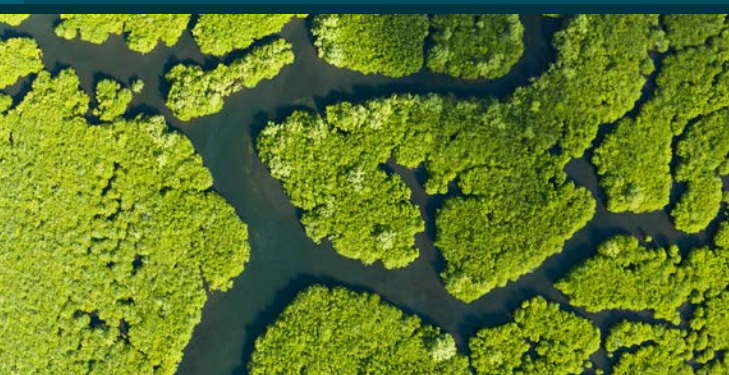




JUNE 2023

# *Turning U.S. Ocean Climate Policy Into Action*





## Turning U.S. Ocean Climate Policy Into Action is supported by the following organizations and businesses nationwide:

- ▶ Aina Momona
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- ▶ Californians for Western Wilderness
- ▶ Center for the Blue Economy
- ▶ Climate Crisis Policy
- ▶ Coastal Flood Resilience Project
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- ▶ Inland Ocean Coalition
- ▶ Inland Ocean Coalition Alaska Chapter
- ▶ Inland Ocean Coalition Arizona Chapter
- ▶ Inland Ocean Coalition Buffalo, NY Chapter
- ▶ Inland Ocean Coalition Central Texas Chapter
- ▶ Inland Ocean Coalition Colorado Chapter
- ▶ Inland Ocean Coalition Colorado State University Chapter
- ▶ Inland Ocean Coalition Great Lakes Chapter
- ▶ Inland Ocean Coalition Illinois Chapter
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- ▶ Inland Ocean Coalition University of Colorado Chapter
- ▶ Inland Ocean Coalition Utah Chapter
- ▶ Inland Ocean Coalition Washington DC Chapter
- ▶ Inland Ocean Coalition Wyoming Chapter
- ▶ International Marine Mammal Project
- ▶ League of Conservation Voters
- ▶ Lopez-Wagner Strategies
- ▶ Mystic Aquarium
- ▶ Mystic Aquarium & University of Connecticut
- ▶ National Aquarium
- ▶ National Ocean Protection Coalition
- ▶ National Parks Conservation Association
- ▶ Natural Resources Defense Council
- ▶ New England Aquarium
- ▶ Ocean Alliance
- ▶ Ocean Conservancy
- ▶ Ocean Defense Initiative
- ▶ Ocean Visions
- ▶ Oceana
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- ▶ Pacific Environment
- ▶ Pacific Whale Foundation
- ▶ Rachel Carson Council
- ▶ Save Our Shores
- ▶ Seattle Aquarium
- ▶ Surfrider Foundation
- ▶ Sustainable Ocean Alliance
- ▶ TAO
- ▶ Terra Advocati
- ▶ The Earth Bill Network
- ▶ The Ocean Foundation
- ▶ The Ocean Project
- ▶ The Receptionist
- ▶ Urban Ocean Lab
- ▶ WILDCOAST
- ▶ World Wildlife Fund





Turning U.S. Ocean Climate Policy Into Action

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# Introduction

*Ocean climate action policy in the United States is advancing in many areas at a promising pace. This is particularly astonishing given that just three years ago, our government was conspicuously absent from global climate agreements and a network of nations dedicated to a sustainable ocean economy. With a committed Administration, a tireless network of ocean and coastal advocates, and critical ocean climate leadership in Congress, our country is now moving forward on solutions that can support climate-resilient ocean ecosystems and communities, both human and wild.*

From his first days in office, President Biden has changed America's course on climate change. His Administration has set ocean climate goals to expand offshore wind; protect 30% of the ocean; advance zero emissions shipping; and eliminate the release of plastic into the environment. The Infrastructure Investment and Jobs Act (IIJA) and the Inflation Reduction Act (IRA) provided unprecedented funding for ocean climate action priorities such as offshore wind, clean ports, and coastal resilience. And in March 2023, the White House released America's first Ocean Climate Action Plan, seeking to leverage the ocean as a powerful source of climate solutions.

While the Administration's goals are ambitious and its plan comprehensive, much of the work itself is just beginning and more urgent than ever. The ocean becomes hotter and more acidic each passing year. Though it covers 71% of our planet and absorbs 90% of human generated heat, the ocean is the least funded of the global Sustainable Development Goals. The UN Secretary General has made clear that any nation committing to the Acceleration Agenda at the Climate Ambition Summit cannot allow new oil and gas development—a key decision facing the U.S., including in the upcoming Five-Year Program for offshore oil and gas leasing.

What happens next is critically important. The potential benefits are enormous: successful policies and targeted investments in ocean climate action can help reach global climate goals; support U.S. frontline communities; and increase the health and resilience of ocean ecosystems and the coastal economies that depend on them. This report highlights and cites progress to date on key ocean climate opportunities and, most importantly, identifies priority actions that need to be taken now to achieve our goals and position the U.S. as a global leader on ocean climate action.

**We look forward to working with the Administration to meet this moment.**



*The ocean  
becomes  
hotter  
and more  
acidic each  
passing  
year.*

A Timeline of

# Ocean Climate Action

In a few short years, ocean climate action has gained incredible momentum, and the United States is now positioned to become a global leader.



Congressman Raúl Grijalva

## OCTOBER 2019

The High Level Panel for a Sustainable Ocean Economy's [The Ocean as a Solution for Climate Change](#) makes the case that the ocean can provide 21% of emissions reductions needed to reach global climate goals.

## OCTOBER 2020

House Natural Resources Chair Raúl Grijalva introduces the [Ocean-Based Climate Solutions Act](#), comprehensive legislation designed to leverage the ocean as a source of climate solutions.

## APRIL 2021

Over 1000 ocean climate advocates [mobilize](#) from over 30 states and territories to share their [Ocean Climate Action Plan](#) and tell national policymakers: ocean-based climate solutions are key to solving the climate crisis.

## NOVEMBER 2021

After extensive outreach and advocacy, the Infrastructure Investment and Jobs Act provides new investments in ocean, coastal, and Great Lakes habitat restoration and funding for clean ports.

## JUNE 2022

A coalition of ocean climate action advocates collaboratively develop and release a [Blueprint for Ocean Climate Action: Recommendations for the Ocean Policy Committee](#) to inform Biden's plan

## MARCH 2023

The White House releases its [Ocean Climate Action Plan](#) to create a carbon-neutral future, accelerate nature-based solutions, and enhance community resilience.

## SEPTEMBER 2019

The IPCC's [Special Report on the Ocean and Cryosphere in a Changing Climate](#) provides the first-ever global scientific consensus on the severe consequences of climate change for the ocean.

## JULY 2020

The House Select Committee on the Climate Crisis's *Congressional Action Plan* includes [significant ocean climate action recommendations](#).



Congresswoman Kathy Castor

## JANUARY 2021

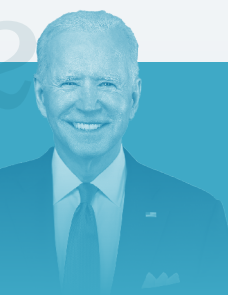
The Biden Administration sets new ocean climate action goals and priorities in its First 100 Days, including to generate [30 gigawatts of offshore wind by 2030](#); [protect 30% of the ocean by 2030](#); and work toward [zero emissions from international shipping by 2050](#).

## OCTOBER 2021

A coalition of 118 organizations and businesses nationwide [write](#) President Biden and ask his Administration to design and implement an ambitious U.S. ocean climate action plan.

## JUNE 2022

President Biden [commits](#) to developing and implementing America's first Ocean Climate Action Plan.



## AUGUST 2022

Thanks to tireless advocacy, the Inflation Reduction Act passes with unprecedented investments in offshore wind, coastal resilience, and clean ports and shipping.



# Expand Responsibly-Sited Offshore Wind and Phase Out Offshore Drilling

## Background:

Offshore wind energy presents significant opportunity to transition away from fossil fuels and fight climate change. Offshore drilling does not.

## Biden Administration Goal:

The Administration has committed to generating [30 gigawatts of electricity from offshore wind by 2030](#), and [15 gigawatts from floating offshore wind by 2035](#). The requirements in the IRA tying offshore wind lease sales to more oil and gas leasing have made the Administration's [stated goals](#) of addressing the climate impacts of offshore drilling more complicated.

## Progress to Date:

### Wind:

- ▶ Established federal-state commitments to [develop the supply chain to support construction of offshore wind farms with a focus on creating well paid union jobs, designated wind vessels as Vessels of National Interest](#), approved construction of the country's [first two commercial-scale offshore wind projects](#), and established a [strategy for offshore wind leasing](#).
- ▶ Established the [Floating Offshore Wind Shot™](#) program, [expanded leasing of new Wind Energy Areas](#) to the New York Bight and California coast, and advanced research and development through [funding from the Department of Energy](#).
- ▶ Proposed its first offshore wind [lease in the Gulf of Mexico](#), and [California and Louisiana](#) joined the federal-state offshore wind partnership.

