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Climatic changes in Romania since the first half of the 20th century

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The study presents a country-wide trend analysis in seasonal air temperature, precipitation, sunshine hours, relative humidity, snow cover and wind speed over Romania within the last 100 years. Changes in annual temperature and precipitation extremes are also investigated by means of 14 indices recommended by the Expert Team on Climate Change Detection and Indices (ETCCDI).

The non-parametric Mann-Kendall test and logistic regression approaches are used for trend detection, while the magnitude of slope is computed using the Kendall-Theil robust line (also known as Theil-Sen estimator). Correlations with large-scale atmospheric circulation are examined by means of four teleconnection indices, namely: Atlantic Multidecadal Oscillation (AMO) Index unsmoothed; East Atlantic (EA) pattern; East Atlantic/West Russia (EAWR) Index-also known as the Eurasia-2 pattern; North Atlantic Oscillation (NAO) Index.

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