

Reconstructing Holocene changes in relative sea level, sediment supply and back-barrier evolution, Suffolk, UK.

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The Suffolk coastline, UK has changed dramatically through the Holocene, however existing stratigraphic research for this period is spatially and temporally limited. Sediments preserved within the enclosed valleys and back-barrier wetlands in Suffolk provide an opportunity to improve understanding of the complex mesoscale behaviour of coastlines and their geomorphological response to changes in natural forcing. This research aims to reconstruct Holocene changes in coastline behaviour to develop reconstructions of coastal evolution relating to changes in relative sea level, sediment supply and storm incidence.

The stratigraphic framework developed for a 10 km section of the Suffolk coast has identified a consistent pattern of interbedded intertidal and freshwater units separated by transitional saltmarsh deposits. Freshwater peat development ensued from c. 6870 cal. BP when mean sea-level was below -4.68 m OD in the north of the study area. Evidence for marine incursion is found from 2869 cal. BP. New Late Holocene sea-level index points produced fill a temporal gap in the sea-level history of this coastline, indicating a minimal rate of RSL change ( $< 1 \text{ cm yr}^{-1}$ ) during this period. Local processes such as sediment supply and storm occurrence/frequency are therefore potential drivers of coastal reconfiguration during this period. Submitted radiocarbon analysis will enable inter-regional comparisons between the north and south of the study area to further investigate the factors controlling the long-term behaviour of this coastal system.