

人間活動の影響を受けた河口浅海域における大気中CO₂の吸収に関する現地観測と生態系モデリング
Net uptake of atmospheric CO₂ in human-dominated estuarine and shallow coastal systems:
empirical studies and the ecosystem modeling

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Estuarine and shallow coastal systems (ESCS) are recognized as not only significant carbon reservoirs but also net emitters of CO₂ to the atmosphere, posing the dilemma of how ESCS functions relate to climate change mitigation. However, some studies have shown that ESCS take up atmospheric CO₂. Here we reviewed empirical studies and developed a new ecosystem model to investigate the magnitude and determinants of net uptake atmospheric CO₂ by ESCS. We found that the capability of ESCS to function as CO₂ sinks is enhanced by environmental conditions that are typical of human-dominated systems (e.g., input of high terrestrial nutrients, input of treated wastewater in which labile carbon is highly removed, and presence of hypoxia).

キーワード：ブルーカーボン、気候変動、生態系モデル

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