# NOAA In Your State

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

**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 <u>congressional districts and cities or towns</u>, <u>coastal programs</u>, and then <u>statewide programs</u>.

### Highlights of NOAA in Maine

Penobscot River Habitat Focus Area	Orono	ME-1,2
Port Agent Field Office	Portland	ME-1
Wells National Estuarine Research Reserve	Wells	ME-1
Northeast Fisheries Science Center	Orono	ME-2
Bav-Watershed Education and Training Program	Statewide	ME

The state of Maine also has two Weather Forecasting Offices, one Regional Office, one Lab and Field Offices, one National Estuarine Research Reserves, and one Habitat Focus Area.

#### Weather Forecast Offices

Portland ME-1 Caribou ME-2

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 Maine. There are 122 WFOs nationwide of which two are in Maine. 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 Maine weather, visit www.weather.gov and, on the national map, click on the relevant county or district.

#### ME-1, ME-2 Orono, ME

National Marine Fisheries Service (NMFS), National Ocean Service (NOS), National Weather Service (NWS) - <u>Penobscot River Habitat Focus Area</u>

Habitat Focus Areas are a non-regulatory, collaborative approach to habitat conservation that NOAA launched in 2013 to increase the effectiveness of NOAA's habitat conservation science and management efforts. Habitat Focus Areas are places where NOAA offices, working together with public and private sector partners, can achieve measurable habitat conservation results in three to five years. NMFS is working with the National Weather Service and National Ocean Service within the Penobscot River watershed to restore passage for sea-run fish and educate the public about the benefits of restoration, including improvements in water quality, increased recreational opportunities (fishing, boating), increased prey base for groundfish, and resilient coastal communities. NOAA is funding fish passage projects from feasibility study through construction and monitoring, and is developing online planning tools and educational resources to help Penobscot River and bay communities identify local restoration opportunities. The Penobscot River is home to the largest remaining run of endangered Atlantic salmon in the United States.

#### **ME-1**

Portland 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 Weather Service (NWS) - Weather Forecast Office

Located just outside of Portland, the NWS Weather Forecast Office (WFO) in Gray is staffed around-the-clock every day, and provides the best possible weather, water, and climate forecasts and warnings to residents of southern and western Maine and New Hampshire. 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.

#### NOAA Office of Education - Environmental Literacy Program

NOAA's Environmental Literacy Program (ELP), administered by the Office of Education, provides grants and in-kind support to advance NOAA's mission through formal (K-12) and informal education. In Maine, ELP funded the Gulf of Maine Research Institute (Cumberland) to build the environmental literacy of children, youth, and adults so they are knowledgeable of the ways in which their community can become more resilient to extreme weather, climate change, and other environmental hazards, and become involved in achieving that resilience. The funded project is developing and facilitating regional trainings, in collaboration with local resilience professionals, by which 20 rural coastal communities in Maine can increase their capacity to plan and prepare for coastal climate impacts by developing the knowledge, skills, and relationships necessary to create data- and community-informed climate resilience plans. Cornerstone to the regional training is an engagement tool that builds common knowledge, incorporates diverse community value and voice, provides a framework for community planning and decision making, and builds relationships amongst participants.

#### Wells

#### National Ocean Service (NOS) - Wells National Estuarine Research Reserve

The 2,250 acre Wells Reserve, designated in 1984 and managed by the Reserve Management Authority, features a saltwater farm with historic buildings (circa 1720-1903) and a Greek Revival-style house that serves as a visitor center. The reserve contains an 11-kilometer trail system that winds through fields, forests, wetlands, salt marshes, dunes and beaches. Whitetail deer, snowy egrets, soft shell clams, winter flounder and piping plovers find a home here. The site provides a workshop series for adults, educational services for children. Wildflower, bird, and cultural history tours are

available. Research conducted at the site helps sustain and restore important coastal habitats such as estuaries, salt marshes, and watersheds.

#### 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 Wells National Estuarine Research Reserve will focus their research on exploring the role and effect of public participation in decision-making around managed retreat in Wells, Maine.

