Interactive comment on “HESS Opinions
“Integration of groundwater and surface water research: an interdisciplinary problem?”” by R. Barthel

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I am glad to see that Referee #3 also considers my opinion paper to be a valuable one and I am also grateful for the critical comments pointing out several aspects that I missed. Yes, it is true that I have missed to mention even larger scales. I am aware of such studies, but it did not occur to me that they are relevant for my discussion (which they are). I will include this in a revision. This might be a difficult topic, though. I will look into this, but right now I don’t think that I have a clear vision of groundwater and surface water research integration on those mega-scales.

I am very grateful for the specific comments made about statements that are unclear or maybe even wrong. I should maybe say that there are many more locations in the paper where I thought while writing: “well, this is too simple” or: “this would in fact much longer explanation and discussion”. My attempts to keep the paper short led often to harsh simplifications.

To the specific comments:
Page 2022, 2nd paragraph: I think this might be simply a result of bad wording / language, i.e. of not explaining very well what I had in mind. Essentially, I agree with the reviewer, I need to explain this better.
Page 2022, 2nd paragraph: Again, I will try to find a better explanation here. The point that I wanted to make is not so much that river levels do not require interpretation/translation at all, but that their interpretation is much more straightforward (visible, comprehensible, even for laymen) than a piezometric head.
Page 2022, 3rd paragraph: Okay, this is the result of trying to express something complex in a simple, illustrative way. I will use the comment made by the reviewer directly to improve my statement.
Page 2023, 1st paragraph: Again, right. First part of the comment: What I wanted to say is that there is a tendency (which I think is rather strong) that surface water models are less physics based as subsurface water models. An yes, water goes into the atmosphere, I will correct this!
Page 2024: Yes, I am absolutely aware of this. A hydraulic conductivity, calibrated for a 100*100m large cell might not have much to do with field observations in the area. But you are right, this discussion is an endless one.
Page 2026: I am not quite sure how to interpret this comment. As pointed out in my replies to the other referees, I would like to avoid to go into the details of how (where and why) coupling should be done. This is an important and complex question that is,
as you point out, both complex and undecided. I just recently read a lot in Bronstert et al. (2005). Instead of including this discussion in my paper, I will provide a few references that point to the ongoing discussion of the issue.

Page 2027: I will

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