

AT-HOM – a homogenized daily temperature and precipitation data set for climate impact studies in Austria

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Unavoidably, long-term climate series are disturbed by non-climatological inhomogeneities caused by station relocations, instrumental changes, observation regulations, screen changes, insufficient ventilation and manifold other reasons, thus reflecting biased trends and extremes. Over decades various procedures have been developed for break detection and correction mainly for application on monthly time scale. However, during the last decade the homogenization of daily series turned out to be vital when studying climate extremes. Especially during COST ES0601 (<http://www.homogenisation.org/>) available knowledge on daily homogenization has been collected and further developed. In parallel, in Austria three existing daily homogenization methods have been compared by using parallel measurements of manual and automatic measurements. The finally selected procedure for the homogenization of daily extreme temperatures relies on the method PRODIGE for the detection of a multiple number of breakpoints and SPLIDHOM for calculating the adjustments. The procedure was applied to the previous quality enhanced 60 years long STARTClim dataset consisting of 71 well distributed stations over Austria, from 200 up to 3100 m. The data set as well as selected applications will be described.