

# PROGRESS REPORT: YEAR ONE OF OCEAN CLIMATE ACTION

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# Progress Report: Year One of Ocean Climate Action

From Day One, President Biden and Vice President Harris have made combating climate change an urgent priority and have taken the most ambitious climate action in history in order to protect the health and safety of our families and communities, to build the resilience of our economy and create good-paying clean jobs, and enhance global security. There is no path to a healthy and livable climate without the ocean. President Biden understands that the ocean is central to our fight against the climate crisis and to creating a cleaner, safer, and healthier future.

To advance the President's commitment to ocean climate action, in March 2023, the White House released the first-ever [Ocean Climate Action Plan](#) (OCAP), a groundbreaking roadmap to harness the power and capacity of the ocean to address the climate crisis. The plan outlined new actions on the Biden-Harris Administration's ocean climate priorities. One year later, the bold goals and ambitious actions set forth in the OCAP are well underway.

As outlined in this progress report, since the release of the OCAP, federal agencies have advanced ocean actions that align with the plan's three goals: (1) create a carbon-neutral future, without emissions that cause climate change and harm human health, (2) accelerate nature-based solutions, and (3) enhance community resilience to ocean change by developing ocean-based solutions that help communities adapt and thrive in our changing climate. These actions also provide other benefits that we are already seeing across the country, including new good-paying jobs, workforce innovation, resilient food production, ecosystem health, and scientific knowledge.

In addition, the OCAP's cross-cutting principles and highlighted actions make clear that ocean climate action must also promote ocean health and stewardship, advance environmental justice, engage with Tribal Nations, strengthen outreach and engagement, accelerate the development and use of science, evidence, and knowledge, and facilitate interagency coordination and strategy planning.

As the first comprehensive U.S. strategy to use the power of the ocean and coasts to address and respond to a changing climate, the OCAP has furthered Administration priorities on tackling climate change, advancing equity and environmental justice, and bolstering the U.S. economy. Highlights from the past year of accomplishments include:

- **Advancing environmental justice** through the release of the first ever [Ocean Justice Strategy](#), which provides a framework for achieving equitable access to the benefits of a healthy ocean and coastal ecosystem in order to address the historic inequities for many communities that are dependent on our ocean and Great Lakes.
- **Scaling up the offshore wind energy industry** to create a carbon-neutral future, including the approval of [six major wind farms](#) along the Atlantic coast that combined have the potential to add 10 gigawatts (GW) of clean energy to the nation's grid – enough to power 3.5 million homes each year.
- **Advancing the decarbonization of the U.S. marine transportation system** through a [\\$3 billion](#) investment in clean U.S. ports.



- **Enhancing community resilience** to ocean change through a historic [\\$2.6 billion framework](#) that seeks to protect coastal communities and restore marine resources, including nearly \$400 million for Tribal priorities.
- **Addressing and mitigating the impacts of a changing climate** through the establishment of a [Marine Carbon Dioxide Removal Fast Track Action Committee](#) and the release of the [U.S. Ocean Acidification Action Plan](#).

Recognizing the climate crisis as one of the world’s most pressing challenges, the Biden-Harris Administration has led a sea change for integrated domestic clean energy development, ecosystem conservation and restoration, job creation, and climate resilience. The President’s Investing in America agenda—including historic legislation such as the [Bipartisan Infrastructure Law \(BIL\)](#), the [CHIPS and Science Act](#), and the [Inflation Reduction Act \(IRA\)](#)—has supercharged progress towards ocean climate action. These generational investments are reflected in progress across the OCAP’s goals, complemented by other Administration initiatives. These include the [America the Beautiful Initiative](#) goal to conserve at least 30 percent of America’s lands and waters by 2030, the [American Climate Corps](#), which will mobilize a new, diverse generation of more than 20,000 Americans, and the [Justice40 Initiative](#), which set a goal to provide 40 percent of the overall benefits of certain federal climate, clean energy, and other investments to disadvantaged communities that are marginalized by underinvestment and overburdened by pollution.

The progress detailed in this report showcases U.S. federal agencies’ implementation of the OCAP’s actions, demonstrating U.S. leadership in taking on the threat of climate change, caring for our environment, and securing the economic and ecological sustainability of the ocean, coasts, and Great Lakes for generations to come.

## Cross-Cutting Principles and Actions

The Biden-Harris Administration recognizes that we have a narrow moment to pursue action in order to avoid the most catastrophic impacts of the climate crisis and to seize the opportunities that tackling climate change presents. The OCAP offers a unique opportunity to drive action on the Administration’s ocean-climate priorities—to advance climate solutions, promote environmental justice, and cultivate sustainable coastal communities and a healthy and sustainable ocean economy. These principles weave through each step toward implementing the OCAP.

