

## Answer to referees

The authors have addressed all questions extensively and thoroughly. Thank you for that. What remains are only minor technicalities.

Thank you again for your time and effort for working through and helping to improve our manuscript.

- L91: Unclear, lag 1-10 autocorrelation – did you check all lags, but only report lag1? Please clarify.\

The sentence was in fact a mistake. We checked the lags 1 - 10, but only showed lag1, where it was strongest. The corresponding sentence was changed from

"This is shown in Table 1 for lag 1 - 10 years autocorrelation, with strongest correlation for lag 1." to

"The autocorrelation was analysed for the lags 1 - 10. The results for lag1, where it is strongest, are shown in Table 1."

- Eq1: Please check if subscripts are correct and coherent with description afterwards. I think Q should be subscript?

You are right, has been adjusted.

- Table 1: Thanks for the clarification. But it's unclear what you mean by "no trend", IMO, the distinction between pos and neg is  $\geq 0$  and  $< 0$  (where, the = could also be switched). So what is no trend? Please clarify.

For calculating positive/negative trends we used  $> 0$  and  $< 0$ , respectively and for no trend  $= 0$ , meaning that there are no positive or negative trends existing. For making this more clear, the sentence "Positive/negative trends were  $> 0$  and  $< 0$ ." was added to the table footnotes (now table 2 in the new manuscript).

- Figure 2: Thanks for this, very useful! But in the legend "Positive values indicate a stronger negative trend by homogenisation." is ambiguous, because you have no information on whether initial trends were pos or neg. Maybe better " ... indicate a lower positive or a more strongly negative trend after homogenisation".

Good idea, the sentence was changed accordingly.