



Impact of Climate events over the Last Glacial-Interglacial Transition

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The time period from 60-8 ka cal BP is marked by a series of abrupt climate events that became apparent from especially the Greenland Ice core records. These ice core records furthermore provided a precise and detailed chronology for the occurrence of these climate events. In the European terrestrial environment numerous studies have shown that these climate events have had an impact on the environment, ranging from geomorphological changes, changes in vegetation composition, faunal composition, and human behaviour and development. However, the recognition of the impact of the different events is strongly dependent on reliable age models for the environmental records. This requires a careful selection and analysis of existing data.

Working Group 4 of the INTIMATE COST action aims to review the nature and quality of climate reconstructions of past environmental change across the full range of European environments (Mediterranean to sub-Arctic). For this we try to enlarge the European network of researchers, stimulate data sharing and eventually synthesise thematic environmental datasets. Important aspects are to identify the impacts of abrupt and extreme change and reveal the timing, duration and thresholds of climate impact.

The first results for selected climate events show that clear gradients and thresholds exist, especially in ecotonal environmental settings. Resilience and inertia of the ecosystem and its components will determine whether thresholds are crossed or not and whether changes are so large that they could be considered as a regime shift (for example the change from tundra or steppe to forest). Environmental and particularly biotic responses will always lag the climate driver by very small to considerable amounts of time, depending on the biological traits and distributions of the organisms concerned. Therefore, we should not expect the apparent consequences of climate-driven changes to be synchronous across the European continent. We aim to identify sensitive areas for study from where we will obtain the most useful information about the impacts of climate changes.