



NOAA In Your State





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, coastal programs,</u> and then statewide programs.

Highlights of NOAA in Washington

Padilla Bay National Estuarine Research Reserve Mount Vernon WA-2

WA-6 Port Angeles Olympic Coast National Marine Sanctuary

> WA-7 Western Regional Center Seattle

The state of Washington also has two Weather Forecasting Offices, one Regional Office, one cooperative institute, two Labs and Field Offices, two Science on a Sphere® exhibitions, and one National Estuarine Research Reserve.

Weather Forecast Offices

Spokane WA-5 Seattle WA-7 National Weather Service (NWS) Weather Forecast Offices (WFO) are staffed 24/7/365 and provide weather, water, and climate forecasts and warnings to residents of Washington. There are 122 WFOs nationwide of which two are in Washington. 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 Washington weather, visit www.weather.gov and, on the national map, click on the relevant county or district.

Science On a Sphere®

Redmond WA-1 Seattle WA-7

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 Microsoft Visitors Center in Redmond and the Pacific Science Center in Seattle.

WA-1 Redmond

Office of Oceanic and Atmospheric Research (OAR) - Science On a Sphere® - See Page 2 for details.

Darrington

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.

WA-2

Bellingham

National Marine Fisheries Service (NMFS) - Seafood Inspection Program - Lot Inspection Office

The National Seafood Inspection Program conducts a voluntary inspection program for fishery products on a fee-for-service basis. The office offers a wide range of services to the area's fishermen and fish processors 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 fish meal used for animal foods, are eligible for inspection and certification.

Cherry Point

National Ocean Service (NOS) - Cherry Point PORTS®

NOAA, in partnership with British Petroleum, provides a Physical Oceanographic Real-Time System (PORTS®) in Cherry Point 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 one station, currents from one station, and meteorological data from two locations.

Mount Vernon

National Ocean Service (NOS) - Padilla Bay National Estuarine Research Reserve

The National Estuarine Research Reserve System is a network of protected areas focused on long-term research, monitoring, stewardship, education, and training. NOAA's Office for Coastal Management provides funding and national guidance, and each site is managed on a daily basis by a lead state agency or university with input from local partners. The 11,966 acre Padilla Bay Research Reserve was designated in 1980 and is managed by the Washington State Department of Ecology. The Reserve is located in the northern reaches of greater Puget Sound and protects one of the largest beds of eelgrass in the contiguous United States.

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 Padilla Bay National Estuarine Research Reserve will focus their research on quantifying pelagic zooplankton prey availability for juvenile fish in eelgrass beds.

WA-3, 4

Vancouver, Goldendale

National Ocean Service (NOS) - Lower Columbia River PORTS®

The Columbia River Physical Oceanographic Real-Time System (PORTS®) extends from the mouth of the Columbia River to Vancouver, WA, and provides water level, wind, and weather conditions for pilots and shippers navigating inland to the Port of Portland. Real-time data are available for water levels from eight stations, meteorological data from four locations, and wave data from one location.

WA-4 Pasco

National Marine Fisheries Service (NMFS) - Pasco Research Station

The Pasco Research Station supports the Northwest Fisheries Science Center's research on anadromous fish migration, particularly monitoring and development of technologies to improve salmon survival during passage through the Columbia River hydropower system. The station is strategically located on the main stem of the Columbia River and serves

Northwest Fisheries Science Center research throughout the entire Columbia River Basin. It is the only NOAA facility dedicated to the study of safe salmon passage through major hydroelectric dams.

WA-5

Spokane

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.

National Weather Service (NWS) - Weather Forecast Office - See Page 2 for details.

WA-6 Forks

Office of Oceanic and Atmospheric Research (OAR) - Coastal Atmospheric River Observatory

The NOAA Earth System Research Laboratory Physical Sciences Laboratory operates and maintains a coastal atmospheric river observatory, which measures the conditions associated with land-falling atmospheric rivers; a key component of winter storms that are responsible for flooding and can sometimes lead to dangerous debris flows. The data collected will be used by researchers to study relevant atmospheric processes and advance NOAA predictive capabilities

Manchester

National Marine Fisheries Service (NMFS) - Manchester Research Station

Research at this Northwest Fisheries Science Center facility focuses on captive broodstock research and technology for depressed and endangered fish and the culture, genetics and marking and tagging technology of salmon and marine fish species. A world leader in state-of-the-art salmon culture technology, Manchester was the first research facility in the United States to grow salmon in a marine aquaculture setting. Today, it is one of only a few research facilities in the country where species such as lingcod, rockfish, sablefish, and Pacific halibut are successfully reared. Unique features of the Manchester facility include a large floating marine net-pen complex for understanding the environmental impacts of commercial rearing activities; unique semi-natural and other specialized rearing systems for salmon and marine fish studies; a state-approved salmon quarantine facility; and systems for research and testing of passive integrated transponder tagging technology.

