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Intercomparison study of the North Atlantic storm tracks during the Last Glacial Maximum for different PMIP2 models.

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Mid-latitude storm tracks constitute a fundamental component of the climate system through their role in advecting heat and moisture polewards. Their fronts are also responsible for most of the winter precipitation in the mid-latitudes, especially for Western Europe.

In order to assess the behaviour of state-of-the-art coupled Ocean-Atmosphere general circulation models (OAGCM) in different climates, we analyse the behaviour of the North Atlantic storm tracks under glacial conditions for different models involved in the second phase of the Paleoclimate Modelling Intercomparison Project (PMIP2), for which common boundary conditions of the Last Glacial Maximum have been used. The North Atlantic storm tracks activity strengthens for all models due to a higher baroclinicity associated with a stronger meridional temperature gradient, well constrained by the imposed ice sheets. The differences between models are also analysed and related to the state of the North Atlantic Ocean through sea surface temperature and sea ice differences.