

Atmospheric heating over sub-Himalayan regions during active and break phases of summer monsoon

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ABSTRACT:

The distribution of summer monsoon rainfall over South Asian region is strongly affected by the break and active events of the southwest monsoon. These events are studied through the analyses of the distributions of sea level pressure and heating for July 1988. The break and active epochs of the Indian monsoon are determined through the analysis with Hovemoller diagram of the sea level pressure. During the break in Indian monsoon, the primary and secondary regions of heating occur over the Himalayan region and the Equatorial Indian Ocean, respectively. During the active period, these regions are centered over a relatively large domain of the Central India. The heating in the monsoon region during both periods is concentrated in the middle and the upper layers. The vertical distribution of heating is more sensitive to the change of the monsoon phase over sub-Himalayan region than Central India and Tibetan Plateau.