Port Angeles

National Ocean Service (NOS) - Olympic Coast National Marine Sanctuary

Since its designation in 1994, the primary mission of NOAA's Olympic Coast National Marine Sanctuary is to protect the nationally-significant natural and cultural marine resources offshore of the Olympic Coast through responsible stewardship, to conduct and apply research to preserve the area's ecological integrity and maritime heritage, and to promote understanding through public outreach and education. Olympic Coast National Marine Sanctuary collaborates with local tribes, Washington state, and many other partners to enhance the understanding of ecosystem processes and inform ecosystem-based management through scientific research, monitoring and characterization. Sanctuary science and resource protection programs include tracking ecosystem health and impacts of marine debris, ocean acidification, changing ocean conditions, ocean sound, cooperative research with Coastal Treaty Tribes and others, vessel tracking, and oil spill prevention and preparedness. In 2020, the sanctuary was designated as an ocean acidification sentinel site, bringing together science, management and outreach to monitor and raise awareness about ocean acidification. The

sanctuary hosts the only research vessel dedicated to Washington's outer coast. The sanctuary carries out Ocean Literacy programs with local and regional education partners and serves the local tourism industry with its Olympic Coast Discovery Center, in Port Angeles. Current efforts include planning for a marine science and education facility on the Port Angeles waterfront in cooperation with the Port Angeles Waterfront Center and the Arthur Feiro Marine Life Center. The sanctuary relies on input from a community-based advisory council, composed of both non-governmental sanctuary constituents and governmental members, who provide advice on sanctuary activities and management actions. In addition, the sanctuary works closely with the State of Washington, the Quinault Indian Nation, and the Hoh, Quileute and Makah Indian tribes through the Olympic Coast Intergovernmental Policy Council, a forum for discussing policy issues critical to ocean health.

Port of Tacoma

National Ocean Service (NOS) - Port of Tacoma PORTS®

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

NOAA Commissioned Officer Corps (NOAA Corps) - <u>Olympic Coast National Marine Sanctuary Vessel Operations</u> <u>Coordinator</u>

The NOAA Commissioned Officer Corps stations an officer at Olympic Coast National Marine Sanctuary in support of small boat and scientific operations in the sanctuary. This officer performs multiple roles, including serving as Operator in Charge for sanctuary vessels, coordinating sanctuary assets and schedules for field season operations, and managing the maintenance and safety of sanctuary vessels. In addition, the officer serves as a community liaison, assisting NOAA scientists in outreach and education related to the sanctuary and its operations.

National Ocean Service (NOS) - Olympic Coast Discovery Center

The official visitor center for Olympic Coast National Marine Sanctuary, the Olympic Coast Discovery Center, located on the Port Angeles waterfront is a great place to learn about the Olympic Coast. It has information about marine conservation, the animals and habitats of Olympic Coast National Marine Sanctuary, and the roles individuals can play in protecting the marine environment. Visitors can also learn about the history of exploration of the Olympic Coast and the many tools that researchers use to understand the underwater landscapes, living communities, and ocean processes that make Olympic Coast National Marine Sanctuary an ecological treasure.

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.

WA-7 King

NOAA Office of Education - Coastal Ecosystem Learning Centers (CELC) network

In Washington, NOAA's Office of Education provides support to the Seattle Aquarium in King County as part of the Coastal Ecosystem Learning Centers (CELC) network, which is made up of 25 aquariums and marine science education centers located throughout North America. The CELC network collaborates on a variety of initiatives, ranging from youth summits to multi-institution projects, with the goal of better engaging the public in understanding, appreciating, and

protecting marine and freshwater ecosystems. Through the CELC network, the Office of Education provides guidance, resources, and scientific expertise to these institutions, which collectively reach an estimated 20 million people annually across North America. By coordinating with the CELC network, NOAA helps to further its mission of engaging the public in protecting and preserving coastal and marine ecosystems.

Seattle

Western Regional Center (WRC) - Western Regional Center

NOAA's Western Regional Center in Seattle houses the largest variety of NOAA programs at a single location in the U.S. It also employs the largest NOAA staff outside the Washington, D.C., metropolitan area. Located on the northwestern shore of Lake Washington at Sand Point, it is composed of nine major buildings, a dive center, and a vessel staging pier. Among the centers of expertise housed there is a national center for oil spill modeling and emergency pollution response.

Office of Oceanic and Atmospheric Research (OAR) - Exploration Command Center

The Exploration Command Center in Washington State is located at NOAA's Western Regional Center.

National Ocean Service (NOS) - <u>Center for Operational Oceanographic Products and Services</u> Pacific Operations Branch Office

This office operates and maintains the West Coast, Pacific Islands and Alaska 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.

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
 Washington, based in Seattle, is a NOAA Corps Officer and is supported by a NOAA Corps Regional Response
 Officer.
- 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 West
 Coast/Pacific region are based in Seattle, Washington and Anchorage, Alaska.

National Ocean Service (NOS) - NOAA Marine Debris Program (MDP)

The NOAA Marine Debris Program (MDP) in the Office of Response and Restoration (OR&R) supports national and international efforts to reduce the impacts of marine debris. The MDP Pacific Northwest Regional Coordinator, based in

Seattle, 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 Monitoring Coordinator, also based in Seattle, coordinates the implementation of the NOAA Marine Debris Monitoring and Assessment Project, which engages NOAA partners and volunteers around the world to survey and record the amount and types of marine debris on shorelines.

National Ocean Service (NOS) - Pacific Hydrographic Branch

The Pacific Hydrographic Branch (PHB) is co-located with NOAA's Sand Point Facility in Seattle, Washington. PHB 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 West Coast and Alaska hydrographic survey requests and data processing, and verifies, evaluates, and analyzes acquired survey data. The NOAA Ships *Fairweather* and *Rainer* and contractors conduct the hydrographic surveys analyzed by PHB and then PHB produces final survey data, significant features and soundings for display on nautical charts and related products to support NOAA's strategic goal of promoting safe navigation on the west coast and Alaska.

