

Interactive comment on “HESS Opinions: Advocating process modeling and de-emphasizing parameter estimation” by A. Bahremand

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I appreciate the opinion, which supports the physics-process-based hydrological modeling. Obviously, more complexity of the model means more similarity to the reality and should result in more certainty, but more demanding data for computation of the processes. From another point of view, spatial and temporal data limitation in most watersheds is the main obstacle to be so optimistic on this issue. For coping with the problem, usually parameter or parameters are considered in the models to be adjusted or calibrated. Hence, I would suggest the author to emphasize on this point that because usually physics and process based models are also distributed, therefore, we deal with some spatially distributed parameters that can accept a different map such as DEM as a weight or auxiliary map. Accordingly, when we talk about calibration of

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such distributed parameters it basically seems adjusting the entire parameter map by a correction value uniformly, while in reality by introducing a basic map as the weight, different values are used for different locations of the watershed. In addition, I agree with Prof. A. Montanari (Interactive comment on “HESS Opinions” 2 January 2016) indicating automatic calibration has several advantages, and is better to be discussed in details. Hossein Zeinivand Assistant Prof. Lorestan University

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