

Clim. Past Discuss., author comment AC1
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Reply on RC2

Duncan Pappert et al.

Author comment on "Statistical reconstruction of daily temperature and sea level pressure in Europe for the severe winter 1788/89" by Duncan Pappert et al., Clim. Past Discuss., <https://doi.org/10.5194/cp-2022-10-AC1>, 2022

Thanks for the review of our paper. We will follow the advice and restructure, re-write, and shorten the paper. The main focus clearly is on the reconstruction itself, as indicated in the title. The current paper has arguably too many aims, and we will revise the paper along your second suggestion ("It could be a paper on a new weather-field reconstruction method combining analogues and EnKF, with a thorough validation using subsampled modern reconstructions, then a case-study on 1788/9"). In particular, the analysis of other cold winters will be dropped (Sect. 2.7 and 3.2.3).

The submitted paper has a long, sub-structured "Results" Section but no "Discussion" section. We will use a "Discussion" to better structure the paper. This section will cover uncertainty and limitations (currently Section 2.6 in the "Methods"), it will compare results with the (few) existing daily products, and it will compare the winter 1788/9 with literature on other winters, without doing own analyses (parts of what is now 2.7). The literature analysis of the winter 1788/9 (currently Section 3.2.1) will be removed from the Results section. In much condensed form it will appear in the Introduction, while some aspects will then be taken up again in the "Discussion". The data collection part is not the focus and will be further condensed (although it is already very brief).

In all, we think that these indicated changes will lead to a restructured paper that emphasises the main results – the feasibility of daily reconstructions of pressure and temperature over Europe back to the 18th century. A more detailed reply will follow.