### Protect, Conserve, and Advance Ocean Health and Resilience

- **\$2.6 billion for coastal adaptation and resilience:** The U.S. Department of Commerce (DOC) unveiled an [unprecedented \\$2.6 billion framework](#) to invest in coastal resilience through President Biden’s IRA. This initiative will help ensure communities, especially Tribes and vulnerable populations, have the resources to prepare, adapt and build resilience to weather and climate events, as well as strengthen workforce development, marine resources, nature-based solutions, conservation, regional partnerships, and Tribal priorities.
  - **\$562 million for community climate resilience:** DOC [is providing \\$562 million in BIL and IRA funding](#) — including investments in nearly 150 projects across 30



coastal and Great Lakes states and territories — to make communities and the economy more resilient to climate change.

## Advance Environmental Justice

- **Ocean Justice Strategy:** The Biden-Harris Administration unveiled the first-ever [U.S. Ocean Justice Strategy](#) to advance environmental justice for communities that rely on the ocean and Great Lakes for economic, cultural, spiritual, recreational, and food security purposes.
- **Fisheries Equity and Environmental Justice Strategy:** The National Oceanic and Atmospheric Administration’s (NOAA) National Marine Fisheries Service (Fisheries) released its first ever [Equity and Environmental Strategy](#), which will guide the agency as it focuses on providing vital services to all communities more equitably and effectively.
- **Environmental Justice Strategy and Action Plan:** The Department of the Interior’s (DOI) Bureau of Safety and Environmental Enforcement (BSEE) hosted three informational sessions on the early phase development of its [Environmental Justice Strategy and Action Plan](#) in coordination with Tribal Nations and communities with environmental justice concerns. DOI’s Bureau of Ocean Energy Management (BOEM) also joined BSEE in hosting an Environmental Justice Strategy Dialogue to hear directly from community members and other environmental justice stakeholders on the development of their environmental justice strategies and action plans.

## Working with Tribal Nations and Indigenous Peoples

- **Guidance for Tribal Consultation and Nation-to-Nation relationships.** NOAA updated policies and guidance documents for Tribal consultation and incorporating indigenous knowledge in decision-making: (1) [NOAA Procedures for Government-to-Government Consultation](#) with Federally Recognized Indian Tribes; (2) [NOAA Administrative Order 218-8](#), Policy on Government-to-Government Consultation with Federally Recognized Indian Tribal Governments; and (3) [NOAA Guidance and Best Practices for Engaging and Incorporating Indigenous Knowledge in Decision-Making](#).
- **Agreements to restore Tribal fisheries:**
  - The Biden-Harris Administration announced a [historic agreement](#) to work in partnership with states and Tribes in the Columbia River Basin to restore salmon and steelhead, increase resilience, and provide energy stability in the region. The Administration also for the first time ever [directed](#) federal agencies to prioritize the restoration of Columbia River Basin native fish populations.
  - NOAA Fisheries, the California Department of Fish and Wildlife, and the Winnemem Wintu Tribe [signed agreements](#) to restore Chinook salmon to the mountains north of Redding, California.
  - NOAA Fisheries and the Bureau of Reclamation are working with Tribes and other partners in the [Klamath River basin](#) on the beaching, monitoring, and removal of four dams in the watershed, which will reopen 400 miles of river to salmon that once spawned along its course by the thousands.



- **Tribal Nations Roundtable:** BSEE hosted its [first ever roundtable discussion](#) with Tribal Nations to introduce BSEE’s authorities, programs, and responsibilities of energy activities on the U.S. Outer Continental Shelf (OCS) with representatives of more than 20 Tribal Nations. BSEE works to ensure offshore energy development and production is safe, environmentally sustainable, and the energy resources are produced responsibly. BSEE must also ensure stakeholders, like Tribal Nations, have access to information that impacts them and their communities.
- **Inclusive environmental reviews for offshore wind:** BOEM is [collaborating with and providing scientific and technical support](#) to Tribes with ties to the New York, New Jersey, California, Gulf of Maine, and West Coast offshore wind planning areas [to assist with the review process and inform responsible development decisions](#).
- **Renaming of the Pacific Remote Islands Marine National Monument:** Acting on President Biden’s direction, the U.S. Fish and Wildlife Service (USFWS), NOAA, and the Udall Foundation are engaging with Indigenous Peoples and communities across the Pacific to develop an inclusive and collaborative process for [renaming the Monument](#) with appropriate recognition to the ancestral, historical, and cultural connections of Indigenous Pacific Islanders.
- **Funding to build Tribal capacity for habitat restoration:** NOAA announced \$45 million in [available funding](#) for projects that will advance the coastal habitat restoration and climate resilience priorities of Tribes, disadvantaged, and underserved communities under BIL and IRA, of which \$20 million is specifically available to U.S. Federally Recognized Tribes, Alaska Native Corporations, and organizations that represent Tribes. This program advances the goal of President Biden’s Justice40 Initiative.
- **Tribal drought resilience:** DOC and NOAA announced funding for projects to support [Tribal drought resilience](#) as part of President Biden’s [Investing in America agenda](#).