### Oil and Gas:

- ▶ Imposed an early [pause](#) on oil and gas leasing on federal lands and waters, but progress was hindered by provisions in the IRA mandating specific lease sales and tying oil and gas leasing to renewable energy development. The [pending Five-Year Program](#), proposes up to eleven lease sales in the Gulf of Mexico and Alaska.
- ▶ Withdrew 2.8 million acres in the Beaufort Sea from oil and gas drilling in 2023.

## Critical Next Steps:

### Wind

- ▶ **Work with states and regional grid operators to collaboratively plan** for and implement transmission solutions that can improve efficiency, reduce costs, increase grid reliability, minimize environmental and community impact, and expedite the achievement of clean energy goals.
- ▶ **Support more union agreements** like the one between [Ørsted and North America's Building Trades Unions](#).
- ▶ **Require critical mitigations for offshore wind to protect marine life**, with most urgency for North Atlantic right whales, consistent with the [recommendations](#) of wide range of experts and advocates.
- ▶ **Include enforceable mitigation and monitoring requirements**, which should be funded by leaseholders as needed, that utilize cooperative multi-stakeholder regional science programs where applicable and are updated based on new information.
- ▶ **Support a large increase in the budget for BOEM's Environmental Studies program** to ensure sufficient ecological monitoring and best available science for adaptive management purposes.
- ▶ **Develop and evolve spatially and temporally explicit risk assessment adaptive management strategies** to utilize new information, including adaptive supply vessel routing where applicable.
- ▶ **Ensure a transparent and inclusive siting process.** Comprehensive environmental review that seeks to address development concerns early on, including identification of lower conflict areas for siting, will help offshore wind projects advance with stronger support from ocean stakeholders.
- ▶ **Support and help fund collaborative regional offshore wind research and monitoring** like the [Regional Wildlife Science Collaborative for Offshore Wind](#).
- ▶ **Require ecological monitoring projects** to establish baselines before areas are designated for offshore wind development and employ adequate

continuous longitudinal studies. Provide monitoring, mitigation and adaptive measures in programmatic technical standards to guide industry planning and project development.

- ▶ **Support meaningful Tribal oversight** where applicable through every stage of project proposal, development, and implementation to ensure that Traditional Ecological Knowledge is included to minimize risks to marine habitats and wildlife.
- ▶ **Require complete Construction Operation Plans** before BOEM review process begins to help ensure timely approval with minimal changes.

### Oil and Gas

- ▶ **Accelerate the transition from fossil fuels and end offshore leasing that threatens our climate, communities, and wildlife.** This includes using any and all executive authorities and the flexibility in current law to limit the scope of the oil and gas development resulting from the lease sales called for by the IRA. The urgent need to remedy the climate crisis, safeguard the welfare of coastal communities in the Gulf and Alaska, and protect our ocean wildlife dictates this change in course. The Administration should also implement policies that generally limit impacts and fully internalize the environmental and social costs of offshore drilling.
- ▶ **Provide economic opportunities to those communities that have historically depended on oil and gas production**, including tax incentives for clean, renewable energy projects located in fossil fuel-dependent communities and labor standards for clean energy tax credits that create job opportunities.
- ▶ **Address historic environmental justice issues** when considering future energy needs. For far too long, coastal communities in the Gulf of Mexico, Alaska, and elsewhere have endured the burdens of the fossil fuel industry—from oil spills to health impacts from refineries and other associated industries—and these injustices should not be perpetuated.



# Enhance Coastal Resilience & Adaptation

## Background:

Coastal communities, ecosystems, and infrastructure assets are at risk of increased temporary flooding from storm surges and, eventually, inundation from rising sea levels. This combination of more severe storms and rising seas requires comprehensive and costly adaptation of the nation's coasts to address both short- and long-term threats.

Coastal storms are the single largest cause of billion dollar disasters [reported by NOAA](#), generating 54% of all billion-dollar storm damages over the past forty years and almost half the deaths (6,890 people). Disadvantaged communities and minority populations [suffer disproportionate impacts](#) from major coastal storm events. In the decades ahead, storm surge flooding will increasingly ride on top of higher sea levels and reach farther inland than ever before. NOAA reports that the U.S. coast is expected to experience sea level rise of as much as 12-20 inches by 2050 and an average of as much as 7 feet by 2100.

## Biden Administration Goal:

The National Climate Task Force, created under [Executive Order 14008](#), established the [Coastal Resilience Interagency Working Group \(CR-IWG\)](#) in July of 2021 to meet [key goals](#) including: 1) align major federal involvement in coastal resilience activities; 2) develop equitable grantmaking and data; and 3) facilitate the use of the federal government's data and mapping to improve coastal resilience investment decisionmaking.

## Progress to Date:

- ▶ Identified several important new initiatives for coastal resilience including supporting community-driven relocation from flood risk areas and identifying pathways for the migration of coastal ecosystems, such as beaches and marshes, as sea level rises.
- ▶ Established the White House Coastal Flood Resilience Workgroup which provides a mechanism for federal agencies to collaborate on design and implementation of coastal resilience programs and projects. Key projects overseen by the Workgroup include updating of sea level rise projection [scenarios](#) and supporting users' guide and development of a [roadmap](#) for expanding use of nature-based solutions.
- ▶ Provided significant new funding for coastal resilience programs in the IIJA and IRA. Examples include increased funding for FEMA (e.g., doubling funding for the [Building Resilient Infrastructure and Communities Program \(BRIC\)](#)), increased funding for NOAA (e.g., the [National Coastal Resilience Fund](#)); and increased funding for the Army Corps of Engineers (e.g., funding for cost storm risk management projects).
- ▶ Initiated regulatory revisions for coastal resilience that are critical to successful adaptation of coastal areas. Examples include the Army Corps of Engineers regulations for water resources "Principles and Requirements" and FEMA regulations updating standards for local ordinances adopted as part of the National Flood Insurance Program.
- ▶ Re-established the Federal Flood Risk Management Standard (FFRMS) that directs federal agencies to avoid locating investments in areas at risk of flooding and rising seas and to elevate structures in the event that siting a new investment in a risky area is unavoidable.



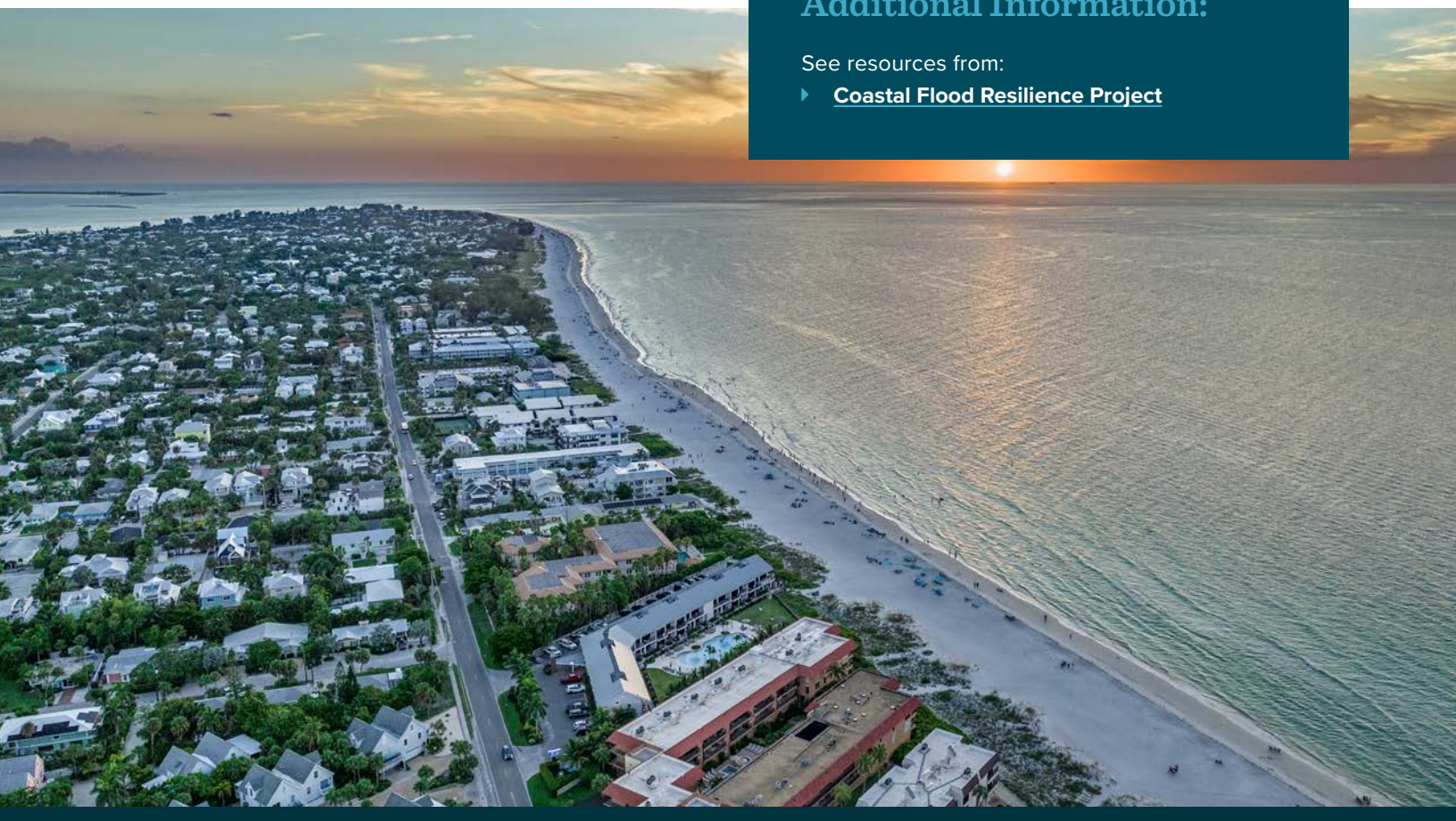
## Critical Next Steps:

- ▶ **Aggressively Implement Coastal Resilience Elements of the [Ocean Climate Action Plan](#)**, including:
  - developing a national framework of policies and programs to support communities that seek technical and financial assistance to relocate homes, businesses, and other assets to higher ground;
  - identifying migration pathways needed to sustain ecosystems as sea levels rise;
  - supporting expanded use of nature-based solutions to coastal risks;
  - developing standards for “living shorelines”; and
  - focusing technical assistance on marginalized, underserved, and rural communities.
- ▶ **Complete Critical Coastal Resilience Rulemaking and Allocate New Funds:** Final promulgation of the coastal resilience related regulations identified above should be a top priority. New program funding should be allocated promptly with priority given to equitable allocation to underserved communities.
- ▶ **Expedite Implementation of FFRMS:** Although the [FFRMS](#) is re-established in regulations, federal agencies still need to develop procedures for implementing it and this work should be expedited.
- ▶ **Map Areas at Risk of Rising Sea Levels:** Relying on the new sea level rise scenarios [published](#) in early 2022, NOAA and FEMA should cooperate on establishing maps of U.S. land areas expected to be permanently inundated because of higher sea levels by 2050, 2100, and 2150 under the “Intermediate High” scenario. These sea level rise risk area maps will provide a critical foundation for other measures to improve public information, risk disclosure, and planning related to sea level rise.
- ▶ **Develop National Plans to Relocate Critical Infrastructure to Higher Ground:** Federal agencies should identify specific, large-scale critical infrastructure assets at risk of permanent inundation by rising seas and develop long term plans to relocate these assets to higher ground giving priority to transportation and water/wastewater facilities.

### Additional Information:

See resources from:

- ▶ [Coastal Flood Resilience Project](#)



# Promote Green Shipping and Ports

## Background:

The ports and shipping sectors transport over [90% of traded goods](#), but are also major sources of greenhouse gas emissions (about 3% of global total), as well as pollutants that cause health concerns for communities adjacent to ports, predominantly low-income communities of color. Because maritime vessels are non-standardized in design and regulation, and ports get the majority of their power supply from a range of electric and gas utility sources, ports and shipping will be one of the country's most complex and challenging sectors to decarbonize. However, solutions already exist and can—with the proper policies and financial support—be deployed swiftly to decarbonize this heavily emitting sector.

## Biden Administration Goal:

The Administration has set goals to achieve electrification and decarbonization of port operations and [zero-emissions shipping no later than 2050](#).

## Progress to Date:

- ▶ Increased crucial investments in grants for research, development, and demonstration of alternative fuels, electrification and greening of port infrastructure, and establishment of green shipping corridors between major (point to point) ports.
- ▶ Continued international collaboration through the [Green Shipping Challenge and urging the International Maritime Organization](#) (IMO) to adopt emission reduction goals.
- ▶ Established substantial grant programs at the Departments of Energy, Transportation, and the EPA, most notably the [Clean Ports Program](#) (CPP), the [Port Infrastructure Development Program](#) (PIDP), the [H2Hubs program](#), and the FTA's [ferry expansion and electrification program](#)—with a focus on environmental justice and creation of union jobs.
- ▶ Released the [National Blueprint for Transportation Decarbonization](#), an interagency framework to remove all emissions from the transportation sector by 2050.

## Critical Next Steps:

- ▶ **Require U.S. ports and ships calling on them to report emissions data**, working with industry to create and enforce a standard system of measurement for emissions that follows best measurement practices. At present, many ports voluntarily collect and report emissions data, but there is no mandatory requirement for all ports and ships to do so, leaving data gaps that undermine efforts to reduce emissions.
- ▶ **Encourage collaboration between countries, industry, and ports** to ensure alternative fuel bunkering is available at destination ports around the world, and to



- identify the optimum fuel mixes ports should carry, such as [the agreement](#) between the Ports of Long Beach, Los Angeles, and Shanghai to create an international green shipping corridor and coordinate best management practices and supply of alternative fuels.
- ▶ **Accelerate port electrification in areas with cleaner regional energy sources and green infrastructure conversions**, with attention to health benefits in port adjacent communities, as outlined in the [Clean Air Action Plan for San Pedro Bay ports](#).
  - ▶ **Support market development of new technologies** and incentivize innovation by aligning regulatory requirements among federal agencies. For example, MARAD and EPA regulations should make decarbonization the highest priority for port improvements, and fund development of port-based blue hubs like the [AltaSea](#) complex at the Port of Los Angeles or the [Washington Maritime Blue Hub](#) at the Port of Seattle.
  - ▶ **Co-locate at least one of the four planned regional clean hydrogen hubs with a maritime port facility** to demonstrate the end-use of green hydrogen in the maritime transportation sector.
  - ▶ **Pursue vessel noise reduction alongside emissions reduction** to ensure new vessels are built to be both clean and quiet. This will optimize the design of new vessels and address two of the largest threats to marine animals simultaneously.
  - ▶ **Direct EPA to rapidly advance zero-emission solutions** by using Clean Air Act authorities to promulgate more stringent air pollutant regulations for marine vessels and include maritime fuels in the Renewable Fuel Standard Program to ensure incentives encourage truly zero emission fuels instead of false solutions like liquefied natural gas.

## SPOTLIGHT

*Port of Richmond*

The U.S. has 360 commercial shipping ports. Of the 12 in California, the Port of Richmond is the third largest in tonnage with about \$10 billion a year in trade, \$8 billion in imports and \$2 billion in exports. It exports gasoline, coal, and scrap metal. Richmond's terminals include the privately owned Chevron "long wharf" adjacent to its refinery. High levels of pollution from port operations and the refinery have resulted in disproportionate health impacts (including elevated levels of cancer and childhood asthma) for Richmond's population, which is 38% Hispanic, 17% Black, and 15% Asian as of the last census. With support from several NGOs, the city is applying for funding under the CPP and expanded PIDP. Technical assistance and funding are needed to support the port's compliance with California At Berth regulation which will require auto carriers and tankers to plug into shore power in 2025 and 2027 in Northern California. The regulation offers critical protection for Richmond's port community and is estimated to reduce cancer risk from ocean-going vessels in ports by 55%. Additional funds could be directed to charging stations for arriving electric vehicles and transport trucks, and NOAA coastal restoration funds could be utilized at two terminals made up of undeveloped bay facing properties, one adjacent to eelgrass beds.





# Protect Blue Carbon

## Background:

Blue carbon is captured from the atmosphere and sequestered by coastal and marine organisms and habitats. Coastal blue carbon ecosystems are [estimated to contain around half of all the carbon](#) found in ocean sediments. Coastal wetlands such as mangroves, seagrasses, and salt marshes sequester and store significant amounts of carbon if left undisturbed. Additionally, some marine and coastal ecosystems can offer co-benefits by improving water quality and remediating the local impacts of ocean acidification, absorbing carbon in the water column. These habitats are [threatened](#) by sea level rise, extreme weather, warmer temperatures, changing ocean chemistry, and development. Integrating blue carbon into our national climate mitigation strategy would offer a long term, nature-based solution to capture greenhouse gases, keep carbon stores locked away, advance coastal resilience and local adaptation, and protect biodiverse ecosystems and frontline communities.

## Biden Administration Goal:

The Administration has no specific goal or target for blue carbon sequestration, but its [Ocean Climate Action Plan](#) does identify the protection, conservation, restoration, and sustainable management of blue carbon as a key element of ocean conservation and climate mitigation goals.

## Progress to Date:

- ▶ [Established goals](#) to further research and to promote blue carbon as a climate mitigation strategy; conducted projects to measure blue carbon stores in site-specific projects; and conducted an [economic valuation of blue carbon in estuaries with Restore America's Estuaries](#).
- ▶ Offered funding for blue carbon research, including the [2021/2022 San Diego Bay Eelgrass Blue Carbon Study](#).