#### **Kittery**

#### National Ocean Service (NOS) - Portsmouth PORTS®

A Physical Oceanographic Real-Time System (PORTS®) is operated cooperatively with the local maritime community in Portsmouth Harbor with real-time data quality-controlled and disseminated to local users for safe and efficient navigation. Real-time water level observations are available from one station.

#### **ME-2**

#### Argyle

#### Office of Oceanic and Atmospheric Research (OAR) - Tall Tower Carbon Measurements

NOAA's Earth System Research Laboratory Global Monitoring Laboratory (ESRL/GML) operates trace gas monitoring sites at tall television transmitter towers, and other towers, in eight states, including Maine. The sites were established to extend ESRL/GML's monitoring network into the interior of North America in order 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.

#### Caribou

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

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 northern and eastern Maine. 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) - Total Column Ozone Measurements

NOAA's Earth System Research Laboratory Global Monitoring Laboratory (ESRL/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, including Caribou, ME. The observations are obtained with ground-based spectrometers that measure the attenuation by ozone of ultraviolet light. These observation represent NOAA global stratospheric ozone network and are 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. Excess ultraviolet radiation is responsible for human skin cancer and is also harmful to other biogenic organisms. Column ozone measurements monitor changes in the stratospheric ozone layer resulting from human-produced chlorine and bromine compounds that destroy ozone. With controls now in place on the manufacture and use of these ozone-destroying compounds, it will be important to monitor the ozone layer for the expected recovery and determine whether other factors such as long-term climate change are influencing this recovery.

#### Limestone

#### 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.

#### Old Town

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#### Orono

#### National Marine Fisheries Service (NMFS) - Northeast Fisheries Science Center

The Maine Field Station houses staff from NMFS Northeast Salmon Team, including fishery managers and scientists from both the Greater Atlantic Regional Fisheries Office and the Northeast Fisheries Science Center. Its mission is to promote the recovery and future sustainability of Atlantic salmon and other diadromous fish species and their associated ecosystems.

#### 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.

#### Coastal

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

NOAA's Deep Sea Coral Research and Technology Program is the only federal program dedicated to mapping, characterizing, and understanding deep-sea coral ecosystems, and sharing the information needed to conserve these habitats. The Program -- called for in the reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act and within the Office of Habitat Conservation -- is working with other NOAA offices and external partners to conduct fieldwork to study the distribution, abundance, and diversity of deep sea corals and sponges. Since 2009, more than 42,500 square miles of seafloor have been mapped and surveyed for deep-sea coral habitats from Florida to Maine, in Alaska and the West Coast, and in Hawaii and the Marianas Trench.

#### 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 and has a field office in Portland, ME.

#### 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 Maine, 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 Maine Department of Marine Resources has received multiple awards through this program, including grants to support projects focused on North Atlantic right whales, other large whales, Atlantic salmon, Atlantic sturgeon, and shortnose sturgeon.

#### 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) - <u>National Marine Mammal Stranding Network</u> and <u>John H. Prescott</u> <u>Marine Mammal Rescue Assistance Grant Program</u>

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 are two stranding network members 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, with two awards totalling \$199,704 going to two recipients in Maine: College of the Atlantic and Marine Mammals of Maine.

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

NOS operates four long-term continuously operating tide stations in the state of Maine, 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 Portland, Bar Harbor, Cutler Farris Wharf, and Eastport. 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 to land.

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

NOAA's navigation managers work directly with pilots, port authorities, and recreational boating organizations in Maine. They help identify the navigational challenges facing marine transportation in Maine 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 Narragansett, RI to support mariners and stakeholders in the Northeast 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-New London is homeported in New London, CT and is able to respond in the Northeast region 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. NOAA awarded seven grants in Maine, and these lands are 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 Maine Department of Marine Resources to implement the National Coastal Zone Management Program in Maine. 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 the tools, training, and information needed to make these data useful for coastal decision makers.

#### 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 Maine, the NCRF awarded one project in FY18, two projects in FY19, and three projects in FY20.

