

Palaeolithic Archaeology Teaching Resource Box

Pleistocene Landscapes: Basic

Pleistocene Landscape Change:

The Palaeolithic landscapes of Britain have altered throughout the *Pleistocene*, in response to the related processes of glacial (cold)/interglacial (warm) climatic cycles, changing sea-levels, river system evolution, and erosion and weathering.

Sea-Level Change:

The glacial/interglacial climatic cycles of the Pleistocene resulted in cycles of sea-level fall and rise. During the severest glacial periods sea levels fell dramatically: the Atlantic coastline moved many tens of kilometres to the west of the current French coast, the English Channel was replaced with a major river (the Channel River, into which the Thames, Seine and Rhine rivers flowed as tributaries), and the southern North Sea became a dry-land area with both rivers and lakes. During the full interglacial periods the sea rose to levels approximately equal to those of the present day. However, prior to c. 500,000 years ago, a chalk ridge between Dover and Calais continued to separate the southern North Sea and the English Channel, even during the phases of highest sea-level: current evidence suggests that it is only after the *Anglian glaciation* (at c. 450,000 years ago) that this chalk ridge was breached and the southern North Sea and the English Channel were connected during high sea-level phases.

Archaeology and Landforms:

The Palaeolithic archaeology of Britain is commonly found associated with three principal parts of the landscape:

- The *river terraces* (river valley remnants) associated with the major Pleistocene river valleys of the UK: the Thames, the Bytham (a now-extinct major river which prior to the Anglian glaciation at c. 450,000 years ago used to flow eastwards across the Midlands and out through East Anglia into the North Sea), and the Solent River (a now-drowned river which during the Pleistocene drained east Dorset, southern Wiltshire and Hampshire into the English Channel).
- The *raised beaches* associated with the Pleistocene coastlines: one of the most important of these is the raised beach sequence of the Sussex coastal plain, within which lies the key Lower Palaeolithic site of Boxgrove.
- Caves, including those of the south-west (in Devon and Somerset), Wales, and north-eastern England (in Nottinghamshire and Yorkshire).

Archaeological materials are also found, although in smaller quantities, associated with:

- Pleistocene lake margins (also referred to as lacustrine deposits), in particular those of East Anglia. Examples include the lake at Hoxne, although some archaeologists have recently suggested that Lower Palaeolithic hominins may have preferred river environments rather than lakes.
- Uplands, although in many instances more recent erosion and/or weathering has removed or heavily disturbed the potential archaeological deposits of the uplands.

Landscape Changes:

It is important to remember that each glacial phase would have greatly changed the landscape of much of Britain. The thick glaciers (up to several hundred metres thick) which regularly covered the north and the midlands would have altered the shape of the land and changed the river valleys through their erosive power, and left major new deposits (of glacial moraine) behind: in some instances rivers were either destroyed (as happened to the

Bytham river during the Anglian glaciation) or moved into a new valley (as occurred to the Thames, also during the Anglian glaciation).

The Palaeolithic rivers of the Pleistocene would also have changed across each glacial/ interglacial cycle. During the cold glacial periods the rivers tended to be shallow with multiple channels (known as braided rivers) and floodplains dominated by exposed gravel bars: these gravel bars provided a useful source of stone raw materials. Within the warm interglacials however the dominant type changed to sluggish, meandering, single-channel rivers (much like many of the lowland rivers of southern Britain today), with thickly vegetated floodplains.

Terminology:

Anglian glaciation: the most substantial British glaciation of the last 500,000 years, the Anglian ice sheet extended beyond the midlands into southern Britain (see the figure below).

Pleistocene: a geological time period, lasting between c. 1.8 million years ago and c. 10,000 years ago, and characterised by cycles of cold (glacial) and warm (interglacial) periods.

Raised beaches: ancient beaches from the Pleistocene period, which have been raised above the modern sea level by the slow uplift (rising up) of the land.

River terraces: the remnant fragments of ancient river floodplains from the Pleistocene period, which are now raised above the level of the modern river and are found on valley sides.

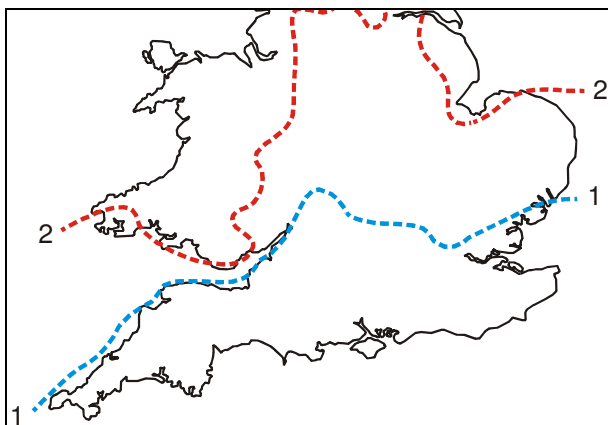
Quiz Questions:

1. How quickly could Palaeolithic hominins have crossed between continental Europe and Britain during periods of low sea-level?
2. Does the association of archaeology with rivers, raised beaches, and caves mean that Palaeolithic hominins only lived in those parts of the Pleistocene landscape?
3. Why might rivers have been more attractive environments to Lower Palaeolithic hominins than lakes?

Further Resources:

<http://www.iceage.org.uk/IA%20Environments.htm> [An overview of British Pleistocene environments and landscape changes]

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The southerly extents of two British glaciations: the Anglian (1) and the Devensian (2)



An example of a cold climate river from present-day Iceland