



## NOAA In Your State

# Virginia

**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](#), [Chesapeake Bay programs](#), [coastal programs](#), and then [statewide programs](#).

### Highlights of NOAA in Virginia

<a href="#">Field Office</a>	Gloucester Point	VA-1
<a href="#">Chesapeake Bay-Virginia National Estuarine Research Reserve</a>	Gloucester Point	VA-1
<a href="#">Wallops Station</a>	Wallops Island	VA-2
<a href="#">NOAA @ Nauticus</a>	Norfolk	VA-3

The state of Virginia also has four Weather Forecasting Offices, two Labs and Field Offices, four Science on a Sphere® exhibitions, and one National Estuarine Research Reserve.

### [Weather Forecast Offices](#)

Wakefield VA-11  
Blacksburg VA-9  
Washington Metropolitan Area VA-8  
Sterling VA-10

[NWS Weather Forecast Offices \(WFO\)](#) are staffed around-the-clock every day and provide the best possible weather, water, and climate forecasts and warnings to residents of Virginia. 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, 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.

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### [Science On a Sphere®](#)

Wallops Island VA-2  
Richmond VA-4  
Danville VA-5  
Harrisonburg VA-6

[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 NASA Flight Facility Visitor Center in Wallops Island, the Science Museum of Virginia in Richmond, the Danville Science Center, and James Madison University in Harrisonburg.

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### **VA- 1**

#### **[Gloucester Point](#)**

#### **National Marine Fisheries Service (NMFS) - [Habitat and Ecosystem Services Division Field Office](#)**

[Located on the campus of the Virginia Institute of Marine Science](#) this office is a field office of the Greater Atlantic Fisheries Office's Habitat and Ecosystem Services Division. HESD staff provide local support for NMFS' habitat conservation and stewardship efforts within Virginia and the larger Chesapeake Bay Region. This office also provides

consultative services, technical assistance and advice to federal agencies that authorize, fund or undertake activities that may affect marine, estuarine, and migratory fish species and the habitats upon which they depend.

**National Ocean Service (NOS) - [Chesapeake Bay-Virginia National Estuarine Research Reserve](#)**

The 3,072 acre Chesapeake Bay-Virginia Research Reserve, designated in 1991 and managed by the College of William and Mary's Virginia Institute of Marine Science, features four components, all within the York River basin: the Goodwin Islands, Catlett Islands, Taskinas Creek, and Sweet Hall Marsh. These components represent habitats along the river's salinity gradient, including salt-water and freshwater marshes, submerged aquatic vegetation, upland forests, beaches, and open water. Migratory birds, sea grasses, and many commercially important fish and shellfish are found within the reserve. Educational opportunities are provided for local students, state agencies, and citizens groups.

**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 Chesapeake Bay-Virginia National Estuarine Research Reserve will focus their research on optimizing salt marsh restoration strategies using a coupled carbon-sediment transport model.

**[Tidewater Region Cities](#)**

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

The National Ocean Service (NOS) operates seven long-term continuously operating tide stations in the state of Virginia that 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 Wachapreague, Kiptopeke Beach, Dahlgren, Lewisetta, Yorktown (USCG Training Center), Sewells Point, and Chesapeake Bay Bridge Tunnel. 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

**[VA- 2](#)**

**[Cape Charles](#)**

**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 manages the USCRN in partnership with NOAA's NESDIS/NCEI.

**[Chesapeake](#)**

**National Ocean Service (NOS) - [Center for Operational Oceanographic Products and Services](#) Atlantic Operations Branch Office**

The CO-OPS Chesapeake Facility operates and maintains the East Coast and Great Lakes portion of the National Water Level Observation Network (NWLON) for the collection, analysis and dissemination of water level observations and long-term sea level trends. NWLON is nationally composed of over 210 primary and long-term control tide stations, which provide basic tidal data for U.S. coastal and marine boundaries and for charting data. Other uses range from storm surge warnings to commercial and recreational vessel navigation to global climate change and tectonic studies.

### **[Newport News](#)**

#### **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. Additionally, the Cooperative Enforcement Program allows NOAA the ability to leverage the resources and assistance of 27 coastal states and U.S. territorial marine conservation law enforcement agencies in direct support of the Federal enforcement mission. 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 Office of Law Enforcement's Northeast Division is headquartered in Gloucester, MA, with a field office in Newport News, VA.

### **[Wallops Island](#)**

#### **National Environmental Satellite, Data, and Information Service (NESDIS) - [Office of Satellite and Product Operations](#) - [Wallops Station](#)**

The Wallops Command and Data Acquisition (CDA) Station is responsible for ensuring scheduled data flow from NOAA GOES, LEO, and Space Weather satellites to designated user subsystems. The Wallops CDA Station executes spacecraft commands and schedules for the GOES-R Series and DSCOVR spacecrafts. It acquires, maintains, and distributes a continuous flow of meteorological satellite data. This station provides the communication link between low earth orbiting and geostationary, and sun synchronous environmental weather satellites and the ground station. It sends commands and receives transmissions from the satellites. The Wallops CDA Station has eleven primary antenna systems, which send commands to the satellites, and perform primary data acquisition and preliminary processing. The Wallops CDA Station provides product distribution functions for the generation, formatting, and distribution of products to the National Weather Service. The information is distributed to all weather offices and facilities to track and evaluate significant weather events, and prepare warnings and forecasts. The Station assists in developing emergency procedures with spacecraft health and safety; and executes emergency plans independently in the event of a communications outage with the NESDIS Satellite Operations Control Center in Suitland, Maryland.

