



## **Long-term changes in hyetal characteristics along storm tracks in the Mediterranean with NAO**

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Long-term precipitation data in Greece for the past one hundred years have been recovered from 11 weather stations in western Greece, 9 stations in eastern Greece and 9 stations in eastern Aegean Sea. Many of these stations have been measuring precipitation and other meteorological parameters in Greece since about 1900. These long-term precipitation records, dating back to about 1900, have been analysed as to their long-term variability in the past one hundred years and its correlation with the variability of the North Atlantic Oscillation (NAO).

The results show negative trends in precipitation during the rainy season (October to April) in most of the examined stations. These negative trends are estimated to be about 20 mm (or 2.3%) per decade for western Greece since 1900, to about 3.3 mm (or 0.7%) per decade for eastern Greece since 1900, and to about 9.5 mm (or 2%) per decade for the eastern Aegean since 1950.

In western Greece, which is on the lee side of the mountains, the inter-annual variability of precipitation is significantly correlated both inter-annually and in the long term with the variability of NAO (correlation of -0.38, confidence level >99%, 116 Nobs). The respective correlation for eastern Greece is estimated to about -0.21 (confidence level 95%, 118 Nobs) and for the eastern Aegean Sea to about -0.19 (confidence level 90%, 94 Nobs).

NAO's influence on precipitation data at other Mediterranean regions are being analysed using ground-based and satellite precipitation records from the Global Precipitation Climatology Project, which provides satellite precipitation data since 1980.