Hydrology and Earth System Sciences Discussions

Hydrol. Earth Syst. Sci. Discuss., referee comment RC3
https://doi.org/10.5194/hess-2022-70-RC3, 2022

Comment on hess-2022-70

Anonymous Referee #3

Referee comment on "Technical note: Modeling spatial fields of extreme precipitation – a hierarchical Bayesian approach" by Bianca Rahill-Marier et al., Hydrol. Earth Syst. Sci. Discuss., https://doi.org/10.5194/hess-2022-70-RC3, 2022

The present paper explains the break in Clausius-Clapeyron scaling rate in India through use of observation and a surface energy balance approach balance by thermodynamic. The reasoning and the basis of the work is fine, there are few comments I'd like the authors to address before publication (minor revision), as follows:

- I 'd like to know if the authors have made cross-validation when implementing the method.
- Other than the present assumed distribution of Log-normal, are the GEV or GPD method also tested for comparison?
- Line 10 "gaging site" -> "gauging site"
- Line 27 "gage"-> is it gauge?
- Line 30 the annotation is quite hard to understand, I have hard time transforming from R to A. I would expect a simpler annotation used than the one here.
- Line 83, "across the gauge sites was developed"-> "that was developed"