



# NOAA Coastal Blue Carbon

## 2022 ACCOMPLISHMENTS

Coastal salt marshes, mangrove forests, and seagrass beds are incredibly efficient at capturing and storing large quantities of carbon – referred to as “[coastal blue carbon](#).” NOAA’s coastal blue carbon activities are a collaborative effort across NOAA, including the National Environmental Satellite, Data and Information Service (NESDIS), National Marine Fisheries Service (NMFS/Fisheries), National Ocean Service (NOS), and Oceanic and Atmospheric Research (OAR/Research) offices.

### Promoting Understanding and Awareness of Progress

- Greater Farallones National Marine Sanctuary and Greater Farallones Association were featured in “[Bay Area Bountiful](#)” (10-minute mark), a series produced by NorCal public media broadcast to the entire bay area, from Santa Rosa to San Jose. The segment provides information about the Sanctuary’s efforts to restore kelp, and the role that kelp and other coastal ecosystems play in carbon sequestration.
- In March 2022 the Greater Farallones Association received federal appropriations to restore a crucial kelp forest habitat in the Greater Farallones National Marine Sanctuary; this blue carbon ecosystem has suffered severe and prolonged decline since 2014. Funding will support outplanting of bull kelp, removal of urchins, remote sensing priorities, and engagement with fishers and communities along the north coast of California.
- National Centers for Coastal Ocean Science (NCCOS) researchers [assess Blue Carbon storage at sites restored through beneficial use of dredge sediment](#) by measuring carbon stock before and after placement projects. Analysis, continued monitoring, and site reoccupation after thin layer placement will illuminate the effectiveness of projects like these in terms of carbon storage.
- NOAA’s Office of National Marine Sanctuaries released a [new video](#) on climate change in sanctuaries, which uplifts the role of these protected areas in safeguarding and restoring blue carbon ecosystems.
- NOAA’s Office of National Marine Sanctuaries gave two presentations at the National Adaptation Forum highlighting NOAA’s work on blue carbon and its role as a climate adaptation tool and nature-based solution to climate change.
- NOAA’s Geophysical Fluid Dynamics Laboratory [published a study of global coastal ecosystem responses to a half-century increase in river nitrogen loads](#) and continues to engage with NOAA colleagues on representation of [river biogeochemical fluxes to the coastal zone](#).
- At the 2022 United Nations Climate Change Conference (UNFCCC COP27) in November of 2022, NOAA Administrator, Dr. Rick Spinrad, participated in a COP27 side event titled Partnerships to accelerate action to protect blue carbon ecosystems for mitigation and adaptation, with support from the NOAA Blue Carbon Inventory Project team.





## Enabling Action through Partnerships and Research

- The NOAA Blue Carbon Team worked to include coastal blue carbon-related strategies for drawing down and sequestering marine carbon dioxide in the cross-Line office (OAR, NMFS, NOS) [NOAA Carbon Dioxide Removal Research Strategy white paper](#).
- Oregon Sea Grant partnered with The Nature Conservancy to produce the report, “[Oregon’s Blue Carbon Ecosystems: State of the Science](#).”
- The NOAA Chesapeake Bay Office and EPA Office of Research and Development Climate Resiliency Workgroup are identifying potential blue carbon-related coastal resilience projects and connecting them with science and funding.
- NOAA launched its first formal partnership under the [NOAA Blue Carbon Inventory Project](#) with Costa Rica through a two-day kickoff meeting in March of 2022. In September, the project held its first in-country workshop, intended to provide technical information to support Costa Rica’s Nationally Determined Contribution to the Paris Agreement and foster within-country collaboration on blue carbon. The workshop was attended by more than 40 representatives of Costa Rican government agencies, academia, and protected area managers.
- Members of the NOAA Blue Carbon team met with the Carbon Cycle Interagency Working Group (CC-IWG) in December 2021 to invite additional interagency collaboration on blue carbon issues. The CC-IWG agreed to include blue carbon in a series of carbon dioxide removal workshops under development for 2023.

## Integrating Science in Policy

- The NOAA Blue carbon team published a [white paper](#) that provides a brief overview of the topic of blue carbon and NOAA’s role in the blue carbon space.
- The NOAA Blue Carbon team highlighted the relevance of coastal blue carbon ecosystems for marine Carbon Dioxide Removal (mCDR) activities in the CDR Task Force Interagency meetings led by the Department of Energy.
- NOAA Blue Carbon team members served as expert reviewers on the Draft Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2020 – Land Use, Land-Use Change, and Forestry, U.S. Environmental Protection Agency.
- Through support from the NOAA Research Climate Program Office, the NOAA NOS Office for Coastal Management (OCM) worked with Silvestrum Climate Associates to update the wetlands section of the [U.S. Greenhouse Gas Inventory](#) reporting. The information included within the inventory for coastal wetlands is derived using data from [NOAA’s Coastal Change Analysis Program \(C-CAP\)](#). This year’s reporting included an update to 2016 for wetland change data. This increased the time-series of information included by an additional five years.



## Goals for 2023

- Explore options for formalizing the NOAA Blue Carbon team while maintaining the team’s flexible, inclusive and responsive approach.
- Update and expand NOAA’s web presence on blue carbon issues, including on NOAA’s role in blue carbon science and management.
- Collaborate with the Carbon Cycle Interagency Working Group to include blue carbon in their planned 2023 workshops on carbon dioxide removal.
- Support the inclusion of coastal blue carbon habitats into national greenhouse gas inventories in other countries through the NOAA Blue Carbon Inventory Project and support at least one more country-focused workshop.
- Support a [Blue Carbon Law Symposium](#) co-organized by South Carolina Sea Grant Consortium and Georgia Sea Grant with funding from the National Sea Grant Law Center.
- Produce guidance for the potential application of marine carbon dioxide removal, inclusive of blue carbon processes, in national marine sanctuaries.



FOR ADDITIONAL INFORMATION, VISIT  
[oceanservice.noaa.gov/ecosystems/coastal-blue-carbon](https://oceanservice.noaa.gov/ecosystems/coastal-blue-carbon)

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