

Rapid seasonal migration of the heavy precipitation region in the Southeast Asia and its relation to the Madden-Julian Oscillation

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It is known that the region of a large variance of the intraseasonal component of precipitation migrates from the Indian Ocean to the western Pacific in late November. The reliable prediction and the understanding of this rapid migration in the intraseasonal time scale are not only useful for managing water resources in the Southeast Asia but also important to prevent disasters due to strong convective activity and heavy precipitation. The ensemble hindcasts using a high-resolution atmospheric model are performed to investigate this rapid migration in late November 2012. It is found that the seasonal change of sea surface temperature in the maritime continents is an important reason for the southeastward shift of the precipitation region. This change also appears to increase the change of the consistent eastward movement of the convective activity of the Madden-Julian Oscillation (MJO). The observation campaign named as Year of the Maritime Continent, which is starting this year, is expected to be helpful for improving our understanding between the seasonal shift and the MJO.

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