

Interactive comment on “Precipitation extremes in a EURO-CORDEX 0.11° ensemble at hourly resolution” by Peter Berg et al.

Anonymous Referee #1

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The paper "Precipitation extremes in a EURO-CORDEX 0.11° ensemble at hourly resolution" by Berg et al. presents the difficulties and uncertainties regarding the evaluation of future projections of sub-daily precipitation extremes and how far they can be tackled at the moment. The topic is relevant and suitable for this journal. The manuscript is well written and the overall quality of the presentation is good. It offers new insights into the topic. They demonstrate how unsatisfactory the data availability for sub-daily precipitation observations as well as high-resolution simulation data is at the moment. They make the effort to compile the observational base at least for several European regions and compare the respective methods to derive the extreme precipitation depth-duration-frequency functions (DDF). The results of the evaluation and the large ensemble variability prove the necessity to examine this topic further including

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more simulations. At this stage neither the quality of the RCMs to reproduce short term precipitation extremes or the questions regarding the CC-scaling in the future can be fully determined, as the manuscript shows in a convincing way. I fully agree with the authors, that sub-daily data should be added to the ESGF, if possible for the existing CORDEX simulations but certainly for future efforts. This is not only necessary for precipitation but also for other variables like e.g. wind. I recommend this paper for publication. Additionally, efforts to provide suitable comparable Pan-European observation data for the analysis of extremes and model-evaluation are highly appreciated. There is just a minor question/suggestion: - The authors derive the DDF for five regions. The spatial distributions are shown just for Germany and France. Is the representation of the spatial pattern comparable in the other regions? Due to the different methodologies used to derive the DDF it is difficult to distinguish which of the effects presented stem from the differences of the methodologies and which from the problems of the models to represent short term extremes.

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