

NACTON CLIFF

Nacton Cliff shows attractive wooded **London Clay** cliffs and dramatic exposures with clearly visible structures and lithologies for about 1km along the north shore of the Orwell estuary. It is adjacent to the Nacton Shore picnic site.

The London Clay at this locality belongs to the Harwich Formation of the geological period called the Eocene and was deposited in a marine environment about 55 million years ago.

The layers of brown clay have thin yellow bands of decomposed ash deposited in the Eocene seas from erupting volcanoes in Ireland and Scotland. The lava flows from these now form the Giant's Causeway and the Isle of Staffa respectively. Some of the clay layers have been cemented by lime to form harder beds (septaria). These septaria have been used as a building material in medieval times in e.g. Orford Castle and Colchester Castle.

The beds are near horizontal with a slight dip to west and a series of normal faults dissect them at intervals. The faults cut through the clay and ash bands cleanly, but the harder mudstones are bent, thinned and shattered. Each fault downthrows the strata (up to) a metre to the east, thus creating an overall dip to the east.

Active erosion at the base by the river has produced a series of rotational slips in the London Clay. Evidence of old slips is being exposed by the river where mudstone bands emerge standing on end from the beach material.

The London Clay contains some fossils. Pieces of pyritised wood are easy to find on the foreshore and shark teeth are more rarely seen. A turtle carapace was found by a local resident some years ago.

