沿岸植生域の堆積環境変化と再配置が有機炭素貯留速度に与える影響 Depositional environment change and the subsequent habitat relocation affect organic carbon accumulation rate in vegetated coastal ecosystems

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Vegetated coastal ecosystems store substantial amounts of organic carbon (C_{org}), and the conservation and restoration of these habitats are considered as important measures for mitigating climate change. Although various geophysical and biogeochemical factors control C_{org} storage in the sediment of these habitats, how spatiotemporal variations in the depositional environment (e.g., relative sea-level change, geological settings, habitat type) affect C_{org} accumulation rate is uncertain. In this study, we showed that depositional environment changes and the subsequent habitat relocation regulate C_{org} accumulation rate in boreal contiguous seagrass-saltmarsh habitats by using the historical depositional records. In particular, the C_{org} accumulation rate was accelerated with relative sea-level rise which would be driven by post-seismic land subsidence in this region. Our findings provide historical analogues for the future impact of sea-level change on C_{org} accumulation rate in vegetated coastal ecosystems.

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