



Drought occurrence analysis in Tunisia

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Drought is a terrible scourge for the Tunisian economy based mainly on rainfed agricultural production. The analysis of the recurrence and the persistence of this phenomenon by scientific methods seeks to establish a probability estimate which could contribute to the planning of strategies for the mobilization and management of water resources. This paper aims on the analysis of the occurrence and the persistence of the meteorological drought in Tunisia by Markov chain. It is based on monthly data for 115 years from 24 rainfall stations distributed over the Tunisian territory.

The study showed that drought is a frequent phenomenon recurring every two years or even three years or more. The probability of having two consecutive dry years is greater in the western regions (the Northwest, the Center-West, and the Southwest). These regions are known for their agricultural production and their economic contribution. The application of the standardized precipitation index showed that the Tunisian climate is often frequented by mild to moderate weather droughts. These results contribute to the establishment of a strategy to combat drought.