

Abstract:

Rainfall variability of Northern Algeria was analyzed over nine synoptic stations of the National office of meteorology during the period 1950–2017. Statistical tests of Mann-Kendall and Pettitt were applied to detect a significant trend and break over monthly and annual rainfall series. Stations located at the West side of the study area showed a significant decrease of annual rainfall during December, April and May while September and November recorded an increase of rainfall over the study period. Atmospheric circulation patterns affect the rainfall variability, that is why six climate indices were correlated to mean rainfall using spearman coefficient correlation. Annual rainfall series characterized by long period of drought are significantly correlated with El Nino southern oscillation (ENSO) and East Atlantic oscillation (EA). At the seasonal scale, East Atlantic oscillation and Mediterranean oscillation (MO) are the most dominant circulation modes, particularly during wet seasons.