

Clim. Past Discuss., author comment AC1
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Reply on RC1

Yuri Brugnara et al.

Author comment on "Pre-industrial temperature variability on the Swiss Plateau derived from the instrumental daily series of Bern and Zurich" by Yuri Brugnara et al., Clim. Past Discuss., <https://doi.org/10.5194/cp-2022-34-AC1>, 2022

Add kind of thermometer and observation times (when available) in table 1 and 2 for the different sub-periods, this will facilitate the reader.

Thank you for the suggestion. We will add the kind of thermometer and the number of observations per day. The observation times would require too much space and are often not fixed.

The EIP warm bias of the HISTALP dataset is still an open problem: as the authors mention in their manuscript, also in Böhm et al. 2010 an important warm bias (up to 1°C in some seasons) with respect to other reconstructions (based on the same data, but undergoing different homogenization) is evident in the EIP (see figure 14 of the mentioned paper). The same warm bias is confirmed also by some proxy reconstructions (see e.g. Frank et al. 2007 Warmer early instrumental measurements versus colder reconstructed temperatures: shooting at a moving target. Quat Sci Rev 26:3298–3310). The ever-increasing availability of data for EIP is key to solving this dilemma.

We will add an additional sentence in the conclusions to emphasize this.

This is not mandatory, but when the number of sub-daily observations allows it, I suggest the authors to extrapolate the minimum and maximum daily temperatures: their daily values will probably be affected by a high uncertainty, but their monthly averages could provide a relevant information. Also the availability of the daily temperature range at monthly resolution provides the user with a good instrument to improve the homogenization, the DTR being very sensitive to inhomogeneities.

We appreciate the suggestion but we prefer to tackle Tmax and Tmin in a separate work. We have measurements from max/min thermometers from the 1820s onward that can be used for this, but they require significant additional work. Also the approach to the homogenization should probably be different (e.g., quantile matching). We would also like to produce daily pressure series in the future.

Kind regards,

Yuri Brugnara

