



Atmospheric Circulation Weather Types during the LGM over Europe

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The Last Glacial Maximum (LGM), 21000 years ago, and the present-day climates are different in many ways, for instance, in the dominating wind regimes during both times. Based on the classification scheme following Jones et al. (1993) we analyse the circulation weather types (CWT) for the LGM on the basis of the PMIP3 (Paleoclimate Model Intercomparison Project Phase 3) GCM simulations and compare them with the present-day CWTs. The latter are estimated from the model outputs of the same GCMs run under the PMIP3-'historical' conditions.

Furthermore, we compare our results to those derived by using the NCEP/NCAR Reanalysis data. The CWT classification uses sea level pressure differences between grid points around a chosen location. In this study, we investigate the distribution of wind regimes at four different locations across Europe. The CWT method allows the grouping of atmospheric flows into wind classes, such as regimes of directional wind flow (north, northeast, east etc.) and two cyclonic categories.

Our results show differences in the prevailing wind regimes between the LGM and present-day climates. Locations close to the Atlantic are dominated by westerly flows, both during the LGM and the present-day, whereas in central Germany a shift from a dominating easterly flow during the LGM to a dominating westerly flow at the present-day is identified.