

Hydrol. Earth Syst. Sci. Discuss., author comment AC2
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Reply on RC2

Abbas El Hachem et al.

Author comment on "Technical Note: Space-time statistical quality control of extreme precipitation observations" by Abbas El Hachem et al., Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2022-177-AC2>, 2022

We thank the reviewer for taking the time to review our manuscript. Our reply to the reviewer's comments are as follows:

Overall this could be a very useful contribution to HESS if the authors would indicate how the proposed procedure may generalize to other observing systems (e.g synop temperature, wind and humidity observations).

Our method is specifically designed for data with skewed distribution and a high spatio-temporal variability. Outlier checks for other parameters such a temperature are much more straight forward to implement. Since the title specifically mentions precipitation we don't see the necessity to discuss how this could be used for other parameters

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Furthermore the text is written almost completely from the hydrological-engineering point of view: the authors should remember the E in the journals title, namely that other Earth System scientists should also be addressed and not to be scared off.

See reply above, we explicitly present a quality check for precipitation extremes.

Finally the text is largely written in a funding - interim report style, eg about one third of the figures is just added to the text without any discussion or even referencing in the text. All these points (and those commented in the annotated pdf document) should be revised before publication in HESS can be considered.

We will provide and discuss all the figures in the manuscript, this was also pointed out by referee 1. Regarding the "interim report style" we submitted this as a technical note and not a full-fledged scientific paper, therefore we consider a shorter, more report like text to be justified.

Regarding the comments in the manuscript (supplement), we will implement/correct/address them accordingly. There are however some remarks which we would like to comment:

Line 21 ff. This remark is correct, but since the DWD gauges assumed to be installed according to the WMO guidelines, we can rule out such scenarios to a large degree.

Line 74 ff. Of course, there are other weighing gauges, but we specifically refer to those used by the DWD.

Line 153: A flow chart is already presented in Figure 3.

Line 195: We fitted a spherical or an exponential variogram model with no nugget to the experimental one. Both models guarantee that the kriging covariance matrix is positive definite. Moreover we will add a section showing that the choice of the variogram model has little influence on the results