Breakdown Coefficients' Statistics of Indian Monsoon Precipitation: Considerations of Scaling and Stationarity

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The statistics of breakdown coefficients are relevant for various properties of the generators (kernels) of stochastic cascade processes, as well as their tracers. The present work uses 50 years of gridded daily rainfall data from the Indian land region during the summer monsoon season, to study the scale behavior and underlying kernel stationarity of the rainfall process. Results on the variability of the estimated marginal probability distribution functions of rainfall intensity breakdown coefficients are used, across scales to validate scale invariance, and along the time axis to evaluate stationarity.