



Homogeneous maximum temperature series of the Swiss National Basic Climatological Network from 1864 to 2009

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Operating a climatological station network requires continuous and anticipatory planning for accurate monitoring of climate variability and climate change. Therefore Switzerland has established the Swiss National Basic Climatological Network (Swiss NBCN) which combines the most important climatological stations within the observation network of MeteoSwiss. The stations were selected according to different criteria including the geographical distribution evaluated by means of cluster analysis, the length of the available time series and the embedment into international observation networks. The Swiss NBCN currently consists of 29 climate stations recording different parameters and 46 additional precipitation stations. Historical time series of temperature, precipitation and sunshine duration dating back to the 19th century will be completely digitized and homogenized by a cooperative initiative of MeteoSwiss and the ETH Zurich within the next years. In a first step the newly available and quality controlled maximum temperature series of the Swiss NBCN have been homogenized and analyzed for variability and trends. The presented study shows results from the homogenization process such as reasons and magnitudes of detected inhomogeneities as well as summarized adjustments to illustrate possible systematic biases in the original time series. A trend analysis based on the homogeneous monthly climate series gives an overview of the temporal and spatial variations of maximum temperature evolution in Switzerland from 1864 till today.