Inflation Reduction Act & Bipartisan Infrastructure Law Accomplishments Report

INVESTING IN AMERICA

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Overview

BACKGROUND

The National Oceanic and Atmospheric Administration (NOAA) was entrusted with over $6 billion of supplemental federal funding with the passage of the Bipartisan Infrastructure Law (BIL) on November 15, 2021, and the Inflation Reduction Act (IRA) on August 16, 2022. This historic infrastructure funding has been subsequently invested in communities across the Nation to build resilience in the face of climate change. In the last four years, under the Biden-Harris Administration and with the support of congressional leaders, NOAA has distributed hundreds of millions of dollars to communities, tribal, state and local governments, higher education programs, businesses, non-profit organizations, and facilities in need.

BIL provided $3 billion for NOAA to address the climate crisis across the country through investments in habitat and fisheries restoration, coastal resilience, marine debris cleanup, and services and information about how to cope with extreme weather such as storms, drought, floods, fire, and heat. This funding was administered on a yearly basis, and will continue to be provided through 2026.

IRA added an additional $3.3 billion to NOAA's climate funding. IRA funding was spent largely through one-time competitions, investing in innovative approaches to building resilience to climate and extreme weather disasters with a strong emphasis on underserved and under-resourced communities.

NOAA's strategic goals are consistent with the mission of these historic laws:

1. Build a Climate-Ready Nation
2. Integrate equity into our core operations
3. Promote economic development while maintaining environmental stewardship
4. Invest in upgrading aging facilities, fleet, and aircraft in service of our mission

Infrastructure investments are expanding and enhancing data, products, services, and expertise to meet the needs of citizens and public officials who are grappling with climate impacts and extreme weather disasters. NOAA is reaching new partners, including underserved and under-resourced communities, to extend the network of communities and institutions served by the agency. Funding has also enabled NOAA to invest in building a climate-trained workforce as well as businesses developing innovative products and services to help decisionmakers deal with climate impacts. NOAA is also upgrading aging facilities, ships, and aircrafts, ensuring the continued timely delivery of life-saving services to the American people.

Infrastructure funding is driving positive impacts across the Nation, directly meeting the needs of constituents and communities. A significant portion of funding has been committed to tribal and underserved communities to support work that will reduce risks for these groups, which are disproportionately affected by the impacts of climate change. Together, the combined suite of NOAA's infrastructure investments is preparing communities across the United States for many facets of climate impacts. The impacts of these investment dollars are both immediate and longstanding, focusing on current key needs through on-the-ground construction projects, while also looking ahead to longer term resilience through vital planning, data and information, technology, and collaboration.

KEY LESSONS

Unmet Demand

NOAA has seen exceptional demand for the infrastructure funding available through IRA and BIL. Requests and applications have continually outpaced available funding across all programs. In one grant program, demand for funding was nearly 30 times higher than the amount of available funding. This extraordinary unmet demand shows that communities across the country are already experiencing impacts from climate change and extreme weather, and that they look to the federal government, particularly to NOAA, to help them meet these challenges.

The demand for diverse funding types – from construction projects to business accelerators, workforce development, and regional collaboration – shows that communities are feeling the impacts of climate change in various ways, and need a variety of funding sources to meet the challenges they face.

> *"From large cities, suburban areas, rural communities to tribal lands, NOAA's funding has impacted the lives of individuals across the Nation and has supercharged NOAA's ability to build a Climate-Ready Nation."*
>
> *– Dr. Rick Spinrad, NOAA Administrator*

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Equity

NOAA's infrastructure funding is providing an unmatched opportunity for investment in equity. Underserved communities are often the first to feel the impacts of climate challenges but frequently have the least resources to adapt. NOAA's IRA and BIL programs put a strong focus on balancing the scales, ensuring that traditionally underserved communities are included and considered, and have access to the resources they need to prepare for and build resilience to climate change.

Tribal Priorities

NOAA has committed a significant amount of funding to advance tribal priorities and fulfill the federal government's trust and treaty responsibilities. Through opportunities for tribal participation in the various stages of the funding process, NOAA has listened and invested in tribally-identified priorities. As a result, tribal governments are receiving funding to address the impacts of climate change on tribal lands, support initiatives for restoring culturally important species, and manage tribally-led community resilience initiatives.

Climate-Ready Fisheries

OVERVIEW

Infrastructure funding has allowed NOAA to invest in habitat restoration, fish passage, tribal priorities, Pacific salmon recovery, North Atlantic right whale conservation, improved data management and science, and more. Through broad investments in fisheries, NOAA is working to insulate ecologically and economically important species and ecosystems from climate change.

