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Three decades of heat waves and extreme precipitation in Albania

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A few change in the global mean temperature and noticeable changes were observed in some elements of the climate around the world. One of the most popular derivatives of the global warming is the increase of the frequency of extreme weather phenomena. The most popular extreme weather events observed in the Albanian territory during the last three decades are the days of high precipitation intensity and the summer heat waves events. Very often, each one of the phenomenon and/or one after another, have caused a significant impact in the economy and life activity of the Albanian society. With the aim to better manage the negative impact any time the extreme weather events happen and to minimize the losses, a better knowledge of each phenomenon is needed. More concrete, during the three last decades there are signals of an increasing tendency of the extreme weather in general and to have a clear trend of both the phenomena, a long-term analyses should be performed for both of them. To determine a phenomenon as an extreme weather event, different authors have used many methods. A good method may be the estimation of some important indicators as the trend and the frequency in long-term periods of the heat waves and daily intense precipitation. For this reason, this study is based on the estimation and analyses of some extreme indices of heat waves as the HWF, HWD, HWS, HWI and HWP while for the extreme daily rainfall, estimated and analyzed indices are the SDII, CWD, PRCPTOT, RX1day, R100mm and R150mm during the last 30 yrs period. Daily data of both air temperatures and precipitation were used to estimate the above indices and their analysis reveal some useful information that may be used as an important tool to improve the strategies of risk reduction of the flooding and heat waves in the urban areas.

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