## Strengthen Outreach and Engagement with the Future Generation of Leaders

- **Uplifting youth voices:** NOAA launched the [eeBLUE Young Changemakers Fellowship \(YCF\)](#), a new avenue for young people to provide their perspectives to NOAA leadership and lead projects at a local scale. YCF supports the goals of the broader [eeBLUE](#) partnership, a five-year agreement between the [North American Association for Environmental Education](#) and [NOAA's Office of Education](#) that aims to increase environmental and scientific literacy.
- **Environmental literacy:** [NOAA’s Environmental Literacy Program](#) awarded a total of \$2.9 million to six projects to empower people to protect themselves and their communities from local climate impacts.
- **Workforce diversity:** To better promote diversity and create paths for the next generation of leaders in the workplace, BSEE and Shorter College, one of the nation’s historically Black colleges, [signed a memorandum of understanding \(MOU\)](#) to promote information sharing, provide opportunities for students to learn about careers at BSEE, and develop relationships that support recruitment efforts.



## Supporting Better Ocean Policy and Management through Research

- **Plankton, Aerosol, Cloud, ocean Ecosystem (PACE) satellite:** [PACE](#) is the National Aeronautics and Space Administration’s (NASA) newest ocean color [mission](#), launched in February 2024, which will extend and improve over 25 years of global satellite observations of the ocean, aerosols, and clouds and will provide essential measurements for understanding the ocean-climate connection.
- **Ocean Research Advisory Panel:** The chairs of the Ocean Policy Committee (OPC) [appointed members](#) to the [Ocean Research Advisory Panel](#), which advises the OPC and provides independent recommendations to the federal government on matters of ocean policy. The panel met for the first time in Washington, D.C.
- **New agreement to advance ocean biodiversity and conservation:** NOAA and the Smithsonian Institution [signed a MOU](#) that advances collaborative science and education activities, including efforts to understand and conserve the biodiversity of the world’s ocean ecosystems.
- **Coastal Science Navigator:** The U.S. Geological Survey (USGS) released the [Coastal Science Navigator](#), which prioritizes user-friendly functionality to provide easy access to information for identifying hazards and improving resilience.

## Facilitating Interagency Coordination and Strategic Planning

- **Expanding Pacific Research and Exploration of Submerged Systems (EXPRESS):** NOAA, USGS, and BOEM partnered with non-federal researchers on [EXPRESS](#), a research initiative to acquire new data in the ocean off of California, Oregon, and Washington in order to establish a robust foundation of publicly accessible data.
- **Offshore safety and environmental stewardship:** As part of the Biden-Harris Administration’s commitment to furthering improvements in the safety and environmental sustainability of offshore energy development, NOAA and BSEE [signed a MOU](#) agreeing to collaborate on areas of mutual interest with respect to OCS energy activities and environmental stewardship.

## Create a Carbon-Neutral Future

President Biden has a bold vision of tackling the climate crisis with the urgency that science demands, by building a clean energy economy that benefits all Americans—with lower costs for families, new good-paying jobs for workers, and healthier air and cleaner water for communities. The OCAP supports this vision by advancing offshore wind and clean marine energy, accelerating green maritime shipping to further reduce pollution, and investigating ways to safely sequester more carbon in the ocean environment. As described below, actions over the past year have set the United States on a path towards responsibly achieving a carbon-neutral future.

