Hydrology and
Earth System
Sciences
Discussions

Interactive comment on "Assessment of meteorological extremes using a synoptic weather generator and a downscaling model based on analogs" *by* Damien Raynaud et al.

Anonymous Referee #2

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This paper compares three different weather generators (WG) based on flow analogues and stochastic weather generators, including a new technique. They analyse the properties of the time series produced by these WG, with a focus on their ability to simulate extremes of precipitation and temperature. I find this paper very interesting and well written. I just have a few minor questions for the authors:

- I am not sure I understand how you link the station data with the reanalyses data. If you use them to calculate daily MAP and MAT of your analogues, how do you calculate daily MAP and MAT for the 1900-1930 period for which you have ERA-20C data but no station data ? Do you only use station data as your observation to which you compare

the WG's simulations ?

-Could you specify the distance you use to calculate analogues ?

-Why do you use HGT1000 rather than SLP ?

-The first time you introduce the term "scenario", I would define what you mean by scenario right away. As you surely know this word has several different meanings in climate science so it can be a bit confusing if you do not define it clearly.

-In the discussion, when you discuss the problem to produce temperature extremes because of climate change, you can expend this to extreme precipitations. There is an observed and projected trend on precipitation extremes related to anthropogenic climate change related to the Clausius-Clapeyron relationship.

I thank the authors for this interesting read, it was a good occupation in covid-19 confinement...