



# *NOAA In Your Territory*

# **Puerto Rico**

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***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](#), and then [territory-wide programs](#).

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## *Highlights of NOAA in Puerto Rico*

<a href="#">Weather Forecast Office</a>	San Juan
<a href="#">Jobos Bay National Estuarine Research Reserve</a>	Aguirre
<a href="#">Puerto Rico Sea Grant College Program</a>	Mayaguez
<a href="#">Northeast Marine Corridor Culebra Island Habitat Focus Area</a>	Fajardo

Puerto Rico is also home to a National Marine Fisheries Service (NMFS) Protected Resources and Habitat Conservation Division Field Office, Science on a Sphere Explorer™ at EcoExploratorio, and several observing platforms.

### **[Aguirre](#)**

#### **National Ocean Service (NOS) - [Jobos 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 2,833 acre Jobos Bay Research Reserve was designated in 1981 and is managed by the Puerto Rico Department of Natural and Environmental Resources. Habitat found here is home to the endangered brown pelican, peregrine falcon, hawksbill sea turtle, threatened corals, and West Indian manatee.

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

The Margaret A. Davidson Graduate Fellowship program funds graduate student research and professional development opportunities within the National Estuarine Research Reserve System. The program supports collaborative research addressing local management challenges that may influence future policy and management strategies. The Davidson Fellow at the Jobos Bay National Estuarine Research Reserve will focus their research on field ecology of Upside-down Jellyfish (Genus Cassiopea) populations and their potential as bioindicators of the impact of human development in coastal ecosystems.

### **[Fajardo](#)**

#### **National Marine Fisheries Service (NMFS), National Ocean Service (NOS), National Environmental Satellite, Data, and Information Service (NESDIS) - [Center for Satellite Applications and Research](#) - [Northeast Marine Corridor and Culebra Island Habitat Focus Area](#)**

The Northeast Marine Corridor and Culebra Island was selected as a [NOAA Habitat Focus Area](#) (HFA). HFAs are targeted places where NOAA addresses high priority habitat issues by collaborating with partners and communities. Over the past several years, NOAA, led by the [Office of Habitat Conservation](#), has selected 11 HFAs across the country which have achieved significant results for ecosystems and communities. While each HFA focuses on individual habitat conservation goals, the overarching goal is to leverage collective expertise and demonstrate results in a short time period. The NOAA Restoration Center along with NOAA's Coral Reef Conservation Program, NESDIS Coral Reef Watch, NOS Office of Coastal Management, NMFS Southeast Fisheries Science Center and others, have developed an implementation plan and action plans for The Northeast Marine Corridor and Culebra Island Habitat Focus Area in Puerto Rico. Primary activities are to restore threatened corals, implement watershed restoration projects, research fishery and recreational impacts to fragile marine ecosystems, and improve the predictions of real-time storm surge. Results include the conservation of this area's coral reefs, seagrass beds, mangroves, and the people and animals that depend on them.

### **[Mayaguez](#)**

#### **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 Caribbean Regional Coordinator, based in Mayaguez, 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.

### **[San Juan](#)**

#### **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 office currently has staff in the eight regions to provide assistance to local, state/territorial, and regional coastal resource management efforts and facilitate customer feedback and assessments. The office also provides one

regionally-focused staff member in both San Juan, Puerto Rico and St. Croix, US Virgin Islands. Both work within their jurisdictions to improve the management of coastal resources, including corals.

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

Weather forecast offices are staffed 24/7/365 and provide weather, water, and climate forecasts and warnings to residents of Puerto Rico and the U.S. Virgin Islands. There are 122 [WFOs nationwide](#) of which one is in Puerto Rico. 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 weather conditions in Puerto Rico, visit [www.weather.gov](#) and, on the national map, click on the relevant county or district.

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

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

**Office of Oceanic and Atmospheric Research (OAR) – [Science on a Sphere Explorer™ at EcoExploratorio](#)**

Science on a Sphere Explorer™ (SOSx) is a portable, flat-screen virtual globe based on NOAA's 6-foot diameter Science On a Sphere® display system. This ground-breaking software uses video game technology to make SOS datasets interactive and more accessible to schools and small museums. SOSx currently has more than 115 space, ocean, and atmospheric datasets that can be used to explore complex environmental processes.

