



Changes in the Large-Scale Atmospheric Circulation over Romania Between 1961 and 2010 on Seasonal Basis

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Abstract

The aim of this paper is to investigate the trends and shifts of the circulation types over Romania for 50-year period (1961-2010) on seasonal basis. In order to achieve this, two objective catalogues, namely GWT and WLK, from COST733 Action were employed. Daily circulation types were grouped according to the cyclonicity and anticyclonicity and were used to calculate the seasonal occurrence frequency of cyclonic and anticyclonic types. The trend of seasonal time series was investigated by using Mann–Kendall test and the shifts points were determined by using Pettitt test. The results reveal that the occurrence frequency of anticyclonic types increases in summer and winter seasons and the occurrence frequency of cyclonic ones decreases for the summer season (for $\alpha = 0.05$).

Key words: circulation types, GWT, WLK, Mann–Kendall test, Pettitt test.