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# Quaternary seismic stratigraphy of the Flemish Bight (southern North Sea): a re-evaluation

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New high-resolution seismic data (Sparker) and very-high-resolution parametric echosounder (PES) data acquired in an area of the southern North Sea (the Flemish Bight) reveal its Quaternary seismic stratigraphy in unprecedented detail. The identified seismo-stratigraphic units and geomorphological features have been examined with the view to better understand the Quaternary evolution of the southern North Sea.

Seven acoustic units were recognised, including Lower Pleistocene deltaic sediments, Eemian to lower Weichselian shallow marine to coastal (lagoonal) clay-silt-sands, and Holocene coastal peat layers overlain by intertidal and marine sediments. Four erosional events were identified, two of which can be traced as regionally occurring surfaces, and two occurring as localised incisions. Mapping of geomorphological features revealed potential Elsterian moraines in the UK sector, an Elsterian ice-pushed ridge in the Dutch sector and possible permafrost-related structures (probably dating to MIS3). Seven newly dated peat samples, acquired near a tidal sand ridge known as the Brown Bank from depths between 31 m and 34 m below sea level and dating to between 9.5 and 10.9 cal ka BP, indicate that this area was terrestrial during the early Holocene.

The results form the basis to further improve the regional Quaternary stratigraphic framework of the area, to better understand the region's (de)glacial history, to enhance sea-level reconstructions and to examine the area's geographical importance for human occupation during Prehistory.