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**THE INTERTIDAL OUTCROP OF THE UPPER CAMPANIAN BEESTON CHALK
BETWEEN SHERINGHAM AND WEST RUNTON, NORFOLK**

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ABSTRACT

For the first time a detailed description is provided of the intertidal outcrop of the middle and upper Beeston Chalk from Sheringham to West Runton including notes on anomalous features. The outcrop has been logged between modern beach groynes: these define frames that can be located with ease by other workers. The positions of mappable marker horizons are also located: these are chiefly flint bands, hardgrounds, major omission surfaces and beds where peak abundances of belemnites, echinoids and sponges are recognisable either alone or in combination. These recordings together with knowledge of the structure of the Upper Cretaceous in the county, is used to prepare a synthetic vertical section for the Beeston Chalk in this part of the Norfolk coast.



**THE POSTWICK GROVE RIVER CLIFF SECTION
AND THE STRATIGRAPHY OF THE
UPPER PARAMOUDRA CHALK**

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ABSTRACT

The fauna and river cliff section at Postwick Grove is described and its stratigraphic position re-evaluated. The Paramoudra-2 Chalk of Wood, (1988) the highest unit of the Campanian preceding the Maastrichtian, is split into two sub-units: the Paramoudra-2A Chalk and Paramoudra-2B Chalk. The facies and fauna of Postwick Grove are of exceptional biostratigraphical interest. It is recommended that it be considered for S.S.S.I. status.

**PRELIMINARY INVESTIGATION INTO MONITORING
COASTAL EROSION USING TERRESTRIAL LASER SCANNING:
CASE STUDY AT HAPPISBURGH, NORFOLK**

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ABSTRACT

The methodology and findings of the application of terrestrial laser scanning to monitor coastal erosion are discussed and put into the wider context of coastal erosion and geology. A terrestrial laser has been used in conjunction with a highly accurate differential Global Positioning System (dGPS) to orient the laser survey and obtain point data of cliff and beach surfaces. These data are captured annually to enable the modelling of cliff retreat over time. The conceptual model generated from this research on cliffs south of Happisburgh, Norfolk, are described to illustrate the value of the methodology. Rates of cliff retreat and volume loss have been calculated and an erosion model for Happisburgh has been developed.



**MIDDLE PLEISTOCENE GLACIAL AND GLACIOFLUVIAL SEDIMENTS
AT BURGH CASTLE, NORFOLK: SEDIMENTOLOGY, STRATIGRAPHY
AND IMPLICATIONS FOR NEOTECTONICS**

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ABSTRACT

Quaternary sediments in Welcome Pit near Burgh Castle, Norfolk are described and the processes that deposited and deformed the sediments are interpreted. A lithostratigraphy is proposed and the results are used to test;

1) Whether the region was glaciated by more ice sheet expansions than a single glaciation in Marine Isotope Stage 12 (MIS 12). 2) Whether there is evidence for glaciation in the early Middle Pleistocene, the period known as the Cromerian Complex. 3) Whether the region has been affected by neotectonic processes in the interval since the early Middle Pleistocene?

Sands with gravel are interpreted as part of an outwash plain formed near the southern limit of the British, Happisburgh Ice Sheet. These sediments have been overridden and deformed by the ice on several occasions during which thin till units were deposited between thinly bedded outwash sediments. The final withdrawal of the Happisburgh Ice Sheet from the area is marked by the deposition of higher energy, thicker and laterally extensive outwash sands and gravels. Subsequently the Anglian Ice Sheet (MIS 12) advanced across the area and deposited subglacial till. There are indications that the later stages of the Happisburgh Glaciation meltwater drainage may have been influenced by a NE-SW structural grain visible in the underlying Crag.