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NOAA NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
UNITED STATES DEPARTMENT OF COMMERCE

NOAA In Your State

Washington

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

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

Highlights of NOAA in Washington

Padilla Bay National Estuarine Research Reserve	Mount Vernon	WA-2
Olympic Coast National Marine Sanctuary	Port Angeles	WA-6
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Small Boat Safety Program and Dive Program	Seattle	WA-7
Pacific Marine Environmental Lab	Seattle	WA-7
Bipartisan Infrastructure Law (BIL) / Inflation Reduction Act (IRA) Projects	Project Specific	

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®

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 Amazon Web Services (AWS) Skills Center and the Pacific Science Center in Seattle.

WA-1

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 the effects of temperature on larval development and survival of the European green crab.

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) - Olympic Coast National Marine Sanctuary Vessel Operations Coordinator

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.

National Ocean Service (NOS) - Center for Operational Oceanographic Products and Services 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 65 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.

NOAA Office of Education - Science On a Sphere® at Amazon Web Services (AWS) Skills Center Seattle and the Pacific Science Center. See Page 2 for details.

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) - 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) - 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 and impacts on marine ecosystems, air-sea interactions, seafloor mapping, fisheries and ecosystem studies in the Alaskan Arctic, marine environmental DNA (eDNA), ocean ecosystem response to changes in ocean chemistry, long term climate monitoring and analysis, and tsunami detection, forecasting, and coastal response. PMEL houses a standalone **Engineering Development Division (EDD)**, tasked with engineering research and development to support NOAA science. The EDD includes design engineers, machinists, and mooring technicians who maintain engineering design labs, machine shops, and mooring fabrication and test facilities.The EDD leverages many commercial services available in the Puget Sound region related to the aerospace industry and other high-tech sectors.

Office of Oceanic and Atmospheric Research (OAR) - PMEL 'Omics
PMEL's Ocean Molecular Ecology (OME) program uses advances in molecular biology, 'Omics tools, to scale biological analyses with physical and chemical processes. We help lead the implementation of the NOAA 'Omics strategy and the White House's National Aquatic eDNA Strategy to advance NOAA's mission of science and stewardship. By scaling biological observations alongside physical and chemical processes we can close the loop on characterizing marine ecosystem responses to changing ocean conditions. This allows us to better understand how U.S. West Coast and Arctic and Alaska ecosystems are changing in response to increases in warming, ocean acidification, and hypoxia (WOAH) and other human-driven impacts. Critically, these data enable us to generate ecosystem health indicators for warming, ocean acidification, and hypoxia stressors that can be used by federal, state, and local managers..

Office of Oceanic and Atmospheric Research (OAR) - Climate Adaptation Partnerships (CAP) Program
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) - formerly Regional Integrated Sciences and Assessments (RISA) - that contribute 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 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.

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) - Seattle Center
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.

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 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
Lacey
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.

WA-1, 2, 3, 4, 5, 6, 7, 8, 9, 10

National Ocean Service (NOS) – Climate Resilience Regional Challenge

In July 2024, NOAA announced $575 million in funding for the Climate Resilience Regional Challenge, provided by the Inflation Reduction Act, to invest in holistic, collaborative approaches to coastal resilience at regional scales. This grant program focuses on increasing resilience to extreme weather events, such as hurricanes and storm surge, and longer-term, chronic hazards such as sea level rise, drought, wildfire, extreme heat, and coastal erosion. The program awarded 19 grants that are part of NOAA's larger Climate-Ready Coasts initiative to forge new partnerships, protect coastal habitats, and close equity gaps. They will help scale up proven best practices across 17 states and territories to take resilience and adaptation plans off paper and into coastal communities across the country.

King County, Washington (WA-1, WA-2, WA-6, WA-7, WA-8, WA-9, WA-10) received a Climate Resilience Regional Challenge Grant for $1,999,963 to enhance regional collaboration by providing staffing and programming support to the Puget Sound Climate Preparedness Collaborative, a network of local and county governments, tribes, regional agencies, and other organizations working to build community, economic, and environmental resilience to climate change. With this funding, the collaborative will strengthen local and regional capacity, partner with Coast Salish tribes to increase regional understanding of climate change impacts, and establish a knowledge base of climate preparedness resources.

The Washington Coastal Zone Management Program (WA-1, WA-2, WA-3, WA-6, WA-7, WA-9, WA-10) received a Climate Resilience Regional Challenge grant for $73,587,134 to build on the foundational work of the the Washington State Coastal Climate Resilience Partnership (state and local agencies, tribes, and other local and national partners), which produced a shared, regional vision for improved climate resilience. This funding will allow their vision to continue its strong march into reality and implementation. This project consists of five transformational adaptation actions, including shovel-ready projects that will result in habitat restoration, the realignment of State Route 112, shoreline restoration, and stormwater drainage improvements. Funds will also be used to advance project planning and design, grow an invigorated, climate-informed workforce, and strengthen regional coalitions that will advance integrated and equitable coastal management across Washington's entire coastal zone.

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) - National Marine Mammal Stranding Network and John H. Prescott Marine Mammal Rescue Assistance Grant Program
The National Marine Mammal Stranding Network and its trained professionals 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. 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 and three projects in FY23, 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 Department of Ecology Shorelands and Environmental Assistance Program is hosting a fellow from 2024-2026 who is helping to develop 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 restores, increases, and strengthens natural infrastructure to protect coastal communities while also enhancing habitats for fish and wildlife. The National Fish and Wildlife Foundation (NFWF) executes this program in partnership with NOAA to invest in conservation projects that restore or expand natural features, such as coastal marshes and wetlands, dune and beach systems, oyster and coral reefs, forests, coastal rivers and floodplains, and barrier islands, which minimize the impacts of storms and other naturally occurring events on nearby

communities. In Washington, 22 projects have been funded: two in FY18, three in FY19 two in FY20, three in FY21, five in FY22, and seven in FY23.

National Ocean Service (NOS) - Regional Ocean Partnerships: 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 is investing approximately $56 million nationwide 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 22-24, five 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 Preparedness, Response, and Restoration Coordinators
NOAA's Office of Response and Restoration (OR&R) is a center of expertise in preparing for, evaluating, and responding to threats to coastal environments, including oil and chemical spills, releases from hazardous waste sites, disasters, and marine debris. To fulfill its mission of protecting and restoring NOAA trust resources, OR&R provides scientific and technical support to prepare for and respond to environmental threats that coastal communities face; determines damage to natural resources from those releases; protects and restores marine and coastal ecosystems; and works with coastal communities to address critical local and regional coastal challenges.

- The **Regional Preparedness Coordinator (RPC)** is strategically placed within the region to ensure that NOS and our partners are able to effectively prepare for, respond to, and recover from all hazards, including coastal disasters. The RPC serves as a liaison between NOS and its federal, state, and local disaster preparedness and emergency response partners. A key role of the RPC is to better understand the needs and opportunities within the region and to ensure partners have the tools and resources necessary to inform decision-making. The RPC has expertise across the spectrum of emergency management and provides preparedness, response, and recovery services including planning, training, exercises, response coordination, continuous improvement, and long-term recovery. The RPC, based in San Diego, California, serves the West Coast and Pacific Islands region – California, Oregon, Washington, Hawaii, American Samoa, Guam, and Northern Mariana Islands.

National Ocean Service (NOS) - OR&R Pacific Northwest Environmental Response Management Application, Response Tools for Oil and Chemical Spills, and Preparedness Training for Responders
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. In addition, OR&R offers training to help spill responders analyze spills and make risk-based decisions by improving their understanding of oil spill science. Training classes include Science of Oil Spills (SOS), Science of Chemical Releases (SOCR), Shoreline Cleanup Assessment Technique (SCAT), and others. Each year, OR&R teaches roughly four SOS classes in coastal states around the country, with one class offered in Seattle each year. See our calendar for upcoming training.

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. Using funding provided under the Bipartisan Infrastructure Law, the MDP is working with the National Marine Sanctuary Foundation to remove large marine debris from five national marine sanctuaries and two Tribal ancestral waters located off the coasts of Washington, California, Texas and Louisiana. These efforts include work in

Olympic Coast National Marine Sanctuary and Neah Bay in Washington, in partnership with the Makah Tribe and the Quileute Tribe. The MDP is also using BIL funding to partner with Washington State Department of Natural Resources to remove abandoned and derelict vessels from the South Puget Sound on tidelands owned by the Squaxin Island Tribe to address pollution in a critically important cultural, recreation, and subsistence location. The project is being carried out in collaboration with the Squaxin Island Tribe and will include six vessel turn-in events throughout Western Washington to intercept vessels before they become derelict or abandoned. In Washington, the MDP is partnering with the Washington Department of Natural Resources (DNR), using funding provided under the Bipartisan Infrastructure Law, to remove abandoned and derelict vessels from tribal tidelands of the Squaxin Island Tribe and to expand the reach of DNR's vessel turn in program. 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 toward reducing the impacts of marine debris on Washington, its coasts, people, and wildlife.