#### **National Environmental Satellite, Data, and Information Service (NESDIS)- [Center for Satellite Applications and Research \(STAR\)](#)- [Middle Peninsula of Virginia Habitat Focus Areas](#)**

The [Middle Peninsula of Virginia HFA](#) brings together offices from NMFS, NOS, NESDIS, and the NOAA Chesapeake Bay Office to strengthen existing local partnerships and build new ones. Habitat Focus Areas (HFAs) are one way offices and organizations collaboratively approach conservation in coastal areas within NOAA. To plan and build communities more resilient to climate change in the Middle Peninsula, decision makers need a wealth of scientific information. In particular, satellite data is incredibly valuable, filling gaps when on-the-ground measurements are impractical, or impossible. However, turning raw satellite data into useful information can be challenging work that requires specific expertise. NOAA's Center for Satellite Applications and Research (STAR) is working collaboratively with stakeholders to develop high-priority products. A web-based portal will allow users, including the Middle Peninsula Planning District Commission and the Virginia Institute of Marine Science's Center for Coastal Resources Management, to evaluate these products in context—alongside existing data and common socio-economic GIS layers like municipal boundaries and population density.

HFAs bring together federal, state, local, tribal, and non-government organizations to make collaborative investments that enhance habitat and coastal community resilience, and serve local communities by identifying and addressing their needs. By creating a common agenda, Habitat Focus Areas attract additional investment, catalyze new projects, build the capacity necessary for long-term stewardship, and forge partnerships that are key to creating lasting change.

**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.

**NOAA Office of Education - [Science On a Sphere® at NASA Flight Facility Visitor Center](#)**

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.

**Office of Oceanic and Atmospheric Research (OAR) - [Ozone Measurements](#)**

NOAA's Global Monitoring Laboratory (GML) makes measurements of the column amounts of ozone between the earth's surface and the top of the atmosphere at a number of locations around the United States. The observations are obtained with ground-based spectrometers that measure the attenuation by ozone of ultraviolet light. These observations are part of a global network and used to track recovery of stratospheric ozone layer in compliance with the USA Clean Air act of 1990. The integrated ozone amount is critical in determining the amount of ultraviolet radiation reaching the earth's surface. These long-term measurements help determine the effectiveness of efforts to protect and restore the ozone layer, which shields the surface from the sun's ultraviolet radiation. Excess ultraviolet radiation is responsible for increased incidence of human skin cancer, crop damage, and damage to other biogenic organisms.

**VA- 3**

**[Hampton](#)**

**National Marine Fisheries Service (NMFS) - Port Agent [Field Office](#)**

The Greater Atlantic Region's Port Agent Team works directly with the fishing industries of the region to provide in-person advice and support to fishermen and seafood dealers. Port agents also serve as a conduit for industry to relay information to the Regional Administrator and other NOAA staff about fishing industry concerns, thoughts and activities. Team members assist seafood dealers and vessel operators and owners with data reporting requirements, in navigating the permitting process, and with other Agency regulations and processes. They collect biological samples of seafood landed by commercial fishermen for use in fisheries stock assessments. They also provide the general public with information on fisheries and the marine environment by attending public events and through ad-hoc interactions.

**National Marine Fisheries Service (NMFS) - [Inspection Office](#)**

NOAA's Seafood Inspection Program conducts a voluntary inspection program for fishery products on a fee-for-service basis. The Program offers a wide range of services to the area's fishermen, fish processors and fish brokers including process and product inspection, product grading, lot inspection, laboratory analysis, and training. All edible foodstuffs, ranging from whole fish to formulated products, as well as fishmeal used for animal foods, are eligible for inspection and certification.

**[Norfolk](#)**

**Acquisition and Grants Office (AGO) - [Eastern Acquisition Division](#)**

The Acquisition and Grants Office provides financial assistance and acquisition services for NOAA by overseeing and implementing all processes related to contracts and grants. FY 2010, NOAA issued 2,306 grants, totaling over \$1.061 billion, to partner organizations and institutions throughout the United States and our territories.

**National Ocean Service (NOS) - [Atlantic Hydrographic Branch](#)**

The Atlantic Hydrographic Branch (AHB) is co-located with the Atlantic Marine Center in Norfolk, Virginia. AHB manages the office processing of hydrographic survey data acquired by NOAA hydrographic vessels, Navigation Response Teams, and performs contract oversight for hydrographic surveys conducted under contract. The Branch serves as the contact for East Coast, Gulf Coast and Great Lakes hydrographic survey requests and data processing, and verifies, evaluates, and analyzes acquired survey data. The NOAA Ships *Thomas Jefferson* and *Ferdinand R. Hassler*, as well as the survey vessel *Bay Hydro II* conduct the hydrographic surveys analyzed by AHB and then AHB produces final survey data, significant features and soundings for display on nautical charts and related products to support safe navigation on the East and Gulf coasts.

