



Break Correction of Swiss Daily and Sub-Daily Temperature Series

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Many applications in climate science require high-quality, long-term data at a high temporal resolution. However, such records are often affected by artificial breaks. The challenging task of homogenizing daily and sub-daily data has only been partially addressed in recent years. Therefore, the number of available datasets providing homogeneous daily and sub-daily series is still small compared to the volume of monthly or annual data.

In this study, series of daily maximum (T_{max}), daily minimum (T_{min}), morning (T_{morn}), noon (T_{noon}) and evening (T_{eve}), and daily mean (T_{mean}) temperatures measured in 61 stations of the Swiss climate observation network were corrected for artificial breaks. The break detection for the above mentioned series was accomplished in a former study by using a combination of three different break detection methods. Here the previously determined breakpoints are corrected by applying the method of higher-order moments for autocorrelated data (HOMAD), which is an improved version of the higher-order moments method (HOM), providing an objective choice of regression parameters.