National Ocean Service (NOS) - OR&R Support Disaster Preparedness in Coastal Communities
The Office Response and Restoration (OR&R) Disaster Preparedness Program and National Sea Grant College Program (Sea Grant) partnered to help coastal communities prepare for, respond to, and recover from all hazards. A combined total of $1,966,331 in federal funds from FY 2022, 2023, and 2024 have been used to support eleven projects. In FY 2022, three projects were selected in Hawai'i Sea Grant, MIT Sea Grant and Wisconsin Sea Grant focused on strengthening local disaster readiness and recovery in underserved communities.

National Ocean Service (NOS) - U.S. Integrated Ocean Observing System (Northwest Association of Networked 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 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) - National Data Buoy Center 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) -Ocean Acidification Observing Network (NOA-ON)
The NOAA Ocean Acidification Observing Network (NOA-ON) is a sustained investment in ocean chemistry observing networks in U.S. waters and abroad. The long-term datasets collected from these moorings are key to understanding how ocean chemistry and other ocean conditions are changing over time, and their impacts on marine and coastal ecosystems. There are currently 16 buoys sponsored by the NOAA OAR Ocean Acidification Program in coastal, open-ocean and coral reef waters that contribute to this network. These buoys are located in Alaska (Gulf of Alaska, Bering Sea), American Samoa (Fagatele Bay),California (California Current Ecosystem 1 & 2), Chesapeake Bay (MD, VA), Louisiana (Coastal LA), Florida (Cheeca Rocks), Georgia (Grays Reef), Hawaii (Kāneʻohe Bay and CRIMP-II, both in O'ahu) Oregon (Coos Bay), Maine (Gulf of Maine), Puerto Rico (La Parguera), Washington (Cha'ba), and Lake Huron (Thunder Bay).

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 NMFS Scientific Publications Office (SPO) is located in Seattle, WA and publishes the results of all NOAA Fisheries research. Formal NMFS publications include the quarterly journals, *Fishery Bulletin* and the NOAA Professional Paper NMFS series (formerly the NOAA Technical Report series). Additionally, the SPO provides technical and administrative editorial support to NMFS headquarters offices, including coordinating publication of three series of the NOAA Technical Memorandum NMFS series. The SPO also publishes special publications for headquarters as requested. All SPO publications from 1871 to date can be accessed through the online archive at the SPO website.

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 a top priority in the NOAA-approved Puget Sound Salmon Recovery Plan.

The Office of Habitat Conservation (OHC) is also responsible for executing an unprecedented $1.4 billion in funding provided by the Bipartisan Infrastructure Law and Inflation Reduction Act for habitat restoration and fish passage. This funding impacts local communities through provision of expert technical assistance and four funding competitions: Fish Passage, Tribal Fish Passage, Transformational Habitat Restoration, and Habitat Restoration for Tribes and Underserved Communities. To date, OHC has funded 214 awards totaling $985 million in the first two rounds of awards. OHC funds work across the nation. Find funded projects on the OHC interactive map.

National Marine Fisheries Service (NMFS), National Ocean Service (NOS), and NOAA General Counsel - Damage Assessment, Remediation, and Restoration Program
NOAA's Damage Assessment, Remediation, and Restoration Program (DARRP) assesses and restores habitat, fisheries, protected species and recreational uses that have been harmed by oil spills, chemical releases, and ship groundings. Working with federal, state, and tribal entities, and responsible parties, we have recovered funding from responsible parties for restoration of critical habitats, fisheries, protected species and recreational uses nationwide. These projects promote recovery of the ecosystem and provide economic benefits from tourism, recreation, green jobs, coastal resiliency, property values and quality of life. 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 a competitive grants program that provides funding for locally relevant environmental education projects for K-12 audiences. The Pacific Northwest B-WET program is managed by NOAA's Olympic Coast National Marine Sanctuary on behalf of NOAA's Office of Education. 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 regional grant competitions are responsive to local education and environmental priorities. Please see the funding opportunities for specifics.

National Ocean Service (NOS) - NOAA Ocean Guardian Youth Ambassador Program
This year-long program supports enthusiastic youth with new ideas and a unique perspective who want to learn more about America's underwater treasures and share their passion with others. Youth aged 13-18 from across the United States and its territories that are committed to ocean conservation and stewardship of our blue planet can apply to

become a NOAA Ocean Guardian Youth Ambassador. Youth learn how to become a leader in their school or local community to make a difference in the conservation of the ocean through marine protected areas.

National Ocean Service (NOS) - NOAA Ocean Guardian School Program
NOAA Ocean Guardian Schools are committed to the protection and conservation of local watersheds, the world's ocean, and special ocean areas, like national marine sanctuaries. Each prospective NOAA Ocean Guardian School proposes and implements a school- or community-based conservation project at a funding level of $4,000 per year. 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 88,797 students and 3,599 teachers.

National Ocean Service (NOS) - Navigation Manager
NOAA's navigation managers work directly with pilots, port authorities, and recreational boating organizations in Oregon. 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. They help identify the navigational challenges facing marine transportation in Oregon and provide NOAA 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 Seattle, Washington 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. OCS navigation managers are strategically located in U.S. coastal areas to provide regional support for 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 events, 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-Seattle is homeported in Seattle, WA and is able to respond in the Pacific Northwest region within 24 to 48 hours.

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) - 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 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 134 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.

Bipartisan Infrastructure Law (BIL) / Inflation Reduction Act (IRA) Projects

The National Oceanic and Atmospheric Administration (NOAA) was entrusted with billions of supplemental federal funding dollars with passage of the Bipartisan Infrastructure Law on November 15, 2021 and the Inflation Reduction Act on August 16, 2022. This historic infrastructure funding has been invested in communities across the nation to build resilience in the face of climate change. NOAA distributed funding to communities, tribal, state and local governments, higher education programs, businesses, non-profit organizations, and facilities in need. NOAA funded billions of dollars in grants and cooperative agreements across the country to fund projects that enhance climate resilience, restore coastal and marine habitats, improve safety, and create jobs. For an interactive map of NOAA BIL and IRA investments in your state, visit https://www.noaa.gov/bil-ira-awards-explorer.

BIL

High-Impact and Large Marine Debris Removal throughout the National Marine Sanctuary System, $14,999,292
The National Marine Sanctuary Foundation is leading a multi-site project to remove large marine debris and foster partnerships within the National Marine Sanctuary System that will benefit coastal and marine habitats and communities throughout the nation. *This funding supports work in* CA, LA, TX, WA

Regional Ocean Partnership Funding To Support the Work of the West Coast Ocean Alliance, $3,926,120
The West Coast Ocean Alliance will use these funds to develop and begin implementation of a five-year strategic plan, coordinate and enhance tribal engagement in the West Coast Ocean Alliance, convene regional government partners to support information exchange and regional planning around offshore wind energy and other shared ocean management interests. *This funding supports work in CA, OR, WA*

Regional Ocean Partnership Funding to Support the West Coast Ocean Alliance, $1,835,196
The Coastal States Stewardship Foundation, serving as fiscal sponsor for the West Coast Ocean Alliance (WCOA) Regional Ocean Partnership will use these funds to coordinate and enhance tribal engagement in the West Coast Ocean Alliance, to convene regional government partners to support information exchange and regional planning around shared ocean management interests, to maintain and promote regional use of the West Coast Ocean Data Portal and a new ocean health dashboard, and to conduct a cumulative impacts assessment on ocean ecosystem stressors. *This funding supports work in CA, OR, WA*

Integrating social and meteorological data to assess the dynamics of flood hazards and impacts: An interdisciplinary approach leveraging AI, risk communication, and data sciences, $1,034,942
This project consists of three research activities that integrate research in artificial intelligence (AI), risk communication, and data sciences to advance scientific methods for learning about the dynamics of flood events and to illustrate societal data insights. *This funding supports work in CA, WA, CO, OK*

Phase 2 Feasibility Studies for Salmon Reintroduction: Evaluation of Downstream Movement and Survival of Juvenile Chinook Salmon in the Upper Columbia Basin, $522,329
The Coeur d'Alene Tribe will gather data to inform the full-scale feasibility of salmon reintroductions upstream of Chief Joseph and Grand Coulee dams by studying the downstream movement and survival of juvenile Chinook salmon. *This funding supports work in ID, WA*

Phase 2 Feasibility Studies for Salmon Reintroduction: Evaluation of downstream movement and survival of juvenile Chinook salmon in the upper Columbia basin, $700,000
The Coeur d'Alene Tribe will gather data to inform the full-scale feasibility of salmon reintroductions upstream of Chief Joseph and Grand Coulee dams by studying the downstream movement and survival of juvenile Chinook salmon. *This funding supports work in ID, WA*

