Indices of Precipitation Extremes in Southern Portugal – a geostatistical approach.

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Most studies and previews of future rainfall patterns, based on past observed records for Mediterranean climate areas, point to a decline of the rainfall amounts throughout the year, and to an increase of the frequency of heavy/intense rainfall events particularly in the winter season. These changes in heavy rainfall events may have severe implications and impacts on soil erosion and the respective associated soil degradation's risks.

The focus of the present paper is to evaluate the spatial distribution of extreme precipitation events in Southern Portugal, using a geostatistical approach to assess the relationships between spatial and temporal extreme rainfall patterns.

The dataset used in this work comprises a set of 105 station records of daily precipitation observations within the period 1960-2000. Two indices of extreme precipitation were selected - one representing extremely heavy precipitation events and the other one representing flood events. For each one, yearly trends and decadal space-time patterns were also evaluated.
The preliminary results of the geostatistical analysis although showing no significant temporal trends in the regional extreme indices it indicates that the spatial patterns are more continuous in the last two decades than the previous ones.

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