



2021 Accomplishments

NOAA Coastal Blue Carbon

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 Marine Fisheries Service (NMFS/Fisheries), National Ocean Service (NOS), and Oceanic and Atmospheric Research (OAR/Research) offices.

Promoting Understanding and Awareness of Progress

- NOAA presented the Central Library talk, “Coastal Blue Carbon: What is it and how is NOAA engaged?”
- NOAA Fisheries Office of Habitat Conservation and Tillamook Estuaries Partnership produced a report about the Socio-Economic Impacts of the Southern Flow Corridor Restoration Project, including carbon benefits.
- Greater Farallones National Marine Sanctuary and Greater Farallones Association quantified the annual carbon sequestration of two coastal habitats (saltmarsh and seagrass) and two marine carbon export processes (whale deadfalls and bull kelp). The assessment, the first in a national marine sanctuary, is Part 2 of a series that includes an online story map.
- The Office of National Marine Sanctuaries and National Marine Protected Areas Center, through The International Partnership on MPAs, Biodiversity, and Climate Change, published case studies from the Greater Farallones National Marine Sanctuary Kelp Recovery Program and the Waquoit Bay National Estuarine Research Reserve –Bringing Wetlands to Market. The Partnership also presented these case studies at the 2021 United Nations Climate Change Conference (COP 26) in Glasgow.
- NOAA’s Air Resources Laboratory Atmospheric Turbulence and Diffusion Division and its partners published an atmospheric flux study at the Delaware National Estuarine Research Reserve.
- National Centers for Coastal Ocean Science (NCCOS) Researchers quantified the role of shoreline erosion in marsh blue carbon budgets by investigating the fate of eroded marsh carbon.
- Sea Grant-supported research resulted in publications on blue carbon stocks in California and the effect of restoration on carbon sequestration of salt marshes.
- NOAA’s Marine Protected Areas Center featured blue carbon in its story map on Marine Protected Areas as Climate Solutions.



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.
- Virginia Sea Grant announced its newest Graduate Research Fellow cohort included a student exploring blue carbon market applications of research on greenhouse gas dynamics in seagrass habitats.
- 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.

- The NOAA Blue Carbon Inventory Project was endorsed as a Decade Action as part of the United Nations Decade of Ocean Science for Sustainable Development and highlighted by Administrator Spinrad at COP 26 in Glasgow Scotland.



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- 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 2022.

Integrating Science in Policy

- The NOAA Blue Carbon team highlighted the relevance of coastal blue carbon ecosystems for marine Carbon Dioxide Removal (CDR) activities in the CDR Task Force Interagency meetings led by the Department of Energy.
- 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.
- 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.
- NOAA Fisheries supported Restore America's Estuaries in their application of coastal blue carbon data from the Coastal Carbon Research Coordination Network in six pilot case studies that were included in the updated The Economic Value of America's Estuaries 2021 Report.



Goals for 2022



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 2022 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 country-focused workshop.



Publish a white paper and fact sheet that provide a brief overview of the topic of blue carbon and NOAA's role in the space.