



Paleolandscapes in the eastern North Sea Basin – applications for marine geo-archaeology

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The Late Quaternary geological history of Northern Europe results from a complex interplay of glacial and sea level forcing on erosion and deposition. As a key location, the North Sea experienced several rearrangements, evolving from a partly ice-covered tundra at the Last Glacial Maximum through fluvial drainage and estuarine deposition to a marine intracontinental basin at the present day. Along the coastlines of this dynamically changing landscape, prehistoric humans are likely to have lived and settled down, occupying the former Doggerland. Thus, an ancient but hidden landscape, which is of significant archaeological and geological relevance, resides below the waters of the North Sea. During recent years, novel use of geophysical data has increased our ability to map and study submerged landscapes, and on the global scale the research field of marine geo-archaeology is in rapid evolution. For the North Sea, these new possibilities have sparked intensive research at and around the former Doggerland in particularly the British, Belgian and Dutch sectors while the eastern North Sea and the Danish sector remain sparsely investigated with respect to both paleolandscape mapping and archaeological importance.

This study present preliminary results for the eastern North Sea Basin with respect to mapping of the paleolandscapes since the LGM. Important geological structures include the eastern margin of the Doggerbank, the Elbe Paleo Valley and other fluvial systems. With time, the project aims to produce a coherent mapping of the evolving paleolandscape in the eastern North Sea and constrain the areas where the paleolandscape has been preserved. Such areas could potentially represent key locations for further marine geo-archaeological studies.