



High latitude temperature changes across the Last Interglacial period: sequences of events and causes

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Studying the climatic evolution of the Last Interglacial (LIG, 129-116 thousand of years, ka), a time-period warmer than today, provides insights on how current natural changes may interact with those originating from anthropogenic influences. In the framework of the UK iGlass consortium and the European Past4Future projects, we have produced a new synthesis of the spatial climatic patterns over polar ice sheets (surface air temperature) and around the ice margins (sea and air surface temperatures) on a coherent chronostratigraphic framework.

First, our work provides robust evidence for a spatial variability in LIG temperature change and in particular, a late climate optimum observed at high northern latitudes compared to the high southern hemisphere latitudes during the LIG. Second, with a detailed comparison with other climate and environmental variables (i.e. orbital parameters, greenhouse gas concentrations, sea level), we determine the most probable sequence of climatic events across the LIG. Finally, we investigate the causes of hemispheric differences in the pattern of the climate response, in particular, the role of changes in the strength of the Atlantic Meridional Overturning Circulation.