



The Magilligan beach ridge plain (Northern Ireland, UK): A detailed sedimentary approach

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Beach ridges are a common geological feature on prograded sandy coasts . Beach ridges and their subsurface deposits record past coastal processes and are indicators of previous shoreline position, shape and sea level.

This work presents preliminary results and provides new information about the late Holocene development of the Magilligan Foreland in Northern Ireland (UK). The triangular beach-ridge plain of Magilligan was formed in the early and mid-Holocene as a consequence of land and sea level change and sediment abundance.

The focus of the investigations is a detailed grain size analysis of beach ridge deposits using the settling tube method. The main aim is to distinguish the beach ridge deposits from the aeolian dune sand cover and to draw conclusions about the development and sedimentary formation of the beach ridges.

A semi-continuous outcrop of the upper units of the beachridge plain is preserved along the coastline. The geological descriptions in the field show significant differences between adjacent outcrops and grain size analysis was undertaken to distinguish aeolian and swash-lain sediments. Buried soil layers and unconformities helped to define the palaeotopography which consist of a sequence of beach ridge crests and inter-ridge depressions. The beach ridges of the subsurface are independent of the modern dune topography. There are more beach ridges than previously thought.