



Drivers of the multidecadal NAO variability: status and prospects

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The North Atlantic Oscillation (NAO) is an intrinsic mode of atmospheric variability which has a major effect on winter climate variability around the North Atlantic basin. Whereas the fundamental dynamics of the NAO are relatively well understood, it remains a challenge to explain recent variations in the NAO and to predict its future evolution. This is a crucial issue not only because anthropogenic climate change can project onto the NAO, but also because internal variability from the NAO is still as important as the human influence for predicting the European climate at decadal to multidecadal timescales. Here we provide a brief overview of the main potential drivers of the multidecadal NAO variability and propose an original experiment design to quantify the role of internal versus external drivers over the 1920-2014 period. While the results are based on a single AGCM and should be considered with caution given uncertainties in the model response and in the breakdown of the observed SST variations into internal versus externally-forced components, they suggest that the recent emphasis on the Arctic warming and on polar-midlatitude linkages should not lead us to underestimate the key role of tropical-extratropical teleconnections for understanding and predicting the interannual to multi-decadal NAO variability.