CHANGES IN THE SPACE-TIME CHARACTERISTICS OF MONSOON INTRASEASONAL OSCILLATIONS DURING FLOOD AND DROUGHT YEARS

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Abstract

Indian summer monsoon (ISM) undergoes variability on various temporal scales, of which intraseasonal and interannual variabilities are of prime importance. Intraseasonal oscillations (ISOs), that arise from the feedback of convection, radiation and fluctuations in large scale mean flow (which form the internal dynamics part), interacts with the mean flow and modulates it, thus limiting the predictability of mean flow itself, which is manifested as drought and flood years[1,2,3]. This particular study attempts to unveil the differences in the space-time characteristics exhibited by the ISOs during the extreme phases of monsoon interannual variability (IAV). Based on a sufficiently long period of observational data (57 years), we show that large scale dynamics play an important role in modulating this disparity in behaviour. The results have significant implications in the improvement of seasonal as well as intraseasonal prediction of ISM.

Keywords: Indian summer monsoon; Intraseasonal oscillation; Interannual variability

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