



Changes in indices of temperature extremes in Croatia, 1961-2010

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In the present study the trend analysis of mean and extreme annual and seasonal temperatures, as well as in the indices of temperature extremes is performed for the period 1961-2010. The dataset comprises the series of 41 meteorological stations uniformly distributed across Croatia, thus covering all climate regions. The changes in indices of temperature extremes enable a comprehensive insight into the general characteristics of the temperature change. Trend results in mean, mean minimum and mean maximum temperature show warming all over Croatia. The annual air temperature increase is mainly caused by the significant positive summer trends, while the observed trends for winter and spring gave almost equal contribution to the increasing trends of mean maximum temperature. All trends of indices of warm temperature extremes are statistically significant which is confirmed with the field significance trend. The most prominent increases are found in the number of warm days (Tx90) and warm nights (Tn90), and slightly lower trends are found in summer days (SU, absolute thresholds) and warm spell duration (WSDI). Warming is also evident in the observed negative trend in the indices of cold temperature extremes, but they are less expressed than the trends of warm indices.