Hydrology and Earth System Sciences Discussions

Interactive comment on "Bayesian uncertainty assessment of flood predictions in ungauged urban basins for conceptual rainfall-runoff models" *by* A. E. Sikorska et al.

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I wish to congratulate with the authors of this study which I believe is highly significant. I came across this paper while searching for references on application of event-based hydrological models in urban environment and I really enjoyed reading it. I think it is well written and very much interesting, especially in view of the assessment of the performances with respect to different scenarios. The paper is very well written and organised. It is very clear also.

I just have a very minor suggestion to forward to the authors: they rightly point out that

the formulation of a likelihood function for hydrological models is a relevant challenge. The approach proposed by the authors is in principle correct. I am only curious to know whether the authors succeeded in getting residuals from the error model that were independent and identically distributed. Was the Box-Cox transformation successful in making the data homoscedastic and was the autoregressive models successful in explaining the correlation structure of the data themselves? It would not be a problem if the reply to the above queries was not fully positive, the approach would be interesting anyway. I just believe that it would be interesting to know the goodness of the fit that the authors could reach.

Once again, I am pleased to express my congratulations to the authors.

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