

Anthropogenic impacts on sedimentary 'Blue Carbon': current knowledge and research priorities

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Sediments hold the largest carbon stocks in coastal and shelf systems, from traditional coastal blue carbon ecosystems (salt marshes, seagrass and mangroves) to 'emerging' blue carbon habitats like intertidal and subtidal sediments. Shelf sediments hold significant carbon stores, and despite planned increase in offshore renewables infrastructure and recent focus on trawling effects, the impacts of increasing anthropogenic seabed-disturbing activities are largely understudied. Consequently, it is currently unclear to what extent marine sediments might function as a natural climate solution compared to coastal blue carbon ecosystems, and how management of these habitats could contribute to avoided emissions and enhanced CO₂ removal. Effective seabed management will need to consider impacts from human activities and spatial planning for different uses, as well as potential changes under climate change.

This talk will present some of the latest research around sedimentary carbon, and discuss the impacts of different anthropogenic activities. This will cover oil and gas decommissioning; installation of renewables infrastructure; and recent research on trawling impacts, highlighting future research priorities. Targeting knowledge gaps is of great importance given the current climate crisis, and it is increasingly important to engage with policy and stakeholders, despite some of the uncertainties around the science.