## Responsibly Scaling up Offshore Wind and Marine Energy

- **Planning and deployment:**



- Since the OCAP’s release, DOI has approved six commercial offshore wind farms along the Atlantic coast: [Ocean Wind 1](#), [Revolution Wind](#), [Coastal Virginia Offshore Wind](#), [Empire Wind](#), [Sunrise Wind](#), and [New England Wind](#). These projects have the potential to add 10 GW of clean, renewable energy to our nation’s grid, enough to power 3.5 million homes each year.
- DOI previously approved [Vineyard Wind 1](#) and [South Fork Wind](#), which commenced construction in 2023. South Fork Wind is now fully operational, with 12 turbines producing enough energy to power 70,000 homes — a major milestone for America’s offshore wind industry.
- BOEM is undertaking environmental reviews of eight additional projects offshore [North Carolina](#), [New York](#), [New Jersey](#), and [Massachusetts](#). In calendar year 2023, BOEM commenced programmatic environmental reviews of the leases sold in the [New York Bight](#) and [California](#) offshore wind energy auctions. If fully developed, [these lease areas](#) could generate enough renewable energy to power millions of homes.
- As part of [DOI’s ambitious leasing strategy](#), BOEM held [the first-ever offshore wind energy auction in the Gulf of Mexico](#) and recently announced the proposal of a second auction in the region. BOEM also announced the proposal of an offshore wind lease sale in the [Central Atlantic](#) and has partnered with NOAA’s National Centers for Coastal Ocean Science to utilize its spatial modeling capabilities to identify wind energy areas for future project development in the [Gulf of Mexico](#), [Gulf of Maine](#), [Central Atlantic](#), and [offshore Oregon](#).
- The Department of Energy (DOE) and DOI [released a comprehensive action plan](#) to connect the first generation of Atlantic offshore wind projects to the electric grid and increase transmission over the next several decades. [The Pacific Offshore Wind Transmission Action Plan](#) launched in 2023 and is funded through the IRA. These actions will help guide cost-effective transmission solutions, including network approaches to connect multiple projects to shore.
- **Supporting innovation through research and investment:**
  - [BOEM’s Environmental Studies Program \(ESP\)](#) is preparing for increased renewable energy development on the OCS by [conducting 45 physical, biological, and social science studies](#) that are designed to inform offshore wind policy decisions and activities. In total, ESP procured \$26 million worth of environmental studies, with a primary focus on the effects of offshore wind energy on coastal, human, and marine environments.
  - NOAA and DOE, together with a number of academic and industry partners, launched the third [Wind Forecast Improvement Project \(WFIP-3\)](#), a two-year investigation of wind and weather conditions off the coast of New England that aims to boost offshore wind generation through improved weather forecasting.





- DOE's [Wind Energy Technologies Office](#) selected [15 projects, totaling \\$27 million](#) through BIL, for research to improve offshore wind transmission technologies, reduce barriers for distributed wind deployment by communities, better understand the impacts of offshore wind development on affected communities, and reduce impacts to wildlife.
- DOE's [Water Power Technologies Office](#) (WPTO) is supporting [seven projects](#) as part of the [Powering the Blue Economy™ Initiative](#) that will accelerate development and testing of marine energy technologies.
- WPTO announced a [\\$45 million investment](#) in the advancement of grid-scale tidal and current energy development.
- The [DOE Floating Offshore Wind Readiness Prize](#) included nine winners in the first phase, with five winners for the second phase due to be announced in May 2024, and the final phase continuing into 2025.
- DOE's Advanced Materials and Manufacturing Technologies Office [announced \\$30 million in funding](#) to advance the manufacturing of composite materials and additive manufacturing in large wind turbines. DOE's Office of Science established [the Energy Earthshot™ Research Centers](#) using \$195 million to bring together multi-investigator, multi-disciplinary teams to perform energy-relevant research.
- DOE's Advanced Research Projects Agency–Energy kicked off Phase 2 of [the ATLANTIS program](#), with \$38 million additional funding to six projects to develop innovative floating wind turbine designs and announced \$100 million in funding for the [SCALEUP](#) program.
- DOE, BOEM, and BSEE released a [funding opportunity](#) to support acceleration and responsible development of offshore renewable energy by funding research to reduce risk and improve environmental compatibility of deployments in all regions of U.S. waters.
- DOE released a [\\$10 million funding opportunity](#) to fund research to drive innovation and reduce costs of high-voltage direct current voltage source converter transmission systems. NOAA Fisheries will collaborate on management of the awards.
- The BSEE- and DOE-funded Ocean Energy Safety Institute [awarded](#) \$2.7 million to [six wind energy research projects](#) that will help improve efficiency, operation, and safety of offshore wind energy systems.
- **Environmentally-responsible strategies and guidance:**
  - NOAA Fisheries and BOEM released a [joint North Atlantic Right Whale and Offshore Wind Strategy](#) to conserve and promote the recovery of North Atlantic right whales while responsibly developing offshore wind energy. The Strategy



incorporates the best available scientific information, input from Tribal Nations and Indigenous Peoples, and public feedback.

