



Multifractal analysis of soil loss measurements

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One of the worst problems of soil erosion control is the lack of proper information on the magnitude of the phenomenon. There are many available soil loss data recorded in plots of several sizes on different soils, climates, and management systems, showing a large range of variation. It has been suggested that the main cause of variation of the soil loss data is the different sediment particles displacement lengths. These different scales induce to consider soil loss as a multifractal phenomenon.

A preliminary analysis of some published soil loss data has been made by using the probability distribution function method. The results show the multifractal nature of the soil loss process. The possible causes of this behaviour, such as the catchment size, particle diameter and rainfall intensity, are analysed within the multifractal framework.