**National Ocean Service (NOS) - [Geodetic Field Operations Branch](#)**

Field Operations Branch personnel conduct geodetic surveys to support the National Spatial Reference System, shoreline mapping, nautical and aeronautical charting, and hydrography. Many of these surveys provide information that is incorporated into the National Airspace System in accordance with specifications of the Federal Aviation Administration. The Branch coordinates survey activities with other Federal, state, and local governments having interests in particular projects. The Branch supports NOAA's ship-based personnel by providing training in geodetic survey techniques and sometimes through performance of the surveys themselves. The Branch performs many different types of geodetic surveys for: crustal motion, airport obstructions, airport navigational aids, tidal datum's, and other special purposes.

**National Ocean Service (NOS) - Office of Coast Survey - [Navigation Manager](#)**

NOAA's navigation managers work directly with pilots, port authorities, and recreational boating organizations in the mid-Atlantic region. They help identify the navigational challenges facing marine transportation in Virginia 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 co-located at the Atlantic Hydrographic Branch to support mariners and stakeholders in the Mid-Atlantic region.

**NOAA-wide - [NOAA @ Nauticus](#)**

NOAA @ Nauticus is a partnership between NOAA and Nauticus, the National Maritime Center, located on the City of Norfolk's waterfront. Nauticus attracts over 300,000 visitors a year with special programs and exhibits focused on exploring the power of the sea. Working together, NOAA and Nauticus are implementing outreach and education programs and exhibits such as NOAA's Science on a Sphere® that will help achieve NOAA's overall mission priority of improving scientific and environmental literacy.

**Office of the Chief Information Officer (OCIO) - [Service Delivery Division](#)**

The Service Delivery Division provides a suite of IT services to support NOAA's mission. Our work includes IT infrastructure design and maintenance, network and server management and administration, desktop configuration and maintenance, application and system design and implementation, and IT security.

**Office of Marine and Aviation Operations (OMAO) - [Marine Operations Center- Atlantic](#) and the [NOAA Ship Thomas Jefferson](#)**

The Marine Operations Center-Atlantic (MOC-A) serves as homeport to the NOAA Ship *Thomas Jefferson*. MOC-A also provides regional management to NOAA Ships on the East Coast, supporting the *Ronald H. Brown* and *Nancy Foster* in Charleston, South Carolina; the *Ferdinand R. Hassler* in New Castle, New Hampshire; the *Henry B. Bigelow* and *Okeanos*



*Explorer* in Newport, Rhode Island; and the *Oregon II*, *Pisces*, and *Gordon Gunter* in Pascagoula, Mississippi. These NOAA vessels primarily operate in the Atlantic and Pacific Oceans, the Gulf of Mexico, and the Caribbean, performing research that supports the work of all NOAA line offices. The *Ronald H. Brown* also operates worldwide. The NOAA Ship *Thomas Jefferson* operates primarily along the Atlantic and Gulf Coasts, Puerto Rico, and the U.S. Virgin Islands, conducting hydrographic survey missions for the National Ocean Service. All vessels support NOAA's mission to protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management.

NOAA vessels are operated under the direction of officers from the NOAA Commissioned Officer Corps in concert with NOAA Professional Mariners. The NOAA Corps today provides a cadre of professionals trained in engineering, earth sciences, oceanography, meteorology, fisheries science, and other related disciplines. Officers operate ships, fly aircrafts, conduct diving operations, and serve in other NOAA staff positions. NOAA Professional Mariners perform the deck, engineering, steward, and survey tech functions aboard NOAA vessels, providing critical support to OMAO marine operations.

NOAA Commissioned Officer Corps (NOAA Corps) - Atlantic Hydrographic Operations and Safety Management  
The NOAA Commissioned Officer Corps stations multiple officers in Norfolk, VA in addition to the command at the Marine Operations Center-Atlantic (MOC-A)c. These officers fill various roles, primarily focused on hydrographic operations and safety management. In these roles, officers lead field operations to collect hydrographic data for navigation products, plan and manage the Mid-Atlantic Navigation programs and forward-facing representation of the Office of Coast Survey, Direct Atlantic hydrographic operations as a whole, and staff the Safety Management Branch for Marine Operations to serve as Fleet Representative for Executive Officers. As a central location for operations, Norfolk is a crossroads for NOAA Corps functions critical to the safe use of Virginia waterways by public and private mariners alike.

#### **Workforce Management Office (WFMO) - [Norfolk Office](#)**

The Workforce Management Office (WFMO) provides NOAA-wide leadership to workforce management functions including strategic human capital planning, labor-management, about labor relations, employee relations, performance management, and incentive awards, executive resources, distance learning, leadership development, training and career development, and human resources data management and automation initiatives. The Workforce Management Office employees in the Norfolk Office provide client centric human resources operational support to the National Weather Service's Headquarters and Eastern Region, National Ocean Service, and Office of Oceanic and Atmospheric Research.