- BOEM, NOAA, and Bellequant Engineering are collaborating to create a 3D entanglement simulator to assess and reduce potential entanglement risk for protected species from offshore floating wind mooring systems and lost fishing gear.
- The U.S. Coast Guard [issued guidance](#) on voyages in the vicinity of offshore renewable energy installations in U.S. waters to promote vessel safety and coastal zone co-use.
- DOE [released](#) a [comprehensive summary](#) of DOE’s role in the nationwide effort to deploy 30 GW of offshore wind energy by 2030 and setting the nation on a pathway to 110 GW or more by 2050.
- **Promoting partnerships in global offshore wind deployment:** At the 28th Conference of the Parties (COP28) of the United Nations Framework Convention on Climate Change in Dubai, the U.S. delegation partnered [with government leaders from Denmark](#) and [with the Global Offshore Wind Alliance](#) to reinforce international collaboration on offshore wind development. Additionally, BOEM hosted the fourth annual meeting of the multilateral Global Offshore Wind Regulators Forum.

## Green Maritime Shipping Actions to Advance a Carbon-Neutral Future

- **UN International Maritime Organization (IMO) Expert Workshop on the relationship between Energy Efficiency and Underwater Radiated Noise:** NOAA helped organize a [workshop](#) that brought together over 200 representatives from government, industry, NGOs, and academia to explore common energy efficiency and greenhouse gas improvement methods and their relationship to underwater radiated noise in the context of ship design, operations, and information systems.
- **Green shipping at COP28:** The U.S. delegation led and participated in two events that showcased country commitments towards the 100% Sustainable Ocean Management goal and tangible actions supporting implementation of the Ocean Breakthroughs, including the [Green Shipping Challenge](#). The delegation showcased over 60 new or updated announcements on green shipping corridors, low- and zero-emission fuels and technologies, and other actions.
- **Innovative Science and Technologies Toward Greater Sustainability Conference:** The U.S. Committee on the Marine Transportation System (CMTS) in partnership with the Transportation Research Board held the Seventh Biennial Conference on the Marine Transportation System, “[Innovative Science and Technologies Towards Greater Sustainability](#),” where discussions covered topics ranging from vessel and port decarbonization to alternative fuels usage and green technologies in the maritime sector.
- **Advance U.S. commitment to achieve zero emissions from international shipping no later than 2050:** Working with other member states, the United States played a



significant role in the adoption of the IMO’s “[2023 IMO Strategy on Reduction of GHG Emissions from Ships](#).” This Revised Strategy includes a goal of net-zero greenhouse gas emissions by or around 2050, establishes clear, intermediate greenhouse gas reduction goals for 2030 and 2040, and introduces a new 2030 target on the uptake of zero or near zero-emission technologies, fuels, and/or energy sources.

- **Resilient marine transportation system:** The Cybersecurity and Infrastructure Security Agency has released the [Marine Transportation System Resilience Assessment Guide](#). This is the culmination of five years of effort across a partnership that originated within the CMTS Resilience Integrated Action Team.
- **Clean ports across the nation:** The Environmental Protection Agency (EPA) is developing a new \$3 billion [Clean Ports Program](#) under the IRA to fund zero-emissions port equipment and the development of port climate action plans. EPA also opened a [Diesel Emissions Reduction Act \(DERA\) national grant opportunity](#) to award approximately \$115 million in funding to reduce harmful emissions from diesel engines. Each of these programs advance the goal of the Justice40 Initiative.
- **Commercial-scale deployment of clean hydrogen hubs:** [DOE announced seven Regional Clean Hydrogen Hubs \(H2Hubs\)](#) to accelerate the commercial-scale deployment of low-cost, clean hydrogen – a valuable energy product that can be produced with zero or near-zero carbon emissions and is crucial to meeting the President’s climate and energy security goals.

## Advancing Research into Safe Sequestration of CO<sub>2</sub> in Sub-seabed Geologic Formations

- **Agreement on sub-seabed CO<sub>2</sub> sequestration:** NOAA and BSEE [signed a MOU](#) that calls for the agencies to share data, support interagency training, and develop additional agreements regarding sequestration of CO<sub>2</sub> as needed.
- **Opportunities for offshore carbon sequestration:** BOEM resource evaluation teams are developing a national-level assessment of OCS CO<sub>2</sub> storage resources to provide stakeholders, industry, and policymakers with an understanding of offshore storage opportunities and inform BOEM’s efforts to regulate commercial storage of CO<sub>2</sub> on the OCS. To advance the development of the assessment, [BOEM published a methodology report](#) outlining the technical assumptions and model workflow.
- **Research to lower the nation’s carbon pollution:** DOE’s Office of Fossil Energy and Carbon Management is currently in the [process](#) of [awarding three offshore CarbonSAFE projects](#).

