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كل الحقوق محفوظة للمدرسة الوطنية العليا للري.

Abstract: Extreme hydrological events, such as floods and droughts, are some of the natural disasters that occur in several parts of the world. They are regarded as being the most costly natural risks in terms of the disastrous consequences in human lives and in property damages. The main objective of the present study is to estimate flood events in Cheliff watershed in giving return periods at the gauged stations, which is located in a semiarid region in the northwest of Algeria. The choice of this area is due to the significant floods observed in this watershed, which are occurring mainly from 1960 and 2006. A study is carried out to know the temporal variability and the place occupied by peak flows for both annual and monthly levels, which can finally determine the peak output of flood. We will try to understand the evolution of average and extreme flows according to rainfalls that are temporally associated with them. Frequency analysis is performed on different series of observed annual and monthly average discharges, including classical statistical tools as well as recent techniques. The obtained results show that the annual maximum approach is more appropriate in this case. This study also indicates the importance of continuous data monitoring in these stations.

Key words: Algeria ; Annual maximum ; Cheliff watershed ; Floods ; Peak flows

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