

Data quality control and the influence of corrections on the estimates of extreme values

E. Holtanova (1), A. Valerianova (1), P. Stepanek (2), P. Zahradnicek (2), and P. Skalak (1)

(1) Czech Hydrometeorological Institute, Prague, Czech Republic (holtanova@chmi.cz), (2) Czech Hydrometeorological Institute, Brno, Czech Republic

We present results of data quality control of station measurements from the entire network of the Czech Hydrometeorological Institute in the period of 1961 – 2010. The study concentrates on daily minimum and maximum air temperature. Determination and correction of erroneous data is based on temporal and spatial comparison with neighboring stations and during the suspicious values evaluation the information from other climatic variables measured at given and neighboring stations is utilized. The software used for the quality control is ProClimDB of Petr Štěpánek (<http://www.climahom.eu/>). After the erroneous data are corrected, the generalized extreme value (GEV) distribution is fitted to samples of annual and seasonal maxima (in case of maximum air temperature) and minima (for minimum air temperature) at individual stations in order to estimate high quantiles of the distributions. The influence of data corrections on resulting estimates of distribution parameters is also analyzed. The work has been supported by the grant P209/11/1990 funded by the Czech Science Foundation.