#### National Ocean Service (NOS) - Scientific Support Coordinator and Regional Resource Coordinator

NOAA's Office of Response and Restoration (OR&R) brings decades of experience, technical expertise and scientific analysis in response to oil and hazardous chemical spills. In addition to events that draw the national eye like Hurricane Sandy, OR&R also supports response to local emergencies. Nine regionally based Scientific Support Coordinators (SSCs) harness the input of a multi-disciplinary team to address issues such as oil slick trajectory forecasting, environmental tradeoffs, best practices, resources at risk, oil science and properties, and chemical hazard assessment to reduce risks to coastal habitats and resources. The SSC works directly with the U.S. Coast Guard and the U.S. Environmental Protection Agency to provide critical scientific support to the Federal On-Scene Coordinator. OR&R also helps develop preparedness plans that identify spill response actions with the greatest environmental benefit and trains hundreds of members of the response community each year on the scientific and technical aspects of spills.

OR&R's Regional Resource Coordinators (RRCs) provide scientific and technical expertise and timely response to oil spills or hazardous materials releases to collect information, samples, and evidence that are time dependent and critical to support natural resource damage assessments throughout the coastal US. RRCs work on multi-disciplinary scientific, economic, and legal teams and are responsible for determining and quantifying injuries to NOAA trust natural resources following events like the Gulf-Chevron terminal oil spill through determination of injuries and pathway, and demonstration of causal mechanisms. The goal of the RRCs efforts is to determine, often through the Damage Assessment, Remediation, and Restoration Program, the appropriate amount and type of restoration required to restore injured NOAA trust resources and compensate the public for their lost use. To date, DARRP has recovered \$1.9M for restoration of natural resources injured by an oil spill and two waste sites in Maine.

#### National Ocean Service (NOS) - Atlantic Environmental Response Management Application

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 Environmental Sensitivity Index maps, ship locations, weather, and ocean currents in a centralized, easy-to-use format 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.

#### National Ocean Service (NOS) - Marine Debris Projects and Partnerships

The NOAA Marine Debris Program (MDP) leads national and international efforts to research, prevent, and reduce the impacts of marine debris. The program supports marine debris removal, education and outreach, and research projects in partnership with state and local agencies, tribes, non-governmental organizations, academia, and industry. The MDP Northeast 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 is partnering with the Ocean Conservancy and the Gulf of Maine Lobster Foundation to remove derelict fishing gear and large debris from identified hotspots in Maine state waters, and build capacity and raise awareness among fishermen and other stakeholders to implement best practices for managing gear and preventing and reporting gear loss. The Gulf of Maine Marine Debris Action Plan, covering Maine, New Hampshire, Massachusetts, and partners across the Canadian border, was published in 2019 with the help of more than 30 different organizations. The plan establishes a comprehensive framework for strategic action to ensure the Gulf of Maine and its coasts, people, and wildlife are free from the impacts of marine debris.

## National Ocean Service (NOS) - <u>U.S. Integrated Ocean Observing System</u> (Northeastern Regional Association of Coastal Ocean Observing Systems)

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 Northeastern Regional Association of Coastal Ocean Observing Systems (NERACOOS) was established to network and expand the existing observing and prediction capacities of a multitude of institutions and agencies throughout New England and Maritime Canada. NERACOOS supports infrastructure that provides over-water meteorological and wave observations critical to safe navigation to the National Weather Service in Long Island Sound and the Gulf of Maine . These platforms also support current and dissolved oxygen sensors that provide critical information for management of hypoxia and harmful algal bloom. Fisheries managers, water quality specialists, the Coast Guard, and many others benefit from accurate and timely ocean observing infrastructure and related decision support tools. The region includes the coastal waters of Maine, New Hampshire, Massachusetts, Rhode Island, and Connecticut. In addition, partners from the Canadian provinces of New Brunswick and Nova Scotia are involved.

#### 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.

#### NOAA Office of Education - Environmental Literacy Program

NOAA's Environmental Literacy Program (ELP), administered by the Office of Education, provides grants and in-kind support to advance NOAA's mission through formal (K-12) and informal education. In Maine, ELP supports the Nor'easter

Bowl in Maine, one of 25 regional competitions of the National Ocean Sciences Bowl (NOSB). The NOSB is an academic competition that engages high school students in learning about ocean sciences and related STEM careers while helping them become knowledgeable citizens and environmental stewards. ELP supports the American Meteorological Society's DataStreme courses for K-12 educators through a grant and in-kind support. These courses use weather, climate, and the ocean as contexts for teaching science and improving understanding about the Earth system.

