



**Supplementary Figure 1:** Lead/lag-correlations between the bandpass filtered (December, January, February) NAO (PC1) and SSN time series. For the HadSLP2 dataset and the ensemble mean over the MPI-ESM-HR historical simulations (top row) and the individual MPI-ESM-HR historical runs (rows 2 to 6). Green dots mark statistically significant (95%) correlations.