#### **[Newport News](#)**

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

In 1975 NOAA designated, as its first national marine sanctuary, the site of the wreckage of the USS *Monitor*, a Civil War vessel that lies off the coast of North Carolina. The *Monitor* was the prototype for a class of US Civil War ironclad warships that significantly altered both naval technology and marine architecture in the 19th century. In March 1862, the ship fought the CSS *Virginia* in the Battle of Hampton Roads. On December 31, 1862, while being towed to Beaufort, N.C., the *Monitor* encountered a great gale and sank. For over a century, the *Monitor* lay undiscovered and protected by nature off Cape Hatteras, but in August of 1973, scientists located the *Monitor*. Various historically iconic artifacts from the shipwreck, such as the rotating gun turret, engine, condenser, propeller, and numerous smaller pieces were recovered between 1998 and 2002. These artifacts are being conserved in Newport News, Va. at The Mariners' Museum and Park's Batten Conservation Laboratory. Many of the artifacts are out of conservation and on display in the museum's USS *Monitor* Center. The sanctuary also works closely with its partners and school districts to support science, technology, engineering, and math education throughout the region. In order to better address current management issues, the sanctuary relies on input from a citizen advisory council representing sanctuary constituent groups who provide advice on sanctuary activities and management actions. By addressing the current issues and anticipating future challenges, we strive to preserve and protect our Nation's maritime heritage for this and future generations. In 2023, Monitor National Marine Sanctuary is launching a three-year campaign to celebrate the 50th anniversary of its designation as the nation's

first national marine sanctuary. 2023 marks the 50th anniversary of the *Monitor* shipwreck's discovery, 2024 is the 50th anniversary of the wreck's discovery announcement, and the celebration culminates in 2025 with the 50th anniversary of the sanctuary's designation. These dates will be honored through a series of outreach events with partners to help share America's most famous shipwreck with the public.

**National Ocean Service (NOS) – [Treasures of NOAA's Ark](#) (traveling exhibit)**

The Treasures of NOAA's Ark traveling exhibit showcases an array of heritage artifacts which tell the story of how the people, technology and resources shaped NOAA and its predecessor agencies over the past two decades. NOAA's responsibilities include preserving, protecting and promoting its own heritage while at the same time sharing this history with the public through innovative programs. From 19<sup>th</sup> century maps to nautical charts and early scientific instruments, the exhibit recalls NOAA's proud heritage and legacy of service by exploring the themes of history, weather, navigation and fisheries to better understand the land, sea and sky. With a blend of art and science, there is something of interest for everyone. Beginning March 1, 2017 the exhibit will be hosted by The Mariners' Museum in Newport News, Virginia through the end of the calendar year.

**VA- 4**

***Richmond***

**NOAA Office of Education - [Science On a Sphere® at the Science Museum of Virginia](#)**

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***Richmond City***

**NOAA Office of Education - [Environmental Literacy Program](#)**

The Environmental Literacy Program (ELP), administered by NOAA's Office of Education, provides grants and support for formal (K-12) and informal education to advance the agency's mission. In Virginia, ELP funded a project by the Science Museum of Virginia in Richmond City. The project aims to build the environmental literacy of children, youth, and adults so that they can become knowledgeable about ways to increase their community's resilience to extreme weather, climate change, and other environmental hazards, and be involved in achieving that resilience. To achieve this goal, the project integrates relevant state and local resilience plans and collaborates with stakeholders who are actively implementing these plans. The [Science Museum of Virginia project](#) employs NOAA resources and educational methods to promote community-level environmental literacy, enabling participants to better comprehend threats and implement solutions that build resilience to extreme weather, climate change, and other environmental hazards. Environmental literacy includes the knowledge, skills, and confidence to 1) reason about the ways that human and natural systems interact globally and locally; 2) participate in civic processes; and 3) incorporate scientific information, cultural knowledge, and diverse community values when taking action to anticipate, prepare for, respond to, and recover from environmental hazards, including mitigating and adapting to climate change.

**VA- 5**

***Charlottesville***

**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.

### **Danville**

#### **NOAA Office of Education - [Science On a Sphere® at the Danville Science Center](#)**

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### **VA- 6**

#### **Harrisonburg**

#### **NOAA Office of Education - [Science On a Sphere® at James Madison University](#)**

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### **Shenandoah National Park**

#### **Office of Oceanic and Atmospheric Research (OAR) - [Global Greenhouse Gas Reference Network](#)**

NOAA's Global Monitoring Laboratory (GML) operates trace gas monitoring sites at tall towers in eight states, including Virginia. The sites were established to extend GML's monitoring network to provide data to aid estimation of the net carbon balance of the continent. Variations of trace gases, especially carbon dioxide, are largest near the ground, so we utilize existing tall towers as platforms for in situ and flask sampling for atmospheric trace gases. Flask samples are delivered to GML in Boulder, Colorado for analysis. These data improve models and our understanding of the distribution of greenhouse gases, including sources and sinks of carbon in North America. The tower site in Virginia is operated in Shenandoah National Park by the University of Virginia.

