

Impact of the pluviometric change on the water resources of five basins of the North-West of ALGERIA

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Abstract

The objective of this study is to show and to compare the impact of the climatic variability on water resources in the basins of Macta and Tafna. The pluviometric index shows a great spatiotemporal variability from one decade to another (1950/50 a surplus of 14,5 % at the station of Sidi Ali Ben youb, Sidi Bel Abbes), the decade 1980-1990 was characterized by a pluviometric deficit on the whole of the studied zone and this phenomenon persisted during the 1990s. The long pluviometric deficit caused important fall of the inflow at the whole of the stations which varies between 50 and 60 % (1970/ 1980).

Moreover, the interannual fluctuation of the rain and the flows is accompanied by a break in the stationarity of their series, the test of Pettit and of Lee Heghinian reveals a change in the evolution of the rainfall between 1970 and 1980 for all stations practically. The flows show change in its regime in 1979/1980 for Beni Bandel and Chouly, and in 1975/1976 for the basins of Bouhanifia, Sidi Bel Abbes and Sidi Ali Benyoub. This study of abrupt modification of statistical parameters of the flows series is similar to the rainfalls series, that is to say, from the Seventy the flows volumes have not ceased regressing. This fact affects negatively the surface water potentialities and the dam's filling, which constitute the most widespread means to satisfy the need in water.

Key words : climatic variability, water resources, Macta, Tafna, West of Algeria