



Advances in the homogenization of monthly and daily climate surface data in Switzerland

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Homogenization of surface climate data is essential for the accurate monitoring of climate variability, climate extremes and climate change. The intention of MeteoSwiss by providing long term series of surface climate data in Switzerland is to a) systematically preserve historical climate data in respect to national and international guidelines and b) to homogenize these data on monthly and daily time scales.

The former aspect has been considered by the definition of the Swiss National Basic Climatological Network (Swiss NBCN). This network defines the most valuable climatological surface stations in Switzerland and provides a basis to ensure a long-term perspective of their operation.

For the latter aspect well established monthly homogenization methods are applied to the Swiss surface climate data. In addition, a spline method is used to derive daily adjustment values from monthly adjustments for temperature and precipitation. In line with the COST Action "Advances in homogenization methods of climate series: an integrated approach (HOME)" which dedicates a main focus on the comparison and development of daily homogenization methods we present first results of the comparison of the spline method with a labour intensive semi-objective homogenization procedure using long-term temperature series. The semi-objective method is based upon physical dependences of the inhomogenities on radiation and wind conditions and is believed to produce the most accurate daily adjustments. In this presentation results will be presented of the comparison of homogenization techniques for daily mean and extreme values of the temperature during the period 1901 until 2003 for 6 Swiss surface stations.