Understanding the Role of Social Infrastructure in Extreme Heat and Wildfire Smoke Vulnerability Mitigation: A Regional Comparison, $474,859
Exposure to extreme heat and wildfire smoke pose significant human health risks, often with disproportionate impacts to historically underserved communities given higher rates of preexisting health conditions and outdoor employment, lower access to health care and means for preventing illness, and limited ability to advocate for solutions. Important questions remain as to what specifically constitutes beneficial social infrastructure in the context of extreme heat and wildfire smoke, and whether and how its presence or absence either facilitates or impedes vulnerability mitigation. *This funding supports work in NV, WA*

Columbia River Basin Salmon Recovery, $2,000,000
The Columbia River Inter-Tribal Fish Commission will administer awards to its member tribes based on high-priority needs for salmon to include all aspects of salmon recovery including planning and design, implementation, monitoring and research. *This funding supports work in OR, WA, ID*

Columbia River Basin Salmon Recovery, $3,048,826
The Columbia River Inter-Tribal Fish Commission will administer awards to its member tribes based on high-priority needs for salmon to include all aspects of salmon recovery including planning and design, implementation, monitoring and research. *This funding supports work in OR, WA, ID*

Columbia River Basin Salmon Recovery, $4,612,160
The Columbia River Inter-Tribal Fish Commission will administer awards to its member tribes based on high-priority needs for salmon to include all aspects of salmon recovery including planning and design, implementation, monitoring and research. *This funding supports work in OR, WA, ID*

Trap and transport of adult salmon and juvenile outmigration studies upstream of Chief Joseph and Grand Coulee Dams, $393,688
The Confederated Tribes of the Colville Reservation will study salmon reintroduction upstream of Chief Joseph and Grand Coulee Dams in the Upper Columbia Basin, to support trapping and transporting adult salmon, and restoring native subsistence fishing.

Western Washington Tribal Salmon Recovery, $2,500,000
The Northwest Fisheries Indian Commission, as a support organization to 20 Puget Sound and Washington coastal Treaty Tribes, will administer awards to restore and protect habitats, conduct monitoring and enable projects that will help fulfill tribal treaty fishing rights for ESA-listed salmon and steelhead.

Cispus-Yellowjacket Phase 4 Restoration, $697,000
The Cowlitz Indian Tribe will implement Phase 4 of the Cispus-Yellowjacket Restoration project. It will alter physical habitat conditions to form a resilient, forested floodplain. It will also increase habitat complexity, resulting in a higher quantity and quality of holding, spawning, and rearing habitat for juvenile and adult Chinook salmon, coho salmon, and steelhead in the Lower Columbia basin.

Washington State 2022 Pacific Coast Salmon Recovery Fund, $6,000,000
Washington's Salmon Recovery Funding Board, through the Washington State Recreation and Conservation Office, will continue work to recover ESA-listed salmon and support treaty fishing rights through habitat restoration and fishery monitoring efforts.

Washington State 2023 Pacific Coast Salmon Recovery Fund, $6,500,000
Washington's Salmon Recovery Funding Board, through the Washington State Recreation and Conservation Office, will continue work to recover ESA-listed salmon and support treaty fishing rights through habitat restoration and fishery monitoring efforts.

Western Washington Tribal Salmon Recovery, $3,300,000
The Northwest Fisheries Indian Commission, as a support organization to 20 Puget Sound and Washington coastal Treaty Tribes, will administer awards to restore and protect habitats, conduct monitoring and enable projects that will help fulfill tribal treaty fishing rights for ESA-listed salmon and steelhead.

Enloe Dam Removal Project Planning and Feasibility Assessment, Washington, $2,314,610
This project will conduct a planning and feasibility assessment for the removal of Enloe Dam on Similkameen River, a tributary of the Columbia River. The dam has blocked fish passage for 100 years. Its removal would open access to cold water habitat, improve tribal fishing opportunities, and reduce the risk of flooding.

Olympic Peninsula Coldwater Connection Campaign - Hoh Watershed, Washington, $7,071,627
This project will replace eight fish passage barriers as part of the Coldwater Connection Campaign, a partnership to reconnect 125 miles of high quality salmon and steelhead streams in Washingtonâ€™s coastal areas. The project will open more than 7 miles of spawning and rearing habitat for salmon and will increase Hoh tribal community capacity focused on salmon restoration.

Lower Yakima River Fish Passage: Bateman Island Causeway Removal and Prosser Dam Passage Improvement, Washington, $3,600,000
This project will remove the Bateman Island Causeway, located at the confluence of the Yakima and Columbia Rivers, and complete hydraulic modeling at the Prosser Dam on the Yakima River. These efforts will improve spawning and rearing habitat for Chinook, coho, and steelhead in the river and its tributaries.

West Fork of the Hoquiam River Dam Removal and Groundwater Replacement Preliminary Design and Permitting, $1,231,350
The project will assess the feasibility of removing the West Fork of the Hoquiam River Dam. The project will also involve installing and testing groundwater wells as an alternative water source for the city. If found feasible, the effort would open 13 miles of habitat for salmon and provide a more reliable water supply for city residents.

Olympic Peninsula Cold Water Connection Campaign: Quillayute and Quinault Watersheds, Washington, $11,942,573
This project will design, permit, and remove nine culverts as part of the Coldwater Connection Campaign. The culvert removals will improve access for migratory salmon and improve the durability of public infrastructure. The project was developed with the Quileute and Quinault Tribes and will increase tribal capacity for fish passage restoration.

Snohomish Cooperative Salmon Barrier Removal Project, Washington, $9,733,975
The project will plan and construct 16 barrier removal projects in the Snohomish River watershed. These projects will remove or replace culverts with structures designed to withstand climate change, restoring connectivity to more than 32 miles of habitat in priority streams for the recovery of salmon.

Skagit Basin Tribal Priority Barrier Correction Program, $1,200,000
This project will reopen access to habitat that has been blocked by undersized or improperly installed culverts. Work will focus on three sites of interest to the Swinomish Indian Tribal Community and Sauk-Suiattle Tribes: Martin Slough,

Hatchery Creek, and Everett Creek. The project will also expand a collaborative process aimed at identifying and repairing barriers in the Skagit River watershed.

Toppenish Creek Fish Passage Restoration and Lower Tributary Passage Assessment, $1,200,000
This project will remove barriers on the Snake Creek to address a "mortality hotspot" for Endangered Species Act-listed Middle Columbia River steelhead in the Yakima River watershed. Two dams will be removed, opening six miles of habitat. They will also develop an interactive tool and database for fish passage management on Yakama Nation territory.

Kwoneesum Dam Removal: Restoring Tribal Priority Fish Passage through Barrier Removal, $2,571,456
The project will remove Kwoneesum Dam on Wildboy Creek, a tributary to the West Fork Washougal River in the Columbia River watershed. Removal of the 55-foot tall, 425-foot long rock fill embankment dam will restore access to 6.5 miles of highly productive habitat, benefitting native fish and other aquatic species.

Implementation of the Fish Barrier Remediation Agreement between the Nooksack Tribe, Lummi Nation, Washington Department of Fish and Wildlife, and the City of Bellingham, $456,206
This project will work collaboratively with the Lummi Tribe, the City of Bellingham, and the Washington Department of Fish and Wildlife to develop a plan for city-owned passage barriers that both addresses infrastructure needs and meets fisheries goals. The tribe will also develop a communications plan to ensure local and tribal communities are informed and provide input.

South Fork Nooksack River Restoration Project, $4,257,911
This project will advance three high-priority salmon restoration projects along the South Fork Nooksack River. Salmon in the Nooksack River watershed are critically important to the livelihood, culture, and well-being of the Lummi Nation, but their abundance has declined substantially from historical levels. This work will support two threatened species: Puget Sound Chinook and Puget Sound steelhead. It will also benefit Southern Resident killer whales, a NOAA Species in the Spotlight, by supporting their prey.

Lower South Fork Nooksack Chinook Recovery, $5,212,753
This project will restore habitat to support salmon and steelhead in the South Fork Nooksack River. Declining populations of Chinook salmon and other species have had significant impacts on the tribeâ€™s cultural, subsistence, and commercial fisheries. By increasing habitat complexity and increasing the number of pools in the region to address summer flows, this work will support multiple life stages of salmon, enhance their resilience to climate change, and increase opportunities for tribal uses.

Lower Big Quilcene River and Estuary Restoration Project - Moon Valley Reach Construction Phase, $9,665,081
This project will restore habitat in the Big Quilcene River and estuary. Past channelization, dredging, and bank armoring disconnected the river from its floodplains and confined it to a channel that frequently floods. This project will reconnect the river to its entire 140-acre floodplain, eliminating flood hazards in the community of Quilcene. It will also create habitat for threatened Puget Sound Chinook salmon and other key salmon species.