**Office of Oceanic and Atmospheric Research (OAR) - [Caribbean Climate Adaptation Network](#)**

The Caribbean Climate Adaptation Network (CCAN) is a cooperative agreement between NOAA's Climate Program Office (CPO) and the University of Puerto Rico Medical Sciences Campus. It is one of several Climate Adaptation Partnerships CAP/RISA), formerly Regional Integrated Sciences and Assessments, teams contributing to the advancement of equitable climate adaptation through sustained regional research and community engagement. Island communities such as the US Territories of the Virgin Islands (USVI) and Puerto Rico (PR) are profoundly impacted by climate extremes, which are compounded by their geographic isolation that disrupts supply chains and emergency responses. CCAN seeks to address these issues by bringing together a multidisciplinary team of universities, agencies, and non-governmental organizations based out of the Caribbean region and the US. The team enhances and expands partnerships through the development and convening of stakeholders in Puerto Rico and USVI. CCAN utilizes a human-centered design, bringing together impacted community and government stakeholders, and multidisciplinary scientists to develop and co-produce community climate adaptation capacities, strategies, and actions that build on collectively produced insights and realistic locally

grounded scenarios. CCAN's goal is to enable effective decision-making that supports building just and equitable resilience in the USVI and PR, and their focus is to address climate hazards related to extreme rainfall, extreme heat, drought, landslides, and coastal and riverine flooding. Core partners of CCAN include the University of Puerto Rico Medical Sciences Campus, USDA-Forest Service International Institute of Tropical Forestry, Worcester Polytechnic Institute, University of the Virgin Islands, City College of New York, UT-Austin, UPR-Mayaguez, University of South Florida, New York University, Caribbean Coastal Ocean Observing System. Contact information and more details about this team can be found [here](#).

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### **Entire Territory**

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

NMFS studies, protects and conserves living marine resources to promote healthy, functioning marine ecosystems, afford economic opportunities and enhance the quality of life for the American public. NMFS' Southeast Regional Office (headquartered in Saint Petersburg, FL) and Southeast Fisheries Science Center (headquartered in Miami, FL) are responsible for living marine resources in federal waters of the Gulf of Mexico, South Atlantic and U.S. Caribbean. Using the authorities provided by the *Magnuson-Stevens Fishery Conservation and Management Act*, *Endangered Species Act*, *Marine Mammal Protection Act* and other federal statutes, the Southeast Regional Office and Southeast Fisheries Science Center partner together to assess and predict the status of fish stocks, marine mammal and sea turtle populations, as well as other protected resources, including coral. Additionally, in collaboration, they develop and ensure compliance with fishery regulations, restore and protect habitat, and recover threatened and endangered species in waters off Puerto Rico and throughout the Southeast Region. Southeast Regional Office staff located in Puerto Rico provide technical support to Puerto Rico's Coral Program, analyze the impacts of energy and coastal development projects on threatened and endangered species and essential fish habitat, conduct coral and fish habitat research, participate in Commonwealth and regional habitat and protected species planning and restoration efforts, and provide assistance during hazardous material incidents and hurricane events. The Southeast Regional Office also fosters sustainable [aquaculture](#) in the region, with two Regional Aquaculture Coordinators that act as a liaison between federal and state agencies to assist in permitting and coordination activities, supporting aquaculture outreach and education, and collaborating with industry, academia and other stakeholders on regional marine aquaculture issues. The Southeast Fisheries Science Center implements a multi-disciplinary science and research program in support of living marine resource management.

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

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

[Fisheries Statistics](#) division provides extensive support to management and science through the collection, management, and dissemination of commercial and recreational fisheries statistics. The branches of Commercial Fisheries Monitoring, Recreational Fisheries Monitoring, Survey Design, Data Management and Dissemination, Catch Validation and

Bio-sampling, and Observer Program works extensively with various internal and external partners to collect the fishery dependent information used to support marine resource management in the region.

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

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

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

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

**National Marine Fisheries Service (NMFS) - [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, please inquire if interested.

**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. Puerto Rico received funding for one project in FY22, as well as funds to build the territory's capacity to protect its coastal communities and resources.