NOAA Finance Office (NFO) - Western Operations Branch

The Western Operations Branch processes payments for services, supplies, and materials commonly required to support the Department's programs (i.e. lab equipment, non- personal services, travel expenses, utilities, and vessel charters). In providing these services, our staff examines vouchers and invoices, issues bills for receivables, receives and deposits receipts, pays various types of accounts payable documents, and enters other types of accounting transactions. The staff also responds to clients about finance-related concerns and problems.

National Marine Fisheries Service (NMFS) - Alaska Fisheries Science Center

The Alaska Fisheries Science Center (AFSC) is responsible for planning, developing, and managing scientific research on living marine resources in the coastal oceans off Alaska and parts of the West Coast, home to the Nation's largest fisheries and largest marine mammal populations. The Center conducts field and laboratory research to help conserve and manage the region's living marine resources in compliance with the *Magnuson-Stevens Fishery Conservation and Management Act*, the *Marine Mammal Protection Act*, and the *Endangered Species Act*. In addition to ongoing survey and assessment activities, the Center is engaged in cutting-edge research on emerging issues such as climate change, loss of sea ice, and ocean acidification.

National Marine Fisheries Service (NMFS) - West Coast Region Seattle Office

NOAA Fisheries is dedicated to protecting and preserving our nation's living marine resources through scientific research, fisheries management, enforcement, and habitat conservation. The West Coast Region of NOAA Fisheries administers fisheries programs along the coasts of Washington, Oregon and California; and in the vast inland habitats of Washington, Oregon, California and Idaho. We work to conserve, protect, and manage salmon and marine mammals under the Endangered Species Act and Marine Mammal Protection Act, and sustainably manage West Coast fisheries as guided by the Magnuson-Stevens Fisheries Conservation Act. To achieve this mission and advance sound stewardship of these resources, we work closely with tribes, local, state and federal agencies, our stakeholders, and partners to find science-based solutions to complex ecological issues.

Acquisition and Grants Office (AGO) - Western 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.

National Marine Fisheries Service (NMFS) - Regional Aquaculture Coordinators

The aquaculture coordinators lead regional efforts to foster sustainable aquaculture across the region. Washington state has a vibrant commercial marine aquaculture industry supported by a world class research and technology sector. Regional priorities include supporting the Washington state shellfish initiative, tribal aquaculture operations and cutting edge research. Aquaculture coordinators support regulatory efficiency, aquaculture outreach and education, and serve as liaisons with state and local agencies, tribes, non-government organizations, academia, and industry. These coordinators also work as part of NOAA's Aquaculture Program to foster sustainable U.S. marine aquaculture to increase production of seafood and support business and employment opportunities.

National Marine Fisheries Service (NMFS) - Northwest Inspection Branch and Lot Inspection Office

The National Seafood Inspection Program conducts a voluntary inspection program for fishery products on a fee-for-service basis. The office offers a wide range of services to the area's fishermen and fish processors 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 fish meal used for animal foods, are eligible for inspection and certification.

National Marine Fisheries Service (NMFS) and National Ocean Service (NOS) - Centers of Excellence

NOAA's West Coast Center of Excellence for Oceans and Human Health (WCCOHH) This Center has strong research programs with proven track records informing our understanding of how the oceans affect human health in a wide range of scientific fields (e.g., climatology, oceanography, microbiology, genetics and molecular biology, immunology, ecotoxicology, neurotoxicology, developmental biology, plankton ecology, physiology, and marine mammal ecology). The WCCOHH conducts its research through four core programs: (1) pathogens, viruses, and bacteria; (2) chemical contaminants and biotoxins; (3) marine mammals and fish as sentinel organisms; and (4) climate impacts. Key priorities for the Center include sharing data and research results with other institutions and the public, fostering the exchange of information among diverse communities, including other OHH programs, and providing educational opportunities.

National Ocean Service (NOS) - Office of Response and Restoration

NOAA's Office of Response and Restoration's (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 oil and chemical releases, determines damage to natural resources from those releases, protects and restores marine and coastal ecosystems, including coral reefs; and works with coastal communities to address critical local and regional coastal challenges. The OR&R Seattle office is home to more than 90 staff who provide comprehensive expertise in coastal hazard preparedness, response, assessment and restoration, and marine debris.

National Weather Service (NWS) - Weather Forecast Office - See Page 2 for details.

Office of Oceanic and Atmospheric Research (OAR) - Seattle Regional Library

NOAA's Seattle Regional Library supports research in the areas of meteorology, physical and chemical oceanography, geochemistry, atmospheric physics, ocean engineering, mathematics, statistics, and computer science. Special collections in the library include the Rudolph Preisendorfer Memorial Collection, an 800-volume library of classic works in mathematics and statistics; holdings on Puget Sound; a complete collection of monographs from the National Science Foundation Israel Program for Scientific Translations; and nautical, hydrographic, and topographic charts and maps.