#### Statewide

#### National Marine Fisheries Service (NMFS) - 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 primary delivery of B-WET is through competitive funding that promotes Meaningful Watershed Educational Experiences (MWEEs). The New England 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. New England B-WET responds to regional education and environmental priorities through local implementation of competitive grant funds.

## National Marine Fisheries Service (NMFS) - <u>Northeast Fisheries Science Center</u> and Greater Atlantic Regional Office

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 (e.g. whales, turtles). The Greater Atlantic Regional Fisheries Office (located in Gloucester, MA) includes divisions that promote sustainable fisheries, habitat conservation, 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 Atlantic salmon and Atlantic and shortnose sturgeon, North Atlantic right whales, and leatherback, loggerhead and Kemp's ridley sea turtles. 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 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. The Center has five laboratories and four research vessels to support its work. The Greater Atlantic Regional Fisheries Office and the Science Center are responsible for the District of Columbia, 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 private and public partners locally and nationwide to increase fisheries productivity by restoring coastal habitat. Projects support sustainable fisheries, help recover threatened and endangered species, and reverse damage from disasters like oil spills, ship groundings, and severe storms. Through Community-based Restoration Program projects, more than 1400 acres of fisheries habitat have been restored, rehabilitated, and protected and over 300 miles of streams have been opened to migratory fish since 2000. The local community supported these restoration efforts through the time and effort of over 1,000 volunteers. The Restoration Center works with private and public partners in Maine to enhance fish passage at dams, widen bridges and culverts to improve tidal flushing in coastal wetlands, and restore river habitats and native wetlands.

#### National Ocean Service (NOS) – Office for Coastal Management

The NOAA Office for Coastal Management practices a partner-based, boots-on-the ground regional approach to coastal management, with staff available in the eight regions. Assistance is provided to local, state, and regional coastal resource management efforts. Constituent feedback and assessments are an important part of the effort. New England staff are located in Durham, New Hampshire, Gloucester and Scituate, Massachusetts and Yarmouth, Maine. These employees represent NOAA on several regional ocean governance initiatives (e.g., Northeast Regional Ocean Council, Gulf of Maine Council, and Northeast Regional Planning Body), coordinate NOAA involvement in ocean observing system activities, and support research reserves, coastal zone management, and other NOAA and state coordinated activities.

#### National Ocean Service (NOS) - Northeast Regional Ocean Council

To maintain quality constituent service, the NOAA Office for Coastal Management staff in this region work with the Northeast Regional Ocean Council and the coastal states on this board by representing NOAA and serving in leadership roles in three priority areas: ocean planning, coastal hazards resilience and ocean and coastal ecosystem health. These staff also coordinate the deployment of NOAA products and services in this region.

#### 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 Barre, Vermont serving the Northeast region including Maine. 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 Ocean Service (NOS) - Gulf of Maine Harmful Algal Bloom Predictive Models

Toxic blooms of *Alexandrium fundyense*, also known as red tide in New England, have resulted in extensive closures of shellfish harvesting. Closures were estimated to have caused \$18 million in lost shellfish sales in Massachusetts in 2005. NOAA-funded research has led to the development of models that can predict Alexandrium blooms. Weekly forecasts allow managers and the shellfish industry to minimize harvesting closures while still protecting public health.

#### 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 two are in Maine.

#### 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 10 ASOS stations in Maine.

#### 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 77 COOP sites in Maine.

#### 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). There are 11 NWR transmitters in Maine.

#### Office of Oceanic and Atmospheric Research (OAR) – Maine Sea Grant College Program

The National Sea Grant College Program (Sea Grant) is a federal-university partnership administered by NOAA that integrates research, 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. Maine Sea Grant supports science and extension to promote sustainable use and stewardship of ocean and coastal resources. In partnership with University of Maine Cooperative Extension, members of our Marine Extension Team focus on issues of concern to Maine residents and visitors, extending current knowledge and expertise in ecology, human dimensions, fisheries, aquaculture, and climate change to coastal communities from Kittery to Eastport. 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 Orono.

NOAA In Your State is managed by <u>NOAA's Office of Legislative and Intergovernmental Affairs</u> 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.