## Critical Next Steps:

- ▶ **Establish a national goal of net ecosystem gain** for blue carbon habitats. Agencies have expressed interest in prioritizing blue carbon, but are looking to the Administration to set precise targets and dates.
- ▶ **Establish an Interagency Working Group** on coastal blue carbon with a coordinator to support them in setting and implementing federal goals for ecosystem mapping, carbon sequestration and storage by blue carbon.
- ▶ **Support critical mapping and other datasets** used to assess current and potential blue carbon resources including the National Wetlands Inventory and NOAA Coastal Change Analysis Program.
- ▶ **Strengthen accounting for the multiple climate mitigation or adaptation benefits** provided by blue carbon (e.g. for flood protection and fish habitat) and other marine or coastal ecosystems, such as salt marshes, seagrass meadows, mangroves, and kelp beds, including their potential for inclusion in national mitigation and adaptation goals.



- ▶ **Facilitate permitting for projects that protect blue carbon ecosystems**, and assist state, territorial, and municipal governments to fund permitting applications for blue carbon projects, including regional inventories.
- ▶ **Support the continuation of Smithsonian Institute's Environmental Research Center's Coastal Carbon Atlas**, including providing dedicated funding, encouraging incorporation of coastal carbon data into the Atlas, and cross-walking federal coastal soil carbon datasets e.g., USDA coastal zone soil survey with the Atlas.
- ▶ **Prioritize projects that have multiple climate benefits when funding new restoration projects under the IRA and IJA**, including blue carbon sequestration, coastal resilience, and ocean acidification mitigation.<sup>1</sup>
- ▶ **Advance and disseminate research** (mapping, carbon estimates) into the climate mitigation potential of temperate tidal forested wetlands.
- ▶ **Facilitate development of a voluntary blue carbon market** and robust standards for blue carbon credits. The EPA or the Commodity Futures Trading Commission may direct this process.
- ▶ **Protect upland areas adjacent to coastal wetlands** to allow them to migrate as sea level rises.
- ▶ **Account for carbon variability in the Wetland Mitigation Banking Program**, as many coastal wetlands have greater potential for carbon sequestration than inland wetlands. This should be reflected in all wetlands banking transactions.
- ▶ **Complete an inventory of blue carbon in U.S. territories** and prioritize projects that restore and protect mangroves when funding new restoration projects.

<sup>1</sup> For example, in Puerto Rico the Department of Interior (DOI) has moved to invest hurricane recovery funds in coastal restoration with the multiple benefits of coastal resilience, habitat restoration, and blue carbon sequestration.

## SPOTLIGHT

### *North Carolina Seagrass Blue Carbon Inventory*

In 2022, North Carolina completed a greenhouse gas (GHG) inventory of its emergent wetlands and seagrass habitats to better understand sequestration rates and carbon stocks in these systems, joining Maryland in successfully including seagrass in a GHG inventory of emissions and sinks. Using guidance from the Intergovernmental Panel on Climate Change (IPCC), the success of the inventory depended on the availability of state-specific datasets, as well as IPCC default values for carbon emissions and storage. North Carolina also held two workshops to fill in missing research and data gaps. These two key resources, extensive datasets, and input from experts allowed the state to take the critical step of incorporating seagrasses into its state GHG inventory. To help other states follow suit, the Administration can expand and support access to datasets and expert knowledge to advance blue carbon measurements.



# Reduce Plastic Pollution and Emissions

## Background:

From production to disposal, plastics harm our communities, ocean, and climate. They are a growing source of both greenhouse gas and toxic emissions, with communities near plastic facilities facing [severe health consequences](#) including cancer, asthma, developmental disorders, and heart disease. Plastics also threaten the clean energy transition by locking in fossil fuel production for decades; on their present trajectory, global emissions from plastics could be equivalent to [more than 295 coal plants by 2030](#). Tackling the plastic crisis is an opportunity to address two major Administration priorities: reducing emissions and advancing environmental justice.

## Biden Administration Goal:

While the stated [goal](#) is to eliminate the release of plastic into the environment by 2040, the topic was disappointingly left out of the Ocean Climate Action Plan.

## Progress to Date:

- ▶ Renewed U.S. global involvement by approving an historic [resolution](#) at the United Nations Environment Assembly to [end plastic pollution](#), potentially leading to an international legally binding agreement by 2024.
- ▶ Issued a [Draft National Strategy to Prevent Plastic Pollution](#) at EPA to reduce, reuse, collect, and capture plastic waste; and [proposed amendments](#) to the Petroleum Refineries National Emissions Standards for Hazardous Air Pollutants.
- ▶ Issued a [Secretarial Order](#) at DOI to phase out single-use plastic products on public lands and initiated a rulemaking by the General Services Administration to explore options to reduce plastic used in packaging, shipping, and other uses.
- ▶ Designated \$895 million [through 21 commitments](#) in 2022 and \$200 million [through 10 commitments](#) in 2023 to combat marine pollution; provided [\\$150 million for marine debris](#) assessment, prevention, mitigation and removal activities over the next five years through NOAA; and directed \$48 million for [USAID Clean Cities Blue Ocean](#) program to prevent ocean plastic pollution by building capacity for local institutions to reduce, reuse, and recycle.

## Critical Next Steps:

- ▶ **Increase U.S. ambition in global negotiations and commitments.** The [U.S. opening position](#) in the Intergovernmental Negotiating Committee falls far short of the enforceable cuts to plastic production called for by the High Ambition Coalition. The U.S. must shift its industry-aligned position to one that prioritizes environmental justice—as described by [CIEL](#) and [GAIA](#).



## SPOTLIGHT

*Cancer Alley*

The 85-mile stretch between New Orleans and Baton Rouge is known as “Cancer Alley” due to the cluster of industrial plants and refineries in and near predominantly Black communities that expose residents to high concentrations of cancer-causing chemicals. A community organization, [Rise St. James](#), has rallied public opposition and gained international media attention in its efforts to stop a major new plastics complex that would be among the largest sources of greenhouse gas emissions in the U.S. and double toxic air pollution in St. James Parish, a Black community on the frontlines of climate change. The experience of communities in Cancer Alley and across the nation makes it imperative the U.S. take more ambitious action on plastics now, both domestically and internationally.



- ▶ **Expand EPA's efforts to tackle the dual climate and environmental justice impacts of plastic** as outlined [by Members of Congress](#); as well as addressing the environmental and health impacts from toxics in plastic packaging through a rulemaking under Toxic Substances Control Act to review chemical additives; prohibiting the discharge of pre-production plastic pellets by establishing limitations for wastewater, spills, and runoff; and removing highly polluting chemical recycling technologies from EPA's national recycling strategy, ensuring they are not classified as recycling through the Plastic Waste Partnership of the Basel Convention.
- ▶ **Reduce plastic use within the U.S. government** by issuing a strong, holistic regulation on Single-use Plastic Packaging Reduction; adopting a strong plan for measurable plastic reduction in the National Park Service; and supporting full implementation of the Federal Sustainability Plan.
- ▶ **Prohibit the export of plastic waste to other nations** without the documented means and infrastructure to sustainably manage the materials, e.g., by building on state-level actions to reclassify mixed-plastic waste exports as disposal rather than recycling to disincentive this harmful practice.
- ▶ **Improve recycling by standardizing** upstream design for recyclability requirements; recycling and composting collection across communities and states; developing new data collection methodologies; shifting more responsibility for recycling to producers; and looking for

best practices from state-based models such as Maine and California.

- ▶ **Ensure accountability for the climate impacts of plastics through emissions** by supporting implementation of the [SEC Climate Risk Disclosure Rule](#), [FAR Council Supplier rule](#), and accounting for the social cost of carbon in procurement.
- ▶ **Invest in refillable and reusable pilot businesses** by establishing a competitive grants program at the Small Business Administration that prioritizes small businesses, minority-led initiatives and enterprises, and programs to serve environmental justice communities.

## Additional Information:

- ▶ [Neglected: Environmental Justice Impacts of Plastic Pollution](#)
- ▶ [Choked, Strangled, Drowned: The Plastics Crisis Unfolding in Our Oceans](#)
- ▶ [Reckoning with the U.S. Role in Global Ocean Plastic Waste](#)
- ▶ [To Succeed, the Clean Energy Transition Needs Less Plastic](#)
- ▶ [Minderoo-Monaco Commission on Plastic and Human Health](#)

# Support Climate-Ready Fisheries

## Background:

Climate change is altering marine environments and [threatening the people and fisheries](#) that depend on healthy marine ecosystems. Fish stocks are shifting away from traditional grounds and changing in productivity and abundance. These changes are testing existing fisheries management regimes and impacting coastal economies and [Indigenous communities and cultures](#) that are already vulnerable as the effects of climate change worsen.

## Biden Administration Goal:

The Administration's new [Ocean Climate Action Plan](#) identifies the advancement and implementation of climate-informed management of fisheries as a priority. This includes providing fisheries managers with the science and information they need to assess risks. Ocean modeling and decision support systems are at the center of NOAA's Climate, Ecosystems, and Fisheries Initiative (CEFI), which if fully implemented would empower fishery managers to take action to adapt management to changing conditions and incorporate climate-ready approaches into decisionmaking.