Office of Oceanic and Atmospheric Research (OAR) - Cooperative Institute for Climate, Ocean, and Ecosystem Studies

The Cooperative Institute for Climate, Ocean, and Ecosystem Studies (CICOES) was awarded to the University of Washington. CICOES serves as a mechanism to promote collaborative research between university scientists and those in NOAA. The mission of CICOES is to (1) facilitate and conduct collaborative, multidisciplinary research to support NOAA's mission; (2) educate and prepare the next generation of scientists to be technically skilled, environmentally literate, and reflect the national diversity; and (3) engage and educate the citizenry of the Pacific Northwest, Alaska, and the world to increase understanding of natural and anthropogenic impacts on ecosystem health and socioeconomic sustainability. CICOES' primary NOAA research partners include the Pacific Marine Environmental Laboratory, Alaska Fisheries Science Center, and the Northwest Fisheries Science Center. CICOES conducts research under nine themes: (1) climate and ocean variability, change and impacts; (2) polar studies; (3) environmental chemistry and ocean carbon; (4) earth system and processes; (5) environmental data science; (6) marine ecosystems: observation, analysis and forecasts; (7) aquaculture science; (8) human dimensions in marine systems; and (9) ocean and coastal observations.

Office of Oceanic and Atmospheric Research (OAR) - Science On a Sphere®- See Page 2 for details.

Office of Oceanic and Atmospheric Research (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 Network that supports climate research with accurate, continuous, long-term measurements of the surface radiation budget.

Office of Oceanic and Atmospheric Research (OAR) - Pacific Marine Environmental Laboratory

The Pacific Marine Environmental Laboratory (PMEL) is a federal laboratory that makes critical observations and conducts groundbreaking research to advance our knowledge of the global ocean and its interactions with the earth, atmosphere, ecosystems, and climate. These observations are used to improve weather and climate predictions, fisheries management and coastal resilience. PMEL is a global leader in the development and deployment of innovative strategies for ocean observation. PMEL's mission is to deliver trusted scientific information through innovative oceanographic and atmospheric research, observations, and technology development in support of society's response to urgent global and regional environmental challenges. Research areas at PMEL include ocean acidification, tsunami detection and forecasting, air-sea interactions, hydrothermal vent systems, fisheries-oceanography ecosystem studies in the Arctic, and long term climate monitoring and analysis.

Office of Oceanic and Atmospheric Research (OAR) - Northwest Climate Resilience Collaborative

The Northwest Climate Resilience Collaborative is a cooperative agreement between NOAA's Climate Program Office (CPO) and the University of Washington's Climate Impacts Group. It is one of several Climate Adaptation Partnerships (CAP/RISA),, formerly Regional Integrated Sciences and Assessments, teams contributing to the advancement of equitable climate adaptation through sustained regional research and community engagement. NCRC assists communities on the frontlines of climate change in pursuing their own resilience objectives, while ensuring that local-scale and place-based innovations are scaled out and up to support broader resilience in the Northwest, across the CAP/RISA network, and in state and federal climate resilience efforts. Frontline communities are centered in this team: they participate on the Leadership Team, help shape and implement the research agenda and connect NCRC efforts with community-based resilience efforts across the nation. NCRC's work contributes to: (1) significant advances in the theory and practice of advancing climate resilience in frontline communities; (2) evidence and models for effectively elevating community-driven approaches to climate resilience; (3) centering climate justice and frontline communities within the scientific enterprise; and (4) enhanced diversity and inclusion in regional climate sciences and services. Core partners of NCRC include University of Washington's Climate Impacts Group, Portland State University, Washington Sea Grant, Front

and Centered, American Farmland Trust, and the Affiliated Tribes of Northwest Indians. Contact information and more details about this team can be found here.

Office of the Chief Administrative Officer (OCAO) - Western Region

The Office of the Chief Administrative Officer (CAO) provides comprehensive facility construction and lease acquisition management support services in support of NOAA programs located in western United States, specifically in the areas of:

- Real estate (lease management, real property acquisitions);
- Construction project planning, design and engineering;
- Facility project management; and
- Building management, including warehousing, at NOAA's Western Region Center in Seattle.

Office of the Chief Information Officer (OCIO) - Western Regional Center

The Office of the Chief Information Officer (OCIO) at NOAA's Western Regional Center (WRC), in Seattle, WA maintains staff and offices to provide support for corporate services such as networking, computing, software and hardware management, and cyber security. In addition, the OCIO at WRC provides select enterprise and regional IT support services to the NOAA Line and Staff Offices located in the WRC and Western region. This 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. Seattle, WA is also one of five NOAA Trusted Internet Connection Access Points (TICAPs) which monitors the connection of NOAA networks with the greater Internet. This is required by OMB policy to ensure secure communication from NOAA IT systems to untrusted networks. TICAPs are NOAA's first line of defense for protecting NOAA's mission from external cyber-attacks. The information the TICAPs provide is invaluable for determining the nature and scope of cyber threats. NOAA is also able to offer this as a service to other government agencies, eliminating the requirement for them to build and manage their own TICAPs.

