



## **Climate reference stations in Germany: Concept, status and conclusions from parallel measurements**

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Long time series of high-quality meteorological observations are of great importance for the reliable analysis of climate change. However, it is well known that over such periods the observation networks and procedures are affected by various modifications. In order to allow long term comparisons and to understand the effect of changes in the instrumentation, DWD operates a network of so-called 'climate reference stations'. At these locations observations have already been performed since several decades, in most cases already since the end of the 19th century. The sites represent different climatic regions of Germany. Observations will continuously be performed at the traditional observing times, so that the existing time series are consistently prolonged. Currently manual and automatic observations are performed in parallel. These parallel measurements will be continued for another few years at a selection of these reference stations. Later, all stations will be operated as automatic stations. At these stations, new sensor technology will be operated in parallel to the previously used sensor types over sufficiently long periods to allow an assessment of the effect of such changes. In this contribution, we present the concept and status of the climate reference stations as well as first conclusions of an analysis of the parallel measurements.