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The evolving complexity in monsoonal precipitation over South Asia

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We present analysis of two different high resolution daily rainfall gridded data set for south Asia, first one extending from 1951 to 2007 and second from 1961 to 2004. We try to understand varying features and mechanisms of monsoonal precipitation over south Asia. Using the method of quantile regression we estimate trends in the inter-seasonal oscillations (ISO) of monsoonal precipitation and also in the daily precipitation over the time period concerned in the data sets. Further using methods from nonlinear time series like recurrence quantification analysis we try to understand the new emergent dynamics of ISO in the warming atmosphere. We also show that the complexity of individual rainfall events has changed over the last decades and how this change has manifested into droughts and rare rainfall events.