

Circulation of tropical cyclones moving westward over the Indochina

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Using JRA25 and the best track data of JMA, westward moving tropical cyclones over the Indochina are investigated. We focused on their characteristics and attenuation mechanisms after landing.

Relative vorticity calculated from JRA25 shows that some westward moving tropical cyclones over the Indochina have significantly small attenuation comparing with other similar tropical cyclones over the Indochina. These weakly attenuated cyclones accompany broad cyclonic circulation around them.

To study reasons of weak attenuation, we pick up 4 cyclones: two in August and two in October, and one weakly and one normally attenuated cyclones in each month. In the case of USAGI in August, which is a weakly attenuated, moved into water vapour rich area of northern Indochina in addition to the accompanying large amount of water vapour flux. In the case of weakly attenuated LOLA in October, large amount of water vapour flux exists in the middle of the Indochina and, at the same time, water vapor is supplied from the Gulf of Thailand. Normally attenuated cyclones both in August and October do not show these characteristics.