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The palaeoenvironments and fire history of the Hoxnian (MIS 11) interglacial.

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British Hoxnian lake sequences were heavily investigated in the middle of the 20th century, but have been relatively neglected since. During recent years it has become clear that the Hoxnian correlates with Marine Isotope Stage 11. Moreover, it has also become apparent that MIS 11 is a key Pleistocene interglacial, being potentially analogous to the Holocene. This makes it an important period of study in the ongoing debate regarding present and future climate change.

The current research provides new perspectives on this significant time period, setting the British Hoxnian in the context of modern Pleistocene research. Pollen and charcoal analysis are employed to as palaeoenvironmental proxies. The use of charcoal is particularly significant as this is the first pre-Holocene fire history study ever undertaken in the UK. Such fire histories are also relatively rare in Europe generally and as fire is a key ecosystem process, of considerable value. The possibility of detecting archaic human impact on forest ecosystems, through fire use (as undertaken for the Neolithic), is also considered.

Sampling was undertaken using a newly recovered core from the Hoxnian type site at Hoxne. This covers the first half of the interglacial. An additional core was taken from the Hoxnian site at Athelington, which covers the second half of the interglacial. By combining the data from the two sites, a record spanning the whole of MIS 11 has been obtained and sampled at a reasonably high resolution. In particular, the enigmatic Non Arboreal Pollen phase, a possible abrupt climate shift, has been re-analysed. In addition to the Hoxnian research, pollen and charcoal sampling has also been undertaken on cores from two other interglacial periods, MIS 13 and MIS 5e. This increases the scope of the work and provides important comparative data. The end result is a wide ranging and novel investigation of the British middle Pleistocene.