



New developments in HISTALP Barbara Chimani, Manfred Ganekind, Ingeborg Auer, Angelika Höfler Zentralanstalt für Meteorologie und Geodynamik (ZAMG), Austria

1. Introduction

2. Precipitation

For homogenisation of the monthly temperature and precipitation data we used HOMER. High correlated reference stations were taken from the HISTALP-Dataset. Each climate region was homogenised separately (Fig. 1), as those stations should have the most similar climate signal. For temperature all 5 regions were homogenised, for precipitation the summit region was not taken into account. For spatial consistency some stations along the borders from different climate regions have been included.





Different EOF-methods (Fig.2) have been tested for reconstruction of missing measurements at the beginning of the precipitation time series to create temporal consistent dataset of monthly precipitation analyses for the whole GAR for the calculation of the monthly spatial analyses with a

Experiments revealed that the method similar to the one used in 2008 is the most

For outlier correction only errors were

Spatial interpolation (Fig.3, July 1915) was done by Further the of interpolation methods are

monthly precipitation sum (mm)



300

400

consistant station network. The influence of reference period, number of used EOFs and stations defining the EOFs was studied.

3. Temperature

monthly correction for the observation time-bias and its uncertainties



For temperature a correction factor for bias caused by a change of the observation time is applied for Austrian stations.

of using the geographical Instead situation of the stations to define the correction factor using a cluster method. A number of 3 Clusters was chosen and uncertainties were calculated by leaving out each station of the cluster once. (Fig.4)

Differences between current means, original mean using 7pm measurement and corrected 7pm mean



Fig. 5 shows monthly differences caused changes by in observation time and calculation mean algorithm. Spread reaching from about -4°C to 10°C. Red: differences, original using the green adjustments given in Fig. 5, blue: using adjustments of 4 clusters

4. Sunshine duration

Sunshine duration is the next parameter for which the new homogenisation run will be done.

For Austria this is especially interesting, as there might be some undocumented problems with instrument calibration when changing from Campell-Stokes to Hännin.

Fig.6 shows a break detection signal of a with stations documented instrumentation change in July 1984.



5. Webpage

• A Comparison of global and Austrian temperature is included. (Fig. 7)

- Data download area is improved
- Enhanced user friendliness by FAQs
- Reference period for anomalies used in newsletter changed to 1961-1990





Iones, P. D., D. H. Lister, T. J. Osborn, C. Harpham, M. Salmon, and C. P. Morice (2012): Hemispheric and large-scale land surface air pperature variations: An extensive revision and an undate to 2010 J. Geophys. Res. 117, D05127, doi:10.1029/2011.JD017139

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