### **VA- 7**

#### **Corbin**

#### **National Ocean Service (NOS) - [NGS Testing and Training Center](#)**

The National Geodetic Survey (NGS) Testing and Training Center (CTC) provides high quality training on a variety of geodetic topics and applications to public, private, and international partners to improve their geodetic positioning capacity. The CTC has a classroom, which can be configured for various training needs. It is equipped with 15 workstations for computer-based training, or the classroom can be arranged for lectures, discussion, and breakout groups. CTC has a full schedule of classes available for viewing on the website and requests for new class topics are always considered.

#### **National Ocean Service (NOS) - [Instrumentation and Methodologies Branch](#)**

The National Geodetic Survey (NGS) Instrumentation and Methodologies Branch tests and evaluates geodetic instruments and equipment and assists in the preparation of standards and specifications for geodetic surveying techniques and technologies for use by all Federal agencies. The Branch develops and evaluates methods for determining instrumental capabilities. It develops methodologies and observing procedures for new technologies and instrumentation to meet stakeholder needs. The Branch provides training for Geodetic Advisors and instrument operators assigned to field units, as well as other agencies and foreign nationals.

**National Ocean Service (NOS) - [Remote Sensing LiDAR Test and Evaluation Site](#)**

A permanent airborne Light Detection and Ranging (LiDAR) test and evaluation site was installed at the National Geodetic Survey (NGS) Instrumentation & Methodologies Branch facility located in Corbin, Virginia. The site was created in collaboration with the National Geospatial-Intelligence Agency (NGA), and will allow NGA and others to easily access important information about the area and surrounding positional control. An interactive map of the test and evaluation site with various layers of information such as RGB (red, green, and blue bands), near-infrared and color-infrared imagery, as well as local NGS survey control are available here:

**VA- 8**

**[Arlington](#)**

**Office of Oceanic and Atmospheric Research (OAR) - [Mid-Atlantic Regional Integrated Sciences and Assessments](#)**

The Mid-Atlantic Regional Integrated Sciences and Assessments (MARISA) is a cooperative agreement between NOAA's Climate Program Office (CPO) and RAND Corporation. It is one of several Climate Adaptation Partnerships (CAPs), formerly Regional Integrated Sciences and Assessments (RISA), teams contributing to the advancement of equitable climate adaptation through sustained regional research and community engagement. MARISA was established in September 2016 and has an overarching mission to support integrated, flexible processes for building adaptive capacity to climate variability and change in diverse settings in the Mid-Atlantic region, with an initial focus on the Chesapeake Bay Watershed. Building on decades of research in this region, MARISA emphasizes use-inspired research that integrates social and physical science methods to generate, analyze, and translate climate information at multiple spatial and temporal scales for diverse stakeholders. MARISA focuses on four objectives: (1) assess and address the climate-sensitive needs of vulnerable communities in the region; (2) advance capabilities for community adaptation planning through co-production of data, information, and tools; (3) build workforce capacity through robust engagement of diverse students and partners; and (4) evaluate program impacts, particularly in socially vulnerable communities. Core partners of MARISA include the RAND Corporation, Penn State University, Johns Hopkins University, and Cornell University. Contact information and more details about this team can be found [here](#).

**[Washington Metropolitan Area](#)**

**National Weather Service (NWS) - [Center Weather Service Unit](#)**

NOAA's Earth System Research Laboratory Global Monitoring Laboratory (ESRL/GML) operates surface-based radiation monitoring sites in seven states. ESRL/GML's Surface solar radiation (SOLRAD) monitoring network is based in the continental United States and is a collaboration with NOAA's SURFRAD Network.

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

Located at the NWS Research and Development Center at Dulles International Airport in Sterling, this NWS Weather Forecast Office (WFO) provides the best possible weather, water, and climate forecasts and warnings for residents of the District of Columbia, much of Maryland, the northern third of Virginia, and the eastern panhandle of West Virginia. This office also issues marine and coastal waters forecasts for the tidal Potomac and Chesapeake Bay. 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.

**VA- 9**

**Blacksburg**

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

**VA-10**

**Sterling**

**Office of Oceanic and Atmospheric Administration (OAR) - [Surface Radiation Measurement Network](#)**

This site is one of seven in the NOAA Global Monitoring Laboratory (GML) surface solar radiation (SOLRAD) monitoring network, based in the continental United States, and is a collaboration with NOAA's Surface Radiation Budget (SURFRAD) Network that supports climate research with accurate, continuous, long-term measurements of the surface radiation budget.