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

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

geodetic issues, collaborating internally across NOS and NOAA to ensure that all regional geospatial activities are properly referenced to the NSRS.

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

NOAA's navigation managers work directly with pilots, port authorities, and recreational boating organizations in Puerto Rico. They help identify the navigational challenges facing marine transportation in Florida and provide NOAA's resources and services that promote safe and efficient navigation. Navigation managers are on call to provide expertise and NOAA navigation response coordination in case of severe coastal weather events or other marine emergencies. The Office of Coast Survey has a navigation manager in Miami, FL and St. Petersburg, FL to support mariners and stakeholders in the Southeast and Caribbean and Panhandle of Florida.

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

The Office of Coast Survey (OCS) maintains the nation's nautical charts and publications for U.S. coasts and the Great Lakes. OCS navigation managers are strategically located in U.S. coastal areas to provide regional support to federal and state agencies in order to assist with navigational challenges. The Office of Coast Survey's Navigation Response Branch (NRB) conducts routine and emergency hydrographic surveys; and working with the regional Navigation Managers, navigation response teams (NRT) work around-the-clock after storms to speed the reopening of ports and waterways. During emergency response, the NRTs provide time-sensitive information to the U.S. Coast Guard or port officials, and transmit data to NOAA cartographers for updating Coast Survey's suite of navigational charts. Mobile integrated response team (MIST) kits are available to the Great Lakes that can be used on a vessel of opportunity and staffed by NRT members.

**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 two ASOS stations in Puerto Rico.

**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 60 COOP sites in Puerto Rico.

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

NOAA Weather Radio All Hazards (NWR) is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest National Weather Service (NWS) forecast office. NWR broadcasts official NWS warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week. Working with the Federal Communication Commission's (FCC) Emergency Alert System, NWR is an "All Hazards" radio network, making it the single source for comprehensive weather and emergency information. In conjunction with federal, state, and local emergency managers and other public officials, NWR also broadcasts warning and post-event information for all types of hazards – including natural (such as earthquakes or avalanches), environmental (such as chemical releases or oil spills), and public safety (such as AMBER alerts or 911 Telephone outages). Known as the "Voice of NOAA's National Weather Service," NWR is provided as a public service by the NWS. NWR includes 1,100 transmitters covering all 50 states, adjacent coastal waters, Puerto Rico, the U.S. Virgin Islands, and the U.S. Pacific Territories. There are two NWR transmitters in Puerto Rico.

**National Weather Service (NWS) - [Caribbean Tsunami Warning Program](#)**

The Caribbean Tsunami Warning Program supports domestic and international tsunami warning services and programs in the Caribbean and adjacent regions. The office focuses on strengthening and sustaining the tsunami observational system as well as the continued enhancement of tsunami outreach, education and readiness, including the implementation of the [TsunamiReady®](#) and international Tsunami Ready Programs.

**Office of Oceanic and Atmospheric Research (OAR) – [Puerto Rico 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. Puerto Rico Sea Grant is located at the University of Puerto Rico and is devoted to the conservation and sustainable use of coastal and marine resources in Puerto Rico, the U.S. Virgin Islands and the Caribbean region. The program's mission is two-fold: to conduct excellent scientific research in the areas of water quality, fisheries and mariculture, seafood safety, marine recreation and coastal tourism, coastal hazards and coastal communities economic development; and to apply scientific knowledge to solve a variety of problems their communities of users face every day. Puerto Rico Sea Grant disseminates research findings through a variety of dissemination activities (conferences, workshops and talks), educational products, publications, magazines, Internet and social media platforms. Administrative offices are located in Mayaguez. Get involved with Sea Grant through state and national opportunities like the John A. Knauss Marine Policy Fellowship program at [seagrant.noaa.gov](http://seagrant.noaa.gov).

**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 \$10.4 billion 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. Puerto Rico is a co-trustee with NOAA for assessment and restoration after pollution incidents in Puerto Rico. For more information about our work in Puerto Rico, visit: [DARRP in Your State](#) (and use the top menu to navigate to "Puerto Rico") and this [interactive map](#).

