

2nd Report on “Downscaling future precipitation extremes
to urban hydrology scales using a spatio-temporal
Neymann-Scott weather generator”
by H.J.D. Sorup, O.B. Christensen, K. Arnbjerg-Nielsen
and P.S. Mikkelsen

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1 General Comments

The authors of the manuscript “Downscaling future precipitation extremes to urban hydrology scales using a spatio-temporal Neymann-Scott weather generator” (H.J.D. Sorup, O.B. Christensen, K. Arnbjerg-Nielsen and P.S. Mikkelsen) obviously had to deal with changing reviewers during the review process. That is extremely difficult as reviewers have different ideas on manuscripts! I am sorry for criticising aspects of their manuscript which they added according to a former reviewer’s comments.

I appreciate the revised structure and recommend publication after considering the minor points mentioned above. Congratulations! I think it is a very good manuscript now!

2 Specific Comments

2.1 Data

I appreciate the new structure of this and the following section!

2.2 Weather generator

The structure of this section is convincing now.

I agree that it is a good choice to refer the reader to the work of Burton et al. for the development of the weather generator. However, the details on how the WG is applied in the current setting is something worth reporting in your manuscript! Which is your section 4.1.

- p11, l11 "... series are not evaluated DIRECTLY against the observations with; the expectation is rather that the simulated series Have THE SAME STATISTICAL PROPERTIES AS THE measured precipitation.
- It is unfortunate that the writing takes so much time. I appreciate that this is now transparent.
- Where can the results of Eq 2 be seen? Should that not be written in Sec 4.1?

2.3 Results and discussion

2.3.1 Weather generator parameter estimation

- Could you please add to Figure 5 over what indices (i,j,k) the density distribution has been estimated over?

2.3.2 Evaluation of extremes for present climate conditions

- I doubt that +/- one standard deviation correspond already to 68% confidence here as the estimators is probably not yet in the Gaussian limit. Typically one works with asymmetric intervals here resulting from likelihood profiling or bootstrapping. It is probably not so important here.

3 Misc

3.1 Supplementary Video

You might want to consider generating the supplementary video directly from the individual figures from your simulations or at least remove the sound from the video.