## Investing in Marine Carbon Dioxide Removal to Achieve a Carbon-Neutral Future

- **Coordination of marine carbon dioxide removal (mCDR) research and policy:** The White House established a new [Fast-Track Action Committee \(FTAC\) on Marine Carbon](#)



[Dioxide Removal](#) under the authority of the National Science and Technology Council. The Committee will develop a federal plan to enable research that answers urgent questions about mCDR. The FTAC is soliciting input from the public, mCDR stakeholders and experts, Tribes, and local communities to inform the development of a safe and responsible mCDR research plan.

- **Investing in research:**

- NOAA’s Ocean Acidification Program on behalf of the National Oceanographic Partnership Program (NOPP), and in partnership with DOE, the Office of Naval Research, the National Science Foundation (NSF), and Climateworks, announced \$24 million for projects that will [tackle the climate crisis by researching mCDR strategies](#).
- The DOE-supported Sensing Exports of Anthropogenic Carbon through Ocean Observation ([SEA-CO2](#)) program seeks to accelerate the development of the mCDR carbon capture industry through the advancement of scalable measurement, reporting, and validation technologies.
- NOAA and DOE are funding [a project](#) at the Pacific Northwest National Laboratory’s (PNNL), in partnership with Ebb Carbon, NOAA’s Pacific Marine Environmental Laboratory, and the University of Washington to investigate a new technology that harnesses the ocean’s capacity to absorb carbon dioxide while protecting its inhabitants from ocean acidification. Additionally, PNNL is investigating commercial uses for the acidic waste byproduct of the [Ebb Carbon ocean alkalinity enhancement device](#) deployed in order to demonstrate pathways to making electrochemical mCDR more economically viable.
- NSF made awards totaling \$1 million to the [Woods Hole Oceanographic Institution](#) and [Columbia University](#) as part of the NOPP’s mCDR funding opportunity. These projects will study long-term impacts of iron fertilization and model background carbon sink variability in U.S. coastal regions.
- **Report on Efficacy of Carbon Dioxide Removal Strategies:** The NOAA Science Council released a [report](#) that considers the relative efficacy of 11 different removal techniques and describes NOAA’s potential role in mCDR and how its mission and capabilities align with specific mCDR needs.
- **Accessible resources for mCDR permitting:** EPA launched [new web pages](#) that clarify the permitting process for proposed mCDR projects under the Marine Protection, Research, and Sanctuaries Act and Clean Water Act National Pollutant Discharge Elimination System.

## Accelerate Nature-Based Solutions

Nature plays a critical role in expanding the Biden-Harris Administration’s bold efforts to tackle the climate crisis, make our nation more resilient to extreme weather, and strengthen communities and local economies. For example, coastal marshes, mangroves, and coral and oyster reefs can reduce storm surge, slow flooding, and provide habitat and recreational



opportunities. These, and other nature-based solutions, provide cost-effective means to and help us mitigate and adapt to climate change, while supporting coastal communities. The Administration has prioritized Federal investments in nature-based solutions over the past year as highlighted in the actions described below.

## Protecting Blue Carbon Ecosystems for Climate Mitigation and Adaptation

- **Blue carbon ecosystems and protected area management:** NOAA's Office of National Marine Sanctuaries (ONMS) completed a blue carbon assessment for Greater Farallones, Cordell Bank, and the northern portion of Monterey Bay National Marine Sanctuaries, resulting in [multiple reports](#) that showcase the value of blue carbon ecosystems in marine protected areas. Blue carbon refers to carbon stores in ocean and coastal ecosystems.
- **Blue carbon databases in New England:** EPA supported the assessment of vegetated coastal habitats from Maine to Long Island with the New England Blue Carbon Inventory Workgroup and found that the regional blue carbon stock value is 7,523,568 Mg of carbon, equivalent to just under 6 million cars driven in one year. The data is available on the [Northeast Ocean Data Portal](#).
- **Ecological change and impacts on blue carbon ecosystems:** [Seven new projects](#) funded through [NASA's Carbon Monitoring System](#) will focus on exploring and understanding the influence of climate and environmental changes on the carbon cycle, particularly with how carbon moves through aquatic, or blue carbon, ecosystems.
- **U.S. Greenhouse Gas Center:** At COP28, U.S. government leaders unveiled the [U.S. Greenhouse Gas Center](#), a multi-agency effort consolidating greenhouse gas information from observations and models. Scientific experts from NASA, EPA, the National Institute of Standards and Technology, and NOAA worked together to curate this catalog of greenhouse gas datasets and analysis tools that will provide insights into greenhouse gas sources, sinks, emissions, and fluxes.
- **International collaboration:** The [NOAA Blue Carbon Inventory Project](#), a Department of State (State) funded multi-agency project, delivered [two capacity building workshops](#) in Accra, Ghana, engaging 15 different organizations in Ghana, including federal agencies, academic, non-profit, and community institutions. The White House [announced plans](#) for this critical assistance on blue carbon during Vice President Harris' trip to West Africa.
- **Tidal restoration project in Cape Cod, Massachusetts:** USGS worked with USFWS, the National Park Service, and other federal and academic partners to contribute to the [Herring River Tidal Restoration Project](#) restoration [effort](#), which was guided by a local stakeholder group.

