

Global teleconnection mechanism of climate and ocean variables on seasonal precipitation

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ABSTRACT:

Teleconnection relationships between seasonal precipitation and climate variables are of value to predict seasonal precipitation. But noises and uncertainties of climate system may lead to unavailable teleconnections, it is crucial to reveal the physical mechanism of possible teleconnection associations to validate their availabilities and provide a reliable basis for seasonal precipitation forecast. In the study, correlation analysis is used to detect the possible teleconnections globally between precipitation and different climate and ocean variables like sea surface temperature (SST) and sea level pressure (SLP). Transition and transport of water vapor and energy by analyzing variations of SST, SLP, vertical wind velocity, humidity and energy will be revealed to find the teleconnection mechanism.

KEYWORDS: Teleconnection; physical mechanism; seasonal precipitation

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