



Sources, Subsides and Sinks: Organic Carbon in Coastal Sediments

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Coastal sedimentary environments such as estuaries, deltas and fjords are sites characterised by high sedimentation rates and effective burial of organic carbon (OC). Fjords in particular have been shown to be hotspots for OC burial and storage. Additionally, the unique geomorphology of fjords and their proximity to the terrestrial environment mean that they are important receptors of terrestrially-derived OC. Such natural 'trapping' mechanisms prevent OC from reaching the open shelf where much of it would potentially be lost to the atmosphere through remineralisation. Though it is well documented that terrestrial OC is buried in fjords, the actual distribution of OC (both marine and terrestrial) in these environments is less well understood and the need for improved spatial mapping of OC a priority. Here we outline new approaches for the improved spatial mapping of sedimentary carbon from coastal sediments in NW Scotland; we highlight how this methodology could be used to establish an improved national inventory of OC stock and discuss the wider policy significance of such findings.