North Whidbey Basin Chinook and Ecosystem Recovery and South Whidbey Basin Chinook and Ecosystem Recovery, $23,782,282
This award supports two projects. The first will conduct large-scale marsh restoration in the Skagit River estuary of the North Whidbey basin in Puget Sound, building on more than two decades of NOAA-supported restoration work in the watershed. The effort is expected to significantly contribute to recovery of threatened Puget Sound Chinook and steelhead, and endangered Southern Resident killer whales, a NOAA Species in the Spotlight. The second will restore habitat on a landscape scale within the South Whidbey Basin of Puget Sound. This work will significantly contribute to eliminating estuary habitat as a limiting factor in the recovery of threatened Puget Sound Chinook salmon and steelhead.

Building Capacity for the Nisqually Indian Tribe to Integrate Habitat Restoration into the Interstage 5 Redesign Planning Process to Reduce Flood Risk and Increase Climate Resilience, $501,892
This project will build capacity for the Nisqually Indian Tribe to incorporate their vision and voice into restoration in the Nisqually River Delta. They will integrate the tribe's priorities for habitat restoration and nature-based solutions to reduce flooding, increase climate resilience, and support salmon. The increased capacity will help ensure the tribe's Traditional Ecological Knowledge and vision for habitat restoration is reflected in the replacement of an Interstate 5 bridge.

Skagit Estuary Treaty Resource Recovery, $649,186
This project will restore estuary habitat to support the recovery of tribal fisheries in the Skagit River. Skagit River System Cooperative provides fisheries and environmental services for the Swinomish Indian Tribal Community and the Sauk-Suiattle Indian Tribe. Tribal members will engage in the development of several projects in the Skagit River watershed, in areas that are a priority for Chinook salmon recovery.

Developing Capacity to Inventory Critical Eelgrass Habitat on Lummi Reservation Tidelands Threatened by Invasion of European Green Crab, $868,221
This project will conduct an assessment to help determine the potential risk that invasive European green crabs pose to eelgrass beds on Lummi Reservation tidelands. They will build staff capacity, acquire the necessary equipment and training, and engage indigenous high school and college students to conduct an inventory and establish baselines of the current status of eelgrass habitat and European green crabs.

Washington ECY Padilla Bay NERR Capacity Building, $300,000
This funding will build the capacity of the Padilla Bay National Estuarine Research Reserve (PB NERR) within the Department of Ecology to plan for and implement habitat restoration and conservation projects proposed through funding opportunities connected to the Bipartisan Infrastructure Law. Specifically, PB NERR will use these funds to hire two new staff at the reserve and that will conduct a habitat conservation prioritization process; coordinate and engage with partners and stakeholders to identify and prioritize potential new and existing project ideas; develop and submit project proposals; and support the grants and contract management related to applying for and managing IIJA funded projects.

FY22-24 CZM Infrastructure Capacity Building Grant Application, $450,000
This funding will build the capacity of WA's federally-approved coastal management program within the Department of Ecology to plan for and implement habitat restoration and conservation projects proposed through funding opportunities connected to the Bipartisan Infrastructure Law. Specifically, the WA Coastal Zone Management Program will use these funds to establish and manage a new Habitat Conservation and Resilience Partnership Program to identify, develop, and prioritize habitat acquisition and restoration projects to be funded through the Bipartisan Infrastructure Law.

Enhancing the Makah Tribe's engagement in regional ocean planning and management, $240,724
The Makah Indian Tribe will engage in regional ocean planning and management by developing internal mapping capacity. The Makah Indian Tribe will hire and onboard an Ocean Mapping Specialist, and develop a workplan based on Makah Tribe information needs, data availability, and gaps in the West Coast Ocean Data Portal. The tribe will develop data products (to share with West Coast Ocean Alliance as appropriate), share lessons learned and project methodology, and identify needs for future work.

Quinault Indian Nation Participation and Engagement with West Coast Ocean Alliance, a Regional Ocean Partnership, $100,000
The Quinault Indian Nation will use these funds to enhance the Quinault Indian Nation's ability to participate in the West Coast Ocean Alliance and ancillary forums by offsetting costs associated with in-person participation of Quinault leadership and staff at West Coast Ocean Alliance meetings, Ocean Data Portal Meetings, Tribal meetings, State meetings and Federal agency meetings on ocean issues pertinent to the West Coast Ocean Alliance.

Quileute Indian Tribe Real Time Hypoxia Monitoring Mooring, $400,000
The Quileute Indian Tribe will use these funds to partner with the University of WA, Applied Physics Laboratory (APL) to continue work to address severe shortcomings of real-time ocean observations on the WA shelf, in particular with respect to hypoxia monitoring and prediction.

Graveyard Spit Restoration & Resilience ProjectType of Project: Habitat Restoration, $3,976,788
This award will result in the restoration and protection of Graveyard Spit on the north shore of Willapa Bay, WA, through the rehabilitation and revegetation of the historic barrier dune; the construction of a nature-based cobble berm (also known as a dynamic revetment); and the protection and restoration of backshore marsh and tidal embayment environments. This in turn will result in less risk to community infrastructure and cultural resources that are threatened by sea level rise and other coastal hazards. The project is a partnership between the local communities of North Cove, Tokeland, and Pacific County; the Shoalwater Bay Indian Tribe; the State of WA; and the U.S. Army Corps of Engineers.

Padilla Bay Samish Conservation Area Protection Project (FY23), $2,332,854
This award will result in the permanent protection of 74.5 acres of former and current tidal marsh, plus associated tidelands. This effort is part of a larger project, in collaboration with the Skagit Land Trust, to restore up to 105 acres of tidal marsh to Padilla Bay. For this project, critical baseline data will also be collected, as well as an assessment of restoration design alternatives. Future restoration at this site will likely increase climate resilience, including a reduction in flood risk for the only road and utility corridor that services 480 houses in the Samish Island community. The project will also restore tribal cultural connections with the site, which is near an important historical longhouse location.

Family-based breeding for production of higher-yielding Manila clam seed, $128,671
Farming of marine bivalves provides high-quality protein and has a positive impact on the coastal environment. The U.S. is a top producer of the Manila clam (Japanese carpet shell, *Ruditapes philippinarum*) with reported sales of $31 million in 2019. Production of clams, however, has depended almost entirely on seed from wild stocks and natural recruitment, leaving the industry vulnerable to ocean change. This Phase I proposal seeks to develop a family-based breeding program for *R. philippinarum* and select for families with differential sex-ratios that may have contrasting yield potentials and environmental resilience.

BIL Gap Funding: Autonomous Combined DIC-pCO2 Instrument Development, $116,098
After nearly a decade, the NOAA Ocean Acidification observing Network (NOA-ON) is at the maturity level where a sustained effort to refresh and advance technology is necessary to maintain the current level of observations. The core NOA-ON MAPCO2 instrument has reached its end of life.This project will contribute to the development of an autonomous, embedded, low power, modestly priced, mass-producible, climate-quality surface ocean combined pCO2-Dissolved Inorganic Carbon (DIC) system deployable on a variety of autonomous platforms.

BIL Support for Improving the U.S. Argo Program for Global Ocean Observations, $613,898
The UW Float Lab has fabricated and deployed mostlyApex floats produced by Teledyne/Webb Research Corp. While personnel from our laboratory rarely sail on float deployment cruises, it is our standard operating procedure to send one of the engineers to the originating port for each deployment cruise, to check the floats one last time before being loaded onto the ship, to make sure the floats are properly stored and secured aboard, and to discuss deployment locations and methodology with the ship's captain and crew. The combined float operations of fabrication and deployment at UWhave been quite successful; there are presently 610 operational UW floats in Argo.

Salish Sea and Columbia River Operational Forecast System (SSCOFS) - Refinement, Improvement, and Testing support to NOAA COOPs through the BIL Program, $180,000
This project will explore scientific and technological methodologies to improve the performance of the Salish Sea and Columbia River Operational Forecast System (SSCOFS). These improvements include developing and applying

methodologies for integrating more accurate bathymetric, or sea floor map, data in order to improve the system's accuracy for water levels and currents. They also include increasing the vertical resolution in order to better resolve currents, temperature and salinity throughout the water column. Finally, in addition to statistical skill improvement, it will also increase domain coverage by refining and testing the grid along the shoreline.

Development of a comprehensive coastal inundation code for extreme coastal inundation events, $285,188
The aim of this work is to develop a numerical forecast model able to incorporate both the complex hydrodynamics in the form of tidal and tsunami waves and sophisticated morphodynamics as sediment transport. This model should be able to run operationally at the Tsunami Warning Centers to increase our understanding of the coastal hazards with climate change, such as sea level rise and the ensuing effect on inundation. This project will support a postdoc with skills in numerical modeling of tsunamis and sediment transport.

