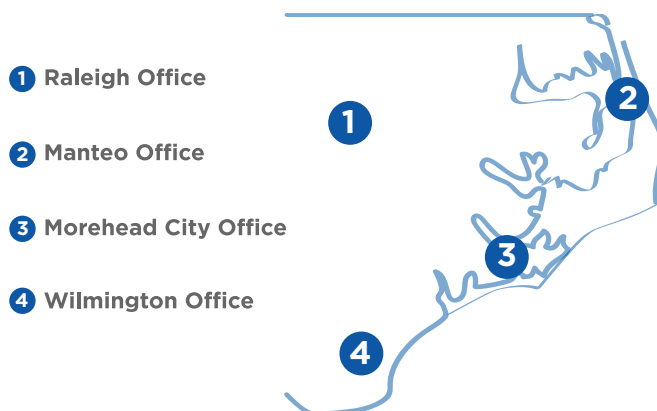
What Is North Carolina Sea Grant?

Since 1970, North Carolina Sea Grant has aligned our goals with the National Sea Grant College Program. We serve the entire state through our research, education, and outreach.

Our primary areas of emphasis include healthy coastal ecosystems, resilient communities and economies, sustainable fisheries and aquaculture, and environmental literacy and workforce development. We often take a watershed approach to understanding downstream impacts, and work with hundreds of partners across state and local agencies and organizations.

NOAA and the State of North Carolina fund our work. By forging enduring collaborations that bridge North Carolina's public and private universities with critical coastal needs, our program fuels discovery, learning, and real-world solutions.

North Carolina Sea Grant Offices



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Numbers represented in this snapshot are from 2020 and/or 2021.