



NOAA In Your State

North Carolina

NOAA is an agency that enriches life through science. Our reach goes from the surface of the sun to the depths of the ocean floor as we work to keep citizens informed of the changing environment around them. From daily weather forecasts, severe storm warnings, and climate monitoring to fisheries management, coastal restoration and supporting marine commerce, NOAA's products and services support economic vitality and affect more than one-third of America's gross domestic product. NOAA's dedicated scientists use cutting-edge research and high-tech instrumentation to provide citizens, planners, emergency managers and other decision makers with reliable information they need when they need it.

The following is a summary of NOAA facilities, staff, programs, or activities based in, or focused on, your state or territory: Starting with highlights, then by [congressional districts and cities or towns](#), [coastal programs](#), and then [statewide programs](#).

[Highlights of NOAA in North Carolina](#)

Beaufort Laboratory	Beaufort	NC-3
Habitat Conservation Division Field Office	Beaufort	NC-3
North Carolina National Estuarine Research Reserve	Coastal	NC-3
Monitor National Marine Sanctuary	Cape Hatteras	NC-3

The state of North Carolina also has one Cooperative Institute, three Weather Forecasting Offices, one Regional Office, two Labs and Field Offices, one Cooperative Science Center, seven Science on a Sphere® exhibitions, three National Estuarine Research Reserves, and one Habitat Focus Area.

Weather Forecast Offices

New Bern	NC-3
Raleigh	NC-2
Wilmington	NC-7

National Weather Service (NWS) Weather Forecast Offices (WFO) are staffed 24/7/365 and provide weather, water, and climate forecasts and warnings to residents of North Carolina. There are 122 WFOs nationwide of which four are in North Carolina. Highly trained forecasters issue warnings and forecasts for weather events, including severe thunderstorms, tornadoes, hurricanes, winter storms, floods, and heat waves to the general public, media, emergency management and law enforcement officials, the aviation and marine communities, agricultural interests, businesses, and others. Information is disseminated in many ways, including wireless emergency alerts, social media, weather.gov, and NOAA Weather Radio All Hazards. Each WFO has a Warning Coordination Meteorologist who actively conducts outreach and educational programs that strengthen working relationships with local partners in emergency management, government, the media and academic communities. Forecasters provide Impact-based Decision Support Services (IDSS), both remotely and on-site during critical emergencies such as wildfires, floods, chemical spills, and major recovery efforts. To gather data for forecasting and other purposes, NWS WFO staff monitor, maintain and use Automated Surface Observing Stations and Doppler Weather Radar. In addition to the WFOs, NWS operates specialized national prediction centers and regional headquarters throughout the U.S. for a total of 168 operational units. Over 85% of NWS' workforce is in the field. For current North Carolina weather, visit www.weather.gov and, on the national map, click on the relevant county or district.

Science On a Sphere®

Wilson	NC-1
Manteo	NC-3

Science On a Sphere (SOS) is a room-sized global display system that uses computers and video projectors to display planetary data onto a six-foot diameter sphere, analogous to a giant animated globe. Researchers at NOAA developed Science On a Sphere® as an educational tool to help illustrate Earth System science to people of all ages. Animated images of atmospheric storms, climate change, and ocean temperature can be shown on the sphere, which is used to explain in a way that is simultaneously intuitive and captivating what are sometimes complex environmental processes. They are located at the Imagination Station Science Museum in Wilson and the North Carolina Aquarium in Manteo.

NC- 1 **Wilson**

NOAA Office of Education - Science On a Sphere® at Imagination Station Science Museum

Science On a Sphere (SOS) is a room-sized global display system that uses computers and video projectors to display planetary data onto a six foot diameter sphere, analogous to a giant animated globe. Researchers at NOAA developed Science On a Sphere® as an educational tool to help illustrate Earth System science to people of all ages. Animated

images of atmospheric storms, climate change, and ocean temperature can be shown on the sphere which is used to explain complex environmental processes in a way that is simultaneously intuitive and captivating.

NC-2

Raleigh

National Environmental Satellite, Data, and Information Service (NESDIS) - [National Centers for Environmental Information](#) - [Southeast Regional Climate Center](#)

NOAA NCEI's six Regional Climate Centers (RCCs) support the development and delivery of a wide range of place-based climate science and information products and services to assist decision makers with making informed decisions. The RCCs are a federal-university cooperative effort that supports the operational production and delivery of climate data and information to decision-makers at regional levels. The RCCs also participate in basic and applied climate research as well as user engagement and outreach activities. The service provided by the RCCs has evolved through time to become an efficient, user-driven program with many of the components that have been cited for effective regional climate services. The Southeast RCC is collocated with the University of North Carolina-Chapel Hill and serves VA, NC, SC, GA, AL, FL, PR, U.S. VI.

National Ocean Service (NOS) - [Regional Geodetic Advisor](#)

The Regional Geodetic Advisor is a National Ocean Service (NOS) employee that resides in a region and serves as a liaison between the National Geodetic Survey (NGS) and its public, academic and private sector constituents within their assigned region. NGS has a Regional Geodetic Advisor stationed in Raleigh, North Carolina serving the Mid-Atlantic region – North Carolina, Delaware, Georgia, Puerto Rico, Maryland, South Carolina, the Virgin Islands, Virginia, and Washington D.C. The Geodetic Advisor provides training, guidance and assistance to constituents managing geospatial activities that are tied to the National Spatial Reference System (NSRS), the framework and coordinate system for all positioning activities in the Nation. The Geodetic Advisor serves as a subject matter expert in geodesy and regional geodetic issues, collaborating internally across NOS and NOAA to ensure that all regional geospatial activities are properly referenced to the NSRS.

National Weather Service (NWS) - [Weather Forecast Office](#)

Located at the Centennial Campus of North Carolina State University, this NWS Weather Forecast Office (WFO) is staffed around-the-clock every day, and provides the best possible weather, water, and climate forecasts and warnings to residents of the northern Piedmont, northern and central Coastal Plain, and the Sandhills of North Carolina. Highly trained forecasters issue warnings and forecasts for events, including severe thunderstorms, tornadoes, winter storms, floods, and heat waves. This essential information is provided to the general public, media, emergency management and law enforcement officials, the aviation and marine communities, agricultural interests, businesses, and others. Information is disseminated in many ways, including through dedicated government channels, satellite, the Internet, and NOAA Weather Radio All Hazards. Forecasters also provide Impact-based Decision-Support Services (IDSS), both remotely and on-site, during critical emergencies, such as wildfires, floods, chemical spills, and for major recovery efforts such as those following the Joplin and Moore tornadoes, Hurricanes Katrina and Sandy, and the Sept. 11, 2001, terrorist attacks in New York City and Washington D.C. The WFO collects and disseminates precipitation, river, and rainfall data, and prepares local climatological data. Each WFO has a Warning Coordination Meteorologist who actively conducts outreach and educational programs, which helps build strong working relationships with local partners in emergency management, government, the media and academic communities. The WFO operates Automated Surface Observing Stations (ASOS), as well as the local Doppler Weather Radar, which provides critical information about current weather conditions. The radar data enables forecasters to issue warnings for tornadoes, severe thunderstorms, and flash floods.

