



Temperature evolution in the Alpine region

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HISTALP is a database for longterm homogenized climate data in the Alpine region. It contains more than 200 stations and several parameters. The data have been and are used in numerous scientific publications concerning climate and climate change. The dataset was first published in 2007. Due to improvements of the homogenisation methods and the additional most recent years of data included into the HISTALP-Dataset, a new homogenization run was done. While the original homogenization was done with HOCLIS, HOMER was used for the new run. Different setups have been used and the pros and cons were considered before taking the final decision. In HOCLIS, Craddock was used for break detection, while HOMER uses a log-likelihood method. Additionally, the application of both methods differ in the number of reference stations used: The number of reference stations used differs between the applications of both methods: While up to ten reference series were used in HOCLIS all stations of a HISTALP climate region were considered in one network. Both methods use an additive adjustment to correct the time series. For the current homogenization run additional metadata were used during the homogenization process. When available the most recent corrections of the original time series due to national quality control processes were taken into account. Important additional adjustments like the Early Instrumental Bias correction and adjustments necessary due to changes of observation times in Austria that had become effective for all stations at the same time have been included in the original HISTALP-version and were applied in the new version as well.

The presentation will highlight the differences in the homogenization results. Concerning the detected breaks this includes the number and timing of the breaks as well as their connection to metadata. The statistical properties of the homogenized time series will be discussed, for example the distribution and variability of the temperature values before and after homogenisation. Additionally, the impact on the climate evolution in the Alpine region will be analysed.