



Seasonal Forecasting of the North Atlantic Oscillation using an International Multi-Model Ensemble

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Multi-model forecasts have been shown to improve skill over individual model forecasts. We present an assessment of seasonal forecasting of the North Atlantic Oscillation (NAO) using a large set of ensembles from four North American Multi-Model Ensemble (NMME) models and three EUROSIP models. The 96 ensembles in total provide a detailed account of the uncertainty of forecasting December-January-February (DJF) NAO using initial conditions of December 1st, November 1st and October 1st. The large-scale environmental conditions of sea-surface temperature, geopotential height at 500 hPa, zonal wind at 200 hPa and mean sea-level pressure are investigated to determine the sources of predictability. In addition, case studies of good multi-model forecasts and poor multi-model forecast are shown for individual winters. Lastly, we use a monte-carlo analysis to investigate how many models are required and which combination of models provides the best NAO forecast.