Office of Oceanic and Atmospheric Research (OAR) - [Ultraviolet \(UV\) Monitoring Network](#)

NOAA's Global Monitoring Laboratory (GML) operates an instrument at this site as part of the ultraviolet (UV) monitoring network site (NEUBrew). These measurements are part of GML's research on the Earth's surface radiation budget and are used in studies of variations in long-term radiation and meteorological parameters. Observations of spectral solar radiation can be used to infer the presence and quantities of atmospheric constituents and to investigate the interaction of ozone and solar radiation.

Office of Oceanic and Atmospheric Research (OAR) - [Carolinas Collaborate on Climate, Health, and Equity](#)

The Carolinas Collaborate on Climate, Health, and Equity (C3HE) is a cooperative agreement between NOAA's Climate Program Office (CPO) and North Carolina State Climate Office at North Carolina State University. It is one of several Climate Adaptation Partnerships, formerly Regional Integrated Sciences and Assessments (CAP/RISA) teams contributing to the advancement of equitable climate adaptation through sustained regional research and community engagement. C3HE builds upon years of regional work on climate science, tools and assessments to move into a new phase that centers Justice, Equity, Diversity, and Inclusion (JEDI) principles at the forefront of NOAA-funded climate research and to deliver climate futures to more communities than have been previously served. They apply a bottom-up participatory action approach to develop a transferable model for end-to-end co-production of actionable and equitable climate resilience solutions in at-risk communities in the Carolinas. The team advances their goals by demonstrating their commitment to address the climate reality in a just and equitable way, while ensuring the inclusivity and diversity of all voices are represented in every aspect of their work in the Carolinas; building and enhancing local partnerships in underserved communities across the Carolinas to identify, test, and refine equitable solutions for climate resilience; understanding and predicting how co-occurring and consecutive hazards interact with exposure and vulnerability to shape climate risk; identifying and connecting the complex linkages between structures of power, intersecting social positions, and climate-health inequities in vulnerable communities; and designing and implementing community-sciences programs to track physical and social science metrics and build community-level climate resiliency literacy. Core partners of C3HE include the North Carolina State Climate Office at North Carolina State University, University of North Carolina Chapel Hill, Furman University, North Carolina Central University, North Carolina Sea Grant, South Carolina State University, and the North Carolina Museum of Life and Science. Contact information and more details about this team can be found [here](#).

NC-3

Beaufort

National Marine Fisheries Service (NMFS) - [Southeast Fisheries Science Center Beaufort Laboratory](#)

Research at the Beaufort laboratory supports the Southeast Fisheries Science Center, including the Southeast Fishery-Independent Survey (SEFIS) program and the 1972-originated Southeast Region Headboat Survey.

National Marine Fisheries Service (NMFS) - [Southeast Regional Office, Habitat Conservation Division Field Office](#)

The Southeast Regional Office has the Beaufort Field Office which is co-located with the National Ocean Service's Center for Coastal Fisheries Habitat Research and with the Beaufort Laboratory of NMFS Southeast Fisheries Science Center. This Office is responsible for implementing NMFS's habitat protection programs in North Carolina and in the adjacent waters of the Atlantic Ocean. In addition to conducting mandated essential fish habitat consultations associated with extensive coastal development activities, the Office participates in state and regional habitat conservation planning and restoration efforts, supports the infrastructure planning activities of North Carolina's Department of Transportation, participates in the planning processes for major federal water development projects such as port expansions, and restores diadromous fish habitat by working with the Federal Energy Regulatory Commission on hydropower licenses, ensuring fish passage, and with stakeholders to remove dams no longer needed.

National Ocean Service (NOS) - [NOAA Beaufort Laboratory](#)

The NOAA Beaufort Laboratory, opened in 1899, is the second oldest federal marine laboratory and home to scientists from NOAA's National Ocean Service and National Marine Fisheries Service. Operated by the National Centers for Coastal Ocean Science since 1999, this facility on Pivers Island is recognized for a variety of research endeavors. Expertise within NCCOS includes: coastal change, spatial ecology and modeling, ecology of harmful algal blooms, habitat mapping, and aquaculture planning. The lab also houses the North Carolina Coastal Reserve and National Estuarine Research Reserve, which serve as living labs for scientists and students to learn about coastal systems. The lab has a full SCUBA diving roster, small boats, running seawater systems, high-tech labs for cell analysis, necropsy facilities, electronics workshops, classrooms, and a large auditorium.

Office of Oceanic and Atmospheric Research (OAR) and Office of the Chief Information Officer (CIO) - [N-Wave NOAA Science Network](#)

N-Wave is NOAA's science network connecting NOAA, academic, and state research network communities to data and resources needed to advance environmental science.

Office of Oceanic and Atmospheric Research (OAR) - [Uncrewed Systems Research Transition Office \(UxSRTO\) Project for Wetland Monitoring](#)

With support from the Uncrewed Systems Research Transition Office (UxSRTO), NOAA National Centers for Coastal Ocean Science has developed methods to seamlessly incorporate Uncrewed Aircraft Systems (UAS) to expand routine wetland monitoring programs like those conducted by the National Estuarine Research Reserve System (NERRS). Coastal wetlands occupy the narrow zone between upland and open water regions. As a result, they are uniquely vulnerable to coastal storms and sea level rise, serving as important sentinels of coastal change. Monitoring coastal wetlands to detect change is a fundamental component of the NERRS mission, and with these newly developed guidelines, UAS now have the potential to enhance current monitoring approaches by replacing some of the older "boots-on-the-ground" methods while providing much more useful, actionable information.

[New Bern](#)

National Marine Fisheries Service (NMFS) - [Office of Law Enforcement](#)

NOAA's Office of Law Enforcement is the only conservation enforcement program (Federal or State) that is exclusively dedicated to Federal fisheries and marine resource enforcement. Its mission is to protect global marine resources by enforcing domestic laws and international treaties and obligations dedicated to protecting wildlife and their natural habitat. Our special agents and enforcement officers ensure compliance with these laws and take enforcement action if there are violations. Effective fisheries law enforcement is critical to creating a level playing field for U.S. fishermen and enabling sustainable fisheries to support vibrant coastal communities. The New Bern field office is part of the Office of Law Enforcement's Southeast Division.

[Newport/Morehead City](#)

National Weather Service (NWS) - [Weather Forecast Office](#)

Located in Newport, this NWS Weather Forecast Office (WFO) is staffed around-the-clock every day, and provides the best possible weather, water, and climate forecasts and warnings to residents of northeastern North Carolina. This office also provides marine forecasts and warnings for most of the North Carolina coast including the Albemarle and Pamlico sounds. Highly trained forecasters issue warnings and forecasts for events, including severe thunderstorms, tornadoes, winter storms, floods, and heat waves. This essential information is provided to the general public, media, emergency management and law enforcement officials, the aviation and marine communities, agricultural interests, businesses, and others. Information is disseminated in many ways, including through dedicated government channels, satellite, the Internet, and NOAA Weather Radio All Hazards.

