

ESTIMATES OF CARBON SEQUESTRATION IN TIDAL COASTAL
WETLANDS ALONG THE US EAST COAST

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Globally, salt marshes are reported to sequester carbon ($210 \text{ g C m}^{-2} \text{ y}^{-1}$), and along with mangroves in the US, they are reported to account for 1–2 % of the carbon sink for the conterminous US. Using the published salt marsh carbon sequestration rate and National Wetland Inventory areal estimates for estuarine, intertidal wetlands in the northeastern US (Delaware Bay through Maine), we calculated approximately 0.33 Tg C y^{-1} is sequestered, which is equivalent to CO_2 emissions from approximately 136 million gallons of gasoline consumed. The northeastern estuarine intertidal carbon sequestration amounts to approximately 0.7 % of the North American wetland soils sink (49 Tg C y^{-1}) or 0.1 % of the conterminous US carbon sink ($300\text{--}580 \text{ Tg C y}^{-1}$). Regions of the US with more expansive wetlands and extensive areas of coastal saline and brackish wetlands (e.g., mid-Atlantic and southeast Atlantic) would be expected to contribute a greater percentage of the carbon sequestration than wetlands along the northeast coast of the US, and the carbon sequestration for these other east coast regions are currently under study. In addition, we are using attributes from the Soil Survey Geographic (SSURGO) and US General Soil Map (STATSGO) databases developed by the NRCS (Natural Resources Conservation Service) to estimate the storage and stocks of carbon in the soils in coastal wetlands from Florida to Maine. The carbon stocks determined from the NRCS databases will be compared with soil carbon content measured from cores collected from selected northeastern marsh locations.

Keywords: Carbon sequestration; saltmarsh; northeast, STATSGO, SSURGO, soil carbon