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Are intraseasonal summer rainfall events micro monsoon-onsets over the western edge of the South-Asian monsoon?

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A thermodynamic structure leading the active phase (AP) of the Western Edge of the South-Asian Monsoon (WESAM) is investigated. The APs seems to have significant contribution in the mean seasonal rainfall in the region. A few days before APs, the upper level warm anomaly appears over the north HinduKush-Himalaya (HKH) region and it is reinforced by surface heating yielding the column average warming. The height anomalies are baroclinic with the low level anticyclone being located at the east of warming. The low level anticyclone causes the moisture convergence at the core WESAM region. As the region keeps warming, the height anomalies and associated low level convergence become stronger. The AP starts when the low level moisture convergence is strong enough to overcome the preexisting stable atmospheric condition due to the upper level warming. The proposed mechanism of APs has some resemblance with large scale south Asian monsoon onset, whereas conventional south Asian monsoon intraseasonal oscillations (ISOs) do not show clear relationship with APs of WESAM.