

Analysis and Modeling of the drought by the use of the max stable processes in the north-east of Algeria

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The main aims of this paper is to study of the extreme rainfall events which manifestly exhibit a spatial dependence, we present a spatial modelisation of the extremes rainfall by a max stable processes, this study is an application in some bassins in the north-east of Algeria, we justificate the best model by some indicateur statistics as bias and rmse.

Next, we investigate the proposed model to evaluate their ability to predict drought and the quantitative value of drought indices, the standardized precipitation index (SPI), and the standardized precipitation evapotranspiration index (SPEI). The SPI/SPEI values may contain a one/three/six-month dry and a one/three/six-month wet period in short-term periods, and this causes instability. For this reason, 4 models for SPI/SPEI (12 months) were trained and tested by these methods, respectively.

Keys Words: Max stable process, extreme event, Drought, SPI, SPEI.
