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THE EXTRATROPICAL ASIAN-BERING-NORTH AMERICAN TELECONNECTION AND ITS CLIMATE IMPACTS

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The impact of the tropical sea surface temperature (SST) anomaly, in particular the El Niño - Southern Oscillation (ENSO) variability, on North American climate has been extensively investigated. For example, the well-recognized Pacific-North American (PNA) pattern, one of the most prominent teleconnections in the Northern Hemisphere mid-latitudes that impacts North American climate, is found to be influenced by ENSO variability. Understanding the tropical SST variability provides important implications for North American climate prediction. On the other hand, recent studies have also indicated that North American climate is closely correlated with adjacent atmospheric and oceanic anomalies that are not directly attributable to ENSO. Among those, we proposed an extratropical Asian-Bering-North American (ABNA) teleconnection that is closely associated with North American temperatures and temperature extremes. This presentation will review the seasonality, maintenance, and climate impact of the ABNA pattern. The modulation of the PNA pattern impact on North American climate by the ABNA teleconnection will also be presented.

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