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## Recent weakening in the winter ENSO teleconnection over the North Atlantic-European region

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New observational evidence for variability of the atmospheric response to wintertime El Niño-Southern Oscillation (ENSO) is found. A weakening in the recent ENSO teleconnection over the North Atlantic-European (NAE) region is demonstrated by using various methods (e.g. composite analysis, running correlation, regression maps) applied onto different observational datasets and reanalyses (HadSLP, NOAA 20th Century reanalysis). Changes in both the spatial pattern and strength of the ENSO teleconnection indicate a turning point in the 1970s, with a shift from a response resembling the North Atlantic Oscillation (NAO) in late winter to an anomaly pattern with very weak or statistically non-significant values; and to nearly non-existent teleconnection in the most recent decades. Weakening of the ENSO signal is found at the surface (sea level pressure), but also at higher levels for different variables (geopotential height, temperature, zonal wind). To offer a possible reason behind the observed change, we have investigated the potential role of sea-ice and SST climatology in modulating the ENSO-NAE teleconnection. Sensitivity experiments made with a GCM of intermediate complexity (ICTP AGCM) using different combinations of sea-ice and sea surface temperature (SST) climatology conditions enabled the investigation of their respective roles. As indicated by the targeted simulations, recent change in the SST climatology in the Atlantic and Arctic has contributed to the weakening of the ENSO effect. Results highlight the importance of the background SST state and sea-ice climatology having opposite effects in modulating the ENSO-NAE teleconnection over the area of interest. The findings of this study could further our understanding of modulations of ENSO teleconnections and the role of ENSO as a source of predictability in the NAE sector.