NOAA is investing in work to restore degraded habitats and aid in the recovery of protected species through:

- **Fish passage** grants for the removal of dams and other barriers to re-open migratory pathways and increase access to healthy habitat for migratory fish species.
- **Tribal fish passage** grants to support tribes in implementing a broad range of work and build tribal organizational capacity. Funding is available to U.S. federally recognized tribes, Alaska Native corporations, and tribal organizations.
- **North Atlantic right whale** funding to address fishing gear entanglements and vessel strikes, which are the primary threats to their survival. Funding is targeted at new technologies, improved scientific models, and increased enforcement of existing federal regulations.

NOAA is working to reverse the declines of Pacific salmon and steelhead by supporting conservation efforts through:

- The **Pacific Coastal Salmon Recovery Fund** that supplements existing state and tribal programs for salmon and steelhead restoration and conservation.
- Funding to **fish hatcheries** for **tribal priorities** and tribal fishing rights (including those covered by the Mitchell Act in the Columbia River Basin). This funding focuses on addressing high-priority maintenance upgrades identified as tribal priorities.

NOAA is modernizing data, technologies, and the workforce to better manage fisheries and marine protected species by:

- Supporting initiatives to enhance our science enterprise and accelerate data collection, advancing **climate-informed resource management** and scientific understanding of rapidly changing oceans and climate impacts.
- Supporting the **regional fishery management councils** to advance planning and implementation particularly to improve climate resiliency and support underserved communities.

ILLUSTRATIVE PROJECTS

Michigan Tribe is Restoring Fish Passage Through Barrier Removal

Restoring Tribal Priority Fish Passage Through Barrier Removal Grants

In Michigan, the Grand Traverse Band of Ottawa and Chippewa Indians is replacing 12 fish passage barriers at road stream crossings on their traditional lands. This $3.6 million award reconnects 60 miles of stream for brook trout, smallmouth bass, and sucker species while making the roads more resilient and providing more subsistence fishing opportunities to tribal members. At the Tower Dam and Kleber Dam, two hydropower dams, the tribe will investigate fish passage options for lake sturgeon. Staff capacity will also be increased through the hiring of a river restoration project manager position to help with conservation planning, implementation, and partner engagement.

Improving Fish Passage at Woodland Dam on the International St. Croix River in Maine

Restoring Fish Passage Through Barrier Removal Grants

The Maine Department of Marine Resources and the Passamaquoddy Tribe are focused on large-scale fish passage restoration on the international St. Croix River in Maine. This includes construction of the Woodland fish lift and design of the Grand Falls bypass channel. This effort is part of an international partnership to improve access to 600 miles and 60,000 acres of habitat to alewives and other sea-run fish. By benefitting species like alewife, American shad, and American eel, the project is expected to result in increased prey for whales, dolphins, groundfish, and saltwater sportfish.

Pacific Salmon and Steelhead Hatchery Maintenance and Modernization, in Support of Tribal Treaty Fishing Rights

Tribal Priority Fish Hatcheries

NOAA partnered with the Interior Department's Bureau of Indian Affairs to disburse $240 million to 27 tribes for fish hatcheries that produce Pacific salmon and steelhead in the Pacific Northwest. This investment addressed urgent deferred maintenance, repairs, and modernization of hatcheries from Northern California to Southeast Alaska. For example, the Tulalip Tribe will use these funds to supplement existing modernization plans to their Bernie Kai-Kai Gobin Salmon Hatchery. With 95 percent of Chinook and coho salmon harvested by Tulalip tribal members coming from tribal hatcheries, this increase in efficiency and resilience of the hatchery will ensure the health of these culturally and economically vital species for future generations. Importantly, the NOAA and BIA Interagency Agreement also used a funding process preferred by many tribes and supported implementation of Executive Order 14112, signed by President Biden in late 2023.

Developing Technologies for North Atlantic Right Whale Recovery

North Atlantic Right Whale Recovery

Endangered North Atlantic right whales remain highly vulnerable to extinction, as human impacts continue to threaten the survival of this species. They face many threats including entanglement in fishing gear, vessel strikes, ocean noise, and climate change – which may alter their migratory patterns and feeding areas. With a historic $82 million investment, NOAA is supporting the development and implementation of new and existing technologies to improve our understanding of right whales' distribution and habitat use, and help marine industries continue to thrive alongside them. For example, NOAA is partnering with MITRE to evaluate and develop technologies related to whale detection, vessel strike avoidance, and "ropeless" fishing gear.

