



A Primary Study on Influence of Qinghai-Xizang Plateau Monsoon to East Asia Monsoon

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Abstract

Large amplitude stationary Rossby wave trains with wavelength which emerges from North Africa to East Asia along the west jet in the middle latitude areas. It has been identified in the mid-upper troposphere during summer based on the correlation analysis between Dynamic Plateau Monsoon Index (DPMI) and zonal velocity at 500-200hPa. The Qinghai-Xizang Plateau monsoon would influence the East Asia monsoon by general circulation indirectly.

It is show that an enhanced anticyclone is located in the area of the central and eastern Pacific in composite maps of four relatively strong summer DPMI years. The west Pacific subtropical high located westward and made the equatorial westerly and the cross-equatorial flow weaken. The South China Sea summer monsoon is weaker than normal. The south wind enhances over the south of Yangtze River and South China areas. The anomalous southwesterly flow in the northwest side of the west Pacific subtropical high dominates over the Yangtze River Valley. It is propitious to maintain the rain-belt and bring more rainfall there. A muffled anticyclone is located in the area of the central and eastern Pacific contrarily in composite maps of four relatively weak summer DPMI years contrastively. The west Pacific subtropical high moved eastward and makes the equatorial westerly and the cross-equatorial flow strengthen. The South China Sea summer monsoon is stronger than normal. The south wind enhances over the north of Yellow River and Northeast China areas. The anomalous southwesterly flow in the northwest side of the west Pacific subtropical high dominates over the Huang-Huai Valley. It is propitious to maintain rain-belt and bring more rainfall there.

Key words: Qinghai-Xizang Plateau Monsoon; East Asia Monsoon; General circulation

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