Forecasters also provide Impact-based Decision-Support Services (IDSS), both remotely and on-site, during critical emergencies, such as wildfires, floods, chemical spills, and for major recovery efforts such as those following the Joplin and Moore tornadoes, Hurricanes Katrina and Sandy, and the Sept. 11, 2001, terrorist attacks in New York City and Washington D.C. The WFO collects and disseminates precipitation, river, and rainfall data, and prepares local climatological data. Each WFO has a Warning Coordination Meteorologist who actively conducts outreach and educational programs, which helps build strong working relationships with local partners in emergency management, government, the media and academic communities. The WFO operates Automated Surface Observing Stations (ASOS), as well as the local Doppler Weather Radar, which provides critical information about current weather conditions. The radar data enables forecasters to issue warnings for tornadoes, severe thunderstorms, and flash floods.

Roanoke Island, Pine Knoll Shores

NOAA Office of Education - [Coastal Ecosystem Learning Centers \(CELC\) network](#)

In North Carolina, NOAA's Office of Education provides support to the North Carolina Aquarium on Roanoke Island in Dare County and the North Carolina Aquarium at Pine Knoll Shores in Carteret County as part of the Coastal Ecosystem Learning Centers (CELC) network, which is made up of 25 aquariums and marine science education centers located throughout North America. The CELC network collaborates on a variety of initiatives, ranging from youth summits to multi-institution projects, with the goal of better engaging the public in understanding, appreciating, and protecting marine and freshwater ecosystems. Through the CELC network, the Office of Education provides guidance, resources, and scientific expertise to these institutions, which collectively reach an estimated 20 million people annually across North America. By coordinating with the CELC network, NOAA helps to further its mission of engaging the public in protecting and preserving coastal and marine ecosystems.

Cape Hatteras

National Ocean Service (NOS) - [Monitor National Marine Sanctuary](#)

Since its designation in 1975 as the Nation's first national marine sanctuary, the *Monitor* National Marine Sanctuary (MNMS) has protected and preserved the wreck site of the Civil War vessel, the USS *Monitor*. For more than a century, the *Monitor* lay undiscovered and protected by nature in 76 meters of water just 25 kilometers off Cape Hatteras, N.C. In August of 1973, scientists aboard Duke University's research vessel *Eastward* located the *Monitor*. Continuing in the spirit of preserving America's maritime heritage, MNMS worked with state and federal partners to conduct archaeological expeditions off the North Carolina coast to document and survey other historically significant shipwrecks. The NOAA ship *Nancy Foster* hosted the 2022 Valor in the Atlantic Telepresence Expedition in partnership between NOAA's Office of National Marine Sanctuaries (ONMS) and the Global Foundation of Ocean Exploration (GFOE). Field teams from NOAA's Monitor National Marine Sanctuary (MNMS), NOAA's National Centers for Coastal Ocean Science (NCCOS) and North Carolina's Office of State Archaeology (OSA) conducted the first in-depth, multidisciplinary survey of the iconic Civil War ironclad USS *Monitor* since NOAA and the U.S. Navy recovered the warship's famous gun turret in 2002. Using remotely operated vehicles to document *Monitor* and other shipwrecks off the North Carolina coast, and streaming it live through the internet, NOAA is increasing access to special places in remote areas, achieving a goal of the Biden-Harris Administration's America the Beautiful initiative. The ROV dives and echosounder surveys also revealed a surprising diversity and abundance of fish occupying the reef and wreck sites. Collaborating with museums, aquariums, and educators, the broadcast showcased these nationally significant historic sites and their biological communities, and through expert interpretation brought the excitement of exploration and the wonders of these ocean treasures to life for students, educators, scientists, and the public worldwide.

Manteo

NOAA Office of Education - [Science On a Sphere® at North Carolina Aquarium](#)

Science On a Sphere (SOS) is a room-sized global display system that uses computers and video projectors to display planetary data onto a six-foot diameter sphere, analogous to a giant animated globe. Researchers at NOAA developed Science On a Sphere® as an educational tool to help illustrate Earth System science to people of all ages. Animated images of atmospheric storms, climate change, and ocean temperature can be shown on the sphere, which is used to explain complex environmental processes in a way that is simultaneously intuitive and captivating.

NC-4

Durham

Office of Oceanic and Atmospheric Research (OAR) - [U.S. Climate Reference Network](#)

The US Climate Reference Network (USCRN) is an operationally viable research network of more than 138 climate stations that are deployed nationwide. Data from the USCRN are used in various climate monitoring activities and for placing current climate anomalies into an historical perspective. The USCRN provides the United States with a reference network that contributes to an International network under the auspices of the Global Climate Observing System (GCOS). ARL/ATDD manage the USCRN in partnership with NOAA's NESDIS/NCEI.

Durham

NOAA Office of Education - [Science On a Sphere® at Museum of Life and Science](#)

Science On a Sphere (SOS) is a room-sized global display system that uses computers and video projectors to display planetary data onto a six foot diameter sphere, analogous to a giant animated globe. Researchers at NOAA developed Science On a Sphere® as an educational tool to help illustrate Earth System science to people of all ages. Animated images of atmospheric storms, climate change, and ocean temperature can be shown on the sphere which is used to explain complex environmental processes in a way that is simultaneously intuitive and captivating.

NC-5

Boone

Office of Oceanic and Atmospheric Research (OAR) - [Surface Aerosol Monitoring](#)

NOAA's Global Monitoring Laboratory(GML) operates surface-based aerosol monitoring sites in six states and one territory (Puerto Rico). Guiding the location of these instruments is the finding that human activities primarily influence aerosols on regional/continental scales rather than on global scales. Aerosols create a significant perturbation of the Earth's radiative balance on regional scales. The measurements made include aerosol optical properties (how the particles absorb and scatter solar radiation), aerosol number concentration and chemical composition of the aerosol particles. The site is a partnership with Appalachian State University.

NC-7

Wilmington

National Weather Service (NWS) - [Weather Forecast Office](#)

Located in Wilmington, this NWS Weather Forecast Office (WFO) is staffed around-the-clock every day, and provides the best possible weather, water, and climate forecasts and warnings to residents of southeastern North Carolina and northeastern South Carolina. Highly trained forecasters issue warnings and forecasts for events, including severe thunderstorms, tornadoes, winter storms, floods, and heat waves. This essential information is provided to the general public, media, emergency management and law enforcement officials, the aviation and marine communities, agricultural interests, businesses, and others. Information is disseminated in many ways, including through dedicated government channels, satellite, the Internet, and NOAA Weather Radio All Hazards. Forecasters also provide Impact-based Decision-Support Services (IDSS), both remotely and on-site, during critical emergencies, such as wildfires, floods, chemical spills, and for major recovery efforts. The WFO collects and disseminates precipitation, river, and rainfall data, and prepares local climatological data. Each WFO has a Warning Coordination Meteorologist who actively conducts outreach and

educational programs. The WFO operates Automated Surface Observing Stations (ASOS), as well as the local Doppler Weather Radar. The radar data enables forecasters to issue warnings for tornadoes, thunderstorms, and flash floods.

New Hanover

NOAA Office of Education - [Coastal Ecosystem Learning Centers \(CELC\) network](#)

In North Carolina, NOAA's Office of Education provides support to the North Carolina Aquarium at Fort Fisher in New Hanover County as part of the Coastal Ecosystem Learning Centers (CELC) network, which is made up of 25 aquariums and marine science education centers located throughout North America. The CELC network collaborates on a variety of initiatives, ranging from youth summits to multi-institution projects, with the goal of better engaging the public in understanding, appreciating, and protecting marine and freshwater ecosystems. Through the CELC network, the Office of Education provides guidance, resources, and scientific expertise to these institutions, which collectively reach an estimated 20 million people annually across North America. By coordinating with the CELC network, NOAA helps to further its mission of engaging the public in protecting and preserving coastal and marine ecosystems.