**VA-11**

**Wakefield**

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

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**Chesapeake Bay Region**

**National Marine Fisheries Service (NMFS) - [Chesapeake Bay Interpretive Buoy System](#)**

The [NOAA Chesapeake Bay Office](#) within the [Office of Habitat Conservation](#) manages a set of observation buoys that tracks data on water quality as well as meteorological and oceanographic conditions. Data from the buoys is updated every six minutes. It is used by scientists, marine safety organizations, boaters, teachers and students, and others who want to learn more about the Chesapeake Bay. Observations are available [on the web](#), at a mobile version of the website, by calling toll-free 877-BUOY-BAY, or using free mobile apps available for Android and iPhone smartphones. The "smart buoys" are in key locations throughout Virginia's portion of the Chesapeake Bay including the Elizabeth River (Norfolk), the James River (Jamestown), the Rappahannock River (Deltaville), and the mouth of the Bay (near Virginia Beach). Additional buoys—including the Upper Potomac (Washington, D.C.) and Potomac (Point Lookout buoy)—are frequently used by Virginia residents.

**National Marine Fisheries Service (NMFS) - [NOAA Chesapeake Bay Office](#)**

The [NOAA Chesapeake Bay Office](#) within the [Office of Habitat Conservation](#) is headquartered in Annapolis, Maryland. A field agent of the Chesapeake Bay Office is located in Norfolk, Virginia at the NOAA Marine Operations Center - Atlantic. The office focuses its science, service, and stewardship capabilities on improving the health of the Chesapeake Bay. It supports efforts to enhance sustainable fisheries, vital habitats, environmental literacy, and observations. Our work includes habitat science, oyster restoration, sustainable fisheries, climate resiliency; and environmental literacy. We administer cooperative programs on Ecosystem Science, Coastal and Living Resource Management, and Environmental Literacy; supports Bay-wide fisheries research and oyster restoration; provides blue crab stock assessment to state fisheries managers; operates and maintains the Chesapeake Bay Interpretive Buoy System; co-leads NOAA's Choptank River Habitat Focus Area and Middle Peninsula Habitat Focus Area. It also supports broad federal involvement in environmental education in the region, including managing the Chesapeake Bay Watershed Education and Training

(B-WET) grant program. The NOAA Chesapeake Bay Office also coordinates NOAA's efforts to implement the 2014 Chesapeake Bay Watershed Agreement in partnership with the Chesapeake Bay Program.

**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. 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. Twenty-five coastal states, including Virginia and U.S. territories currently participate in this program. To date, the Virginia Department of Wildlife Resources has received multiple awards through this program, including grants to support projects focused on Atlantic sturgeon and sea turtles.

**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 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. There is one stranding network member in the state.

NOAA Fisheries funds eligible members of the Stranding Network through the competitive John H. Prescott Marine Mammal Rescue Assistance Grant Program. For fiscal year 2020, 43 competitive Prescott Grants were awarded for a total of \$3.7 million nationwide, including one for \$98,142 to Virginia Aquarium and Marine Science Center Foundation.

**National Ocean Service (NOS) - [Chesapeake Bay South PORTS®](#)**

A Physical Oceanographic Real-Time System (PORTS®) is operated cooperatively with the local maritime community in the Lower Chesapeake Bay at which real-time data are quality-controlled and disseminated to local users for safe and efficient navigation. Real-time data are available for water levels from five stations, tidal currents from six stations, wave observations from 2 locations and meteorological observations from ten locations.

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**Coastal**

**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), National Ocean Service (NOS), NOAA Satellites (NESDIS) - [Middle Peninsula Habitat Focus Area](#)**

The Middle Peninsula of Virginia was selected as a [NOAA Habitat Focus Area \(HFA\)](#). HFAs are targeted places where NOAA addresses high priority habitat issues by collaborating with partners and communities. Over the past several years, NOAA, led by the [Office of Habitat Conservation](#), has selected 11 HFAs across the country which have achieved significant results for ecosystems and communities. While each HFA focuses on individual habitat conservation goals, the overarching goal is to leverage collective expertise and demonstrate results in a short time period.

The [Middle Peninsula Habitat Focus Area](#) includes the tidal watershed of the York River, Piankatank River, and Mobjack Bay in Virginia. Working with partners in the area at the federal, state, local and tribal levels, NOAA will restore habitats for important fish and shellfish species and improve coastal community resiliency. Projects focus on opportunities to restore oyster reefs, fish habitat, and shorelines. This collaborative, place-based effort involves multiple NOAA offices coming together to focus our programs and pool expertise and investments toward a common challenge working with partners and communities.

#### **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. Virginia received funding for two projects in FY22, as well as funds to build the state's capacity to protect its coastal communities and resources.

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

Through a unique federal-state partnership, NOAA's Office for Coastal Management works with the Virginia Department of Environmental Quality to implement the National Coastal Zone Management Program in Virginia. 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 Virginia, the NCRF has awarded twelve projects, three in FY18, one in FY19, two in FY20, one in FY21, and five 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. Virginia received funds for one project in 2019.

