



Representation and Predictability of European Blocking Frequency in the MiKlip Decadal Prediction System

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Atmospheric blocking plays a crucial role in climate variability in the mid-latitudes. Especially meteorological extremes like heat waves, cold spells and droughts are often related to persistent and stationary blocking events. Therefore, the representation of such blocking events in climate models is an important factor for decadal climate predictions.

In this study we investigate the frequency as well as the location of atmospheric blocking in the Atlantic-European sector for different model versions of the MiKlip decadal prediction system. We apply modified versions of commonly used 2-dimensional blocking indices based on daily fields of 500hPa geopotential heights. Seasonal and annual blocking frequencies considering the location as well as the spatial distribution of blocking situations are detected and quantified for various sets of ensemble hindcasts in the MiKlip System. Besides the direct comparison of model versions including differences in initial condition as well as spatial resolution, we assess the forecast skill for different lead-times and regions based on Era-Interim reanalyses.