Supplementary Information for "Recent spatial aggregation tendency of rainfall extremes over India"

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**Supplementary Fig. 1.** An example of the extreme rainfall event that occurred on 22 July 2014, covers seven $1^\circ \times 1^\circ$ grids. In this study, it is identified as a single event of the size 7 (shown in the inset box) rather than 7 different events by the method used in the past studies. This event contributed 7 and 1 to $N_T$ and $N_E$, respectively.
Supplementary Fig. 2. Time series of a. the total number of $1^\circ \times 1^\circ$ grids with extreme rainfall ($N_T$), the number of extreme rainfall events ($N_E$), and their b. average size ($\bar{S}$) over Central India. The smoothened curves on the time series plots represent 11-year moving averages. Asterisks(*) indicate the increasing trends are significant at the 99% confidence level using the Mann-Kendall test.
Supplementary Fig. 3. The contribution by fractional changes in the average size ($\frac{dS}{S}$) and the count ($\frac{dNE}{NE}$) to the total number of $1^\circ \times 1^\circ$ grids with extreme rainfall ($\frac{dNT}{NT}$) for different sets ($m$) of years (Sets: 1951-1964, 1964-1977, 1977-1990, 1990-2003, 2003-2015). $\nabla_{(m+1- m)}$ indicates fractional changes calculated from consecutive sets ($m + 1, m$) (See method section for details).
Supplementary Fig. 4. Normalized size distribution of extreme rainfall events during the pre-84 (1952-1983) and post-83 (1984-2015) periods.
Supplementary Fig. 5. Spatial distribution of a. medium and b. small extreme rainfall events
Supplementary Fig. 6. Time series of small, medium and large extreme rainfall events. Asterisks(*) indicate the increasing trends are significant at the 95% confidence level using the Mann-Kendall test.
Supplementary Fig. 7. a. Climatology of daily rainfall during the Indian summer monsoon b. 99.5th percentile threshold. Both are obtained using JJAS rainfall data for the period 1951-2015.
Supplementary Fig. 8. Same as Supplementary Fig. 2. but for a fixed threshod of 100 mm day$^{-1}$. 
Supplementary Fig. 9. Same as Supplementary Fig. 2. but for a fixed threshold of 120 mm day$^{-1}$. 
Supplementary Fig. 10. Time series of $N_T$ using the GPCP 1DD v1.2 dataset and the IMD dataset.
Supplementary Fig. 11. The relative locations of Small, medium and large EREs relative to the Monsoon depression.