**National Ocean Service (NOS) – [Mid-Atlantic Committee on the Ocean](#)**

The Mid-Atlantic Committee on the Ocean (MACO) is a committee established by the [Mid-Atlantic Regional Council for the Ocean](#) (MARCO) to foster collaboration among states, federal agencies, the Mid-Atlantic Fishery Management Council, and federally recognized tribes to enhance the vitality of the region's ocean ecosystem and economy through increased communication and collaboration. To maintain quality constituent service, staff from NOAA Office for Coastal Management lead NOAA's engagement with MACO, MARCO and state coastal management programs to improve the delivery of NOAA products and services in this region. With funding provided through the Bipartisan Infrastructure Law, NOAA will invest approximately \$56 million over five years to enhance and support the priorities of established regional ocean partnerships, including coordinating interstate and intertribal management of ocean and coastal management issues, and enhancing sharing and integration of data.

**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. NOAA awarded eight grants in Virginia, and these lands are protected in perpetuity. In addition, a land conservation project was funded in FY22 in Virginia under the CELCP authority with funding through the Bipartisan Infrastructure Law.

**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.

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 Virginia 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 Virginia](#)**

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 Mid-Atlantic 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. The MDP also works with local communities and organizations to research marine debris. The MDP is partnering with Virginia Institute of Marine Science to examine whether microplastic ingestion increases disease susceptibility in rainbow trout. The Mid-Atlantic Marine Debris Action Plan, covering Virginia, New Jersey, the District of Columbia, Delaware, Maryland, and New York, was published in 2021. This plan is facilitated by the MDP with the help of 96 organizations. The plan establishes a road map for strategic progress in making the Mid-Atlantic, its coasts, people, and wildlife free from the impacts of marine debris. The MDP also supported the 2021 publication of the Virginia Marine Debris Reduction Plan, which is facilitated by Virginia's Coastal Zone Management Program along with other partners. This plan serves as a framework for strategic action and a road map for reducing consumer debris, derelict fishing gear, microplastics, and abandoned and derelict vessels in Virginia. The MDP continues to work with state and local governments, and other stakeholders, to develop and implement the Virginia Marine Debris Emergency Response Guide.

#### **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 Ocean Service (NOS) - Office of Coast Survey - [NOAA Survey Vessel Bay Hydro II](#)**

The Office of Coast Survey operates the NOAA Survey Vessel *Bay Hydro II* to acquire hydrographic survey data off the U.S. Atlantic coast, concentrating primarily in the Chesapeake Bay. The vessel is home-ported in Solomons, Maryland. The *Bay Hydro II* is equipped with state-of-the-art hydrographic and navigation equipment to detect submerged wrecks and obstructions are used to update NOAA's nautical charts in the Chesapeake Bay area. The Office of Coast Survey also uses the *Bay Hydro II* as its primary platform to test and evaluate new and emerging hydrographic survey technologies like uncrewed systems —multiplying the amount of data NOAA's survey fleet collects. This vessel is also able to serve as a navigation response team when required.

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

The U.S. Integrated Ocean Observing System, or 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.

#### **Office of Oceanic and Atmospheric Research (OAR) - [Sustained Carbonate Chemistry Observation Moorings](#)**

The Carbonate Chemistry Observing Mooring network is a sustained investment in ocean chemistry observing network in U.S. waters and abroad. There are currently 19 buoys in coastal, open-ocean and coral reef waters that contribute to this network. The time series created from these moorings are key to understanding how ocean chemistry is changing over time in these ecosystems by providing continuous and long-term observations of ocean conditions. These buoys are seated in three locations in Alaska (Gulf of Alaska, Papa, Bering Sea), two in California (California Current Ecosystem 1 & 2), one in the Chesapeake Bay (DE, MD, NY, PA, VA, WV), Coastal Mississippi (MS), Florida (Cheeca Rocks), Georgia (Grays Reef), Oregon (Newport Hydrographic Line), Maine (Gulf of Maine), and Washington (Cha'ba in La Push).

#### **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.

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## Statewide

### Office of Oceanic and Atmospheric Research (OAR) – [Virginia 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. Virginia Sea Grant facilitates research, educational, and outreach activities promoting the sustainable management and use of marine resources. The program, based at the College of William & Mary's Virginia Institute of Marine Science, involves partners and researchers at other institutions of higher education throughout the Commonwealth. The partners include the University of Virginia, Old Dominion University, Virginia Tech, George Mason University, Virginia Commonwealth University, and James Madison University. Virginia Sea Grant's Marine Extension Program responds to the needs of marine-based industries and the public, and provides information that increases public understanding of the marine environment. Key topics include developing the skills of Virginia's future scientists and coastal workforce; working with coastal communities to develop coastal businesses, gain access to university expertise and plan for sea level rise; supporting research to address current scientific needs of Virginia's commercial fisheries and aquaculture; improving our knowledge of the impacts of land use and climate change on water quality and coastal habitats in the Chesapeake Bay and along Virginia's Atlantic coast; and helping local seafood businesses supply safe, high quality food to citizens in Virginia and around the world. Administrative offices are located in Gloucester Point, VA. Extension agents are located in Norfolk, Blacksburg, and Williamsburg. Get involved with Sea Grant through state and national opportunities like the John A. Knauss Marine Policy Fellowship program at [seagrants.noaa.gov](http://seagrants.noaa.gov).