## Expanding Climate-Adaptive Marine Protected Areas

- **National Marine Sanctuaries:**



- NOAA’s ONMS released an updated [Climate Resilience Plan for 2024–2026](#) to inform the Office’s approach to climate change issues.
- NOAA advanced a [proposed Chumash Heritage National Marine Sanctuary](#), which would conserve a culturally and ecologically important area off the coast of central California.
- NOAA initiated the designation processes for new sanctuaries in the [Pacific Remote Islands](#) and [Lake Erie](#). The sanctuary in the Pacific Remote Islands would provide comprehensive and lasting protections to the waters and submerged lands surrounding the seven islands, atolls, and reefs of the Pacific Remote Islands Marine National Monument. The sanctuary under consideration in Lake Erie would conserve and protect archaeological and maritime resources, including nationally significant historic shipwrecks, in an area adjacent to Erie County, Pennsylvania.
- **Area-based conservation and management:** NOAA convened the first meeting of the [Marine and Coastal Area-based Management Advisory Committee](#). Members represent a wide spectrum of perspectives, including Tribal and Indigenous communities, conservation, philanthropic and non-governmental organizations, and organizations focusing on youth engagement, education, outreach, and environmental justice and advises NOAA on science-based approaches to conservation and management.

## Enhance Community Resilience to Ocean Change

Across the country, Americans are experiencing the devastating impacts of climate change. There were [28 weather and climate disasters in 2023](#), surpassing the previous record of 22 in 2020, reaching a price tag of at least \$92.9 billion. And the longer-term effects of climate change – including sea-level rise, hotter average temperatures, changing precipitation patterns, and more – are affecting every corner of society and every community in America. Coastal communities are uniquely vulnerable to changing ocean conditions, but adequate preparation and investment can help these communities become more resilient. Over the past year, the following actions were taken in an effort to build community resilience by developing climate-ready fisheries and aquaculture, aiding protected species, and mitigating the negative impacts of climate change with improved infrastructure and coastal protection investments.

### Strengthening Climate-Ready Fisheries, Aquaculture, and Fishing Communities

- **Actionable information for climate-ready fisheries, aquaculture, and fishing communities:** DOC and NOAA announced \$40 million from the IRA to begin implementing the [Climate, Ecosystems and Fisheries Initiative](#) to support climate resilient marine resources and the people, business, and communities that depend on them.
- **Climate-informed fishery management:** DOC and NOAA announced plans for \$20 million in funding for NOAA to tackle the impacts of climate change by working with



the [regional fishery management councils](#), as part of President Biden’s Investing in America agenda. These funds, provided by the IRA, will support the councils’ development and advancement of climate-related fisheries management and implementation efforts.

- **Pacific salmon recovery investments:** DOC and NOAA announced more than \$106 million in recommended funding for 16 West Coast and Alaska state and Tribal salmon recovery programs and projects under the [Pacific Coastal Salmon Recovery Fund](#). The funds, including \$34.4 million under BIL and \$7.5 million under IRA, will support the recovery, conservation, and resilience of [Pacific salmon and steelhead](#) in Alaska, California, Idaho, Oregon, and Washington. This funding is part of President Biden’s historic Investing in America agenda, which includes over \$2 billion for fish passage investments across the country.
- **Mitigation of climate change impacts on red snapper:** [DOC and NOAA announced plans](#) for \$20 million in IRA funding to address the impacts of climate change on red snapper and other reef fish in the Gulf of Mexico.
- **Climate-ready aquaculture:**
  - NOAA and the state of Alaska [announced](#) a collaborative effort to identify Aquaculture Opportunity Areas (AOAs) in Alaska's waters. NOAA [announced](#) a request for information to aid in the identification of AOAs in Alaska state waters that balance environmental, economic, and cultural considerations as part of a 60-day public comment period.
  - NOAA collaborated with the Swinomish Indian Tribal Community and key partners, including Washington Sea Grant, to help build the [first modern clam garden](#) in the United States.

