New evidence for complex climate change in MIS 11 from Hoxne, Suffolk, UK.

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Abstract: The climatic signal of Marine Isotope Stage (MIS) 11 is well-documented in marine and ice-sheet isotopic records and is known to comprise at least two major warm episodes with an intervening cool phase. Terrestrial records of MIS 11, though of high resolution, are often fragmentary and their chronology is poorly constrained. However, some notable exceptions include sequences from the maar lakes in France and Tenaghi Philippon in Greece. In the UK, the Hoxnian Interglacial has been considered to correlate with MIS 11. New investigations at Hoxne (Suffolk) provide an opportunity to re-evaluate the terrestrial record of MIS 11. At Hoxne, the type Hoxnian Interglacial sediments are overlain by a post-Hoxnian cold-temperate sequence. The interglacial sediments and the later temperate phase are separated by the so-called 'Arctic Bed' from which cold-climate macroscopic plant and beetle remains have been recovered. The later temperate phase was deposited during an episode of boreal woodland and is associated with the artefacts, a diverse vertebrate fauna and molluscs. New amino acid geochronological data and biostratigraphical considerations suggest that the post-Hoxnian sequence correlates with late substages of MIS 11. The paper further investigates the correlation of the sequence at Hoxne with the palynological sequences found elsewhere in Europe and adjacent offshore areas.

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