



Towards a Rainfall Zonation Model via Generalized Multifractal Dimensions Estimated from high resolution rainfall Time Series. Case of Study: Bogotá City (Colombia)

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Spatial distribution of point precipitation quantities on Bogotá City (Colombia) was analyzed by application of generalized dimensions obtained by using multifractal spectra over high resolution time series. Proper maps are obtained via interpolation of both the support dimension and the entropy dimension aimed at describing spatial precipitation of homogeneous regions. The study employ 5 years of hourly rainfall data (period between 1995 – 1999 years), corresponding to 24 rain-gauges over the region. In order to emphasize this approach, the obtained zones via these dimensions are compared with the one based on a precipitation Index defined by Cortéz (1995) and obtained employing IDF conventional curves. Result suggest that indeed nonlinear statistical qualifiers such as generalized 1-D mutlifractal spectrum might be employed to develop nonlinear tools for rainfall zonation.