## Improving Coastal Climate Resilience

- **Funding opportunities to strengthen coastal resilience:** DOC and NOAA announced its first-ever [Climate Resilience Regional Challenge](#), which will provide [\\$575 million in funding](#) through President Biden’s Investing in America agenda to help coastal and Great Lakes communities, including Tribal communities in those regions, become more resilient to extreme weather and other impacts of the climate crisis.
- **Resilience, coastal protection, green infrastructure, and nature-based solutions investments:**
  - EPA is using the Clean Water State Revolving Fund to support resilience projects, such as those highlighted in the [PISCES Recognition Program](#) in states like Rhode Island, Pennsylvania, and Louisiana. EPA published the Increasing Climate Resilience and Mitigation with the [Clean Water State Revolving Fund and Water Infrastructure Finance and Innovation Act Program](#) resource, which highlights how the programs can help communities and potential borrowers address climate change impacts to their water infrastructure and reliably provide



clean and safe water to all Americans. These programs advance the Justice40 Initiative.

- NASA [selected six multi-year projects](#), regional in scope and focusing on areas of high potential population growth. The projects will provide foundational information and evidence-based knowledge for solutions that increase resilience of coastal communities. This transformational research will help to better inform investments in coastal habitat restoration and conservation, especially leveraging nature-based solutions.
- BSEE is facilitating the cultivation of millions of juvenile oysters through a [joint 10-year project](#) with NY/NJ Baykeeper at the Ohmsett aquaculture facility where the associated research provides valuable information on improving coastal resilience using natural infrastructure while increasing habitat for estuarine species. The impacted communities around Raritan Bay are identified as disadvantaged on the White House Council on Environmental Quality's [Climate and Economic Justice Screening Tool](#).
- **Native Hawaiian community coastal resilience:** In Hawai'i, climate change is having negative impacts on traditional Native Hawaiian practices like cultivation and fishpond maintenance. DOI [announced \\$20 million in initial funding available](#) through the IRA to enhance the ability of Native Hawaiian communities to navigate the effects of climate change in ways that maintain the cultural integrity and identity of the Native Hawaiian people.
- **Coral reefs as national natural infrastructure:** The U.S. Coral Reef Task Force designated coral reefs as [national infrastructure](#) for coastal protection. The designation built upon Task Force member efforts to identify and prioritize federal funding for coral reef restoration. Recent efforts include [project guidance](#) to scope coral reef restoration projects, and the first Federal Emergency Management Agency grant of [\\$3 million under the Hazard Mitigation Grant Program](#) for the first phase of restoration for the barrier coral reef located in the San Juan Bay, Puerto Rico.
- **Coastal ecosystem conservation:** The [USFWS Coastal Program](#) has restored, enhanced, established, or protected over 20,000 acres and 5 miles of coastal, ocean, and Great Lakes habitat over the past year. These coastal and marine conservation projects help to store blue carbon, buffer against changing ocean chemistry, and provide protection for communities from increasing storm effects.

## Advance Other OCAP Priorities

The OCAP exemplifies President Biden's focus on science to expand possibilities, specifically tapping the power of knowledge, science, technology, and innovation to open doors so we can step beyond the limitations of today into a better tomorrow. Implementation of the OCAP is dependent upon continued support for ocean research, observations, modeling, forecasting, and synthesis. The OCAP also addresses ocean acidification — the process in which ocean water becomes more acidic by absorbing some of the excess carbon dioxide emissions in the atmosphere. Supporting foundational ocean research and observation needs, which are key





priorities of the Biden-Harris Administration, is incorporated throughout the OCAP and was advanced over the past year through the actions outlined below.

## Supporting Ocean Research, Observations, Modeling, Forecasting, and Synthesis

- **Climate information:** DOC and NOAA [announced a \\$85 million investment](#) in the new Industry Proving Grounds program to promote the development and use of actionable climate information. Funded by the IRA, the initiative will focus on developing more relevant data products to close sector-identified gaps in climate information and expand NOAA products that blend environmental and socioeconomic data to better serve communities that are the most affected by the impacts of climate change.
- **Sustainable technologies and climate resilience:** NOAA launched the [Ocean-Based Climate Resilience Accelerators program](#), a \$60 million investment in coastal resilience and American small businesses through President Biden’s Investing in America agenda. The program, funded by the IRA, will foster public-private partnerships to support small businesses that are developing sustainable technologies geared toward climate resilience to attract capital, mature their technologies, and scale their business models for climate impact.
- **Harmful algal bloom and hypoxia research and monitoring:** [NOAA awarded \\$20 million](#) for harmful algal bloom and hypoxia research and monitoring throughout U.S. coastal and Great Lakes waters.

## Addressing Ocean Acidification

- **U.S. Ocean Acidification Action Plan:** The [United States Ocean Acidification Action Plan](#), produced by NOAA and State on behalf of the U.S. government, was released at COP28. This action plan details efforts to better understand the impacts of acidification and accelerate mitigation, adaptation, and resilience efforts.