NC-11

Asheville

Office of Oceanic and Atmospheric Research (OAR) - [U.S. Climate Reference Network](#)

The US Climate Reference Network (USCRN) is an operationally viable research network of more than 138 climate stations that are deployed nationwide. Data from the USCRN are used in various climate monitoring activities and for placing current climate anomalies into an historical perspective. The USCRN provides the United States with a reference network that contributes to an International network under the auspices of the Global Climate Observing System (GCOS). ARL/ATDD manage the USCRN in partnership with NOAA's NESDIS/NCEI.

Office of Oceanic and Atmospheric Research (OAR) and Office of the Chief Information Officer (CIO) - [N-Wave NOAA Science Network](#)

N-Wave is NOAA's science network connecting NOAA, academic, and state research network communities to data and resources needed to advance environmental science.

Asheville

National Environmental Satellite, Data, and Information Service (NESDIS) - [Office of Common Services \(OCS\) - Comprehensive Large Array-data Stewardship System \(CLASS\)](#)

The Comprehensive Large Array Storage System (CLASS) is NOAA's premiere online facility for the distribution of NOAA and US Department of Defense (DoD) Polar-orbiting Operational Environmental Satellite (POES) data, NOAA's Joint Polar Satellite System (JPSS) data, the joint NOAA-NASA Suomi National Polar Partnership data, NOAA's Geostationary Operational Environmental Satellite (GOES), and derived data, and other large data sets. The Asheville, NC site is the primary location of NOAA data archive holdings. The site takes in approximately 6 terabytes of environmental data daily and disseminates 700TB monthly to academia, industry, and other government agencies.

National Environmental Satellite, Data, and Information Service (NESDIS) - [National Centers for Environmental Information](#)

NOAA's National Centers for Environmental Information (NCEI) are responsible for hosting and providing access to one of the most significant archives on earth, with comprehensive oceanic, atmospheric, and geophysical data. NCEI is the Nation's leading authority for environmental information by maximizing the Federal government's billion-dollar investment in environmental data, NCEI remains committed to providing products and services to private industry and businesses, local to international governments, academia, as well as the general public. NCEI headquarters are located in Asheville,

North Carolina with other major locations in Boulder, Colorado; Silver Spring, Maryland; and Stennis Space Center, Mississippi.

National Environmental Satellite, Data, and Information Service (NESDIS) - [Cooperative Institute for Climate and Satellites](#)

In 2009, the Cooperative Institute for Climate and Satellites (CICS) was formed through a national consortium of academic, non-profit, and community organizations, with leadership from the University of Maryland College Park (UMCP) and North Carolina State University. CICS is administered as part of the NOAA/NESDIS/STAR Cooperative Research Program Institutes. This is the first experiment by NOAA and academic institutions with a geographically diverse set of more than 20 partner institutions across the country to address environmental change, their prediction, and potential impacts. CICS-NC is an Inter-Institutional Research Center with the UNC System, where it is known as the North Carolina Institute for Climate Studies. CICS-NC is co-located with NOAA's National Centers for Environmental Information in Asheville, NC.

Coastal

National Marine Fisheries Service (NMFS) - [Cape Fear River Partnership](#)

NOAA has formed a unique partnership of key federal, state, local, academic, and other organizations in North Carolina to develop a multi-year action plan that will use a broad range of tools and capabilities to provide long-term habitat-based solutions for the most pressing challenges for migratory fish in the Cape Fear River Watershed. Building on the momentum created by constructing a fishway on the first barrier on the river—the Army Corps' Lock and Dam #1—we will address other issues affecting fish and recreational use of the Cape Fear River. The action plan will identify threats to healthy migratory fish populations, outline actions to improve water quality, habitat conditions, and fish passage, and determine community and economic benefits of improved migratory fish populations.

National Marine Fisheries Service (NMFS) - [Deep-Sea Coral Research and Technology Program](#)

NOAA's Deep Sea Coral Research is administered by NOAA Fisheries' [Office of Habitat Conservation](#). Mandated by the Magnuson-Stevens Fishery Conservation and Management Act, it is the nation's only federal research program dedicated to increasing scientific understanding of deep-sea coral ecosystems. Deep-sea corals occur off of every coastal state in the country, and create important habitats for countless species, including many fish species. The Program collaborates closely with partners, including other NOAA offices, to study the distribution, abundance, and diversity of deep sea corals and sponges. This work then informs critical management decisions in the waters of the United States and its territories. These decisions enhance the sustainability of deep-sea fisheries and other ocean uses, while conserving deep-sea coral and sponge habitats.

The Program works with partners to complete multi-year regional fieldwork initiatives, as well as smaller projects around the country, centered on integrating new and existing information on these vulnerable and biologically diverse habitats. The first research initiative took place from 2009 to 2011 in the U.S. South Atlantic region and provided valuable information to help decision-makers refine protected area boundaries. To date, the Program has completed one or more initiatives in each region of the United States.

National Marine Fisheries Service (NMFS) - [Cooperation with States Program](#) and [Species Recovery Grants](#)

Under the authority of section 6 of the Endangered Species Act, the Cooperation with States Program brings states, NMFS, and other partners together to recover threatened and endangered species. A total of 25 U.S. territories and coastal states, including North Carolina, currently participate in this program. Competitive grants are awarded to states through the Species Recovery Grants to States Program to support management, monitoring, research and outreach

efforts for species that spend all or a portion of their life cycle in state waters. The funded work is designed to prevent extinctions or reverse the decline of species, and restore ecosystems and their related socioeconomic benefits. The North Carolina Wildlife Resources Commission has received funding through this program to support the recovery of Atlantic sturgeon, shortnose sturgeon, and sea turtles. .

National Marine Fisheries Service (NMFS) - [National Marine Mammal Stranding Network](#) and [John H. Prescott Marine Mammal Rescue Assistance Grant Program](#)

The National Marine Mammal Stranding Network and its trained professionals respond to dead or live marine mammals in distress that are stranded, entangled, out of habitat or otherwise in peril. Our long-standing partnership with the Network provides valuable environmental intelligence, helping NOAA establish links among the health of marine mammals, coastal ecosystems, and coastal communities as well as develop effective conservation programs for marine mammal populations in the wild. NOAA Fisheries funds eligible members of the Stranding Network through the competitive John H. Prescott Marine Mammal Rescue Assistance Grant Program.

National Marine Fisheries Service (NMFS) - [Sea Turtle Salvage and Stranding Network](#)

The Sea Turtle Stranding and Salvage Network (STSSN) was formally established in 1980 to collect information on and document strandings of marine turtles along the U.S. Gulf of Mexico and Atlantic coasts. The network, which includes federal, state and private partners, encompasses the coastal areas of the eighteen-state region from Maine to Texas, and includes portions of the U.S. Caribbean. Data gathered by the Network helps inform bycatch reduction efforts, monitor factors affecting turtle health, and provide other information needed for sea turtle management and population recovery.