## Progress to Date:

- ▶ Recommended significant investment in CEFI. The IRA provided \$2.6 billion for the conservation, restoration, and protection of coastal and marine habitats, resources, and fisheries, to enable coastal communities to prepare for changing climate conditions, and for stock assessments. Of that amount, NOAA Fisheries is planning significant investment in CEFI, but more funding will be needed.
- ▶ Conducted [climate vulnerability assessments](#) for major fish stocks and protected species in most regions of the country and [completed](#) climate vulnerability assessments for coastal habitats and fishing communities in the Northeast region. To date, very little has been done to translate those assessments and the results of regional scenario planning into management decisions.
- ▶ [Laid out a plan](#) to provide best-in-class science and leadership through CEFI to understand the changing climate and ocean ecosystems, work with councils, states, tribes, communities, and stakeholders to address their impacts on marine fisheries and the nation's economy, and implement fishery management approaches that are adaptive to those impacts. The plan does not detail how the agency will implement these priorities or integrate new scientific information into management decisions.

## Critical Next Steps:

- ▶ **Prioritize strong implementation of core conservation requirements of the law.** Science has made clear that healthy stocks have the best chance of adapting and thriving in a changing climate and NOAA Fisheries should ensure more precautionary management. [48 stocks are considered overfished](#), and until last



year, that number was on an upward trend, putting more fisheries and fishing communities at risk.

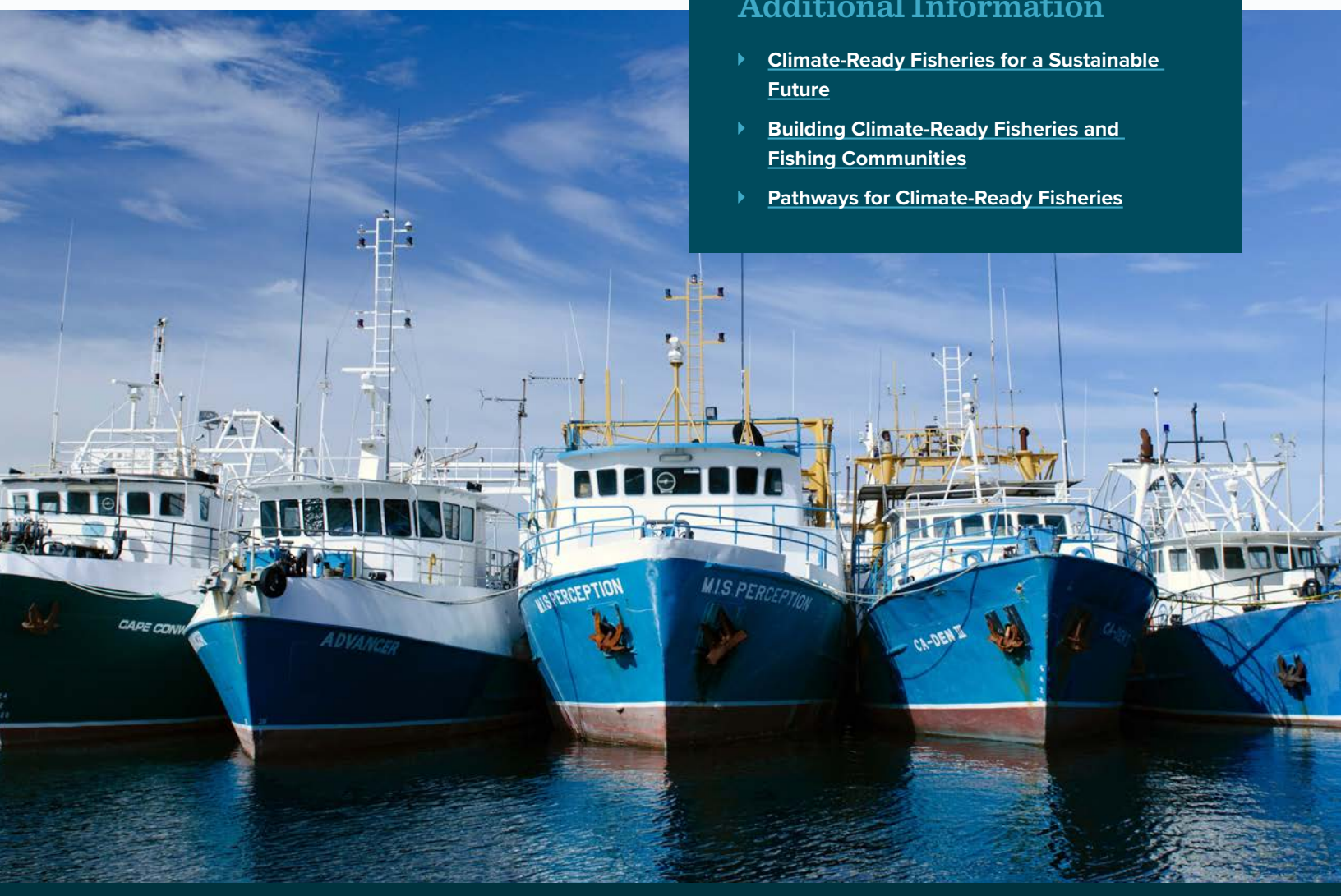
- ▶ **Establish climate adaptation as an enduring priority for fisheries and provide targeted guidance to managers.** A [recent Government Accountability Office \(GAO\) report](#) found several challenges to enhancing resilience in fisheries, including insufficient collaboration between NOAA Fisheries and fishery managers, hindering adaptive management. The agency should make climate change a priority in fisheries science and management policies, plans, and actions and provide tangible management guidance to implement the goal laid out in their strategic plan, enabling Councils and regional offices to operationalize climate-ready approaches and decisionmaking.
- ▶ **Fully fund the scientific infrastructure that supports fishery management.** The GAO report also found that limited data and modeling information hamper the

ability to measure future changes and predict fish stock behavior under changing conditions in order to make management decisions in response. The agency should meet these challenges with investments in fisheries science infrastructure and continuously use the results in the management process. IRA investments in CEFI will be critical, but as noted, significant, long term funding will be needed.

- ▶ **Integrate priorities around equity and justice into climate-ready management.** NOAA Fisheries must advance equity in fisheries, including via meaningful consultation and engagement with Tribes, including Traditional Knowledge in all aspects of federal fisheries management, and ensuring a meaningful Tribal role on federal fishery management bodies. While the agency has taken a step forward with the [Equity and Environmental Justice Strategy](#) released in May 2023, it must now turn those commitments to equity and justice into action in order to achieve much needed change.

## Additional Information

- ▶ [Climate-Ready Fisheries for a Sustainable Future](#)
- ▶ [Building Climate-Ready Fisheries and Fishing Communities](#)
- ▶ [Pathways for Climate-Ready Fisheries](#)



# End IUU Fishing and Human Rights Abuses in the Seafood Sector

## Background:

Illegal, unreported, and unregulated (IUU) fishing is one of the greatest environmental threats to ocean health. Left unchecked, it will undermine national and food security, perpetuate forced labor and human rights abuses, and significantly exacerbate the impacts of climate change on ecosystems and communities. Effectively combating IUU fishing and forced labor in global seafood supply chains requires *traceability* of all seafood and *transparency* of fishing activity at sea. As one of the world's largest seafood importers and consumers, the U.S. can use its market power to play a pivotal role in ending IUU fishing and human rights abuses in the seafood supply chain.

## Biden Administration Goal:

In 2022, the President issued a [Memorandum on Combating Illegal, Unreported, and Unregulated Fishing and Associated Labor Abuses](#) that states a strong U.S. policy on IUU and elevates the importance of combating labor abuses. The Administration's Ocean Climate Action Plan largely ignored this critical issue, however.

## Progress to Date:

- ▶ Proposed expanding the definition of IUU fishing to include forced labor in a [proposed rule](#) under the High Seas Driftnet Fishing Moratorium Protection Act authorities.
- ▶ Launched a public-private partnership called the [Collaborative Accelerator for Lawful Maritime Conditions in Seafood](#) to work toward ending forced labor and improving working conditions across the seafood sector.
- ▶ Released a [five-year action plan to combat IUU fishing](#).
- ▶ Issued a [final rule on food traceability](#) that requires companies in the seafood supply chain to maintain records on key data elements related to the chain-of-custody for the majority of seafood sold in the U.S.
- ▶ Announced the [first U.S. sanctions under E.O. 13818](#) and the Global Magnitsky Human Rights Accountability Act for forced labor abuses, targeting two Chinese companies, their leadership, eight affiliated entities, and 157 fishing vessels controlled by these entities.
- ▶ Issued a [proposed rule to expand the Seafood Import Monitoring Program \(SIMP\)](#) to 8 additional species or species groups, expanding the coverage of catch/harvest documentation and traceability requirements to an additional 4-8% of seafood imports into the U.S., a step in the right direction that nevertheless leaves almost half of seafood imports without any requirements.