Office of Marine and Aviation Operations (OMAO) - NOAA Diving Program

The mission of the NOAA Diving Program is to train, certify and equip scientists, engineers, and technicians, while promoting innovation of effective diving technologies, and safely performing underwater operations. The dive program is headquartered at the NOAA Diving Center on the campus of the NOAA Western Regional Center (WRC), in Seattle, Washington. The NDP establishes standards and safety procedures for conducting various types of diving in support of NOAA's mission. With over 400 divers, NOAA has the largest complement of divers of any civilian federal agency. Averaging 12,000 dives per year (2015-2020), the dive program has consistently maintained an excellent diving safety record (99.97% safe dive statistic). NOAA divers support the agency's mission and work throughout the oceans and inland waters of the world in conditions varying from the crystal clear water of a pristine marine sanctuary to the murky water of a congested harbor. On any given day, NOAA divers may be seen deploying and retrieving scientific instruments, documenting the behavior of fish and other marine animals, performing emergency and routine ship repair and maintenance, assessing environmental conditions, responding to catastrophic events (e.g., oil spills) and locating and charting submerged objects. The NDP's vision for the future is to lead the Nation in the advancement of diving safety, education, training, innovation and execution of underwater operations in support of science, service and stewardship.

Office of Marine and Aviation Operations (OMAO) - Small Boat Safety Program

The NOAA Small Boat Safety Program (SBSP) manages and coordinates over 400 small vessels (<100ft) and over 800 qualified operators located across the entire United States. The SBSP provides administrative and technical support, develops and implements training courses, schedules and performs vessel inspections, provides engineering and naval architecture expertise and works directly with all NOAA line offices to ensure safe and efficient use of NOAA small vessels. NOAA's SBSP is responsible for creating and implementing policy pertaining to the operation of small boats for a

variety of missions including law enforcement, fisheries and atmospheric research, dive operations and hydrographic survey. The SBSP works to ensure that the thousands of small boat operations taking place throughout NOAA and millions of dollars' worth of assets are managed as safely and efficiently as possible.

NOAA Commissioned Officer Corps (NOAA Corps) - Scientific and Operational Support

The NOAA Commissioned Officer Corps stations multiple officers in the greater Seattle area in support of NOAA and other Federal programs. These officers perform critical functions related to the operations of groups such as the Pacific Meteorological and Environmental Laboratory, the National Ocean Service Office of Coast Survey and Office of Response and Restoration, and the USCG Pacific Area. In these roles, officers serve as support scientists, small boat operators, project managers, program directors, and, in the case of the USCG Pacific Area program, as Operations Officer aboard a USCG Icebreaker.

Workforce Management Office (WFMO) - <u>Seattle Center</u>

The Workforce Management Office in Seattle provides nationwide consultative services with respect to talent acquisition and strategic workforce planning to the National Weather Service, the National Marine Fisheries Service and the National Ocean Service. The HR Business Partners and HR Business Advisors ensure consistency of service, compliance, best practices and knowledge sharing among the team members. The Office manages the workload and resources to account for peak demand, vacancies and talent acquisitions strategies to meet new mission requirements, and escalates these and other issues as necessary to leadership.

Sand Point

Chief Information Officer (CIO) - N-Wave NOAA Science Network

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

Office of Oceanic and Atmospheric Research (OAR)- <u>Uncrewed Systems Research Transition Office (UxSRTO)</u> Project for Air Quality and Climate Modeling

Uncrewed Aircraft Systems (UAS) are used by NOAA to obtain measurements of atmospheric aerosol particles and meteorological parameters are critical components of NOAA's climate and air quality mission. Vertical profiles of atmospheric properties at strategic locations are required to improve models and decrease uncertainties through validation and verification. Climate modelers use these observations to improve projections of future climate. Air quality forecasters use these observations to predict levels of pollutants that may impact visibility and/or human health. At the Pacific Marine Environmental Laboratory (PMEL), vertical profiles of atmospheric properties are being collected with UAS to improve our understanding of climate and to predict future climate changes. Air quality forecasters use these observations to predict levels of pollutants that may impact visibility and/or human health. Support from the Uncrewed Systems Research Transition Office (UxSRTO) for this R&D development concluded in April 2022, resulting in the successful development of the new "Clear-" and "Cloudy-Sky" atmospheric sensors, which continue to be developed for use by PMEL for UAS-based operational research.

WA-8 Ellensburg

National Marine Fisheries Service (NMFS) - West Coast Region Interior Columbia Basin Office

The Interior Columbia Basin Area Office is located in Portland, Oregon, with satellite teams in Ellensburg, Washington; La Grande, Oregon; and Salmon, Moscow, and Boise, Idaho. Our responsibilities focus on protecting species and their habitats upstream of Bonneville Dam, into the upper reaches of the Columbia and Snake rivers in Washington, Oregon, and Idaho. We work to protect species listed under the Endangered Species Act by evaluating the impacts of proposed

federal actions, developing and implementing recovery plans, seeking conservation partnerships with local governments and landowners, and ensuring safe fish passage through federal and some private dams.

WA-9

Auburn

National Weather Service (NWS) - Center Weather Service Unit

Housed in the Federal Aviation Administration's Seattle Air Route Traffic Control Center (ARTCC), the NWS Center Weather Service Unit (CWSU) provides aviation forecasts and other weather information to ARTCC personnel for use in directing the safe, smooth flow of aviation traffic in all of Washington, most of Oregon, and parts of California and Idaho.

WA-10 Lacev

National Marine Fisheries Service (NMFS) - West Coast Region Oregon/Washington Coastal Area Office

The Oregon and Washington Coastal Area Offices are located in Portland and Seattle, with satellite teams in Lacey, Washington and Roseburg, Oregon. Our responsibilities focus on protecting species and their habitats along Washington and Oregon coasts, including Puget Sound and the lower Columbia and Willamette rivers. We work to protect species listed under the Endangered Species Act by evaluating the impacts of proposed federal actions, developing and implementing recovery plans, seeking conservation partnerships with local governments and landowners, and ensuring safe fish passage through federal and some private dams, and designating critical habitat.