**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 coastal states and U.S. territories, including Puerto Rico, currently participate in this program. Competitive grants are awarded to states through the Species Recovery Grant 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 Puerto Rico Department of Natural and Environmental Resources has received multiple awards through this program, including grants to support projects focused on sea turtles, Nassau grouper, and corals.

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

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

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

The National Marine Mammal Stranding Network and its trained professionals respond to dead or live marine mammals in distress that are stranded, entangled, out of habitat or otherwise in peril. Our long-standing partnership with the Network provides valuable environmental intelligence, helping NOAA establish links among the health of marine mammals, coastal ecosystems, and coastal communities as well as develop effective conservation programs for marine mammal populations in the wild. In FY20, 43 competitive grants were awarded nationwide for a total of \$3.7 million.

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

The Coastal and Estuarine Land Conservation Program brings conservation partners together to protect coastal and estuarine lands considered important for their ecological, conservation, recreational, historical, or aesthetic values. Subject to availability of funding, the program provides state and local governments with matching funds to purchase coastal and estuarine lands or obtain conservation easements for important lands threatened by development. Since 2002, the program has protected more than 110,000 acres of coastal land nationally, including over 16,000 acres protected as in-kind matching contributions. NOAA awarded two grants in Puerto Rico, and these lands are protected in perpetuity.



**National Ocean Service (NOS) - [Coral Reef Conservation Program](#)**

NOAA's Coral Reef Conservation Program brings together multidisciplinary expertise from over 30 NOAA offices and partners to protect, conserve, and restore coral reef resources. The program focuses on three threats to coral reefs - climate change, unsustainable fishing practices, and land-based sources of pollution - as well as coral reef restoration. In response to identified threats and management priorities developed by coral reef managers in Puerto Rico, the program invests in initiatives to manage uses of marine and coastal areas to reduce impacts to coral reef habitats, and implement land-use planning to improve water quality by reducing sediment loads. These activities also support commercial, recreational, and artisanal coral reef fisheries. In response to damage from Hurricane Maria, the program worked with FEMA, other NOAA partners, and local partners to conduct coral reef assessments and emergency triage, including reattaching over 15,000 coral fragments dislodged by the storm. NOAA's Coral Management Liaison, stationed in San Juan, works with Puerto Rico's Coral Reef Conservation and Management Program and local partners.

**National Ocean Service (NOS) – [National Coral Reef Management Fellowship](#)**

The National Coral Reef Management Fellowship Program is a partnership between NOAA's Coral Reef Conservation Program, the U.S. Department of Interior Office of Insular Affairs, Nova Southeastern University's Halmos College of Natural Sciences and Oceanography, and the U.S. Coral Reef All Islands Committee. The program recruits Coral Reef Management Fellows for the seven U.S. coral reef jurisdictions, including Puerto Rico. The Fellow for Puerto Rico is working with the Department of Natural and Environmental Resources through the Coral Reef Program to promote citizen science participation in Stony Coral Tissue Loss Disease management efforts. The Fellow will implement strategies that help engage local participation in coral reef monitoring, as well as collaboration between research, education, and management groups.

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

Through a unique federal-state partnership, NOAA's Office for Coastal Management works with the Puerto Rico Department of Natural and Environmental Resources to implement the National Coastal Zone Management Program in Puerto Rico. 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. The liaison between the PR Coastal Management Program and NOAA is stationed on island in San Juan, PR.

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

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

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

The National Coastal Resilience Fund is a partnership effort between NOAA and the National Fish and Wildlife Foundation (NFWF) to restore, increase, and strengthen natural infrastructure to protect coastal communities, while also enhancing habitat for fish and wildlife. In Puerto Rico, the NCRF has awarded nine projects, two in FY18, three in FY19, one in FY20 and in FY21, and two in FY22.

**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 trade offs, best practices, resources at risk, and chemical hazard assessment to reduce risks to coastal habitats and resources. The SSC for Puerto Rico is based in Miami, Florida.

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 RRC serving the Southeast/Gulf of Mexico region is based in St. Petersburg, Florida.

