



Characteristics, Patterns and Synchronization of monsoonal precipitation over India

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We employ the methods of nonlinear time series analysis on a high resolution daily rainfall gridded data set from 1951 to 2004 for India to understand varied features and mechanisms of monsoonal precipitation over India. Based on measures like lagged cross-correlation, mutual information and interdependence we use a clustering algorithm to find regions having homogeneous variability of monsoonal precipitation. We further show that major rainfall events occurring in some of these regions in north India are lag synchronised with rainfall received in coastal regions and hence establishing that precipitation received in two distinct regions are coupled and interdependent.