Review of the paper
A retrospective on hydrological modelling based on half a century with the HBV model
by Jan Seibert and Sten Bergström
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HESS

This is a nicely written story about the HBV model in the context of hydrological model developments in the last 50 years. The style of the paper is somewhat unusual - casual but certainly acceptable. While there are a large number of facts in the paper, it also contains subjective opinions which may lead to discussions. In general the paper is acceptable my remarks may be considered by the authors in case they revise their manuscript.

1. While the story of the model and the underlying concepts are discussed in detail, the model itself is not described. Including the basic model equations would not increase the length of the paper too much, but would allow the student readers who may not know the model to better understand the paper.

2. The discussion on physically based modelling is somewhat simplified. For me mass conservation is not the only physical basis what one has in describing the hydrological cycle. The argument that SHE needs much more parameters then HBV is valid, but SHE produces more interpretable outputs - which could be verified and used for some calibration. Further the *physically based* models usually have better control of the internal state variables. In my view HBV is a rainfall/runoff model with all its advantages and disadvantages. Physically based models may be used for other hydrological questions too due to their detailed process descriptions.

3. In the discussion of the processes evapotranspiration is completely missing. You could add a few sentences for the sake of completeness.

4. Model quality does not only depend on the available data but on the quality of the data and the variability within the catchment. HBV is relatively random error tolerant (not bias tolerant) - which is an advantage additional to ppp.

5. We used the HBV for the assessment of land use change using simultaneous calibration of model parameters based on catchment properties (Hundecha and Bardossy 2004). In general regional calibration is an option for simple models like HBV to use space for time and gain valuable additional information.

6. What do you mean by insignificant subroutines ? Shouldn't it be insignificant process details?

7. In my opinion one of the interesting questions of the future is that to what extent can simple models such as HBV cope with the present and continuously increasing amount of (often very noisy) indirect information.

Reference:

Hundecha, Y. and Bárdossy, A.: Modeling of the effect of land use changes on the runoff generation of a river basin through parameter regionalization of a watershed model, *Journal of Hydrology*, **292**, 281—295, 2004