
2 Origins of the landscape

Suffolk is a land at the frontier of change. The land of Suffolk we see today has been intimately linked with the North Sea for many millions of years. Sea levels have risen and fallen; ice sheets have come and gone: a succession of sands, gravels, silts, clays and limestones have been left behind as evidence, capped by the thin layer of soil we stand on. The land itself is gently sinking, as part of continuing crustal readjustments after the Ice Age. The coastline of the North Sea has always been a point in time, not a fixed line on the map. Only the pace of change has varied.

Eleven thousand years ago, Suffolk was an upland on the edge of a vast plain. Most of what is now the North Sea was undulating lowland covered with lakes and rivers, and a patchwork of birch and pine thickets and herb-rich tundra. Sea levels were some 100 m (300 ft) lower than today, as water was locked up in the great ice sheets. We now call this lost landscape Doggerland, and it was home to a significant seasonal population of human hunter-gatherers; their spear points have been trawled up from the seabed by fishermen many miles out to sea. The land was crossed by herds of woolly mammoth, reindeer and wild horse, and home for birds such as dotterel, ptarmigan and snowy owl. Suffolk's meltwater rivers drained into this hinterland, their valley floors deep below the surface of today's mudflats.

Sea levels began rising about 10,000 years ago as the climate warmed up, driven by variations in the Earth's orbit round the sun. Forests began thickening and spreading; Ice Age species retreated northwards or became extinct. Doggerland was progressively submerged by the sea. By 8,500 years ago Britain had become separated from the continent, though what is now the offshore Dogger Bank survived as an island for perhaps another 1500 years.

This period between the end of the Ice and the introduction of farming is known as the Mesolithic period (Middle Stone Age), and our ancestors continued to live by hunting and gathering. Doggerland was the heartland of Mesolithic life in Western Europe. Now our ancestors' encampments lie beneath the present seabed or deep beneath Suffolk's estuaries, swallowed by the rising sea.

By 7,000 years ago the coastline of Suffolk lay some 7 km to the east of its present location, and the land was forested with oak, elm, lime and alder. Some 5,000 years ago, farmers started to clear the forests and divide up the land, marking the start of the Neolithic (New Stone Age).

The Suffolk coastline lay much closer to its present day position, and began to resemble the one we know today. Mudflats with tidal channels and creeks slowly spread inland up the lower river valleys, and shingle banks and spits were formed by tidal and long-shore processes.

Slight adjustments in relative sea levels around the North Sea since that time have caused coastal environments to fluctuate. This had big implications some 1,600 years ago, when rising sea levels in north-west Europe forced coast-dwelling groups of Anglian and Saxon tribal farmers to leave their homelands. They migrated westwards to found Anglo-Saxon England, including the Kingdom of East Anglia.

We are now entering another chapter in the story of Suffolk's evolving coastline. Global warming is predicted to raise sea levels by up to 80 cm (31") by the year 2100, and bring more and more powerful storms. Climate change will reshape Suffolk's coast, making some places uninhabitable but creating opportunities for wildlife habitat creation, as shorelines retreat and coastal marshes move inland.

Humans have a long history of adapting to the challenges of environmental change. The North Sea is a reminder to the people of coastal Suffolk that they must make plans for the future.

Figures

(Figure 5) Mammoth jaw dredged from the North Sea off the Suffolk coast. Photo courtesy Rachel Bynoe, University of Southampton Photo courtesy of the Landesmuseum Natur Und Mensch, Oldenburg, Germany -

<https://www.naturundmensch.de/>.

(Figure 6) Progressive sea-level rise in the North Sea basin, between 9600 and 6000 years BP, showing the shrinking of Doggerland and the establishment of a through-connection to the channel after about 7,000 BP. From a display panel at the Landesmuseum Natur Und Mensch at Oldenburg, Germany.



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