Climate-Ready Coasts

OVERVIEW

Infrastructure funding has allowed NOAA to further invest in on-the-ground work to restore coastal habitats and increase coastal communities' resilience to climate impacts and increasingly extreme weather. Through diverse and innovative investments, NOAA is supporting communities, economies, and habitats in coastal areas across the Nation – including the Great Lakes and the Gulf coast.

NOAA is restoring, preserving, and protecting coastal habitats through:

- Grants for **habitat restoration** which support on-the-ground work to restore habitat for our Nation's fisheries, recover endangered species, and strengthen the resilience of coastal ecosystems and communities.
- Additionally, specific funding for habitat restoration for **tribes and underserved communities** which includes capacity-building activities, resilience planning, restoration science, feasibility studies, and stakeholder engagement.
- Funding to **Coastal Zone Management (CZM) programs** and the **National Estuarine Research Reserve System (NERRS)** which restores and preserves coastal ecosystems and habitats on public lands around the country and builds the capacity of state and local partners to manage and increase the resilience of coastal communities that contribute $10 trillion annually to the U.S. economy.[1]

[1] https://coast.noaa.gov/states/fast-facts/economics-and-demographics.html

- Investments to assess, mitigate, prevent, and remove **marine debris** from the ocean, beaches, waterways, and ecosystems.
- Additional investment into NOAA's partnership with the **National Fish and Wildlife Foundation** which funds projects that restore and expand natural ecosystems to support fish and wildlife habitats as well as protect coastal communities.

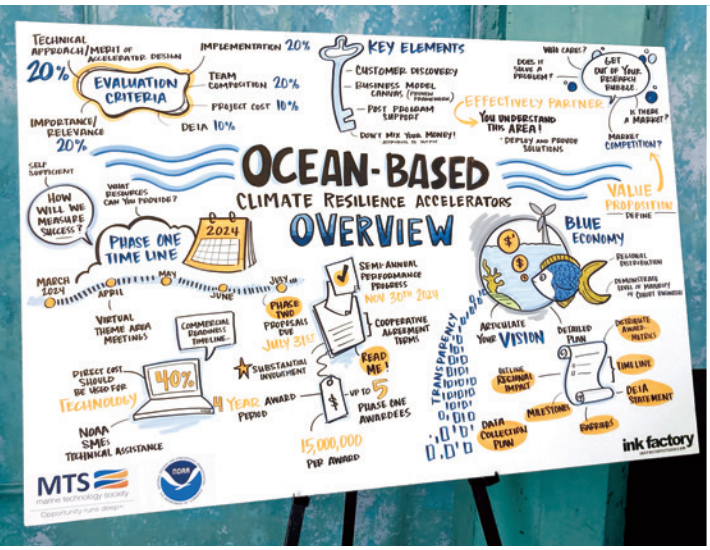
NOAA is bolstering coastal economies and generating new innovative jobs and businesses in the New Blue Economy:

- Through the **Ocean-Based Climate Resilience Accelerators** program, NOAA is investing in accelerator entities that will support businesses working to develop and commercialize resilience services and products.
- The **Climate-Ready Workforce** program is investing $60 million to train and place workers in good-paying jobs that enhance climate resilience and to meet the emerging and existing needs of employers around the Nation, with a particular focus on underserved communities.
- The **National Marine Sanctuary System** is expanding with two new sanctuaries designated, and four more under consideration that will not only provide protection to coastal communities but also boost recreation, tourism, and other local industries and coexist with sustainable uses.

NOAA is developing and implementing regional-scale projects and partnerships to address the impacts of climate change through:

- The **Climate Resilience Regional Challenge**, investing $575 million in projects that will result in the development of regional climate resilience plans and the implementation of regional-scale solutions designed to tackle the compounding threats posed by extreme weather and a changing climate.

ILLUSTRATIVE PROJECTS



Supporting Small Businesses to Accelerate the New Blue Economy

Ocean-Based Climate Resilience Accelerators

NOAA is funding four business accelerators that will support U.S. small businesses and entrepreneurs developing new products and services to support the marine economy. StartBlue, based out of UC San Diego, will support science and engineering startups to create sustainable business models aimed toward ocean resilience. StartBlue will provide startups with training, technical support, industry mentors, fundraising, and extensive network connections.