National Ocean Service (NOS) – [Bipartisan Infrastructure Law](#)

The Bipartisan Infrastructure Law is helping coastal communities build the future they want to see. The legislation provides a historic investment in coastal protection and restoration that will increase community resilience to climate change and extreme weather events, and improve how we manage our ocean resources. Projects funded under this law protect and restore ecologically significant habitats, including conserving lands that play a critical role in helping communities become more resilient to natural hazards. North Carolina received funding for one project in FY22, as well as funds to build the state's capacity to protect its coastal communities and resources.

National Ocean Service (NOS) - [National Water Level Observation Network](#)

NOS operates six long-term, continuously operating tide stations in the state of North Carolina which provide data and information on tidal datum and relative sea level trends, and are capable of producing real-time data for storm surge warning. These stations are located at Duck, Oregon Inlet, USCG Cape Hatteras, Beaufort (Duke Marine Lab), Wilmington, and Wrightsville Beach. Each station is associated with a set of tidal benchmarks installed in the ground that is used to reference the height of the water levels and helps connect the water level to land. Station data feeds into many CO-OPS products that are used to support safe navigation, mitigate coastal hazards, and protect communities. Such products include:

- Coastal Inundation Dashboard - view water levels in real-time and during storms
- High Tide Flooding Outlooks
- Sea level trends and maps
- Real-time current measurements
- Hydrodynamic models
- Tidal and water level datums

National Ocean Service (NOS) - [Navigation Manager](#)

NOAA's navigation managers work directly with pilots, port authorities, and recreational boating organizations in North Carolina. They help identify the navigational challenges facing marine transportation in North Carolina and provide NOAA's resources and services that promote safe and efficient navigation. Navigation managers are on call to provide expertise and NOAA navigation response coordination in case of severe coastal weather events or other marine emergencies. The Office of Coast Survey has a navigation manager in Norfolk, Virginia to support mariners and stakeholders in the Mid-Atlantic region.

National Ocean Service (NOS) - [Navigation Response Team](#)

The Office of Coast Survey (OCS) maintains the nation's nautical charts and publications for U.S. coasts and the Great Lakes. OCS navigation managers are strategically located in U.S. coastal areas to provide regional support to federal and state agencies in order to assist with navigational challenges. The Office of Coast Survey's Navigation Response Branch (NRB) conducts routine and emergency hydrographic surveys; and working with the regional Navigation Managers, navigation response teams (NRT) work around-the-clock after storms to speed the reopening of ports and waterways. During emergency response, the NRTs provide time-sensitive information to the U.S. Coast Guard or port officials, and transmit data to NOAA cartographers for updating the Coast Survey's suite of navigational charts. NRT-Fernandina is homeported in Fernandina Beach, FL and is able to respond within 24 to 48 hours.

National Ocean Service (NOS) - [Coastal and Estuarine Land Conservation Program](#)

The Coastal and Estuarine Land Conservation Program brings conservation partners together to protect coastal and estuarine lands considered important for their ecological, conservation, recreational, historical, or aesthetic values. Subject to availability of funding, the program provides state and local governments with matching funds to purchase coastal and estuarine lands or obtain conservation easements for important lands threatened by development. Since 2002, the program has protected more than 110,000 acres of coastal land nationally, including over 16,000 acres protected as in-kind matching contributions. One project in North Carolina was successfully completed, and this land is protected in perpetuity.

National Ocean Service (NOS) – [National Coastal Zone Management Program](#)

Through a unique federal-state partnership, NOAA's Office for Coastal Management works with the North Carolina Department of Environment Quality to implement the National Coastal Zone Management Program in North Carolina. NOAA provides the state coastal management program with financial and technical assistance to further the goals of the Coastal Zone Management Act and ensure coastal waters and lands are used in a balanced way to support jobs, reduce use conflicts, and sustain natural resources.

National Ocean Service (NOS) – [Digital Coast](#)

The Digital Coast is a focused information resource developed to meet the unique needs of coastal communities. Developed and maintained by NOAA's Office for Coastal Management, content comes from hundreds of organizations, including federal, state, and local agencies, plus private sector and non-profit contributors. The Digital Coast website provides not only site-specific coastal data, but also related tools, training, and information needed to make these data useful for coastal decision makers. The Digital Coast Act authorizes the Digital Coast as a standing national program and supports NOAA's efforts to increase access to authoritative data, tools, and training that enable coastal communities to plan for long-term resilience, manage water resources, and respond to emergencies.

National Ocean Service (NOS) – [National Coastal Resilience Fund](#)

The National Coastal Resilience Fund is a partnership effort between NOAA and the National Fish and Wildlife Foundation (NFWF) to restore, increase, and strengthen natural infrastructure to protect coastal communities, while also

enhancing habitat for fish and wildlife. In North Carolina, the NCRF has awarded eleven projects, one in FY18 and FY19, four in FY20, three in FY21, and two in FY22.

National Ocean Service (NOS) – [Emergency Coastal Resilience Fund](#)

The Emergency Coastal Resilience Fund is a partnership effort between NOAA and the National Fish and Wildlife Foundation (NFWF) to increase the resilience of coastal communities within federally-declared disaster areas impacted by hurricanes and wildfires in 2018, 2020, and 2021. North Carolina received funds to implement nine projects in 2019 and one in 2021.

National Ocean Service (NOS) - [North Carolina National Estuarine Research Reserve](#)

The 10,568-acre North Carolina Research Reserve is managed by the North Carolina Department of Environmental Quality. The site is protected for long-term research and monitoring, stewardship, and education. The site has four components: Currituck Banks, Rachel Carson, Masonboro Island, and Zeke's Island. The reserve has been the site of many research projects on a variety of important topics including living shorelines, invasive species, productivity of benthic microalgae, the use of dredged material to nourish salt marshes, and effects of feral horses on salt marsh productivity. The education and training programs enhance estuarine awareness and provide a critical link between scientific research results and coastal management policies. The reserve is also a partner in the NOAA Sentinel Site Program.

National Ocean Service (NOS) – [Margaret A. Davidson Graduate Fellowship](#)

The Margaret A. Davidson Graduate Fellowship program funds graduate student research and professional development opportunities within the National Estuarine Research Reserve System. The program supports collaborative research addressing local management challenges that may influence future policy and management strategies. The Davidson Fellow at the North Carolina National Estuarine Research Reserve will focus their research on assessing the efficacy of remote sensing tools to map intertidal oyster habitat and generate a fishery-independent survey program for sustainable management.

National Ocean Service (NOS) - [OR&R Preparedness, Response, and Restoration Coordinators](#)

NOAA's Office of Response and Restoration (OR&R) is a center of expertise in preparing for, evaluating, and responding to threats to coastal environments, including oil and chemical spills, releases from hazardous waste sites, disasters, and marine debris. To fulfill its mission of protecting and restoring NOAA trust resources, OR&R provides scientific and technical support to prepare for and respond to environmental threats that coastal communities face; determines damage to natural resources from those releases; protects and restores marine and coastal ecosystems; and works with coastal communities to address critical local and regional coastal challenges.

