The ENSO effect on summertime submonthly wave patterns in the western North Pacific

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This study examines the ENSO effect on the 5-16 day wave patterns by separating them into EN (ENSO) and LN (La Nina) years on the basis of the 4-month (July-October) sea surface temperature anomalies from 1979 to 2013. Composite results indicate that tropical cyclone (TC) tracks are closely linked to the activity of the wave patterns. When the activity of the wave patterns was strong in the EN years, TCs would follow the propagation routes of the cyclonic anomalies of the wave patterns and separated into two types of tracks: straight-moving and recurving. However, in the LN years when the structure of the wave patterns was weak and poorly organized, the cyclonic anomalies became irregular and vague. The weakening structure of the wave patterns in the LN years would induce the TCs to undergo more scattered routes near Taiwan. Therefore, there existed more rainfall in Taiwan for the LN years.

Keywords: ENSO, submonthly wave patterns, tropical cyclones

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