Enhancing the United Houma Nation's Short-, Mid-, and Long-term Coastal Resilience

Climate Resilience Regional Challenge

In an area facing extreme risks and a rapidly changing landscape in southern Louisiana, the United Houma Nation is pursuing a comprehensive approach to addressing coastal climate change. The Tribe, whose citizens have lived in the region for hundreds of years and have a strong connection to the water and its resources, will bolster resilience through cultural, environmental, economic, and emergency-response lenses. The project supports the deployment of Community Resilience Hubs that will provide community services during sunny conditions and function as emergency response when needed, together resulting in a community-led migration strategy.

> *"This is an exciting day for the Houma people. The development of this hazard mitigation plan will benefit our tribal citizens for generations to come. Thank you to NOAA and our partners for helping us to make this vision a reality."*
>
> *– UHN Principal Chief Lora Ann Chaisson*

> *"Our goal is to provide opportunities for those who are looking at the next stage in their lives by training at least 100 climate-ready workers, including technicians, scientists, and engineers, to fulfill the specialized workforce needs of the water industry in the Great Lakes by 2028."*
>
> *– Lorrayne Miralha, Ohio State University*

Training a Climate-Ready Workforce to Manage Water Resources in Ohio Coastal Communities

Climate-Ready Workforce

A climate-trained Ohio workforce in key areas will ensure vital water resources withstand the current and future impacts of climate change. This program will train new workers to fill the specialized needs of water management roles in the Great Lakes. Training will build worker skills in stormwater management, risk assessment, watershed sciences, and environmental compliance.

Washington Tribes Restore Salmon Habitat on South Fork Nooksack River

Transformational Habitat Restoration

The Nooksack and Lummi tribes are advancing 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 tribes, but their abundance has declined substantially from historical levels. By increasing habitat complexity, this work will support multiple life stages of salmon, enhance their resilience to climate change, and increase opportunities for tribal uses. This work also supports 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.

BoriCorps: Strengthening Puerto Rico's Underserved Communities Through Coastal Habitat Restoration and Resilience Building

Tribes and Underserved Communities
Habitat Restoration

This project will fund the Franklin's Promise Coalition to expand BoriCorps, an environmental restoration and workforce training program that engages local young adults in coastal restoration and resilience. BoriCorps participants will use a ridge-to-reef approach to restore habitat – from upland forests to coral reefs – across the Guanica, Cabo Rojo, and Jobos Bay watersheds in southern Puerto Rico. They will receive on-the-job training, industry certifications, and leadership skills to become environmental stewards.

"[T]his is a model that we can take to... other communities... for example, in Florida, Louisiana and other parts of the United States. We are focused on making this model successful, learning what we can from it and then, taking all these learnings to other parts."

– Deputy Secretary Don Graves

Gullah Geechee CREATE: Coastal Debris Removal Engaging Artists Through Environmental Cleanups

Marine Debris

The Gullah Geechee Nation in partnership with the South Carolina Sea Grant Consortium will implement the CREATE program to work with Black artists in South Carolina to upcycle marine debris into works of art. A community-based clean up effort will collect marine debris that will be converted by local Gullah/Geechee artists and showcased at art installations to educate the public about marine debris.

Climate-Ready Nation

OVERVIEW

Infrastructure funding has allowed NOAA to invest in the delivery of the climate data and services that we need to understand, prepare for, and adapt to changing climate conditions and increasingly frequent extreme weather events. NOAA's investments are improving delivery of life-saving and economy-supporting data and services to the American public, public officials, businesses, and other decisionmakers. This funding is building strong public-private partnerships, pioneering community-based networks, and advancing educational and scientific cooperation.

NOAA is improving the accuracy of the vital, life-saving data it collects through investments in:

- **Ocean and coastal observing** with modernized systems to improve the availability and reliability of data, fuel the New Blue Economy, and enhance and sustain the national network of coastal, ocean, and Great Lakes observing systems to support coastal communities as they respond to changing coastal conditions and risks.
- Coastal and inland **flooding forecasting** through more accurate rainfall predictions that account for climate change, allowing decisionmakers to better understand potential flooding, water quality impacts, and navigation challenges.
- **Modeling** enhancements to improve the prediction of extreme weather and climate events as well as ocean and ecosystem changes to inform decision-making.

