Interactive comment on "A framework for likelihood functions of deterministic hydrological models" *by* Lorenz Ammann et al.

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I am very interested in the contribution by Ammann et al. which I found very interesting. I believe that the paper could gain further interest if some more details were presented. For this reason I decided to post a comment. I believe my notes are very minor and therefore I do not think that my criticism necessarily needs to be addressed when revising the paper. I just would like to offer to the authors some hints for a more detailed discussion and presentation of their proposed method.

First, I would to say that the paper is providing an innovative solution which in my opinion offers new avenues for the calibration of hydrological models. I think the results shed new light on the opportunity or not to perform joint inference of hydrological and

error model parameters. I also found that the approach is very rigorous.

My notes are essentially related to minor details on the presentation and the opportunity to introduce and discuss more detailed (and statistical) goodness of fit tests. I included my comments in an annotated file of the discussion paper that is attached here. I invite the authors to contact me if my notes were not clear.

I would like to congratulate the authors on a very interesting work.

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Please also note the supplement to this comment:
https://www.hydrol-earth-syst-sci-discuss.net/hess-2018-406/hess-2018-406-SC1-supplement.pdf

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., https://doi.org/10.5194/hess-2018-406, 2018.