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

Assessing important spatial information and designing successful restoration projects rely upon interpreting and mapping geographic information, including the location, duration, and impacts from oil spills, other hazardous materials, or debris released into the environment. Caribbean Environmental Response Management Application (ERMA®) is an online mapping tool that integrates both static and real-time spatial data, such as ship locations, weather, and habitat maps, providing an easy-to-use common operating picture to assist environmental responders and decision makers. Caribbean ERMA has been used to visualize environmental response data during regional response drills, to map small vessel groundings near coral reefs, and to assist in identifying hazardous facilities and natural resources affected by recent hurricanes. In addition to ERMA, the Office of Response and Restoration (OR&R) offers a suite of [tools](#) to support emergency responders dealing with oil and chemical spills. From Environmental Sensitivity Index (ESI) maps and data which provide concise summaries of coastal resources including biological resources and sensitive shorelines to GNOME, a trajectory and fate model that predicts the route and weathering of pollutants spilled on water, and so much more, these tools provide easy-access to critical data that support a wide range of needs for emergency responders, ultimately supporting our coastal communities.

**National Ocean Service (NOS) - [Marine Debris Projects and Partnerships in Puerto Rico](#)**

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 MDP supports marine debris removal, prevention, and research projects in partnership with state and local agencies, tribes, non-governmental organizations, academia, and industry. The MDP Caribbean Regional Coordinator supports coordination efforts with regional stakeholders, provides support to grant-funded projects, tracks progress of projects, and conducts regional marine debris outreach to local audiences. The MDP Caribbean Regional Coordinator also works with territories to assess, remove, and dispose of hurricane related marine debris. In Puerto Rico, the MDP is partnering with Puerto Rico's Department of Natural and Environmental Resources to remove debris from Hurricanes Irma and Maria at a variety of locations around Puerto Rico and the nearshore waters of Vieques and Culebra Islands. The MDP is also providing support for Scuba Dogs Society to

remove marine debris from three coastal fishing village communities that were impacted by Hurricanes Irma and Maria and to develop a Marine Debris Community Action and Response Plan. The MDP is partnering with Puerto Rico Sea Grant to develop a bilingual marine debris curriculum to educate students in grades 4-12 about the sources and impacts of marine debris and to promote behavior change through hands-on activities. The MDP is also providing support for Villanova University to conduct a regional assessment of marine debris in the Guánica Watershed. The MDP is also working with federal and territory agencies, local governments, and other stakeholders, to develop the Puerto Rico Marine Debris Emergency Response Guide, and working with the EPA's Trash Free Waters Program to support the development and implementation of the Puerto Rico Strategic Plan to Reduce Aquatic Debris.

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

The National Ocean Service (NOS) operates six long-term, continuously operating tide stations in Puerto Rico, which provide data and information on tidal datum and relative mean sea level trends, and are capable of producing real-time data for storm surge warning. These stations are located at Culebra, Magueyes Island, Mayaguez, Mona Island, San Juan, and Vieques Island. Each station is associated with a set of tidal benchmarks installed in the ground that is used to reference the height of the water levels and helps connect the water level to land. Station data feeds into many CO-OPS products that are used to support safe navigation, mitigate coastal hazards, and protect communities. Such products include:

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

### **National Ocean Service (NOS) - [U.S. Integrated Ocean Observing System \(Caribbean Coastal Ocean Observing System\)](#)**

The U.S. Integrated Ocean Observing System, or IOOS®, is a federally and regionally coordinated observing system with 17 interagency and 11 regional partners. The System addresses regional and national needs for coastal, ocean, and Great Lakes data and information that improves lives and livelihoods. This includes gathering and disseminating regional observations; data management; modeling and analysis; education and outreach; and research and development. The Caribbean Coastal Ocean Observing System (CARICOOS), is the IOOS Regional Association comprising the coastal component of Puerto Rico and the U.S. Virgin Islands, focused on meeting identified stakeholder needs for improved real time data products and forecasts of coastal weather (winds, waves and currents), water quality and hurricane-driven inundation for the U.S. Caribbean Exclusive Economic Zone (EEZ). CARICOOS provides data and information for decision-making and decision-support to systematically address regional and national needs, including the safety of coastal communities and marine operations, enhancing the economy, protecting our environment and resources, and supporting coastal resource management.

**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 San Juan field office is part of the Office of Law Enforcement's Southeast Division.

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

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

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