

Publication

A compilation of Western European terrestrial records 60-8 ka BP: towards an understanding of latitudinal climatic gradients

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Terrestrial records of past climatic conditions, such as lake sediments and speleothems, provide data of great importance for understanding environmental changes. However, unlike marine and ice core records, terrestrial palaeodata are often not available in databases or in a format that is easily accessible to the non-specialist. As a consequence, many excellent terrestrial records are unknown to the broader palaeoclimate community and are not included in compilations, comparisons, or modelling exercises. Here we present a compilation of Western European terrestrial palaeo-records covering, entirely or partially, the 60-8-ka INTIMATE time period. The compilation contains 56 natural archives, including lake records, speleothems, ice cores, and terrestrial proxies in marine records. The compilation is limited to include records of high temporal resolution and/or records that provide climate proxies or quantitative reconstructions of environmental parameters, such as temperature or precipitation, and that are of relevance and interest to a broader community. We briefly review the different types of terrestrial archives, their respective proxies, their interpretation and their application for palaeoclimatic reconstructions. We also discuss the importance of independent chronologies and the issue of record synchronization. The aim of this exercise is to provide the wider palaeo-community with a consistent compilation of high-quality terrestrial records, to facilitate model-data comparisons, and to identify key areas of interest for future investigations. We use the compilation to investigate Western European latitudinal climate gradients during the deglacial period and, despite of poorly constrained chronologies for the older records, we summarize the main results obtained from NW and SW European terrestrial records before the LGM.

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