NOAA is helping communities and industries better prepare for increasing climate impacts through:

- The **Industry Proving Grounds** program which is collaboratively developing and testing tailored products and services designed to improve delivery of climate data and services to key industries, such as reinsurance, financing, architecture, and engineering.
- **Regional Ocean Partnerships** convened by governors and in collaboration with federal, state, and tribal governments as well as other stakeholders to strengthen ocean and coastal management.
- Enhanced **service delivery for extreme heat and drought** through funding for the National Integrated Heat Health Information System (NIHHIS) and National Integrated Drought Information System (NIDIS).
  - Two NIHHIS Centers of Excellence have been established to address critical research questions, build capacity for risk assessments in communities, and deliver actionable, reliable, and equitable decision support information to increase resilience to extreme heat.
  - Working with Tribal Nations, regional, and federal partners, NIDIS will help western communities plan and prepare for drought impacts.
- NOAA's **Climate Smart Communities Initiative** and **Climate Adaptation Partnerships**, which increase access to climate data and resources to help communities understand their risks and develop plans and solutions to address increasing impacts from extreme weather and climate change.
- **Next-generation wildfire prediction, modeling, and forecasting** to better serve first responders and to protect lives and property from increasing wildfire risk.

ILLUSTRATIVE PROJECTS

Making Way for Innovative Product Development Alongside the Private Sector

Industry Proving Grounds

NOAA will deliver more modernized products and services to meet the needs of climate-impacted industries. At the kick-off event, representatives from the Reinsurance Association of America, Retail Industry Leaders Association and the American Society of Civil Engineers participated in a roundtable discussion. NOAA will continually engage with industry partners to evaluate the use of its service deliverables and ensure that they meet the needs of users. Funding will be used to close sector-identified gaps in climate information needs, as well as expand products that blend environmental and socioeconomic data in order to better serve communities that are the most vulnerable to the impacts of climate change.

Building Drought Preparedness in the Western United States

National Integrated Drought Information System (NIDIS)

This investment will enhance decisionmaker's capacity to protect life, property, and ecosystems in the western United States from the impacts of drought. Drought is a common feature of the U.S. West, driven by the region's unique geography, location, and climate. Drought is costly, both economically and socially, and will only amplify in frequency and intensity with climate change. The funding will allow NIDIS to invest in innovative, impactful projects that will improve the Nation's resilience at a critical time in the fight against the drought crisis.

"This investment will support NOAA and its partners in better preparing Western communities for droughts in the coming years and decades"

– Secretary Gina Raimondo

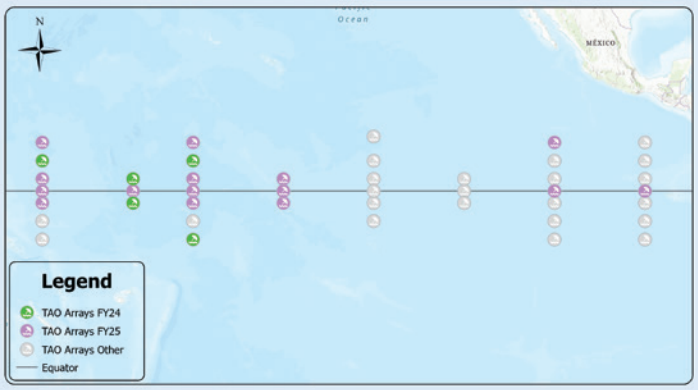
Delivering Data and Information for Coastal Communities

Ocean and Coastal Observing

Investments have been made in critical ocean observing assets to ensure the long-term sustainability of the U.S. ocean observing enterprise, including $250 million in combined funding to recapitalize and modernize observation infrastructure. These investments enabled NOAA to expand critical observation systems that enable early detection of tsunamis, help researchers better understand and predict variations in the El Niño and the Southern Oscillation (ENSO) – year to year climate fluctuations that affect everything from agricultural and energy production to transportation – and modernize observation infrastructure through our Integrated Ocean Observing System to address the climate resilience needs of communities and ensure equitable service delivery. These investments will minimize risk and avoid gaps, supporting decisionmakers by supplying the data needed to make decisions around coastal resilience, adaptation, and resource management. Specific examples of data utilization includes preparing for flooding, increased harmful algal blooms, extreme storms, and other risks.