Washington CoastSavers Clean Coast Quest, $299,965
The Washington Sea Grant was awarded $299,965 to partner with the National Marine Sanctuary Foundation's Washington CoastSavers in order to support annual beach cleanups in Washington state, work with the Quinault Indian Nation to expand cleanup and outreach education efforts, and contribute large marine debris data to MyCoast, a Washington Department of Natural Resources database, to understand the scope of the marine debris issue, encourage stewardship, and provide an informed assessment to be used in future removal efforts.

Washington State 2024 Pacific Coastal Salmon Recovery Fund, $6,000,000
Washington's Salmon Recovery Funding Board, through the Washington State Recreation and Conservation Office, will continue work to recover ESA-listed salmon and support treaty fishing rights through habitat restoration and fishery monitoring efforts.

Western Washington Tribal Salmon Recovery, $4,862,160
The Northwest Fisheries Indian Commission, as a support organization to 20 Puget Sound and Washington coastal Treaty Tribes, will administer awards to restore and protect habitats, conduct monitoring and enable projects that will help fulfill tribal treaty fishing rights for ESA-listed salmon and steelhead.

Removal of Migratory Fish Barrier at Brighton Creek - Replacement of Harts Lake Road S. Culvert, $5,764,499
This project will remove a culvert that is completely blocking fish passage on Brighton Creek, a tributary of the Nisqually River. They will replace it with a new channel-spanning culvert, opening up high quality habitat to access by threatened Puget Sound steelhead and Chinook salmon. The project design incorporates climate change projections to help prevent flooding, and a wildlife crossing to reduce the chance of animal strikes. The project will also support the tribe's Native Plant Restoration Crew's work at the project site after implementation.

Ennis Creek Barrier Correction - East Ennis Road, $1,402,396
This project will address one of the last remaining fish passage barriers in the Ennis Creek watershed by replacing undersized culverts on a city road in Port Angeles, Washington, with a bridge. This work will benefit threatened Puget Sound steelhead, bull trout, and Chinook salmon. The new bridge will also help reduce maintenance costs and reduce the risk of road failure and flooding.

Transformational Chinook Recovery in South Whidbey Basin Watersheds Phase 2, $10,100,000
This project will work with partners to implement large-scale restoration across the Snohomish and Stillaguamish Rivers within the Whidbey Basin. This work takes a holistic perspective to recover Chinook salmon, targeting restoration to support two critical life stages: upper watershed habitat for spawning and freshwater and estuarine habitat for rearing.

Makah Ocean Data and Management Capacity, Data Sovereignty, and Student Engagement, $143,215
The Makah Tribe is an active participant in the West Coast Ocean Alliance (WCOA), which takes a regional perspective to ocean management and science. The overarching goal of this award is to continue the work begun by our Ocean Mapping Specialist (OMS) in our first award under this program to enhance the Makah Tribe's capacity to engage with regional ocean planning and management priorities. Building on the gap assessment and project work started by the OMS, this project allows the OMS to continue to provide ongoing data and mapping support to Makah staff and leadership and WCOA products, while also focusing in on a few priority topics identified by WCOA, the WCOA Tribal Caucus, and the Makah Tribe. These include a focus on tribal data sovereignty, outreach to and education for the next generation of Makah resource managers, and a specific topic focus on ocean climate change and ocean energy data and research needs.

Owl Creek Habitat Restoration Project, Phase 2, $1,638,102
This project will restore over a mile of Owl Creek and floodplain, significantly improving spawning and rearing habitats for salmonids. Restoration actions include large wood placement, floodplain reconnection, riparian planting, and invasive plant management. This project will create local job opportunities, support coastal communities and their resiliency to climate change, and benefit spring/summer chinook, fall chinook, coho, steelhead, and resident trout species.

Integrated Resilience Strategy for the Padilla Bay Coastal Community, $500,000
Establish a long-term habitat and community climate resilience vision to proactively address flooding, erosion, and saltwater inundation in this ecologically and culturally significant region. Geographically focused analysis will be conducted in two locations to identify nature-based design alternatives to specifically address coastal habitat and infrastructure resilience to sea level rise. This will include 30% design construction alternatives for restoring sediment delivery to the Samish Neck restoration site and addressing multiple threats to a highly vulnerable transportation corridor.

Advancing High Impact Derelict Vessel Removal on Vulnerable Aquatic Lands, $1,029,285
The Washington State Department of Natural Resources is removing multiple abandoned and derelict vessels from tribal tidelands of the Squaxin Island Tribe, as well as hosting vessel turn-in events throughout the state.

Production of high-yielding Manila clam seed through family-based breeding and polyploidy selection, $14,068
Aquaculture of marine bivalves, especially Manila clams (*Ruditapes philippinarum*), is a sustainable food source that benefits coastal environments. Currently, U.S. clam production relies on wild seeds, making the industry vulnerable to ocean changes. This project proposes a breeding program to develop female-biased triploid clams for improved yields. This research aims to enhance farm yields by 30%, benefiting shellfish growers and boosting U.S. seafood production through improved broodstock and commercial hatchery partnerships.

Building the US Component of a Global Surface Ocean CO 2 Reference Observing Network, $1,565,546
The Surface Ocean CO2 Reference Observing Network (SOCONET) will integrate national-to-regional surface ocean carbon dioxide (CO2) research and monitoring efforts into a global framework that will track global ocean sources and sinks of CO2 to improve forecasting of future climatic and environmental changes, provide policymakers with critical information on the global carbon cycle for climate negotiations, and monitor impacts to ocean health to better inform ecosystem and fisheries management.

Support for Improving the U.S. Argo Program for Global Ocean Observations, $455,934
The 5-institution U.S. Argo Float Consortium will enhance the U.S. component of the international Argo Program, a global network of autonomous profiling floats. This project aims to strengthen U.S. contributions by funding the purchase and deployment of 18 additional Core Argo floats from FY2024 to FY2026. It will also support 8 deep profiling floats, providing valuable experience for the University of Washington Float Lab and bolstering the U.S. Deep Argo mission. Additionally, the proposal includes funding for a laboratory pressure vessel to test and improve float electronics.

Investigating extreme coastal inundation events using well-balanced finite volume numerical techniques, $141,890
The aim of this work is to develop a numerical forecast model able to incorporate both the complex hydrodynamics in the form of tidal and tsunami waves and sophisticated morphodynamics as sediment transport. This model should be able to run operationally at the Tsunami Warning Centers to increase our understanding of the coastal hazards with climate change, such as sea level rise and the ensuing effect on inundation. This project will support a postdoc with skills in numerical modeling of tsunamis and sediment transport.

The Role of Cetaceans in Alaska Marine Ecosystems, $35,500
We propose to conduct multi-disciplinary research based on the following approaches: 1) sampling surveys including aerial-based (manned and unmanned), vessel-based, and shore-based surveys to collect visual sightings, photo-identification and photogrammetry, biological and environmental sampling, as well as instrument deployment; 2) passive acoustic monitoring; 3) telemetry; 4) genetics and 'omics; 5) chemical tracers including POPs, stable isotopes and hormones; 6) quantitative modeling using abundance, demographic, spatial, habitat, genetic, trophic, and energetic data, and 7) investigation of new technologies for application to marine mammal research problems. *This funding supports work in WA, AK*

Stories as Science: Integrating lived experience and community knowledge into actionable adaptation science, $499,183
Tribal nations, Indigenous, and socioeconomically disadvantaged communities in the Northwest Climate Resilience Collaborative and the Pacific Islands RISA geographies are facing increasingly severe impacts from inland and coastal flooding due to sea level rise, more intense extreme precipitation, and other consequences of climate change. To equitably address these challenges, we need methods that simultaneously build local capacity and prioritize community knowledge in adaptation planning efforts. *This funding supports work in WA, HI*

Improving and Enhancing NANOOS, the Pacific Northwest component of the US IOOS, $1,169,000
The Northwest Association of Networked Ocean Observing Systems (NANOOS) will upgrade observing infrastructure throughout the Pacific Northwest. Buoys and gliders are being revitalized and equipped with newer tech sensors. Upgrading and replacing assets assures that NANOOS can continue to provide data critical for forecasts relevant to boating and shipping, fishing and aquaculture, and conducting water-quality monitoring. This will also preserve NANOOS' long-term time series data, which are essential to climate assessment and modeling. Resulting information products, like HAB Bulletins, water property anomaly plots, and hypoxia tracking, are used by tribal, state, local, and regional federal managers and support ecosystem modeling. *This funding supports work in WA, OR*