- The **Regional Preparedness Coordinator (RPC)** is strategically placed within the region to ensure that NOS and our partners are able to effectively prepare for, respond to, and recover from all hazards, including coastal disasters. The RPC serves as a liaison between NOS and its federal, state, and local disaster preparedness and emergency response partners. A key role of the RPC is to better understand the needs and opportunities within the region and to ensure partners have the tools and resources necessary to inform decision-making. The RPC has expertise across the spectrum of emergency management and provides preparedness, response, and recovery services including planning, training, exercises, response coordination, continuous improvement, and long-term recovery. The RPC, based in Charleston, South Carolina, serves the Southeast region – North Carolina, South Carolina, Georgia, and Florida.
- Eleven regionally based **Scientific Support Coordinators (SSC)** harness the input of a multi-disciplinary team to address issues such as oil slick trajectory forecasting, environmental tradeoffs, best practices, resources at

risk, and chemical hazard assessment to reduce risks to coastal habitats and resources. The SSC for North Carolina is based in Point Pleasant, New Jersey at the USCG Station Manasquan.

- OR&R identifies and quantifies environmental injury caused by releases of oil and hazardous materials. Our network of **Regional Resource Coordinators** work with multidisciplinary scientific, economic, and legal teams with the goal of securing the appropriate amount and type of restoration required to restore injured NOAA trust resources and compensate the public for their lost use. We collaborate with NMFS Restoration Center and NOAA General Council through the Damage Assessment, Remediation, and Restoration Program (DARRP) to ensure the process is efficient, legally defensible and restoration focused. The RRCs serving the Northeast/Great Lakes region are based in Boston, Massachusetts and New York, New York.

National Ocean Service (NOS) - OR&R [Atlantic Environmental Response Management Application](#) and [Response Tools for Oil and Chemical Spills](#)

Assessing important spatial information and designing successful restoration projects rely upon interpreting and mapping geographic information, including the location, duration, and impacts from oil spills, other hazardous materials, or debris released into the environment. Atlantic Environmental Response Management Application (ERMA®) is an online mapping tool that integrates both static and real-time data, such as ship locations, weather, and ocean currents, providing an easy-to-use common operating picture for environmental responders and decision makers. ERMA staff continued to work closely with Federal and State agencies for drills, hurricane response, and incidents. Maintained habitat data for sensitive species. Ensured data was kept up-to-date and data collection methods were kept consistent. In addition to ERMA, the Office of Response and Restoration (OR&R) offers a suite of [tools](#) to support emergency responders dealing with oil and chemical spills. From Environmental Sensitivity Index (ESI) maps and data which provide concise summaries of coastal resources including biological resources and sensitive shorelines to GNOME, a trajectory and fate model that predicts the route and weathering of pollutants spilled on water, and so much more, these tools provide easy-access to critical data that support a wide range of needs for emergency responders, ultimately supporting our coastal communities.

National Ocean Service (NOS) - [Marine Debris Projects and Partnerships in North Carolina](#)

The NOAA Marine Debris Program (MDP) in the Office of Response and Restoration (OR&R) leads national and international efforts to reduce the impacts of marine debris. The program supports marine debris removal, prevention, and research projects in partnership with state and local agencies, tribes, non-governmental organizations, academia, and industry. The MDP Southeast Regional Coordinator supports coordination efforts with regional stakeholders, provides support to grant-funded projects, tracks progress of projects, and conducts regional marine debris outreach to local audiences. In North Carolina, the MDP has worked with the National Park Service to develop and install an outreach and educational exhibit on marine debris in the Cape Lookout National Seashore. The MDP also works with local communities and organizations to remove marine debris. The North Carolina Coastal Federation is working to remove over 50 abandoned and derelict vessels and 400 tons of Hurricane Florence debris from the central and southeastern waters of North Carolina. This project was made possible by support from the Hurricane Response Marine Debris Removal Fund, a partnership between the MDP and National Fish and Wildlife Foundation. The Southeast Marine Debris Action Plan, covering Georgia, North Carolina, and South Carolina, was published in 2019. This plan is facilitated by the MDP, and it establishes a road map for strategic progress in making the Southeast, its coasts, people, and wildlife free from the impacts of marine debris. The MDP continues to work with state and local governments, and other stakeholders, to develop and implement the North Carolina Marine Debris Emergency Response Guide.

National Ocean Service (NOS) - [U.S. Integrated Ocean Observing System \(Mid-Atlantic Regional Association Coastal Ocean Observing System and Southeast Coastal Ocean Observing Regional Association\)](#)

The U.S. Integrated Ocean Observing System (IOOS®) is a federally and regionally coordinated observing system with 17 interagency and 11 regional partners. The System addresses regional and national needs for coastal, ocean, and Great Lakes data and information. This includes gathering and disseminating regional observations; data management; modeling and analysis; education and outreach; and research and development.

The Mid-Atlantic Regional Association Coastal Ocean Observing System (MARACOOS) is one of the 11 Regional Associations and it extends from Cape Hatteras to Cape Cod including the estuaries and the continental shelf waters. MARACOOS provides the necessary ocean observing, data management, and forecasting capacity to systematically address prioritized regional themes including maritime safety, ecosystem based management, water quality, coastal inundation, and offshore energy development.

The Southeast Coastal Ocean Observing Regional Association (SECOORA) coordinates coastal and ocean observing activities, and facilitates continuous dialogue among stakeholders so that the benefits of a sustained coastal and ocean observing system can be realized. SECOORA's vision is to protect people by providing comprehensive information and tools, conserve the marine environment by providing ocean current, wind, and ecosystem condition information, and enhance the coastal economy by providing information and models to facilitate more effective decision-making.

National Weather Service (NWS) - [Buoys](#)

The National Weather Service (NWS), through its National Data Buoy Center (NDBC), develops, deploys, operates, and maintains the current national data buoy network of moored and drifting weather buoys and land stations that serve all of the Nation's coastal states and territories. Within this network, 110 of the buoys and 51 of the land stations are maintained directly by NDBC. Located at NASA's Stennis Space Center in Mississippi, supports weather and marine warning and forecast services in real time by providing deep ocean and coastal meteorological and oceanographic observations. These data provide valuable information used by NWS supercomputers to produce computer-generated model forecasts of the atmosphere and climate. NDBC manages the Volunteer Observing Ship program to acquire additional meteorological and oceanographic observations supporting NWS mission requirements. NDBC also supports operational and research programs of NOAA and other national and international organizations.

[Statewide](#)

[National Weather Service \(NWS\) Weather Forecast Offices \(WFO\)](#) are staffed 24/7/365 and provide weather, water, and climate forecasts and warnings to residents of North Carolina. There are 122 [WFOs nationwide](#) of which three are in North Carolina. Highly trained forecasters issue warnings and forecasts for weather events, including severe thunderstorms, tornadoes, hurricanes, winter storms, floods, and heat waves to the general public, media, emergency management and law enforcement officials, the aviation and marine communities, agricultural interests, businesses, and others. Information is disseminated in many ways, including wireless emergency alerts, social media, weather.gov, and NOAA Weather Radio All Hazards. Each WFO has a Warning Coordination Meteorologist who actively conducts outreach and educational programs that strengthen working relationships with local partners in emergency management, government, the media and academic communities. Forecasters provide Impact-based Decision Support Services (IDSS), both remotely and on-site during critical emergencies such as wildfires, floods, chemical spills, and major recovery efforts. To gather data for forecasting and other purposes, NWS WFO staff monitor, maintain and use Automated Surface Observing Stations and Doppler Weather Radar. In addition to the WFOs, NWS operates specialized national prediction

[centers](#) and regional headquarters throughout the U.S. for a total of 168 operational units. Over 85% of NWS' workforce is in the field. For current North Carolina weather, visit www.weather.gov and, on the national map, click on the relevant county or district.

