Short response to the editor

We thank Nadav Peleg for his comments and the editorial of our manuscript.

We suggest to leave Table 1 in section 2 in the main manuscript. Throughout the analyses in the manuscript, we only show relative errors. These relative errors cannot be interpreted without knowledge of the absolute values. Therefore, we would not move Table 1 to the supplement.

Review by Benjamin Poschlod, Referee #1

Dear authors, thank you for the revision, very interesting additional results. The additional investigations have addressed my concerns sufficiently. I only suggest some minor technical additions:

We thank Benjamin Poschlod for his useful and constructive comments and the time he spent on the manuscript. A point-by-point reply can be found below. For a better overview, the reviewers' comments are shown in black, our replies in blue and proposed changes in the manuscript bold and blue.

Minor comments:

- I'd add a reference in the main article to refer to the comparison to the CPM in the supplement

We have added:

"Furthermore, the results are confirmed by a comparison with a convection-permitting climate model (see supplementary material S2 for details)."

- Please add a statement about extreme values in the bias adjustment in the article similar to your author reply: "It should be noted that the QDCM method was only applied to values up to the 99.9th percentile, as rainfall amounts above the 99.9th percentile are not adequately represented in the reference and projection data. For values above the 99.9th percentile, the adjustment value was extrapolated linearly."

Many of the daily bias-adjusted rainfall sums above the 99.9 percentile will govern your results.

We have added:

"However, the QDCM method is only applied to rainfall values up to the 99.9th percentile, as rainfall amounts above the 99.9th percentile are not adequately represented in the reference and projection data. For rainfall values above the 99.9th percentile, the adjustment value was extrapolated linearly."

- I would rephrase L526: You show that the stationary scaling behavior of rainfall only for one station (Bochum), which is well enough to address my reviewer comment; however I'd not say that you "prove" this assumption generally, but "empirically show the assumption to be reasonable in the study area".

We have rephrased L526 to:

"The key assumptions for the application of cascade models for the disaggregation of future climate model data is the stationary scaling behaviour of rainfall, which was empirically shown to be reasonable in the study area with additional data in the supplementary material."