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Hydrology and Earth System Sciences
Discussions

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

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Dear Dr. Bahremand I appreciate your leading article. Based on my interests, I comment some shortly:

1. The subject of "uniqueness" has been noticed in ecology in a more detailed manner. So it is helpful to learn their findings (e.g. to travel from statistics (optimization in your language) to concepts (process and physics in your language).

2. You put correctly the story of computer powers in the recession curve of hydrology adventure. This is a critical point to know computer just calculate not think. I think we are observing computer kingdom collapse in favor of nature comprehensive understanding. The question is that what is the alternative exactly (The robust method-

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ological approach (or technique)).

3. So, I am really cautious about your proposal: substituting "physics perception" for "reducing the errors". The first problem is what is the reference of physics and the second, how we could avoid sophisticated calculation technique in physics?

4. In my viewpoint: Could we solve the problem of scale (either cartographic or conceptual) in such idea?

5. I have a suggestion to improve your innovative solution: incorporation of your idea in a policy-making context, i.e. the lumped view not only must be changed technical learning (process-based) but also global political water allocation.

6. Based on your idea, I think we could move from context of justification to context of discovery in modeling. Nowadays the "modeling" is a main support of the decisions in which policy makers follow their targets. I really think models are not supporting the understanding nature. Focus on "process" can help to improve the role of modeling for a better recognition instead "liked decisions".

Please follow your idea to make a better "modeling" context. Modelers could result in better output for people in such attitude.

Good Luck

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 12, 12377, 2015.

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