Hidden Forests: The role of vegetated coastal habitats in the ocean carbon budget (Vladimir Ivanovich Vernadsky Medal Lecture)

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Vegetated coastal habitats, including mangrove forests, salt-marshes, seagrass meadows and macroalgal beds, provide the marine equivalent to terrestrial forests. However, in contrast to the traditional recognition of forests as significant components of the global carbon budget, the biogeochemical significance of vegetated coastal habitats has been largely ignored. However, the past decade has witness a paradigm shift, where vegetated coastal habitats have been recognized to play a globally significant role in the carbon budget of the ocean. Here I synthesize this evidence and consider how current representations of the ocean carbon budget need be reconsidered to incorporate the role of vegetated coastal habitats and globally relevant, sites of intense carbon cycling.