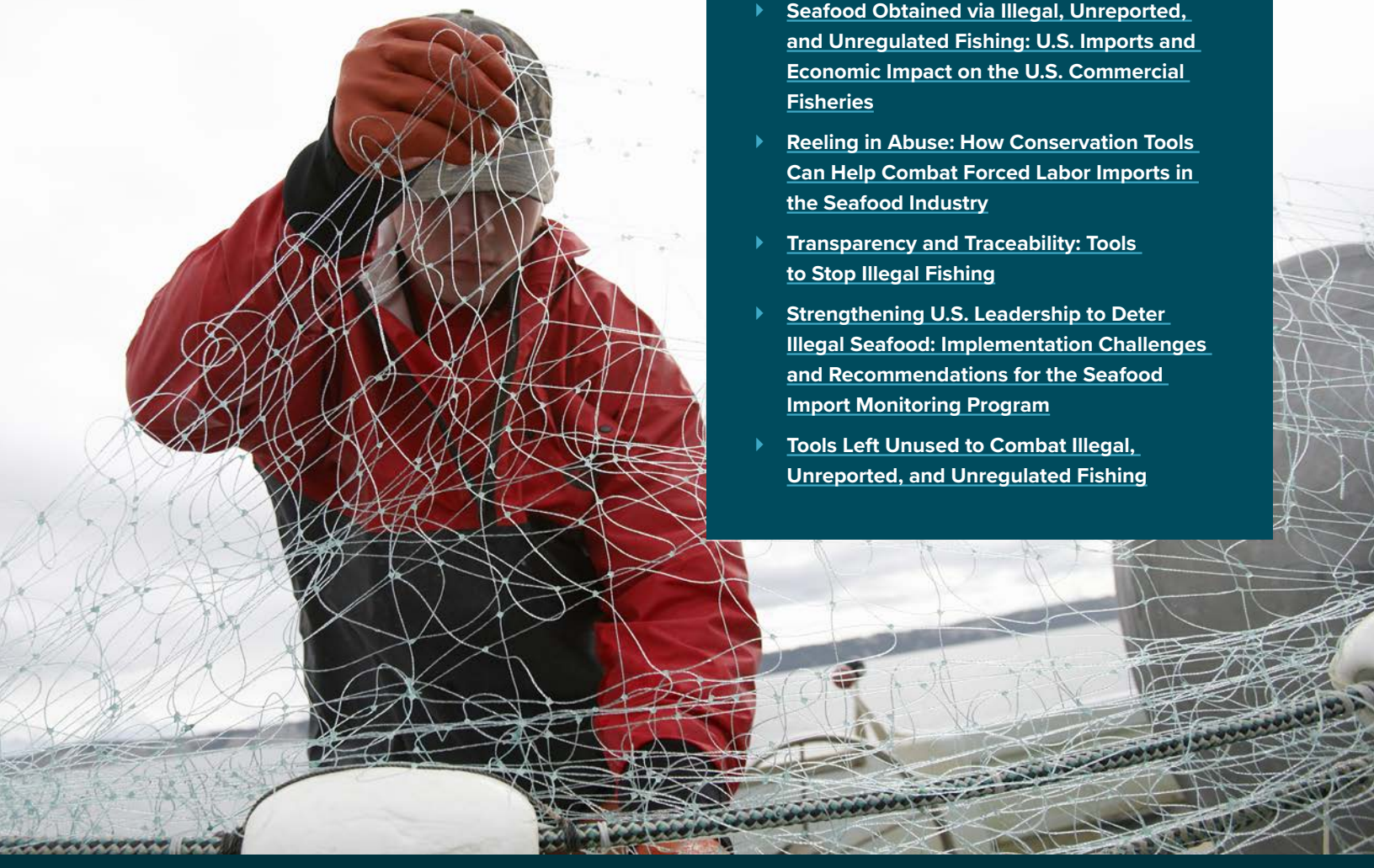
## Critical Next Steps:

- ▶ **Expand and strengthen SIMP** to ensure that all imported seafood is safe, legally caught, responsibly sourced, and honestly labeled. NOAA must establish a timeline to expand the catch documentation and traceability requirements of SIMP to all seafood in addition to building in mechanisms to address forced labor and other human rights abuses.
- ▶ **Strengthen automatic identification system (AIS) and transparency requirements to improve transparency of fishing activity.** As a condition of seafood import, the U.S. should require the use of AIS tracking information, a unique mobile maritime service identity, and the reporting of information on the beneficial ownership of vessels.
- ▶ **Ensure comparable transparency requirements exist for the U.S. fishing fleet.** Commercial fishing vessels from 49-65 feet in length should be required to carry AIS, as vessels over 65 feet are already required to do.

- ▶ **Ensure relevant federal agencies are sharing and analyzing data** to enable effective enforcement against IUU fishing and forced labor, including through the Tariff Act, the Magnitsky Act, and other authorities.
- ▶ **Strengthen NOAA's proposed definition of IUU fishing,** which still falls short by omitting forced labor taking place in fisheries in areas of national jurisdiction and IUU fishing in areas covered by international fishery management organizations to which the U.S. is not a party.
- ▶ Implement provisions enacted in the Fiscal Year 2023 National Defense Authorization Act that **strengthen NOAA's ability to sanction nations for failing to address IUU fishing;** increase cooperation among major market states, through a new or updated formal agreement (i.e., U.S.-EU-Japan); and increase membership and effectiveness of the [IUU Fishing Action Alliance](#) established in 2022.

## Additional Information:

- ▶ [Seafood Obtained via Illegal, Unreported, and Unregulated Fishing: U.S. Imports and Economic Impact on the U.S. Commercial Fisheries](#)
- ▶ [Reeling in Abuse: How Conservation Tools Can Help Combat Forced Labor Imports in the Seafood Industry](#)
- ▶ [Transparency and Traceability: Tools to Stop Illegal Fishing](#)
- ▶ [Strengthening U.S. Leadership to Deter Illegal Seafood: Implementation Challenges and Recommendations for the Seafood Import Monitoring Program](#)
- ▶ [Tools Left Unused to Combat Illegal, Unreported, and Unregulated Fishing](#)





# Advance Marine Protected Areas

## Background:

Marine protected areas (MPAs)—areas of the ocean with the primary purpose of long-term conservation—offer a nature-based solution for climate change adaptation and mitigation while delivering valuable benefits to people and communities. MPAs can enhance ocean and coastal ecosystem resilience in the face of climate change by preventing damaging activities that degrade habitats and wildlife populations; providing refuge to wildlife; and protecting genetic diversity that supplies raw material for adaptation. Protecting blue carbon habitats in MPAs can prevent carbon emissions and allow for continued sequestration, contributing to climate change mitigation.

## Biden Administration Goal:

The Administration [has established the goal to](#) conserve 30% of U.S. lands and ocean by 2030 through the *America the Beautiful* initiative.

## Progress to Date:

- ▶ Released [Conserving and Restoring America the Beautiful](#), a report recommending steps that the U.S. and stakeholders should take to achieve the 30x30 goal.
- ▶ Created an Interagency Working Group to develop an American Conservation and Stewardship Atlas, and [gathered public input](#) to inform its development.
- ▶ Launched a [series of listening sessions and a public comment period](#) to inform NOAA's work on America the Beautiful and committed to a renaming process.
- ▶ Launched the [America the Beautiful Challenge](#), to fund large landscape scale and/or cross-jurisdictional projects that advance existing conservation plans or are informed by Indigenous Traditional Knowledge.
- ▶ Established the NOAA [Marine and Coastal Area-Based Management Federal Advisory Committee](#) and solicited nominations for committee members.
- ▶ Advanced place-based protections by [restoring monument protections](#) to the Northeast Canyons and Seamounts Marine National Monument; establishing a [new Connecticut National Estuarine Research Reserve](#); initiating designation of the [Chumash Heritage National Marine Sanctuary](#) (NMS) off California and the [Hudson Canyon NMS](#) off New York; accepting the nomination of the [proposed Alaḡum Kanuuḡ NMS](#); and [inviting comments](#) on the proposed designation of a [NMS in the Pacific Remote Islands](#).

## Critical Next Steps:

- ▶ **Designate and advance new, expanded, and enhanced place-based protections** by finalizing the designations of the Chumash Heritage NMS, Papahānaumokuākea NMS, and the Pacific Remote





## SPOTLIGHT

*Chumash Heritage National Marine Sanctuary*

The proposed Chumash Heritage National Marine Sanctuary (Chumash Heritage) poses a unique and critical opportunity to prioritize Indigenous collaborative management and protect some of California's most special waters. For decades, Tribal elders and members of the local community have advocated for a sanctuary. In 2015, the Northern Chumash Tribal Council submitted, and NOAA accepted, a formal nomination to establish Chumash Heritage, but no action was taken. In 2020, the proposed nomination underwent a mandatory review to assess its status on the sanctuary nomination list. More than 14,000 public comments were submitted—the vast majority in favor of sanctuary designation. In 2021, NOAA initiated the designation process, and more than 20,000 overwhelmingly positive public comments were submitted. Since then, NOAA has been working on the draft designation documents, but the process is behind schedule. Overcoming this delay and completing the designation would be a major win for both Chumash Heritage and the Administration to advance 30x30 and see a marine protection effort from proposal to designation in a single presidential term.