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) - 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 Washington, 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

Washington Department of Fish and Wildlife has received multiple awards through this program, including grants to support projects focused on Puget Sound rockfish, eulachon, large whales, and Southern Resident killer whales.

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 and volunteers 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 16 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. In FY20, 43 grantees received \$3.7 million nationwide, with five awards totalling \$497,519 going to Washington: Cascadia Research Collective, Washington Department of Fish and Wildlife, SR3 Sea Life Response, Rehabilitation and Research, World Vets and the Whale Museum

National Marine Fisheries Service (NMFS) - Pacific Coastal Salmon Recovery Fund | NOAA Fisheries

The Pacific Coastal Salmon Recovery Fund (PCSRF) was established by Congress in 2000 to reverse the declines of Pacific salmon and steelhead by advancing the protection, restoration, and conservation of Pacific salmon and their habitats. The Fund is essential to prevent the extinction of 28 salmon species protected under the Endangered Species Act and also plays a vital role in supporting the economies of local communities from California to Alaska, upholding Tribal Treaty fishing rights and subsistence fishing traditions, and restoring all salmon populations to productive and viable levels along the entire West Coast. Since 2000, approximately 15,300 projects have restored more than 1.15 million acres of salmon habitat, opening over 11,800 miles of streams to spawning fish, with \$1.7 billion in grants leveraging over \$2.1 billion in contributions. Several studies suggest that a \$1 million investment in watershed restoration creates between 13 and 32 jobs and between \$2.2 and \$3.4 million in economic activity.

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. Washington 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 Water Level Observation Network

NOS operates 10 long-term continuously operating tide stations in the state of Washington which provide data and information on tidal datums and relative sea level trends, and are capable of producing real-time data for tsunami and storm surge warning. These stations are located at Cherry Point, Friday Harbor, La Push, Longview, Neah Bay, Port Angeles, Port Townsend, Seattle, Toke Point, and Westport. 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.

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. Twelve projects have been completed in Washington, and these lands are protected in perpetuity. In addition, a land conservation project was funded in FY22 in Washington under the CELCP authority with funding through the Bipartisan Infrastructure Law.

National Ocean Service (NOS) - Office for Coastal Management

The NOAA Office for Coastal Management practices a partner-based, boots on the ground approach to coastal management. The organization currently has staff in the eight regions to provide assistance to local, state, and regional coastal resource management efforts and facilitate customer feedback and assessments. Assistance is provided to local, state, and regional coastal resource management efforts. The central West Coast staff office is located in Oakland, California, with additional staff based in Portland, Hood River, and Medford, Oregon, Seattle, Washington, and Anchorage, Alaska.

National Ocean Service (NOS) - National Coastal Zone Management Program

Through a unique federal-state partnership, NOAA's Office for Coastal Management works with the Washington Department of Ecology to implement the National Coastal Zone Management Program in Washington. 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) - Coastal Management Fellowship

This program matches postgraduate students with state and territory coastal zone programs to work on two-year projects proposed by the state or territory. The Washington Coastal Management Program is hosting a fellow from 2023-2025 who is developing resources and tools for Washington that support the use, preservation, and expansion of shoreline public access with a focus on increasing equity and environmental justice.

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 Washington, sixteen projects have been funded, two in FY18, three in FY19 two in FY20, three in FY21, and six in FY22.

National Ocean Service (NOS) - West Coast Ocean Alliance

NOAA's Office for Coastal Management is the federal co-lead for the West Coast Ocean Alliance, which includes involvement and support from other NOAA offices (NMFS and ONMS). The partnership is a state, tribal, and federal forum for fostering dialogue on ocean health. The goal is to work together to create shared visions and implementation opportunities. Members include the three west coast states and several west coast tribes and federal agencies, including the Department of Interior which co-leads with NOAA. The partnership's focus includes data delivery and coordination, improving intergovernmental, especially tribal, coordination, and ocean uses such as offshore energy and aquaculture.

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) - Regional Ocean Partnership Tribal Awards

With funding provided through the Bipartisan Infrastructure Law, NOAA supports Federally-recognized tribes to participate or engage with established regional ocean partnerships on shared ocean and coastal management issues, including enhancing tribal capacity to engage, supporting development of partnerships between tribes and regional ocean partnerships, and increasing consideration and inclusion of tribal data as appropriate in regional ocean partnership work. In FY 22-23, four projects were awarded in Washington.

