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Multifractal analysis of recent precipitation projections in the context of climate change

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Despite efforts to obtain consistent results, the prediction of patterns in the behavior of geophysical fields still faces many uncertainties. However, these analyses are important for studying the effects of human action on the environment and the effects reflected in climate change. There is much evidence that Multifractals are capable of describing intermittent behavior and statistical data of all orders and over a wide range of scales. Therefore, this work consists of using the multifractal framework to analyze recent precipitation projection data in France, verifying the evolution of its parameters over a relatively long period of time (from 1951 to 2100) and over space, using 12 points on French territory with a resolution of 2.8º x 2.8º. For this, the Double Trace Moment technique was applied to determine the mean intermittency codimensions, the multifractality indexes and the maximum probability singularities. These results were compared to the article by **J.-F. Royer et al., C. R. Geoscience 340 (2008)** to verify if projections remained consistent with changes in data and economic scenarios. Despite the differences found in the range of parameter values and scaling behavior, recent data also indicated an increase in intermittency over time and presented spatial behavior similar to old projections, which reinforces the expectation of an increase in precipitation extremes in the coming decades.