Islands NMS; releasing final management plans for the Northeast Canyons and Seamounts, Marianas Trench, and Pacific Remote Islands Marine National Monuments; updating the Stellwagen NMS management plan to effectively address measurable, widespread or severe impacts occurring to sanctuary resources and declining resource conditions; advancing the strongest possible management actions and highest protections outlined in the draft management plan and implementing regulations for the Florida Keys NMS; committing funding and technical expertise to support the visions of the Gullah/Geechee Nation and South Atlantic Salt Marsh Initiative in advancing coastal protections; and advancing the nomination of the Mariana Trench and Alaḡum Kanuuḡ NMS to the designation phase.

- ▶ **Ensure the effective management, implementation, and funding of MPAs** through increasing funding for the National Marine Sanctuary program and implementing an IRA spend plan that supports ocean protection and provides funding for marine sanctuaries; strengthening implementation of the National Marine Sanctuaries Act; and enhancing national marine sanctuary protections as described in this [petition for rulemaking](#).

- ▶ **Issue an American Conservation and Stewardship Atlas that separately tracks progress toward the [America the Beautiful initiative](#)'s goals** of tackling climate change, reducing biodiversity loss, and increasing equitable access to nature; identifies [actions](#) that will deliver strong benefits for nature like [fully and highly protected marine protected areas](#); and provides for a public input process.

## Additional Information:

- ▶ [Year One Report: America the Beautiful](#)
- ▶ [National Landmarks We Need to Protect: A Hispanic Access Foundation Toolkit](#)
- ▶ [A Photographic Tour of California's Marine Protected Areas](#)
- ▶ [Recommendations For a Federal 30x30 Strategy Centered Around Equity and Access](#)
- ▶ [Coastal Justice Lab](#)

# Minimize and Address Ocean Acidification

## Background:

Ocean acidification (OA) is a direct result of human-caused carbon dioxide (CO<sub>2</sub>) emissions and is altering the chemical balance of seawater that marine life depends upon for proper functioning and survival. The ocean has absorbed 28% of CO<sub>2</sub> generated by human activities since the 1750s. Projections indicate that by 2100 our global ocean's surface waters could be 150 times more acidified than at the start of the Industrial Revolution. These changes threaten marine species and ecosystems, including those that sustain jobs and support coastal economies across the U.S. Shellfish, corals, and marine life that make skeletons and shells from calcium carbonate are particularly sensitive, posing high-risk to their commercial, cultural, and biodiversity value—and the communities that rely on them.

For more than 10 years, the [U.S. federal government and coastal states have played a key role in documenting and responding to OA](#), generating best practices and learnings domestically and internationally. Increasingly, OA knowledge must become a cross-cutting issue helping to achieve and effectively implement priorities, opportunities, and actions.

## Biden Administration Goal:

The Administration has [committed](#) to the development of a U.S. Ocean Acidification Action Plan (OA-AP) by the end of 2023 and outlined several actions related to minimizing and addressing OA domestically and internationally.

## Progress to Date:

- ▶ [Joined the International Alliance to Combat Ocean Acidification](#) (OA Alliance).
- ▶ Continued leadership within [Interagency Working Group on Ocean Acidification](#) which advises and assists the Subcommittee on Ocean Science and Technology on matters related to OA, including coordination of Federal interagency activities as outlined in the Federal Ocean Acidification Research and Monitoring Act of 2009.
- ▶ Established NOAA [Ocean Acidification Program](#) (OAP) and US regional ocean and coastal acidification networks that foster collaborations across academic institutions, relevant federal and state agencies, Tribal governments and a variety of stakeholders and non-governmental organizations.
- ▶ Invested [\\$17 million in 2023](#) to directly support NOAA OAP.
- ▶ Implemented [NOAA's Ocean, Coastal & Great Lakes Acidification Research Plan](#) with an emphasis on assessing socioeconomic impacts of OA on fisheries-dependent communities.
- ▶ Enhanced [OA monitoring and guidelines](#) across EPA's National Estuary Program and National Coastal Condition Assessment.
- ▶ Announced \$30,000,000 grant program [to advance marine carbon dioxide removal research and development](#) for assessing large scale carbon removal and local scale OA mitigation research.

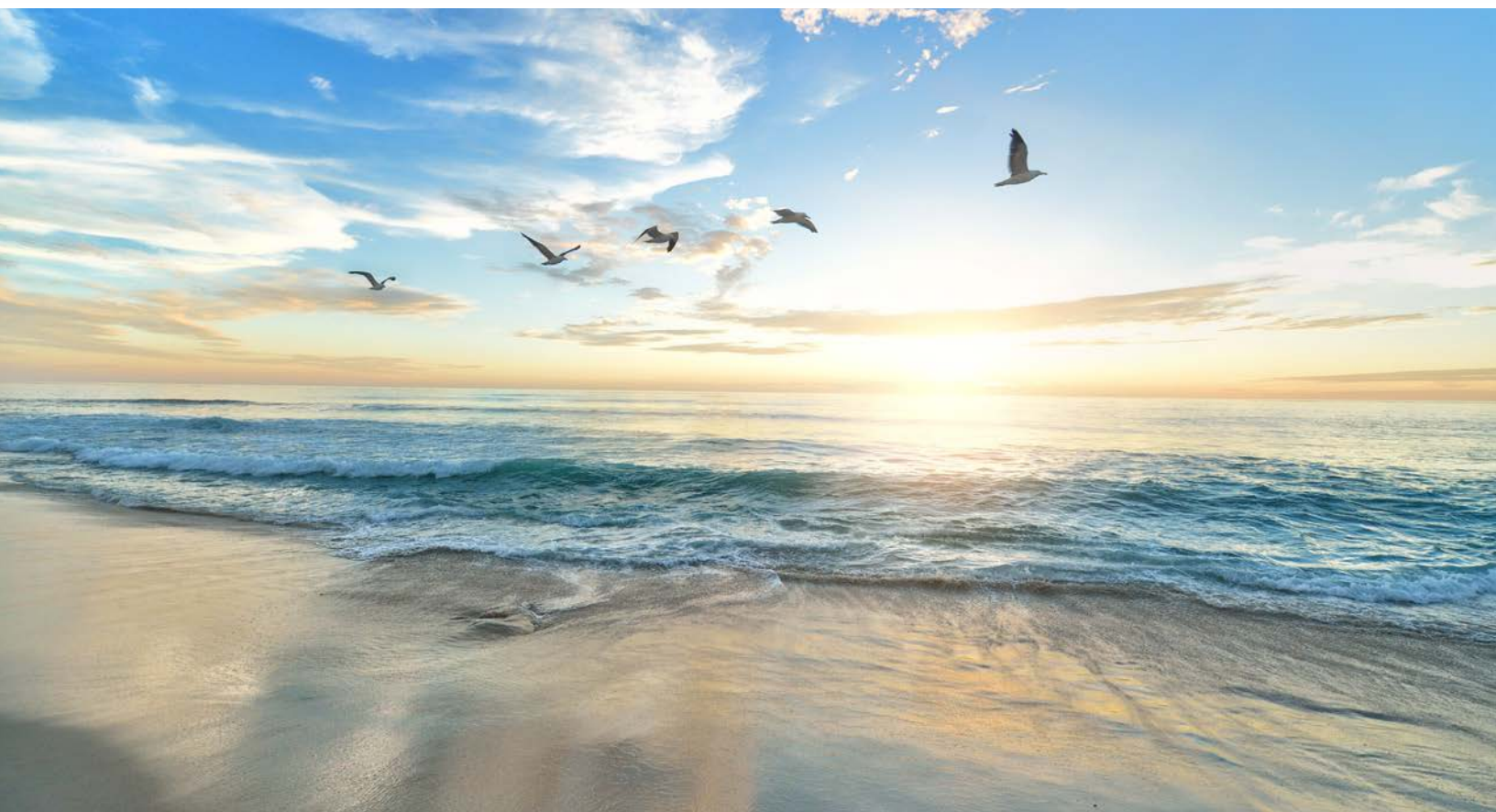


- ▶ Supported bi-lateral and & international efforts on OA including: (1) [U.S. NOAA/ Canada DFO OA research and communications project](#); (2) the [Global Ocean Acidification Observing Network](#), including nine regional hubs building capacity to inform responses to climate change impacts; (3) the [Pacific Islands Ocean Acidification Centre](#); and (4) the [OA Alliance](#).

## Critical Next Steps:

The Administration's Ocean Climate Action Plan (Plan), makes clear that solutions for OA require rapidly stabilizing and reducing atmospheric CO<sub>2</sub> levels in addition to local-scale efforts that reduce OA impacts and enhance ecosystem resilience. To that end, the Administration should:

- ▶ **Increase and align federal funding opportunities** that are multi-discipline, multi-sectoral, and multi-jurisdictional to help implement Plan actions. Efforts should produce climate-ocean knowledge for local scale management and decisionmaking.
- ▶ **Harmonize climate-ocean monitoring and data management** by integrating OA information across Plan goals including climate-ready fisheries, climate-smart conservation, coastal resilience and habitat restoration, effective upgrades of wastewater infrastructure, and evaluation of marine carbon dioxide removal strategies.
- ▶ **Support the development of biological and chemical OA indicators** that support marine resource management and water quality evaluation at different scales.
- ▶ **Leverage clean water criteria** for detecting and managing harmful pollution that exacerbates coastal acidification, hypoxia, and deoxygenation; Support proposals to upgrade and modernize wastewater and stormwater systems to reduce these pollutions.
- ▶ **Increase international and domestic climate financing for OA activities.** This includes supporting federal and U.S. State and Tribal government ocean acidification programs; implementing UN [Sustainable Development Goal 14.3](#) "to minimize and address OA"; and providing financial support for the Global Ocean Acidification Observing Network and similar international OA coordinating bodies that are catalyzing uptake of domestic and global solutions for responding to climate-ocean change.
- ▶ **Support the [OA Alliance](#)** in increasing OA Action Planning efforts across 200,000 kilometers of coastline and support the creation of 10 new national and subnational OA Action Plans by 2024 including in Latin America, Africa and the Pacific Islands Region.