National Marine Fisheries Service (NMFS) - [Restoration Center](#)

The [NOAA Restoration Center](#), within the [Office of Habitat Conservation](#), works with partners across the nation to restore habitat to sustain fisheries, recover protected species, and maintain resilient coastal ecosystems and communities. We have over 30 years conducting habitat restoration through competitive funding opportunities and technical assistance. We also work to reverse habitat damage from disasters like oil spills, ship groundings, and severe storms. North Carolina contains the largest estuarine system of any Atlantic Coast state. This 2.3 million acre network of habitats provides productive and diverse habitats for finfish, shellfish, and other wildlife, and recreation for millions of people. The Restoration Center works with numerous partners in North Carolina to restore salt marshes, shorelines, and oyster reefs; and to remove dams that block migratory fish habitat. See the interactive [Restoration Atlas](#) to find habitat restoration projects near you. Site visits to see habitat projects may be available in North Carolina, please inquire if interested.

National Marine Fisheries Service (NMFS) - [Southeast Regional Office](#) and [Southeast Fisheries Science Center](#)

NMFS studies, protects and conserves living marine resources to promote healthy, functioning marine ecosystems, afford economic opportunities and enhance the quality of life for the American public. NMFS' Southeast Regional Office (headquartered in Saint Petersburg, FL) and Southeast Fisheries Science Center (headquartered in Miami, FL) are responsible for living marine resources in federal waters of the Gulf of Mexico, South Atlantic, and U.S. Caribbean. Using the authorities provided by the *Magnuson-Stevens Fishery Conservation and Management Act*, *Endangered Species Act*, *Marine Mammal Protection Act* and other federal statutes, the Southeast Regional Office and Southeast Fisheries Science Center partner together to assess and predict the status of fish stocks, marine mammal and sea turtle populations, as well as other protected resources, including coral. Additionally, in collaboration, they develop and ensure compliance with fishery regulations, restore and protect habitat, and recover threatened and endangered species in waters off North Carolina and throughout the Southeast Region. The Southeast Regional Office is responsible for over 40 percent of all federal fishery management plans nationwide, which cover hundreds of species, ranging from diverse, relatively sedentary and vulnerable coral reef fish, like the popular snappers and groupers, to wide ranging pelagic species, like mackerel and mahi mahi. More than 90 marine mammal stocks and 27 threatened or endangered species, including the North Atlantic right whale and smalltooth sawfish, sixfive sea turtle species, Johnson's seagrass, and seven coral species, also occur in this region. The Office consults on approximately 50 percent of the nation's coastal development permits, provides fish passage and ecological flow recommendations at dozens of barriers, supports large-scale conservation and restoration programs aimed at protecting essential fish habitat and coastal communities from development, subsidence, sea level rise, and storms, and engages partners in regional collaboration. While 99% of the nation's outer continental shelf oil production is in this region, it is also the focus of new wind energy development off the Carolinas and in the Gulf of Mexico. The Southeast Regional Office also fosters sustainable [aquaculture](#) in the region, with two Regional Aquaculture Coordinators that act as a liaison acting as a liaison between federal and state agencies to assist in permitting and coordination activities, supporting aquaculture outreach and education, and collaborating with industry, academia and other stakeholders on regional marine aquaculture issues. The Southeast Fisheries Science Center implements a multi-disciplinary science and research program in support of living marine resource management.

National Marine Fisheries Service (NMFS) - The [Southeast Fisheries Science Center](#) provides the scientific advice and data needed to effectively manage the living marine resources of the Southeast region and Atlantic high seas through the following divisions.

[Fisheries Assessment, Technology, and Engineering Support](#) division provides essential services and development of new innovative technologies to support the center's mission. The branches of Biology and Life History, Advanced Technology, Gear Research, and Gear and Vessel Support branches provide state-of-the-art life history information and innovative solutions to reduce bycatch and optimize the performance of biological and fishery monitoring programs across the science center.

[Fisheries Statistics](#) division provides extensive support to management and science through the collection, management, and dissemination of commercial and recreational fisheries statistics. The branches of Commercial Fisheries Monitoring, Recreational Fisheries Monitoring, Survey Design, Data Management and Dissemination, Catch Validation and Bio-sampling, and Observer Program works extensively with various internal and external partners to collect the fishery dependent information used to support marine resource management in the region. Principal data collection agents are stationed in Wilmington and Manteo, NC.

[Marine Mammals and Sea Turtles](#) division supports and conducts science that leads to improved knowledge and meaningful conservation of marine mammals and turtles and their habitats in a changing environment, helping to achieve NOAA Fisheries' mission of implementing the Marine Mammal Protection Act and Endangered Species Act and making a positive impact on society.

[Population and Ecosystems Monitoring](#) division provides data, analytical products, research, and expertise to support NOAA Fisheries priorities. The branches of Ocean and Coastal Pelagics, Trawl and Plankton, Gulf and Caribbean Reef Fish, Atlantic and Caribbean Reef Fish and Habitat Ecology carry out fishery-independent surveys and applied research focused on fisheries and habitat ecology, and provides support for ecosystem- and climate-related initiatives in the region.

[Sustainable Fisheries](#) division works in partnership with fisheries managers and constituents to provide reliable scientific advice that enhances the stewardship of living marine resources. The branches of Gulf of Mexico Fisheries, Atlantic Fisheries, Highly Migratory Species, Caribbean Fisheries, and Data Analysis and Assessment Support also strive to advance scientific knowledge and promote diverse and sustainable fisheries through innovative research and development activities, and the use of advanced technologies.

[Social Science Research Group](#) conducts research and data collections to assess the social and economic performance of fisheries and regulatory impacts.

National Marine Fisheries Service (NMFS), and National Ocean Service (NOS), and NOAA General Counsel - [Damage Assessment, Remediation, and Restoration Program](#)

NOAA's Damage Assessment, Remediation, and Restoration Program (DARRP) assesses and restores habitat, fisheries, protected species and recreational uses that have been harmed by oil spills, chemical releases, and ship groundings. Working with federal, state, and tribal entities, and responsible parties, we have recovered funding from responsible parties for restoration of critical habitats, fisheries, protected species and recreational uses nationwide. These projects promote recovery of the ecosystem and provide economic benefits from tourism, recreation, green jobs, coastal resiliency, property values and quality of life. North Carolina is a co-trustee with NOAA for assessment and restoration after pollution incidents in North Carolina. For more information about our work in North Carolina, visit: [DARRP in Your State](#) (and use the top menu to navigate to "North Carolina") and this [interactive map](#).

