



Interannual Variability of Summer Surface Air Temperature over Central India: Implications for Monsoon Onset

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Year-to-year variability of surface air temperature (SAT) over central India is most pronounced in June. Climatologically over central India, SAT peaks in May, and the transition from the hot pre-monsoon to cooler monsoon season takes place around June 9 associated with the northeastward propagation of intraseasonal convective anomalies from the western equatorial Indian Ocean. Positive (negative) SAT anomalies of June correspond to a delayed (early) Indian summer monsoon onset and tend to occur during post-El Niño summers. On the interannual timescale, positive SAT anomalies of June over central India are associated with positive SST anomalies over both the equatorial eastern-central Pacific and Indian oceans representing El Niño effects in developing and decay years, respectively. Although El Niño peaks in winter, the correlations between winter El Niño and Indian SAT peak in the subsequent June, representing a post-El Niño summer capacitor effect associated with positive SST anomalies over the North Indian Ocean. These results have important implications for the prediction of Indian summer climate including both SAT and summer monsoon onset over central India.