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Long term analyses of the Tirana's extreme daily precipitation

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Urban flooding in Albanian are mostly consequence of extreme daily precipitation that very often causes a huge economical and social impact. Events of extreme daily precipitation, mainly their frequency and severity play an important role and also control the long-term variation of the seasonal and annual precipitation amounts. To have a long term trend of the phenomenon and to point out the variation of some important precipitation indices, a multi annual analyses of this phenomenon is needed. There are many methods to classify a daily precipitation event as an extreme phenomenon but, it would be more objective to analyze the longest possible data series of the daily precipitation, for a given area. A good method may be the estimation of an extreme precipitation threshold or building the sub-series of the annual maximum 1-day precipitation and the monthly maximum 1-day precipitation for the longest possible period of the area of the interest. In this study, analyses of the annual total precipitation (PRCPTOT); annual maximum of 1-day precipitation (Rx1-Y) and the monthly maximum of 1-day precipitation (Rx1-M) were done for Tirana, the capital city of Albania. Analyses cover a period of 72-years and the results present some important indicators of the extreme precipitation in Tirana regarding their multi annual behavior. These indicators may be used as objective tools to develop new strategies on flood risk reducing of many similar urban areas in Albania.

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