



Forecasting North Atlantic Decadal Climate Variability

N. Keenlyside (1), M. Latif (1), J. Jungclaus (2), L. Kornblueh (2), and Erich Roeckner (2)

(1) Leibniz Institute of Marine Sciences; (2) Max Planck Institute for Meteorology

North Atlantic climate exhibits pronounced decadal fluctuations that are of large societal importance. It has been argued, based primarily on results from coupled general circulation models (CGCM), that these variations involve the Atlantic meridional overturning circulation and are potential predictable out to a decade or more in advance. However, no success has been made at predicting the observed changes.

Here we present the first decadal hindcasts (retrospective forecasts) for the North Atlantic. The hindcasts are performed with the IPCC version of the MPI-OM/ECHAM5 climate model. Initial conditions are generated over the period 1950 to 2005 using only SST observations. Ten year long ensemble forecast are carried out every five years from 1960 till 2000. Significant skill is demonstrated in predicting decadal North Atlantic climate variations.