



## **Abrupt climate events in Britain and the North Atlantic during Marine Isotope Stage 11**

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The Holocene has been punctuated by numerous abrupt climatic events, whilst abrupt change may also occur in the future as ice-sheet decay interacts with ocean-circulation. It is unclear whether abrupt events are a common phenomenon in pre-Holocene interglacials and whether such events occur in association with terminal ice-sheet decay in the very early interglacial and/or in association with largescale melting of ice sheets, such as Greenland, during peak interglacial conditions. The best preserved abrupt climatic event in a pre-Holocene interglacial in western/central Europe comes from annually-laminated lake deposits of MIS 11c (routinely proposed to be the closest analogue to the current interglacial). These sequences are, however, fragmented and difficult to place into the context of the long/continuous benthic  $\delta^{18}\text{O}$  records of glacial interglacial cycles. This study presents; 1) a high-resolution record of an MIS 11c abrupt event from Britain and 2) the first high-precision correlation between European MIS11c deposits and the marine records of the North Atlantic (ODP 980) through the application of tephrochronology. Both the structure of this event and its position within the benthic  $\delta^{18}\text{O}$  stratigraphy of MIS11 implies that it is analogous to the 8.2ka event. However, the occurrence of other abrupt events later in MIS11c in Europe indicate the possibility that climatic instability occurred later in this interglacial too, possibly in association with the thermal maximum, and the ice volume minima, of this warm episode.