Enhancing Data Management Capacity among the Columbia River Inter-Tribal Fish Commission (CRITFC) its Four Member Tribes and the West Coast Ocean Alliance (WCOA), $400,000
The Columbia River Inter-Tribal Fish Commission will develop capacity for the four member tribes of the Commission to engage with the West Coast Ocean Alliance data priorities, improve Commission member tribes' centralized data management systems with enhanced user interfaces, more thorough metadata, data exchange standards, Traditional Ecological Knowledge fields, and adding more tribal datasets to the repositories. *This funding supports work in WA, OR*

IRA

Pacific Salmon And Steelhead Hatchery Maintenance And Modernization, In Support Of Tribal Treaty Fishing Rights, $240,000,000
Investment in tribal hatcheries producing Pacific salmon and steelhead, and hatcheries that support tribal treaty fishing rights. The funding will focus on deferred maintenance, repairs, and modernization of hatchery infrastructure. NOAA fisheries has transferred the funds to the Bureau of Indian Affairs to administer the funding. This funding aims to: improve the efficiency and effectiveness of fish hatcheries in rearing healthy Pacific salmon and steelhead; enhance the resilience

of hatcheries to climate change and other environmental stressors; and support tribal co-management of Pacific salmon and steelhead resources, ensuring the health of these culturally and economically vital species for future generations. *This funding supports work in AK, WA, ID, OR, CA*

North Pacific Fishery Management Council Inflation Reduction Grant, $1,457,046
The North Pacific Regional Fishery Management Council (NPFMC) will use funding to implement fishery management measures necessary to advance climate-ready fisheries by improving climate resiliency and responsiveness to climate impacts and develop and advance climate-related fisheries management planning and implementation efforts. Initial year funding includes operational expenses associated with the creation of a new position that will further develop climate change initiatives, along with related travel support. *This funding supports work in* AK, WA, OR

Quantifying Multi-Stressor Driven Climate Shocks to West Coast Marine Ecosystems Using Large Earth System Model Ensembles, $377,071
Marine sanctuaries along the US West Coast experience a variety of biophysical stressors which are expected to be exacerbated by climate change, including effects from marine heat waves, harmful algal blooms, and seasonal expansion of oxygen minimum zones. Accurately characterizing the range of climate-driven shocks to US West Coast sanctuary regions in the face of climate change thus requires assessing the impact of large-scale climate variability on ecosystem driver variability. This funding supports work in CA, OR, WA

Marine Biodiversity Observation Network in the Northern California Current: Dynamic, multiscale assessment of biodiversity and ecosystem function to support emerging science and management needs, $1,616,213
This award will advance the science of Marine Biodiversity Observation Network (MBON) through additional technologies and research, and create a test-bed in the Pacific Northwest where elements of the US and Global MBONs can be harmonized. Specifically, this award will support work to: 1) Provide biological and environmental data collected by multiple programs in an integrated synthesis that informs scientists, resource managers, educators, and all community partners about the state of multitrophic level diversity in the Northern California Current and how it is changing. 2) Provide codeveloped near-real time indicators of plankton and nekton community structure to support local management needs for tribes, and regional needs for Integrated Ecosystem Assessment and improved stock assessments. 3) Contribute to best practices and mechanisms to share data, experiences, knowledge, and protocols to understand species and the status and trends of plankton and the ecosystem services they provide. 4) Share innovative technologies, pipelines, and algorithms developed for the observation of plankton between academia, state and federal agencies, and community partners. *This funding supports work in CA, OR, WA*

Assessments of community measures for commercial fishing against species shifts and metrics, $59,336
This project will examine historic community-level measures of commercial fishing engagement in the West Coast fishing community. This project includes a Climate, Ecosystems, and Fisheries Initiative (CEFI) summit with the objectives to (1) affirm CEFI purpose, goals, and implementation teams across components and regions (2) review and prioritize requirements, expected products, workflows, timelines, and performance metrics for all CEFI System Components and (3) strengthen critical collaborations and identify strategies for effective engagement with partners and target decision-makers both internal and external. *This funding supports work in CA, OR, WA, AK*

Phase 2 Feasibility Studies for Salmon Reintroduction: Evaluation of downstream movement and survival of juvenile Chinook salmon in the upper Columbia basin, $575,000
The Coeur d'Alene Tribe will gather data to inform the full-scale feasibility of salmon reintroductions upstream of Chief Joseph and Grand Coulee dams by studying the downstream movement and survival of juvenile Chinook salmon. *This funding supports work in ID, WA*

(ESLR 2023) Using ESLR funded datasets and tools to evaluate alternative backshore management options along US Pacific Northwest coastlines, $498,689
A confluence of factors in U.S. Pacific Northwest region including extensive beach and dune habitat (~45% of the shoreline), a century of landscape level transformation of dunes from non-native beachgrasses, significant alongshore variation in SLR and changing patterns of storminess, and a steady increase in coastal development have led to complex management challenges for local and state agencies. Here we propose to build on the datasets and modeling tools from our current 2019 ESLR grant entitled Optimizing the ecosystem services of US Pacific Northwest coastal beaches and dunes through adaptation planning to assess the biophysical and economic values of a suite of backshore management options, including multiple types of natural and nature-based features. *This funding supports work in OR, WA*

Pacific Fishery Management Council Inflation Reduction Act Grant, $1,644,185
Pacific Fishery Management Council Inflation Reduction Act Grant for 2024-2026. *This funding supports work in OR, WA, CA, ID*

Cabin and Johnson Creek Restoration Project, $3,609,081
The Cowlitz Indian Tribe will address fish passage to Cabin and Johnson Creeks within the Grays River watershed for Chinook and coho salmon, river chum and steelhead. The recovery plan identifies the Grays River subbasin as one of the most promising areas for salmon recovery among Washington coastal subbasins.

Trap and transport of adult salmon and juvenile outmigration studies upstream of Chief Joseph and Grand Coulee Dams, $620,660
The Confederated Tribes of the Colville Reservation will study salmon reintroduction upstream of Chief Joseph and Grand Coulee Dams in the Upper Columbia Basin, to support trapping and transporting adult salmon, and restoring native subsistence fishing.

Lower East Fork Lewis Floodplain Reclamation, $7,561,480
This project will restore habitat along the lower East Fork Lewis River that has been severely impacted by legacy gravel mining and residential development. This river is a critical watershed for the recovery of Lower Columbia River Chinook salmon, which is a significant portion of the diet for endangered Southern Resident killer whales, a NOAA Species in the Spotlight.

Restoration for All, $827,453
This project, in partnership with the Latino Educational Training Institute and Snohomish Conservation District, will create a bilingual workforce development program to educate and train members of the Latino community in the restoration field. The program will include paid internship opportunities, providing participants with hands-on experience restoring salmon habitat in the Stillaguamish and Snohomish watersheds.

Enabling near real-time coastal data from the Olympic Coast National Marine Sanctuary, $520,386
This project aims to enable real-time monitoring of ocean conditions in the Olympic Coast National Marine Sanctuary (OCNMS). It will compare these measurements to existing climatologies, and associate trends and anomalies with information about the abundance and composition of critical biological communities, which fuel higher trophic levels and ecosystems that coastal communities depend upon. From these observations, we aim to improve climate understanding and information for management and response by assessing how tightly coupled environmental conditions track with various plankton metrics.

Climate IRA - Right whale ecosystem modeling, $357,578
A Joint Species Distribution Model of the eastern Bering shelf zooplankton community using climate data found that the primary prey species of North Pacific right whale (NPRW) will move northward as sea ice loss continues. Here this model

will be expanded to 1) include data on NPRW passive acoustic detections, prey, oceanography, and species that compete with the NPRW for prey, such as forage fish, to provide a comprehensive analysis of NPRW distribution; 2) incorporate data from additional whale species to provide an expanded ecosystem-based model; and 3) explore feasibility of incorporating ocean modeling products to generate forecasted distributions for climate-ready management.

CICOES IRA Essential Data Acquisition (EDA) Proposal, $6,616,676
A total of 8 projects address research needs within the Integrated West Coast Pelagics Survey (IWCPS) and Advanced Technology Strategic Initiatives including Active Acoustics, 'Omics, Passive Acoustic Monitoring, Remote Sensing, and Social Science. Collectively these projects address analysis of active acoustic data using Artificial Intelligence and Machine Learning techniques, integration of eDNA technology to supplement fish biomass assessment surveys, improve passive acoustic data analysis, management, and application, model global ocean property attributes, and to further use existing data to assess fisher health and wellbeing.

Administration of Hatchery Infrastructure Upgrades for Mitchell Act Funded Hatcheries, $11,385,000
Investing in high-priority deferred repair and maintenance of hatcheries funded by the Mitchell Act, which supports 60 Columbia River Basin hatchery programs. This funding will support Pacific Coast salmon and steelhead fisheries and tribal treaty rights in the basin within the US v. Oregon forum. Projects were prioritized through a collaborative process with Columbia River Treaty Tribes, Washington, Oregon, and federal entities. The Columbia River Inter-Tribal Fish Commission (CRITFC), on behalf of the four Columbia River treaty tribes, will manage repair and upgrade projects at the Willard National Fish Hatchery and the Carson National Fish Hatchery, working closely with the US Fish and Wildlife Service (USFWS).