### 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 Virginia.

### 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 11 ASOS stations in Virginia.

### 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 177 COOP sites in Virginia.

#### **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 12 NWR transmitters in Virginia.

#### **Office of the Chief Information Officer (OCIO) - [Norfolk Regional Center](#)**

The Office of the Chief Information Officer (OCIO) at NOAA's Norfolk Regional Center (IRC) maintains staff (5 federal employees and 3 contractors) and offices to provide support for corporate services such as networking, computing, software and hardware management, and cyber security. In addition, the OCIO at IRC provides select enterprise and regional IT support services to all of the NOAA Line and Program Offices located in the Pacific region. Our work includes IT infrastructure design and maintenance, network and server management and administration, desktop configuration and maintenance, application and system design and implementation, IT security, and telecommunications.

#### **Office of the Chief Information Officer (OCIO) - [High Performance Computing and Communications](#)**

The Office of the Chief Information Officer oversees operational high performance computing in partnership with the National Weather Service. NOAA's operational supercomputers process and analyze earth observations at quadrillions of calculations per second to support weather, water, and climate forecast models. The primary supercomputer, Luna, is located in Reston, Virginia, and the secondary supercomputer, Surge, is located in Orlando, Florida.

#### **National Marine Fisheries Service (NMFS) - [Greater Atlantic Regional Fisheries Office](#) and [Northeast Fisheries Science Center](#)**

NMFS is responsible for the management, conservation and protection of living marine resources within the United States' Exclusive Economic Zone (water three to 200 mile offshore). Using the tools provided by the *Magnuson-Stevens Act*, NMFS assesses and predicts the status of fish stocks, develops and ensures compliance with fisheries regulations, restores and protects habitat and works to reduce wasteful fishing practices, and promotes sustainable fisheries. Under the *Marine Mammal Protection Act* and the *Endangered Species Act*, NMFS recovers protected marine species. The Greater Atlantic Regional Fisheries Office (located in Gloucester, MA) includes divisions that promote sustainable fisheries, habitat conservation, and recovery of protected species, and conducts statistical analysis and programs supporting these divisions. Key fish species managed in the Greater Atlantic Region include the northeast "multispecies complex" (cod, haddock, yellowtail flounder etc.), Atlantic sea scallops, herring, lobster, and summer flounder. Key marine endangered species in this region are North Atlantic right whales, leatherback, loggerhead, and Kemp's ridley sea turtles,

Atlantic salmon and Atlantic and shortnose sturgeon. NMFS is the lead agency coordinating the Large Whale and Sea Turtle Disentanglement Program activities and the Marine Mammal Health and Stranding Response Program activities. The core functions of these programs include coordinating volunteer networks to: respond to entanglements and strandings, investigate mortality events, and conduct biomonitoring, tissue/serum banking, and analytical quality assurance. The Office also fosters sustainable [aquaculture](#) in the region, with two Regional Aquaculture Coordinators that act 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 Northeast Fisheries Science Center (headquartered in Woods Hole, MA) focuses on collection, analysis, and presentation of scientific information about the Northeast Shelf ecosystem, its condition, and its marine life. In addition to its five laboratories, the Center uses four research vessels to support its work. The Greater Atlantic Regional Fisheries Office and the Science Center are responsible for the District of Columbia and the following states: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, and North Carolina; and the inland states of Vermont, Minnesota, Michigan, Wisconsin, Illinois, Indiana, Ohio, and West Virginia.

#### **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. See the interactive [Restoration Atlas](#) to find habitat restoration projects near you. Site visits to see habitat projects may be available in Virginia, please inquire if interested.

#### **National Marine Fisheries Service (NMFS), 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. Virginia is a co-trustee with NOAA for assessment and restoration after pollution incidents in Virginia. For more information about our work in Virginia, visit: [DARRP in Your State](#) (and use the top menu to navigate to "Virginia") and this [interactive map](#).

#### **National Marine Fisheries Service (NMFS) - [Chesapeake Bay Watershed Education and Training Program](#)**

The NOAA Bay Watershed Education and Training (B-WET) program is an environmental education program that promotes locally relevant, experiential learning in the K-12 environment. The NOAA Chesapeake Bay Office, a division of NOAA Fisheries' Office of Habitat Conservation, administers B-WET grants for the Chesapeake Bay watershed on behalf of the NOAA Office of Education. The primary delivery of B-WET is through competitive funding that promotes systemic Meaningful Watershed Educational Experiences. The Chesapeake B-WET program recognizes that knowledge and commitment built from firsthand experience, especially in the context of one's community and culture, is essential for achieving environmental stewardship. Chesapeake B-WET responds to regional education and environmental priorities through local implementation of competitive grant funds and is supportive of partnerships between school districts and community organizations and institutions that are run by and/or serve marginalized groups, particularly minority communities. School district implementation grants are available to school districts with 25% or more landmass in the Chesapeake Bay watershed. State-level capacity building grants are typically available on an every-other-year basis.

**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.

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**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](#).

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