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Intercomparison of North Atlantic decadal variability in the CMIP3 coupled model database

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Several mechanisms have been pointed out as possible sources of decadal variability in the North Atlantic ocean. This work attempts to gain further insight into the characteristics of these mechanisms by examining the properties of the North Atlantic decadal variability found in the control simulations available at the CMIP3 coupled model database.

Multi-channel Singular Spectrum Analysis of the annual anomalies of sea surface temperature in the North Atlantic basin, as well as lagged regression analysis, are used to extract the features of decadal variations in the different simulations and to identify their underlying mechanisms. Differences and similarities among the simulations are considered and explanations for them sought in the different model characteristics and simulation's mean states.