Hatchery Infrastructure Upgrades for Mitchell Act Funded Hatcheries operated by Yakama Nation, $8,950,000
Investing in high-priority deferred repair and maintenance of hatcheries funded by the Mitchell Act, which supports 60 Columbia River Basin hatchery programs. This funding will support Pacific Coast salmon and steelhead fisheries and tribal treaty rights in the basin within the US v. Oregon forum. Projects were prioritized through a collaborative process with Columbia River Treaty Tribes, Washington, Oregon, and federal entities. Klickitat Hatchery, operated by Yakama Nation, is receiving funding to complete four infrastructure projects. These upgrades will ensure water delivery into the future, improve rearing conditions, and allow for increased adult broodstock collection.

Hatchery Infrastructure Upgrades for Mitchell Act Funded Hatcheries operated by Washington Department of Fish and Wildlife, $25,643,711
Investing in high-priority deferred repair and maintenance of hatcheries funded by the Mitchell Act, which supports 60 Columbia River Basin hatchery programs. This funding will support Pacific Coast salmon and steelhead fisheries and tribal treaty rights in the basin within the US v. Oregon forum. Through a collaborative process with Columbia River Treaty Tribes, Oregon, and federal entities, Washington Dept of Fish & Wildlife projects receiving these funds include infrastructure repairs and upgrades at Washougal and Ringold Hatcheries. These funds will also support the Lower Columbia weir construction project, which is part of the Mitchell Act Biological Opinion implementation.

Trap and transport of adult salmon and juvenile outmigration studies upstream of Chief Joseph and Grand Coulee Dam, $747,166
The Confederated Tribes of the Colville Reservation will study salmon reintroduction upstream of Chief Joseph and Grand Coulee Dams in the Upper Columbia Basin, to support trapping and transporting adult salmon, and restoring native subsistence fishing.

Hood Canal Bridge Fish Passage: Phase 2, $2,226,188
This project will work to address fish passage at the floating Hood Canal Bridge to reduce a major cause of mortality for juvenile steelhead. They will develop a plan for near-term solutions to immediately reduce the loss of steelhead at the

bridge, and evaluate the possibility of replacing the bridge as a long-term solution. Addressing this significant barrier will help support sustainable tribal fisheries and protect tribal trust resources.

Skagit Basin Tribal Priority Fish Passage Implementation 2023, $3,333,675
This project will remove or replace seven culverts that block fish passage in the Skagit and Samish watersheds. They will also assess the feasibility of one additional fish passage project. This project will support tribal capacity to develop and engage in fish passage projects, and provide a hands-on opportunity for tribal members and youth to participate in habitat restoration.

5th Avenue Dam Removal and Deschutes Estuary Restoration, $6,437,390
This project will work to remove the 5th Avenue Dam, a barrier built across the mouth of the Deschutes River to create Capitol Lake. Removal of the dam and restoration of the estuary will create a significant amount of habitat of key importance to the recovery of threatened Puget Sound Chinook. The project will also support tribal capacity to expand their barrier removal efforts and engagement in salmon recovery planning in south Puget Sound.

Cowlitz Indian Tribe - Ostrander Creek Fish Passage Project, $1,878,941
This project will address the last remaining fish passage barrier on Ostrander Creek, a tributary of the lower Cowlitz River, by completely removing a culvert and associated abandoned railroad crossing. This work will benefit multiple species of steelhead and salmon that are important subsistence and cultural resources for tribal members. It will also help reduce the risk of downstream flooding.

Tulalip Fish Passage Collaborative I, $11,738,608
This project will work with partners to plan and construct multiple barrier removals in several watersheds in the Stillaguamish and Snohomish Basins, part of the South Whidbey Basin in Puget Sound. This work will support several salmon and steelhead species that are of economic, recreational, and cultural importance to the Tulalip Tribes and other members of the local community. By removing or replacing undersized and aging culverts with structures designed to withstand climate change, these efforts will also help protect the community from flooding.

Tulalip Fish Passage Collaborative II, $9,220,170
This project will work with partners to remove multiple fish passage barriers at priority streams in the Stillaguamish and Snohomish Basins, part of the South Whidbey Basin in Puget Sound. This effort will open significant habitat to access by threatened Puget Sound Chinook and steelhead, as well as Puget Sound coho. It will also benefit Southern Resident killer whales, a NOAA Species in the Spotlight, by supporting their prey. Climate change considerations will be incorporated into the barrier replacements, to help prevent flooding and increase community resilience.

Wenatchee Basin Fish Barrier Removal Project, $1,600,000
This project will work to address several fish passage barriers in the Wenatchee watershed, one of four major watersheds of the Upper Columbia River Basin. This work will reopen access to high-quality habitat for threatened Upper Columbia steelhead and endangered Upper Columbia Chinook salmon.

Olympic Peninsula Coldwater Connection Campaign Fish Passage Project Phase 2, $8,362,191
This project will restore access to high quality spawning and rearing habitat within the Olympic Peninsula by addressing 6 fish passage barriers in the Hoh, Queets-Quinault, and Quillayute watersheds. The barriers were identified as priorities under the Coldwater Connection Campaign, a partnership that aims to reconnect 125 river miles by removing 50 of the highest priority fish passage barriers on the Western Olympic Peninsula.

Queets Clearwater Large Wood Restoration Project, $10,000,000
This project will restore and improve habitat in the Queets-Clearwater watershed to support wild coho salmon. A lack of stable wood and healthy forests throughout the basin has caused extreme channel incision, disconnecting the river from floodplain and side channel rearing habitats that are critical for salmon. This project will design and install engineered log jams and perform riparian restoration treatments (such as thinning and planting) to provide future shade, wood recruitment, and restore old forest characteristics.

Puyallup Watershed Restoration Project: unbuilding and reconnecting floodplains in the lower Puyallup River in Clear Creek, middle watershed in South Prairie Creek, and in the upper White River basin, $8,400,000
This project will work with partners to plan, design, and implement delta and floodplain channel restoration, culvert and road removal, and installation of engineered log jams in the Puyallup River Basin. This work will support the recovery of threatened Puget Sound Chinook salmon, steelhead, and bull trout. It will also improve community resilience to flooding. The project will be carried out in full partnership with the Puyallup and Muckleshoot Indian Tribes, supporting their tribal fisheries and traditional way of life.

Developing New Generation Consolidated Satellite Tags for Cetaceans, $796,400
This project would advance the state of technology with respect to implantable satellite telemetry tags for cetaceans. The primary goal of this project is to develop new generation, fully integrated, consolidated Argos satellite tags with miniaturized electronics, and provide information on potential health impacts via directed follow-up studies after tag deployments. Significant miniaturization of tag components is expected to tag performance and reduce potential risks for tagged individuals.

Maritime Blue Ventures for Ocean-based Climate Solutions, $248,403
Maritime Blue will scale its national leading Blue Ventures programming utilizing our extensive network of cluster members, partners, and stakeholders including private industry, public agencies, research institutions, and community organizations. Combining our entrepreneurship programs for ocean-based climate solutions with access to venture, debt, and non-dilutive capital, and our extensive relationships across the blue economy we will formally establish a hub and spoke model for the Greater NW (OR, WA, AK) and the West Coast of the US. With NOAA support we will expand our rigorous recruitment process; increase technology-based mentors; enhance due diligence processes, mechanisms, and infrastructure for deploying capital; increase data management and analytics; and, expand existing Equity Engagement programming for workforce and internship development between startups/technology developers and underrepresented communities.

Marine Discovery Center, $3,000,000
The Feiro Marine Life Center, working cooperatively with the NOAA Office of National Marine Sanctuaries, will develop a new “Marine Discovery Center” in Port Angeles, serving as a primary site for learning and research for the Olympic Coast. The Marine Discovery Center (MDC) would act as a learning hub, showcasing science research, facilitating learning experiences, and galvanizing the community to participate in marine stewardship.

Launching the Washington Coastal Resilience Fellowship Program, $875,000
This funding will build the ability of Washington's federally-approved coastal zone management program within the Department of Ecology to implement projects, initiatives, and programs that increase the climate resilience of coastal communities within coastal counties. Specifically, the Department of Ecology will use these funds to partner with Washington Sea Grant to develop, launch, and operate a new Washington Coastal Resilience Fellowship program focused on enhancing climate resilience of coastal communities.