National Ocean Service (NOS) - [Phytoplankton Monitoring Network](#)

The Phytoplankton Monitoring Network (PMN) is a nationwide community-based volunteer program of citizen scientists monitoring for the presence of organisms that can lead to Harmful Algal Bloom (HAB) formation. Volunteers serve as

data collectors for marine and freshwater blooms at more than 200 coastal and inland sites in the U.S. and Caribbean. Monitoring is conducted year-round and volunteers are trained to measure salinity, air and water temperatures, and how to collect phytoplankton samples using a plankton net. Samples are then analyzed for any HAB organisms via microscopy. Data collected by PMN volunteers enhances the Nation's ability to respond to and manage the growing threat posed by HABs by collecting important data for species composition and distribution in coastal and freshwater environments and creating working relationships between volunteers and professional marine biotoxin researchers. Event monitoring can assist state and federal agencies to issue timely warnings about shellfish consumption and other public health concerns.

National Ocean Service (NOS) - Mussel Watch Program

The National Oceanic and Atmospheric Administration (NOAA) Mussel Watch Program (MWP) monitors the status and trends of chemical contaminants and biological stressors in the nation's coastal waters. MWP began in 1986, and is based on the periodic collection and analysis of bivalves (oysters and mussels) and sediment from a network of more than 300 monitoring sites nationwide. Contaminants monitored at each site include the EPA's Priority Pollutant List of toxic substances and a suite of chemicals of emerging concern such as flame retardants, PFAS, pharmaceuticals, and current use pesticides.

National Weather Service - [NEXRAD \(WSR-88D\) Systems](#)

NEXRAD is used to warn the people of the United States about dangerous weather and its location. This radar technology allows meteorologists to warn the public to take shelter with more notice than ever before. The NEXRAD network provides significant improvements in severe weather and flash flood warnings, air traffic safety, flow control for air traffic, resource protection at military bases, and management of water, agriculture, forest, and snow removal. NEXRAD radar has a range of up to 250 nautical miles, and can provide information about wind speed and direction, as well as the location, size, and shape of precipitation. There are 159 operational NEXRAD radar systems deployed throughout the United States and overseas, of which three are in North Carolina.

National Weather Service (NWS) - [Automated Surface Observing Systems Stations](#)

The Automated Surface Observing Systems (ASOS) program is a joint effort of the National Weather Service (NWS), the Federal Aviation Administration (FAA), and the Department of Defense (DOD). ASOS serves as the Nation's primary surface weather observing network. ASOS is designed to support weather forecast activities and aviation operations and, at the same time, support the needs of the meteorological, hydrological, and climatological research communities. ASOS works non-stop, updating observations every minute, 24 hours a day, every day of the year observing basic weather elements, such as cloud cover, precipitation, wind, sea level pressure, and conditions, such as rain, snow, freezing rain, thunderstorms, and fog. There are 18 ASOS stations in North Carolina.

National Weather Service (NWS) - [Cooperative Observer Program Sites](#)

The National Weather Service (NWS) Cooperative Observer Program (COOP) is truly the Nation's weather and climate observing network of, by and for the people. More than 10,000 volunteers take observations on farms, in urban and suburban areas, National Parks, seashores, and mountaintops. The data are representative of where people live, work and play. The COOP was formally created in 1890 under the NWS Organic Act to provide observational meteorological data, usually consisting of daily maximum and minimum temperatures, snowfall, and 24-hour precipitation totals, required to define the climate of the United States and to help measure long-term climate changes, and to provide observational meteorological data in near real-time to support forecast, warning and other public service programs of the NWS. The data are also used by other federal (including the Department of Homeland Security), state and local entities, as well as private companies (such as the energy and insurance industries). In some cases, the data are used to make billions of

dollars' worth of decisions. For example, the energy sector uses COOP data to calculate the Heating and Cooling Degree Days which are used to determine individuals' energy bills monthly. There are 199 COOP sites in North Carolina.

National Weather Service (NWS) - [NOAA Weather Radio All Hazards Transmitters](#)

NOAA Weather Radio All Hazards (NWR) is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest National Weather Service (NWS) forecast office. NWR broadcasts official NWS warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week. Working with the Federal Communication Commission's (FCC) Emergency Alert System, NWR is an "All Hazards" radio network, making it the single source for comprehensive weather and emergency information. In conjunction with federal, state, and local emergency managers and other public officials, NWR also broadcasts warning and post-event information for all types of hazards – including natural (such as earthquakes or avalanches), environmental (such as chemical releases or oil spills), and public safety (such as AMBER alerts or 911 Telephone outages).

Known as the "Voice of NOAA's National Weather Service," NWR is provided as a public service by the NWS. NWR includes 1,100 transmitters covering all 50 states, adjacent coastal waters, Puerto Rico, the U.S. Virgin Islands, and the U.S. Pacific Territories. There are 21 NWR transmitters in North Carolina.

Office of Oceanic and Atmospheric Research (OAR) – [North Carolina Sea Grant College Program](#)

The National Sea Grant College Program (Sea Grant) is a federal-university partnership administered by NOAA that integrates research, extension outreach, and education. Sea Grant forms a national network of 34 programs in all U.S. coastal and Great Lakes states, Puerto Rico, and Guam. North Carolina Sea Grant is your link to research and resources for a healthier coast. Via integrated research, outreach and education programs, we provide unbiased, science-based information on existing and emerging issues affecting N.C. coastal communities and ecosystems. Since 1970, North Carolina Sea Grant has been a valuable resource for scientists, educators, local officials, government agencies, coastal businesses and the public. With headquarters at North Carolina State University in Raleigh, the program also has coastal offices in Manteo, Morehead City and Wilmington. Current projects focus on healthy coastal ecosystems, sustainable fisheries and aquaculture, resilient communities and economies, and environmental literacy and workforce development. Administrative offices are located in Raleigh. Extension agents are located in Manteo, Morehead City, and Wilmington. Get involved with Sea Grant through state and national opportunities like the John A. Knauss Marine Policy Fellowship program at seagrant.noaa.gov.

National Ocean Service (NOS) - [Ocean Guardian School Program](#)

An Ocean Guardian School makes a commitment to the protection and conservation of its local watersheds, the world's ocean, and special ocean areas, like national marine sanctuaries. Funds are provided to schools at \$4,000 per year if the school makes this commitment by proposing and then implementing a school- or community-based conservation project. Once the school has completed its project, the school receives official recognition as a NOAA Ocean Guardian School. To date, the Ocean Guardian School Program has reached more than 88,700 students and 3,500 teachers.

National Ocean Service (NOS) - Students for [Zero Waste Week](#)

Students are inviting their local communities to "Go Green and Think Blue" by joining them in the annual *Students for Zero Waste Week campaign*. During this campaign led by the Office of National Marine Sanctuaries, students focus on reducing land-based waste in order to protect the health of local marine environments. These young leaders are raising awareness of how single-use plastic and other types of litter affect the health of local watersheds, national marine sanctuaries, and the ocean. In addition, some schools are looking at ways to reduce their energy use on campus with hopes of raising awareness of how the burning of fossil fuels also impacts the health of the ocean.

NOAA *In Your State* is managed by [NOAA's Office of Legislative and Intergovernmental Affairs](#) and maintained with information provided by NOAA's Line and Staff Offices. Questions about specific programs or offices should be directed to the NOAA Line or Staff Office listed.

More information for those offices may be found at [NOAA.gov](#).
