

Interactive comment on “A simple weather generator for applications with limited data availability: TEmpotRain 1.0 for temperatures, extraterrestrial radiation, and potential evapotranspiration” by Gerrit Huibert de Rooij

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This manuscript is a clear and well written report of the development of a weather generator, with obvious utility for multiple applications as claimed. The model is well described, validated and demonstrated.

There is one major problem: it is essentially identical in concept, and very similar in practice, to the widely used UKCP09 weather generator developed in 2007, and made available on the internet since 2009. Since this work has been cited so widely (more

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than 650 cites to the papers describing the concept and application) I am surprised not to see it referenced in the submitted paper, and comparison made to show any improvements.

The proposed weather generator uses the Bartlett-Lewis (BLRP) rainfall model, which is a functionally identical variant of the Neyman-Scott (NSRP) model used in the UKCP09 weather generator. I am also therefore surprised not to see the NSRP model (and its very widely used software realisation, RainSim - Burton et al 2008) referenced: this pre-dates the BLRP (first published by Kavvas and Delleur, 1975 and taken up by Rodriguez-Iturbe et al. in 1987). NSRP is more widely used and cited than BLRP: Scopus shows [NSRP 61 papers, cited by 1370] [BLRP 56 papers, cited by 1102] with BL/NS and (rainfall or precipitation) in the title/keywords/abstract.

My suggestion:

- the author should review the considerable body of work involving essentially identical methods following the UKCP09 weather generator development;
- if the approach can be shown to be substantially different and superior, then publication would be valuable - this is not the case in the present manuscript;
- otherwise, I think the work can only be a new contribution if a novel application (of essentially the same methodology) is presented.

Chris Kilsby, Newcastle University, June 2018

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