

Understanding the Role and Significance of Fjord Sediments in the Global Carbon Cycle.

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Fjords are recognized as globally significant hotspots for the burial and long-term storage of marine and terrestrially derived organic carbon (OC). By trapping and locking away OC over geological timescales, fjord sediments provide a potentially important yet largely overlooked climate regulation service. Using the Mid-Latitude fjords of Scotland we seek to understand the role of the sediments in these systems in capturing and storing (OC) at a national scale, this can be achieved by answering four key questions:

- (i) How much OC is stored in fjords sediment?
- (ii) Where are the hotspots for OC burial in fjords?
- (iii) What is the Source of the OC?
- (iv) How quickly is OC being buried in fjord sediments?

Results and ongoing work will be presented from the Scottish fjords, highlighting the new methodologies and approaches developed to answer these key questions and how these can be applied globally to fjords