

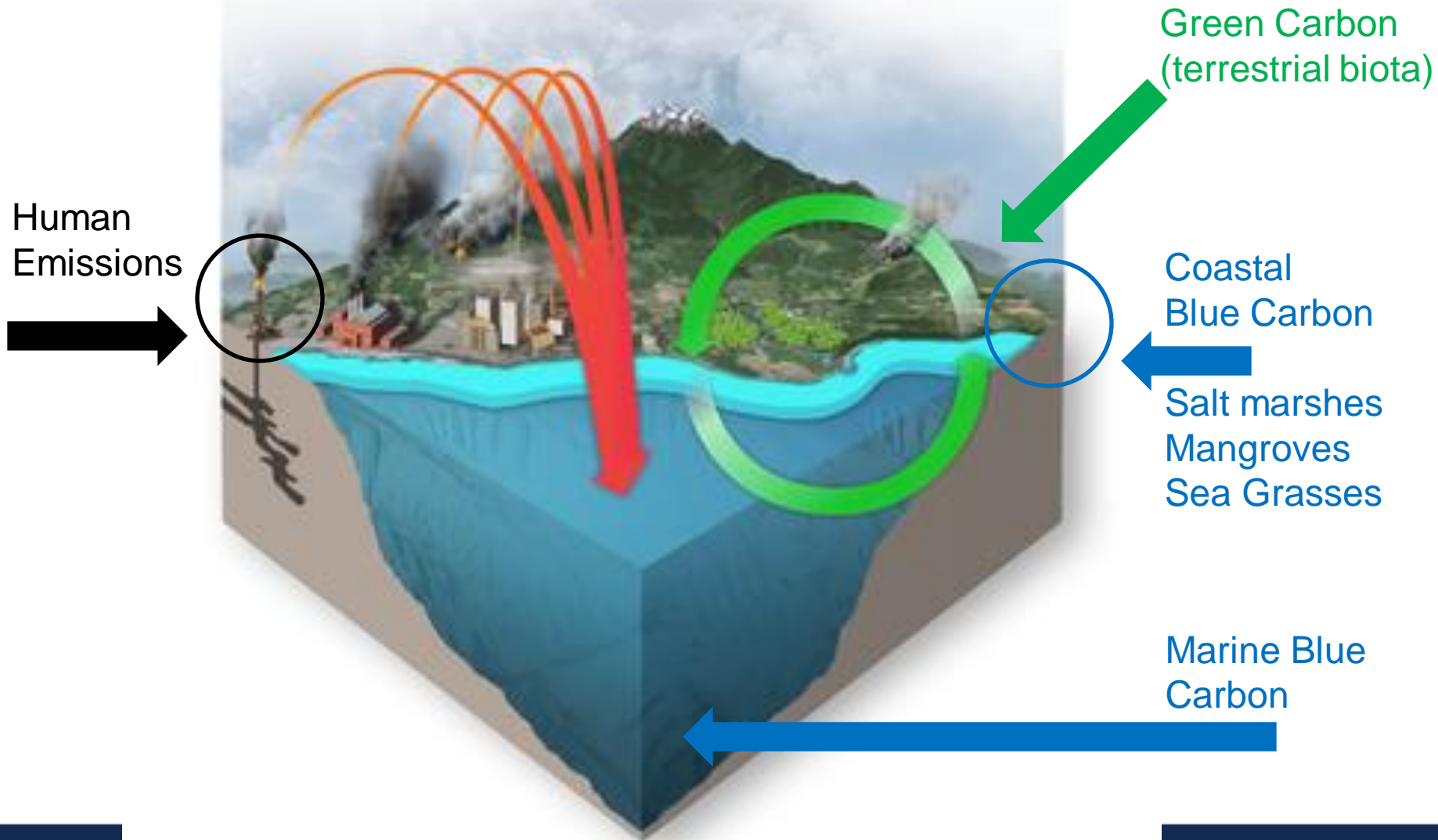


Carbon in Coastal Ecosystems: U.S. Government Scientific and Technical Efforts

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Coastal Blue Carbon and the Carbon Cycle



Coastal Blue Carbon Science Objectives

- Map and model geographic distribution of coastal blue carbon ecosystems at a sufficient geospatial resolution
- Improve understanding of the carbon cycle in these ecosystems, including carbon release from disturbance or conversion
- Estimate blue carbon ecosystem carbon storage, sequestration and emissions
- Characterize and map threats to blue carbon ecosystems



Coastal Blue Carbon Science Projects

- Mapping mangrove forest deforestation and degradation using earth observations (Global)
- Carbon storage, pollen, and plant macrofossil research to understand long-term climate change (South Carolina, Georgia)
- Study of carbon gas emissions from newly restored brackish tidal marsh (North Carolina)
- Carbon Farming project: using carbon storage in restored marshes to mitigate subsidence and reduce carbon pollution (California)
- Increasing carbon storage in the National Wildlife Refuge system through improved management of impounded marshes (East Coast)
- “Bringing Wetlands to Market” study at Waquoit Bay National Estuarine Research Reserve: developing science to support including wetlands in carbon markets and incentivize investment in wetland restoration and preservation (Massachusetts)

