ENHANCING CLIMATE MITIGATION AND ADAPTATION CO-BENEFITS WITH NOAA'S BLUE CARBON INVENTORY PROJECT

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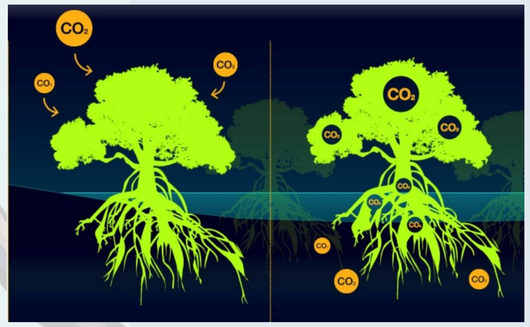
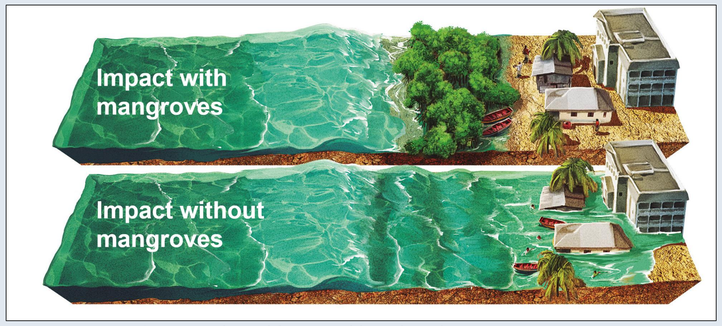
What is “Coastal Blue Carbon”?

Coastal wetlands, such as mangroves, salt marshes, and seagrasses, play a significant role in carbon storage and sequestration around the world, providing some of the highest density stores of carbon in the biosphere. This ability to continuously sequester carbon through photosynthesis and the capacity of these wetlands to provide long-term storage is known as “coastal blue carbon.”

Why Incorporate Coastal Blue Carbon in National Greenhouse Gas Inventories?



Source: Adapted from Ocean Health Index, 2020



Source: Adapted from World Bank and Punto Aparte

Mitigation

Coastal blue carbon ecosystems are highly efficient at sequestering carbon from the atmosphere and storing it in their roots, and therefore contribute to mitigating climate change.

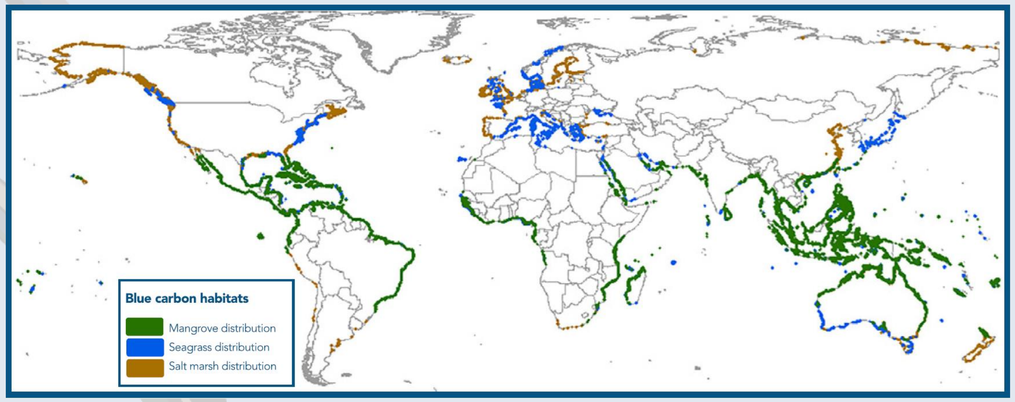
Adaptation

Coastal blue carbon provides ecosystem services that strengthen community adaptation and resilience including: coastal protection, conservation of biodiversity, food supply and livelihoods, health and wellbeing.

Healthy Blue Carbon Ecosystems Are a Sink for CO_2 Emissions While Degraded Ecosystems Are a Source

Blue carbon ecosystems hold dense stores of carbon, particularly in soils. These stores continuously accumulate. When blue carbon habitats are damaged or destroyed, it is not only their carbon sequestration capacity that is lost. Carbon stored in the habitats is also released, increasing levels of greenhouse gases in the atmosphere. Restoration of blue carbon ecosystems reinitiates carbon sequestration and may halt ongoing emissions.

Global Coastal Blue Carbon Distribution



Source: Himes-Cornell et al., 2018. Adapted by *Châles, F., 2021*

Challenges Recognizing Accounting for Blue Carbon in National Greenhouse Gas Inventories

Reporting comprehensive inventories of greenhouse gas sources and sinks is an important step for tracking progress towards meeting the Paris Climate Agreement. In 2013, the Intergovernmental Panel on Climate Change released technical guidance on including wetlands in national greenhouse gas inventories (NGGI). Yet, given the technical challenges involved, to date only a handful of countries have incorporated blue carbon into their NGGI.

NOAA Blue Carbon Inventory Project

Enhancing capacity to integrate coastal wetlands data in national greenhouse gas inventories

Project Goals

- Supported by the U.S. Department of State and conducted in partnership with EPA and other USG agencies, the newly launched NOAA Blue Carbon Inventory (BCI) Project will support countries in their inclusion of coastal wetlands in their NGGI, with the goal of translating enhanced monitoring and reporting of emissions from wetlands into improved mitigation and resilience outcomes.
- Through initial stakeholder engagement, NOAA will identify potential partner countries and organizations, and begin refining specific project plans by identifying key needs and opportunities.
- The project will advance bilateral and/or multilateral technical collaboration to analyze data and build tools to include coastal wetland information in greenhouse gas inventories. Targeted research may address broader regional and global knowledge gaps critical to improving greenhouse gas inventories. Collaboration could include regional workshops and trainings, webinars, peer-to-peer engagement, mentoring, and learning by doing.

Project Plan

1. In 2021, Identify potential partner countries, Assess needs & prioritize scope
2. Build country level awareness and capacity
3. Address data & knowledge gaps
4. Expand data management tools
5. Develop national inventories

Credit: Steve Crooks, Silvestrum Climate Associates

Outcome

The NOAA BCI Project is intended to foster the development of emissions mitigation, coastal resource management, and resilience strategies that reflect the value of coastal ecosystems in carbon storage and sequestration. A strong network of healthy wetlands can protect coastal communities from storms, waves, erosion and flooding; protect biodiversity; and provide ecosystem services that support livelihoods, culture, food security, water quality, recreation, and tourism.