Bipartisan Infrastructure Law - Climate Data & Services
Provision 17: Ocean & Coastal Observing Systems
Deep-ocean Assessment and Reporting of Tsunami (DART) Network

Bipartisan Infrastructure Law - Climate Data & Services
Provision 17: Ocean & Coastal Observing Systems
Tropical Atmosphere Ocean (TAO) Array



Improving Wildfire Prediction and Recovery

Wildfire Prediction, Monitoring, and Forecasting

NOAA is investing $100 million over five years in BIL funding to improve prediction, detection, and recovery from wildfires. With increasing drought and extreme heat, regions across the country are experiencing more frequent and severe wildfires, which are destroying properties, affecting public health, and even claiming lives. These investments will help NOAA improve forecast models that will be used by Incident Meteorologists, who will provide advanced on-site forecasts to help firefighters on the frontlines. Advance forecasting and monitoring will improve early detection and fire weather warnings to help local officials save lives and reduce impacts from wildfire.

Investing in Community Heat Resilience

National Integrated Heat Health Information System (NIHHIS)

Two virtual NIHHIS Centers of Excellence will be created to support community heat monitoring and resilience. The centers will work alongside community members and community-based organizations to advance place-based heat information and decision-making to mitigate heat-related illness and death. The center based in North Carolina, which has three additional geographically dispersed sites, will focus on collaborative heat monitoring. The second center, based in California, will work with communities and tribal entities across the United States.

> *"The impacts of extreme heat caused by climate change are an increasing threat to our health, ecosystems and economy. Thanks to President Biden's ambitious climate agenda, this investment will support new NIHHIS Centers of Excellence to help protect historically excluded communities from the dangers of extreme heat, boost climate resilience and increase awareness on best practices to tackle the climate crisis."*
>
> *– Secretary Gina Raimondo*

Operational Excellence

OVERVIEW

NOAA is investing in critical infrastructure updates to aging facilities, vital ship repairs, and other mission-critical needs.

NOAA invested in infrastructure including:

- New **ships and vital repairs** to support NOAA's research missions. These ships help assess and manage living marine resources and collect data for oceanographic monitoring, research, and modeling activities.
- The purchase of a **hurricane hunter aircraft** for hurricane and tropical storm forecasting, atmospheric research, and other NOAA missions.
- Construction of two **piers**, which will be integral to safe and efficient research ship operations and the New Blue Economy.
- **Supercomputing** infrastructure such as data center space, exploration and application of artificial intelligence and machine learning capabilities (AI/ML), increased computing speed, and other hardware and software engineering services to produce more accurate weather and climate models and predictions.

ILLUSTRATIVE PROJECTS

New Marine Operations Center Facility in Newport, RI

NOAA Facilities and Assets

A new facility in Newport, RI will include a pier to accommodate four large vessels, a floating dock for smaller vessels, and space for vessel repairs and parking. In addition, it will include a new building to be used for shoreside support and as a warehouse.

> *"It will be LEED certified and will soon be the home port for one of our newest, lower-emissions vessels, working toward the goal to minimize NOAA's own impact on the environment."*
>
> *– Dr. Rick Spinrad, NOAA Administrator*

New Research Vessels for Increased Scientific Capabilities

NOAA Facilities and Assets

NOAA will add two new ships to its fleet of research vessels. These ships, which will be built in Houma, LA, are designed to acquire and process large datasets like those gathered from mapping the seafloor and characterizing marine habitats. They will also have the ability to deploy crewed survey work boats, scientific equipment, and uncrewed systems.

Shoreside Infrastructure for At-Sea Data Collection in North Charleston, SC

NOAA Facilities and Assets

Funding will enable two NOAA ships to have a designated place to dock and to better accommodate NOAA's research missions in the Atlantic. Updated, reliable facilities are critical for the safety and efficiency of ship operations and will allow NOAA to continue to collect its vital scientific information.

> *"Investing in our shoreside infrastructure helps NOAA meet essential at-sea data collection requirements that support enhanced economic security, public safety and homeland security for many years to come."*
>
> *– Dr. Rick Spinrad, NOAA Administrator*

> *"The new system will strengthen NOAA's exploration and application of artificial intelligence and machine learning (AI/ML) capabilities, which will ultimately improve weather, ocean and climate forecasting, ecosystem modeling and the use of satellite Earth observations to understand climate changes."*
>
> *– Dr. Michael Morgan, NOAA Assistant Secretary of Commerce for Environmental Observation and Prediction*

Investing in High-Performance Computing for Critical Research Support

Supercomputing

A new high-performance computing system will be installed in Fairmont, WV, bolstering critical research uses. This system will accelerate NOAA's use of AI/ML in a variety of areas, including monitoring marine life species, weather forecasting and modeling of specific environmental phenomena such as atmospheric rivers, fire weather, and hurricane intensification using Earth observations. The new computing capacity will also be used for weather and climate model development to improve drought, flood, and wildfire prediction and forecasting.

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