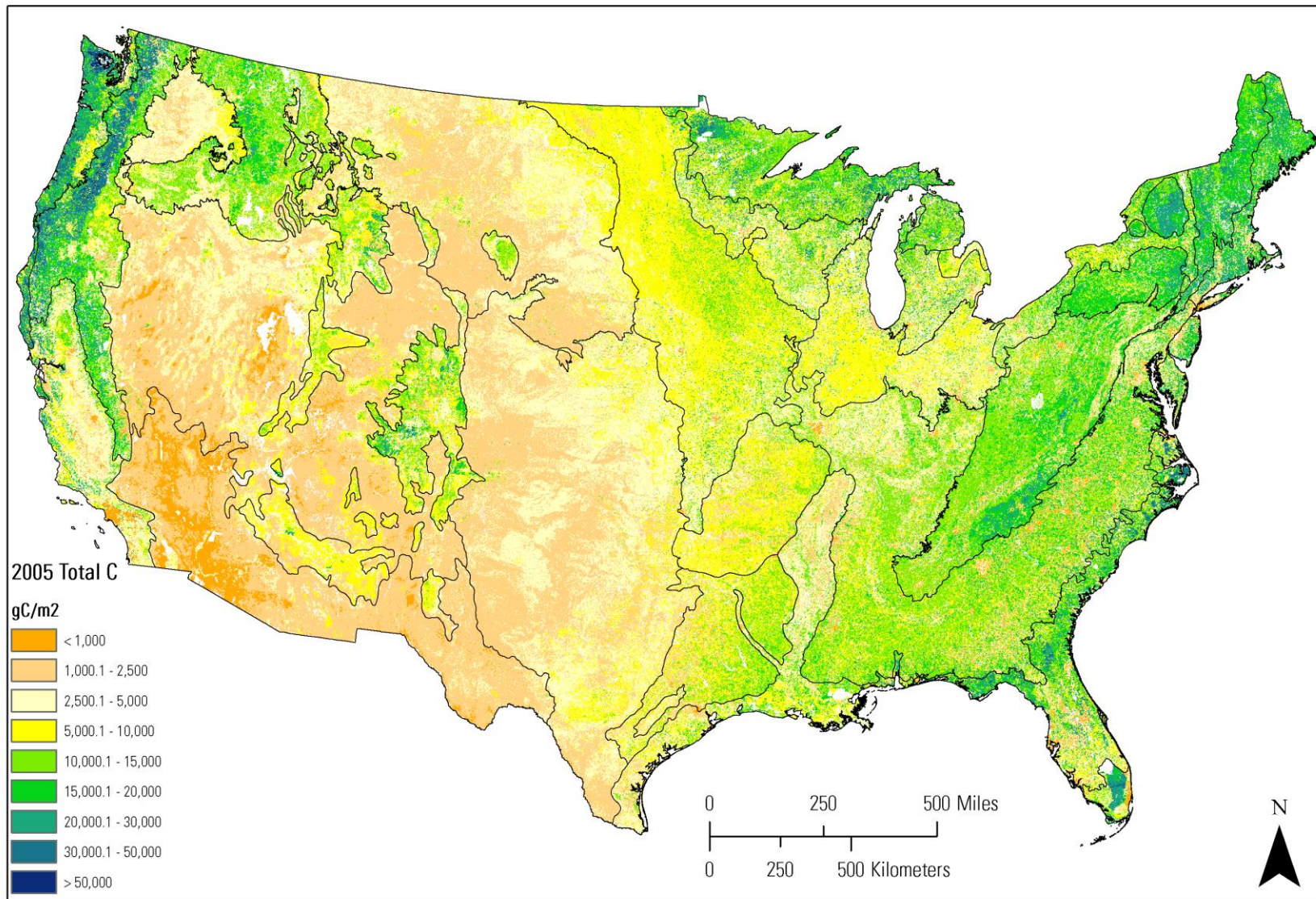


Carbon Sinks



Carbon Sequestration Assessments

Carbon Stock (gC/m²), 2005



Coastal Blue Carbon Activities - Domestic



- Interagency team to coordinate and support blue carbon efforts
- Included blue carbon science and policy in our National Ocean Policy
- Support Restore America's Estuaries efforts to develop tools and methodologies for blue carbon management



Coastal Blue Carbon Activities - International

- Participate in a Commission on Environmental Cooperation grant to build a North American community of practice for blue carbon
- Provide co-finance and serve on the steering committee for a Global Environment Facility “Blue Forest” project



Coastal Blue Carbon Activities - International

- Sustainable Wetlands Adaptation and Mitigation Program (SWAMP)
 - Collaborative effort by the Center for International Forestry Research, the US Forest Service, and Oregon State University with support from USAID
 - Overall goal is to provide policymakers with credible scientific information needed in order to make sound decisions relating to the role of tropical wetlands in climate change adaptation and mitigation strategies
 - Activities include quantification of GHG emissions, carbon stocks assessment, carbon-dynamics modeling and mapping, capacity building, and outreach



Technical Needs to Support Management

- Guidance and procedures for monitoring, estimating, and valuing coastal blue carbon
- Capacity and expertise needed to quantify impacts of projects on coastal blue carbon storage and sequestration
- Methodologies and tools for measuring and valuing coastal blue carbon and expertise in federal agencies to do this



Sutton-Grier et al. 2013. Marine Policy &
Pendleton & Sutton-Grier et al. 2013. Coastal Management





Questions?

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For more information see:

<http://www.habitat.noaa.gov/coastalbluecarbon.htm>