# Evaluate Marine Carbon Dioxide Removal

## Background:

To stabilize warming at 1.5 degrees Celsius by the end of the century, net negative emissions will be necessary even with aggressive emissions reductions. The ocean already takes up and sequesters about 28% of anthropogenic CO<sub>2</sub> emissions, which raises the question whether it is possible to enhance this function without harming ocean ecosystems. Research and governance structures for this emerging technology will be needed to determine if marine carbon dioxide removal (mCDR) is feasible and ethical at a scale sufficient to have a meaningful beneficial impact (i.e. over 1 gigaton annually).

## Biden Administration Goal:

The [Ocean Climate Action Plan](#) specifies that the U.S. should 1) by 2030, build sufficient knowledge about the efficacy and tradeoffs of different methods of mCDR and use it to guide deployment decisions, and 2) develop a robust regulatory framework for research and possible later deployment to protect human health, the marine environment, and potentially affected communities, and ensure safe and effective long-term carbon dioxide removal.

## Progress to Date:

- ▶ Took some initial steps forward on CDR in general, including DOE's issuance of a Request for Information on "technologies ready to be demonstrated" and the announcement of the "[Carbon Negative Shot](#)" to develop technology that will capture CO<sub>2</sub> from the atmosphere and store it at gigaton scales for less than \$100/net metric ton. NOAA has developed a [draft research strategy](#) as an element of their climate mitigation portfolio.
- ▶ [Provided, on behalf of multiple partners, \\$30 million](#) for cross-sectoral scientific work on mCDR, to "assist in the verification or invalidation of hypotheses regarding mCDR, in order to make informed decisions regarding a potential scaled negative carbon ocean industry."

## Critical Next Steps:

- ▶ **Direct DOE and NOAA to jointly fund and validate the existing set of possible CDR technologies.** Similar to DOE's "Carbon Negative Shot" Earthshot goal to remove gigatons of CO<sub>2</sub> from the atmosphere and store it for more than a century for less than \$100/ton of net CO<sub>2</sub>-equivalent, DOE and NOAA should set an explicit numerical and temporal (e.g. storage duration) goal for what constitutes success in mCDR.
- ▶ **Create an "Oceanshot" program** to fund oceanographic and social science research at appropriate scales jointly funded by DOE and NOAA. This program would validate the carbon storage and social or environmental effects of proposed mCDR techniques, as outlined by the National Academies' [research strategy](#), including establishing the baselines



from which additional carbon removal could be measured. The National Academies report suggests an investment of \$125 million for these “Foundational Research Priorities.” The initial investment proposed in the [NOFO](#) is a good start, but at \$30 million, it will be unable to answer all the necessary questions.

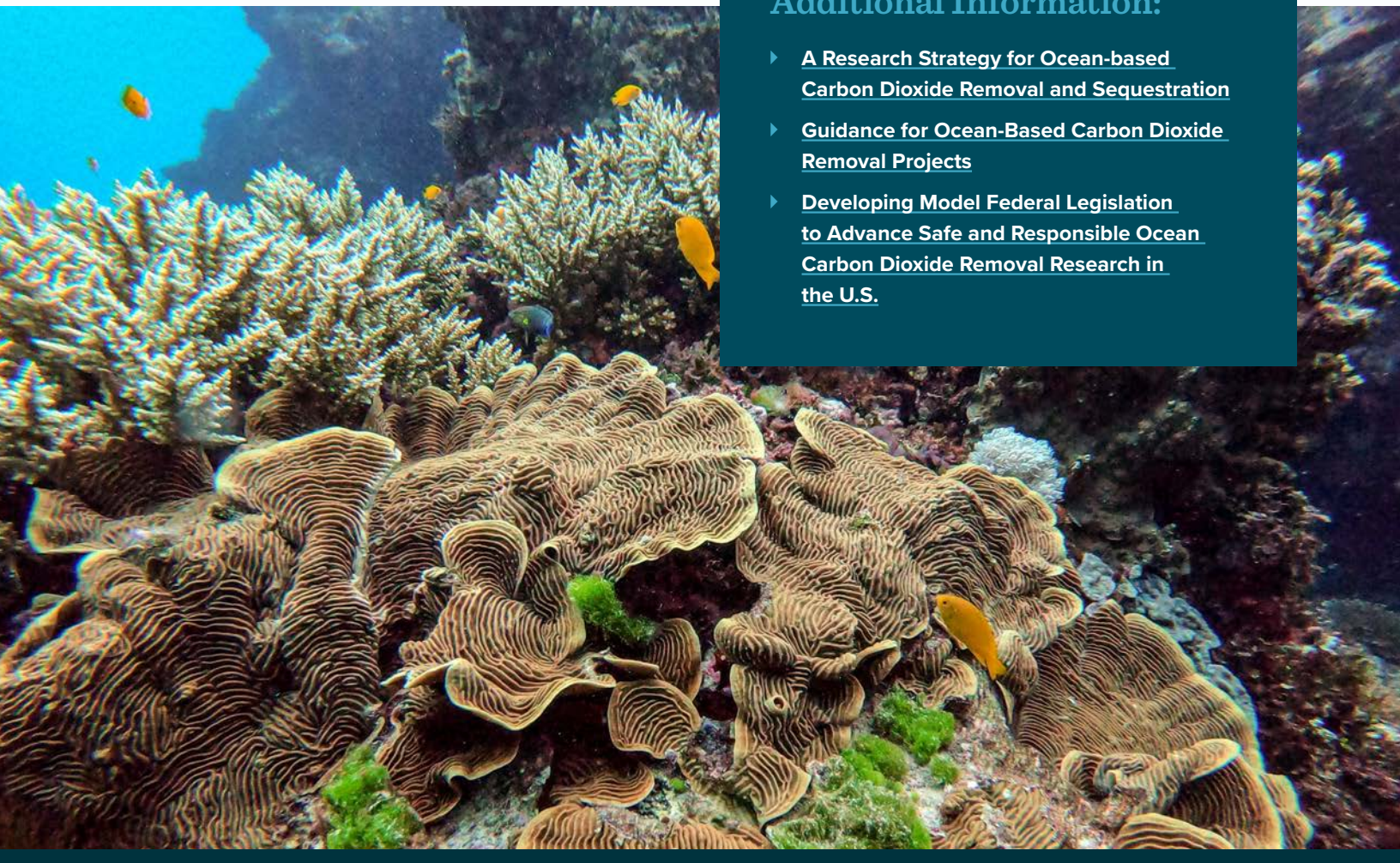
- ▶ **Direct DOE and NOAA to create and implement pilot programs** to develop standard validation protocols for mCDR, which will then be carried out to confirm the outcomes of publicly or privately-funded CDR activities. ARPA-E may soon issue a Funding Opportunity Announcement focused on Measurement, Reporting and Verification technology development.
- ▶ **Eliminate regulatory gaps and prioritize needed research.** There is currently a lack of clarity of authority for federal agencies to engage in research or other investigation of the potential for mCDR to contribute to drawdown. For example, DOE can currently fund work on macroalgae cultivation to create biofuels, but there is no directive for such programs to apply

to understanding macroalgal cultivation as a potential mechanism for CDR. The Administration should issue clarifying authorization language to clearly eliminate these regulatory gaps and prioritize needed research on this topic. NOAA should lead on research and coordination given the findings in the white paper documenting a [Potential NOAA CDR Science Strategy](#).

- ▶ **Develop and adopt a universal code of conduct (that allows for periodic revisions as well as regular input and reevaluation)** for mCDR research and development to ensure that such activities are conducted responsibly, with robust input from affected communities and other stakeholders, and do not add additional burdens to already-overburdened frontline communities. Recipients of federal funding should be required to abide by the code of conduct. The Aspen Institute, working with global experts, is developing such a code of conduct to be released in fall 2023 and will be designed for regular review and iteration, potentially serving as a basis for a federal equivalent.

## Additional Information:

- ▶ [A Research Strategy for Ocean-based Carbon Dioxide Removal and Sequestration](#)
- ▶ [Guidance for Ocean-Based Carbon Dioxide Removal Projects](#)
- ▶ [Developing Model Federal Legislation to Advance Safe and Responsible Ocean Carbon Dioxide Removal Research in the U.S.](#)



## Appendix: For Additional Information

### *Expand Responsibly Sited Offshore Wind and Phase Out Offshore Drilling*

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