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 National Marine Sanctuaries West Coast Regional Office

The Office of National Marine Sanctuaries, West Coast Regional Office oversees management of and fosters coordination among the five national marine sanctuaries of the west coast, which together protect 15,455 square miles of ocean and coastal waters from the state of Washington to southern California. The regional office also closely collaborates with federal, state, local and tribal entities in shared management responsibilities. The West Coast Regional Office is located in Monterey, CA; each sanctuary office and visitor center is noted geographically for the various congressional districts. NOAA Sanctuaries West Coast Regional Office also manages B-WET Pacific Northwest; see Oregon and Washington "NOAA in your State" for a description of that program. The regional office also maintains and operates two science vessels to support the three north-central California national marine sanctuaries; these vessels are homeported at Monterey Harbor, CA

National Ocean Service (NOS) - OR&R <u>Pacific Northwest Environmental Response Management Application</u> and <u>Response Tools for Oil and Chemical Spills</u>

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. Pacific Northwest 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. 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 Washington

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 Pacific Northwest Regional Coordinator, based in Seattle, supports coordination efforts with regional stakeholders, provides support to grant-funded projects, tracks progress of projects, and conducts regional marine debris outreach to local audiences. In Washington, the MDP is partnering with the Innerspace Exploration Team to work with youth and educators to detect and remove crab pots from Sequim Bay and Discovery Bay, the Swinomish Tribe to remove derelict crab pots from Similk Bay and the Swinomish Channel, and the Northwest Straits Foundation to engage tribal and state commercial crabbers in removing and preventing derelict crab traps for Padilla Bay and Anacortes Bay. The MDP is also providing support for the National Marine Sanctuary Foundation to detect and remove medium- to large-scale marine debris, including derelict fishing gear, along Washington's outer coast and the Strait of Juan de Fuca. The MDP also facilitates the Washington Marine Debris Action Plan with the support of local stakeholders, including state agencies, non-governmental organizations, industry, and academia. This plan provides a road map for strategic progress in making Washington, its coasts, people, and wildlife free from the impacts of marine debris.

National Ocean Service (NOS) - <u>U.S. Integrated Ocean Observing System</u> (<u>Northwest Association of Networked Ocean Observing Systems</u>)

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 Northwest Association of Networked Ocean Observing Systems (NANOOS) is the Regional Association for the Pacific Northwest, primarily Washington and Oregon. NANOOS includes over 70 members representing the interests of different regions and sectors including industry, government (tribal, state, local, regional federal offices), tribal support organizations, non-governmental organizations, education, and research. NANOOS and all of its users are benefiting from a commitment to furthering the scientific and operational design and maintenance of the Pacific Northwest regional ocean observing system. NANOOS has strong ties with the observing programs along the west coast in California, Alaska, and British Columbia through our common purpose and the occasional overlap of data and products. Informed by user needs, NANOOS has created customized information and tools with an emphasis on maritime operations, ecosystem impacts, regional fisheries, coastal hazards. Issues of specific interest include Harmful Algal Blooms, ocean acidification, hypoxia, marine heat waves, tsunami preparation, coastal erosion, and maritime safety, with a focus on the Washington coast, Strait of Juan de Fuca, shorelines, and estuaries including Puget Sound/Salish Sea, Columbia River, Willapa Bay, and Grays Harbor. NANOOS partners with the University of Washington and the Washington Department of Ecology to implement the observing system, and has membership from dozens of Washington based entities.

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. NDBC also operates NOAA's network of Deep-ocean Assessment and Reporting of Tsunami (DART®) stations, for the early detection and real-time reporting of tsunamis in the open ocean. Data from the DART®s are used by the National Weather Service Tsunami Warning Centers in Alaska and Hawaii to provide tsunami forecasts, warnings, and information.

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 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.

National Ocean Service (NOS) - Pacific Northwest HAB Forecast

NOAA-funded forecast systems in the Pacific Northwest aim to deliver accurate, relevant, timely, and reliable ecological forecasts directly to coastal resource managers and the public. Predictive modeling and HAB monitoring provide managers with an early warning of when and where toxic blooms will affect shellfish harvests, providing better public health protection and safeguarding coastal economies.

Statewide

Office of Oceanic and Atmospheric Research (OAR) - Washington 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. Washington Sea Grant is located at the University of Washington, with ten active field offices providing services and research important to the health of both the coast and

Puget Sound, the largest estuary on the West Coast. The program serves marine communities, industries and the people of Washington, in a rapidly growing state with a large ocean economy within close proximity to some of the world's most productive fisheries. The aquaculture industry alone produces more oysters and other bivalves than any other state. Through research, education and outreach, Washington Sea Grant addresses important marine issues; provides better tools for managing the marine environment; and cultivates strategic partnerships within the marine community and throughout the state. Administrative offices are located in Seattle. Get involved with Sea Grant through state and national opportunities like the John A. Knauss Marine Policy Fellowship program at seagrant.noaa.gov.

National Marine Fisheries Service (NMFS) - Aquaculture Coordinators

The aquaculture coordinators lead regional efforts to foster sustainable aquaculture across the region. The West Coast has a vibrant commercial marine aquaculture industry supported by a world class research and technology sector. These positions support permit streamlining, aquaculture outreach and education, and serve as liaisons with state and local agencies, tribes, non-government organizations, academia, and industry.

National Marine Fisheries Service (NMFS) - Northwest Fisheries Science Center

The Northwest Fisheries Science Center's headquarters (also in Seattle, WA) was established in 1931 as the first government laboratory dedicated to the study of living marine resources on the West Coast. The Northwest Fisheries Science Center's mission is to provide the science necessary to conserve and manage living marine resources and their ecosystems, with an emphasis on the Pacific Northwest. The Northwest Fisheries Science Center conducts research on protected resources (i.e. salmon and killer whales) and commercially managed groundfish species along the West Coast and provides the best scientific information available to inform management decisions by the West Coast Regional Office, Pacific Fishery Management Council, and other natural resource managers. The Fisheries Science Center conducts surveys and assessments of hake, rockfish, sablefish and flatfish along the West Coast and houses the nation's laboratory for chemical testing of seafood following oil spills. The Northwest Fisheries Science Center responds dynamically to emerging research needs such as climate change and ocean acidification, integrated ecosystem modeling, socio-economic connections, and biological effects of emerging toxins. The Northwest Fisheries Science Center conducts this work through its headquarters in Seattle near the University of Washington and its four field research stations located throughout Washington and Oregon.

