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Geoscientific Model Development Discussions

Interactive comment on "Statistical downscaling with the downscaleR package: Contribution to the VALUE intercomparison experiment" *by* Joaquín Bedia et al.

Anonymous Referee #1

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A step commonly carried out when assessing the 'quality' or 'value' of climate data is the comparison with observed data, normally applying a downscaling step. This paper presents a reproducible R-based workflow in the context of the COST action VALUE. The paper presents a workflow (also shared as R Markdown notebook) which start with data loading to the visualisation of the results. In this workflow the authors compare different downscaling techniques.

I have a few comments here that I think would improve the submitted paper:

1. In the Section 4.1 the authors might add some numbers to Figure 6 (even a separate table) showing average (possibly also std or quantiles) values of RMSE, Correlation

and variance ratio. Comparing M1, M6 and their -L version graphically is not easy. 2. Again in Figure 6 I don't understand the meaning of 'A factor of 0.1 has been applied to RMSE for better comparability of results.', why not leaving the original values? 3. The authors should say something on the computation time needed for the experiments described in the Figure. 4. How the developed package is able to deal with large datasets (10-100-500GB)? Is there any support to larger-than-memory computing (e.g. Python Dask)? 5. Can the authors say something about the importance of choosing the right domain to compute the EOF? Sometimes the results can be very sensitive to the choice of the domain.

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