



## **Extremity of meteorological situations determined from station data: Comparison of results based on non-standardized and standardized data**

A. Valerianova, E. Holtanova, and M. Striz

Czech Hydrometeorological Institute, Department of climatology, Praha, Czech Republic (holtanova@chmi.cz)

A lot of attention has recently been paid to analysis of extreme weather events and frequency of their occurrence. We focus on annual and seasonal extreme values of maximum ( $T_{max}$ ) and minimum ( $T_{min}$ ) air temperature in the period of 1961-2010 in the Czech Republic. The generalized extreme value (GEV) distribution is fitted to samples of seasonal and annual extremes. GEV parameters are used to estimate return periods of daily observations. For elimination of annual course of temperature the distribution of value  $T_{max}$  ( $T_{min}$ ) is standardized for each station and each calendar day with the standard ( $z$ -)score using time-smoothed mean and standard deviation. Then the GEV distribution is fitted to standardized data similarly as to non-standardized data. We compare extremity determined from non-standardized and standardized station data for selected meteorological situations. The work has been supported by the grant P209/11/1990 funded by the Czech Science Foundation.