National Marine Fisheries Service (NMFS) - Scientific Publications Office

The NOAA Fisheries Scientific Publications Office (SPO) is located in Seattle, WA and publishes the results of all NOAA Fisheries research. Formal NOAA Fisheries publications include the quarterly journals, *Fishery Bulletin* and *Marine Fisheries Review*, and the NOAA Professional Paper series (formerly the NOAA Technical Report series). Additionally, the SPO provides technical and administrative editorial support to NOAA Fisheries headquarters offices, including coordinating publication of three series of the NOAA Technical Memorandum. The SPO also publishes the Our Living Oceans series and other special publications. All SPO publications can be accessed through an online digital archive.

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 West Coast Division is headquartered in Seattle, WA, with field offices in Bellingham, Lacey, Westport, and Vancouver.

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 Washington, please inquire if interested. In Washington, the Restoration Center works to restore tidal wetlands, remove dams, modify culverts to improve tidal flushing in coastal wetlands, remove invasive species, and restore native fish and shellfish populations. The Restoration Center is also involved with the The Puget Sound Partnership, a community effort of citizens, governments, tribes, scientists, and businesses working together to restore and protect Puget Sound. Puget Sound Partnership has worked with NOAA since 2010 to restore critical habitat for threatened and endangered species and foster long-term stewardship of resources in Puget Sound. This work is also a top priority of the NOAA-approved Puget Sound Salmon Recovery Plan.

National Marine Fisheries Service (NMFS), National Ocean Service (NOS), and NOAA General Counsel - <u>Damage</u> 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. Washington is a co-trustee with NOAA for assessment and restoration after pollution incidents in Washington. For more information about our work in Washington, visit: DARRP in Your State (and use the top menu to navigate to "Washington") and this interactive map.

National Marine Fisheries Service (NMFS) - West Coast Region

NOAA Fisheries is dedicated to protecting and preserving our nation's living marine resources through scientific research, fisheries management, enforcement, and habitat conservation. The West Coast Region of NOAA Fisheries administers fisheries programs along the coasts of Washington, Oregon and California; and in the vast inland habitats of Washington, Oregon, California and Idaho. We work to conserve, protect, and manage salmon and marine mammals under the Endangered Species Act and Marine Mammal Protection Act, and sustainably manage West Coast fisheries as guided by the Magnuson-Stevens Fisheries Conservation Act. To achieve this mission and advance sound stewardship of these resources, we work closely with tribes, local, state and federal agencies, our stakeholders, and partners to find science-based solutions to complex ecological issues.

National Ocean Service (NOS) - Pacific Northwest 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. The Pacific Northwest 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. Pacific Northwest 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. The Pacific Northwest B-WET regional program is managed by NOAA's Office of Education and NOAA's Olympic Coast National Marine Sanctuary.

National Ocean Service (NOS) - Ocean Guardian School Program

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

National Ocean Service (NOS) - Navigation Manager

NOAA's navigation managers work directly with pilots, port authorities, and recreational boating organizations in the Pacific Northwest. They help identify the navigational challenges facing marine transportation in the region 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 located in Seattle, WA to support mariners and stakeholders in Oregon and Washington.

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. The Office of Coast Survey's navigation response teams (NRT) conducts routine and emergency hydrographic surveys; and working with the regional Navigation Managers and 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 Coast Survey's suite of navigational charts. NRT-Seattle is homeported in Seattle, WA and is able to respond within 24 to 48 hours in the region or support other NRTs around the country.

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 Seattle, Washington serving the Northwest region – Idaho, Oregon, and Washington. The Geodetic Advisor provides training, guidance and assistance to constituents managing geospatial activities that are tied to the National Spatial Reference System (NSRS), the framework and coordinate system for all positioning activities in the Nation. The Geodetic Advisor serves as a subject matter expert in geodesy and regional geodetic issues, collaborating internally across NOS and NOAA to ensure that all regional geospatial activities are properly referenced to the NSRS.

National Weather Service - 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 Washington.

National Weather Service (NWS) - <u>Automated Surface Observing Systems Stations</u>

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 26 ASOS stations in Washington.

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 159 COOP sites in Washington.

National Weather Service (NWS) - Incident Meteorologists

The NWS, as mandated by Congress, provides fire weather forecast products and services to the fire and land management community for the protection of life and property, promotion of firefighter safety, and stewardship of America's public wildlands. Since 1928, this effort has included providing critical on-scene support to wildfire managers via specially-trained NWS forecasters called Incident Meteorologists (IMETs). When a fire reaches a large enough size, IMETs are rapidly deployed to the incident and set-up a mobile weather center to provide constant weather updates and forecast briefings to the fire incident commanders. IMETs are very important members of the firefighting team, as changes in the fires are largely due to changes in the weather.

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

NOAA Weather Radio All Hazards (NWR) broadcasts 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 17 NWR transmitters in Washington.

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More information for those offices may be found at NOAA.gov.