WA ECY NERRS IRA Non-competitive awards (FFY24), $400,000
This funding will build the ability of the Padilla Bay National Estuarine Research Reserve (NERR) within the Washington Department of Ecology to implement projects, initiatives, and programs that increase the climate resilience of coastal communities within coastal counties. Specifically, the Padilla Bay NERR will use these funds to support new and ongoing restoration and conservation efforts in the Samish Conservation Area, No Name Slough, and Bayview Ridge. The NERR will also support coastal resilience mapping, cultural and community resilience training, and resilience and restoration grants coordination.

Padilla Bay Coastal Prairie Restoration, $623,315
The Padilla Bay National Estuarine Research Reserve will use these funds to transition 15 acres of old pastures from a species-poor grassland dominated by non-native species to a species-rich native coastal oak prairie habitat that will be protected long-term as part of the reserve. This will be achieved by co-managing with local tribes (the Samish Indian Nation and the Swinomish Indian Tribal Community), integrating modern methods with the traditional knowledge that sustained this rare habitat for centuries and will ultimately be key to its resilience to climate change. The intended benefits include increased biodiversity and habitat resilience, increased public awareness and access, increased tribal access to rare and culturally important species, and promotion of traditional ecological knowledge as central to natural resource management in a changing climate.

FY23 CZM Coastal Climate Resilience Partners, $73,587,134
Over 20 years of foundational work by the Washington State Coastal Climate Resilience Partnership (state and local agencies, tribes, and other local and national partners) produced a shared, regional vision for improved climate resilience. This funding will allow their vision to continue its strong march into reality and implementation. This project consists of five transformational adaptation actions including shovel-ready projects that will result in habitat restoration, the realignment of State Route 112, shoreline restoration, and stormwater drainage improvements. Funds will also be used to advance project planning and design, grow an invigorated, climate-informed workforce and strengthen regional coalitions that will advance integrated and equitable coastal management across Washington?s entire coastal zone. *This project was funded through the Climate Resilience Regional Challenge*.

Regional Collaboration for Better Resilience Outcomes in the Puget Sound Basin, $1,999,963
This project will enhance regional collaboration by providing staffing and programming support to the Puget Sound Climate Preparedness Collaborative, a network of local and county governments, tribes, regional agencies, and other organizations working to build community, economic, and environmental resilience to climate change. With this funding, the collaborative will strengthen local and regional capacity, partner with Coast Salish tribes to increase regional understanding of climate change impacts, and establish a knowledge base of climate preparedness resources. *This project was funded through the Climate Resilience Regional Challenge*.

DeepCarbon: Machine learning-based software tool for characterization of carbon assets and impacts of land-use changes for informed planning and decision making, $174,689
We propose a continuous data processing system to transform raw magnetic field data from the MagStar magnetometer network into actionable, validated data products for clients interested in space weather. This unique system will provide real-time alerts during magnetic storms and localized digests after events, enabling clients to assess space weather impacts on their missions, aiming to enhance awareness of real-time space weather and address the needs of electrical power utilities affected by magnetic storms.

Smolt-to-Adult-Return Modeling of Upper Columbia and Snake River Spring-run Chinook Salmon (Inflation Reduction Act), $415,802
Although it is known that salmon are highly vulnerable to climate change and a warming ocean, associated bottom-up/top-down processes, species collocation, and spatio-temporal oceanography can be better understood and

examined together to help assess mitigative options for increasing salmon adult returns. Furthermore, because the ecosystem of salmon includes the freshwater system, carryover effects across habitats are also important to include in their life cycle modeling. The Marine Model, with carryover effects from the freshwater life stage and inputs from the marine habitat, will be integrated into life cycle models to compare salmon viability under a variety of scenarios of climate change and management actions.

Tribal Stewards: Cultivating Tribal Leadership & Equity in Natural Resource Stewardship and Climate Resilience, $9,257,231
This sector partnership aims to cultivate a new generation of tribal leaders and co-stewards adept in natural resources management and climate resilience. Through tailored support and education, the Tribal Stewards initiative will train both tribal and non-tribal graduates to contribute to collaborative efforts in scientific advancements and climate resilience that serve tribal communities. This critical partnership embodies a commitment to equity, access and the cultivation of a diverse workforce equipped to tackle the complex challenges of the climate change era.

Colville Tribes Collaborative Drought Monitoring and Resilience Planning Project, $695,917
This grant will allow theColville Tribes to complete the critical step of drought mitigation and response planning so that subsequent resiliency projects can be implemented in an effective and efficient manner. The effects of drought on Tribal resources have been observed and documented through limited studies conducted in the past. These studies demonstrate the clear need for a more robust drought monitoring system covering the 1.4 million acres of the Reservation than has been present so far. It is critical to share climate and drought data for the area of the Reservation with other Tribes in the region, Washington State, and NOAA for more complete and focused drought forecasting and for resiliency planning. The Project will also augment and strengthen the NOAA's Pacific Northwest DEWS network by including data from a significantly large geographical area in northeast Washington.

Snoqualmie DROUT: Snoqualmie Drought Resilience for Our Tribe, $338,733
Climate forecasts indicate increasingly frequent and severe droughts may be expected in the Snoqualmie watershed, which, coupled with increasing demand for domestic, agricultural, and industrial water supply, may impact availability of water for tribal needs at the Snoqualmie Indian Tribe (SIT) Reservation and further degrade the productivity of cold-water fish habitat throughout the Snoqualmie basin. The Snoqualmie DROUT project includes: Characterize water needs for the SIT and other water users in the Snoqualmie watershed. Use Traditional Ecological Knowledge (TEK) and other science to identify optimal drought indicators and evaluate the linkage between climate, groundwater, surface water, and fisheries.

Data management services to streamline data archival and improve FAIR compliance, $299,729
This project will provide a framework for Global Ocean Monitoring and Observing (GOMO) Arctic Research Program (ARP) data management, which will reduce the data submission burden on ARP Principal Investigators, while also ensuring Findable, Accessible, Interoperable, and Reusable (FAIR) compliance, ease of use and preservation of data collected. Essentially, the project will develop an end-to-end, submission-to-access/archive data system for arctic data, primarily through focused extension/leveraging existing substantial cyberinfrastructure components within NOAA.

Alaska Climate, Ecosystem, and Fisheries Initiative via the Inflation Reduction Act: supporting operational climate-informed tools and advice, $1,136,822
This proposal is to support the development and implementation of NOAA's Climate, Ecosystems, and Fisheries Initiative (CEFI) in Alaska, USA. Implementation in AK will build upon research and development during the last 10 years for climate-coupled stock assessment and ecosystem-social economic models in support of climate-informed Ecosystem Based Management in the region. The work will leverage ongoing research and tools being tested through regional integrated research projects (namely the Integrated Ecosystem Assessment program, the Alaska Climate Integrated Modeling Project, and the Gulf of Alaska Climate modeling project). *This funding supports work in WA, AK*

Inflation Reduction Act: Envisioning our future ocean through collaborative research to address climate vulnerabilities for Arctic fishing communities, $334,196
An increasingly accessible Arctic presents new opportunities and challenges for communities and resource managers, requiring coordination across communities, scientists, regional communication hubs and management. To address these challenges and gain insight into potential opportunities, this work builds on existing partnerships with Alaska Native Tribes, tribal consortia, state and federal agencies, fisheries managers and regional communication hubs to identify climate vulnerabilities and climate information needs to inform adaptation strategies for fishing communities in the Arctic. *This funding supports work in WA, AK*

mCDR 2023: Simulating biotic calcification impacts on marine carbon dioxide removal additionality, $1,250,482
Calcification releases carbon dioxide into seawater, which may reduce the efficiency of carbon removal projects. This project will explore the potential impacts of increased calcification using ocean model simulations. The team will use simulations from two different model frameworks to identify a range of efficiency reductions that could come from calcification. These results may inform carbon market price and discount rates through improving the accurate estimation (and uncertainty) of efficiency. *This funding supports work in WA, CO*

Inflation Reduction Act: Ecosystem metabolism analyses using long term mooring data, $245,000
Gross and net primary production are key ecosystem parameters as they set the energetic basis for food webs that support commercially important species and are impacted by changing environmental conditions due to climate change. This project will better our understanding of coastal primary production dynamics through time and in relation to climate conditions. The project team will also develop and disseminate novel modeling frameworks and indicators to quantify primary production in other regions. Products include three peer-reviewed published articles and a freely available software package. *This funding supports work in WA, OR, CA*

NANOOS Topic 1: Increasing Coastal Resilience and Equitable Service Delivery, $5,000,000
NANOOS will use this funding to support regional coastal resilience in Washington, Oregon and California by investing in better detection of harmful algal blooms, hypoxia, marine heat waves and similar hazards; the co-design of data products and decision-support tools and engagement with a broader swath of communities in the Pacific Northwest. *This funding supports work in WA, OR, CA*

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