



Trends of the Rainfall in North Libya over period of (1960-2009)

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Abstract:

This paper investigates temporal and spatial variability of rainfall trends over north of Libya (coastal Mediterranean area) in the period of (1960-2009).

This study is based on complete and homogeneous set of time series of Monthly total rainfall and rainy days number, which is their daily amount equal or greater than 0.1 mm, for nine meteorological stations.

During the analyzing annual totals rainfall have experienced a downward trend in western coast places in general, while there is a significant decreasing rate of trend in Tripolitania region reaches to about 24mm/decade (120mm/period). On the other hand eastern coast places have experienced remarkable downward trend as well, where is (about 17mm/decade) in Shahat (about 800 m. elevation) meanwhile in Tubruk (far eastern coast) the downward trend is more significant (about 19mm/decade) means (95mm/period) except Derna (located in between distance of Shahat and Tubruk) which has experienced upward trend (about 3mm/decade).

In the contrast middle coastal places (Sirt Gulf region) entirely have experienced upward trend of annual total rainfall (about 0.81, 2.0, and 0.85mm/decade) in Misurata, Sirt and Agdabia respectively, Decreasing of annual rainfall spatially is more pronounced.

At the seasonal scale negative tendency of the rainfall more obvious in spring than autumn and winter seasons. Number of rainy days per year has experienced considerable positive trend in Sirt (about 3days/decade) and negative trend in Shahat (about 3days/decade), while autumn rainy days more decreasing rate than spring and winter seasons.