Carbon Preservation in Seagrass Meadow Ecosystems

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Interest in the oceanic domain as a major global carbon sink had long been of interest to various quarters. Only recently, this interest had been heightened from the realization that mitigating increased concentration of atmospheric carbon dioxide by the oceans is compromised from losses of marine natural resources that sequesters the carbon. This is especially true of seagrass meadows which have had drastic areal losses over the years. It makes it a particular concern because seagrasses can preserve carbon in their sediments over long time scales. However, knowledge into this preservation of carbon is mainly from work on the seagrass *Posidonia oceanica* from the Mediterranean. Information on whether there are similar carbon preservation potentials by other seagrass species from distinctive meadows is thus needed. This paper outlines the setting for my PhD study to address this gap in knowledge. The study will investigate: total carbon captured in seagrass meadows; sources of the carbon; and the age of the carbon in the sedimentary environment. Other factors that will be explored in relation to carbon preservation are: effect of seagrass species; the type of carbon found in seagrass sediments; and the influence of meadow location on the amount of carbon found between different types of seagrass depositional environments. It is predicted there will be differences in amounts of carbon preserved in different meadows due to species or location.