

Influence of the Tropical Atlantic on the North Atlantic-ENSO Teleconnection

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The El Niño Southern Oscillation (ENSO) teleconnections have emerged as one of the dominant factors for seasonal predictions over the North Atlantic, however, there are multiple pathways through which this influence can reach the North Atlantic. Teleconnections from ENSO have been shown to travel through the North Pacific, through both the stratosphere and troposphere, before reaching the North Atlantic, but further research is needed to fully understand the pathway through the tropical Atlantic. We analyze a potential tropical Atlantic pathway through the use of an empirical orthogonal function (EOF) analysis, as well as through regression maps between the EOF and 500 geopotential height, lapse rate, 2-m temperatures, and wind. The focus is on regressing the dominant EOF for early boreal spring (FMA) to boreal summer (JJA) on a range of climatic factors, as past studies have shown ENSO to influence the tropical Atlantic to the highest degree during this period. Initial results from regression maps indicate that there may be a statistically significant influence from the tropical Atlantic, influencing both the boreal spring and summer over Europe.