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Hydrology and Earth System Sciences
Discussions

Interactive comment on "Impact of modellers' decisions on hydrological a priori predictions" *by* H. M. Holländer et al.

Anonymous Referee #1

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This manuscript is the follow-up to a previous study and further investigates the 'human' effect in modeling with the many decisions one has to take when applying a model to a new study site. This is a very important topic that certainly needs more attention and I absolutely want to see this work being published. Having said this, I also have to admit that I was a bit disappointed when reading the manuscript and have several concerns with the manuscript in its current form:

1) Study design: When different people, with different backgrounds, apply different models with different types of information, it is difficult, if not impossible, to really assign the reasons for any differences to one source. From a study design view point, it would have been better to use one model applied by different persons. I can see the argument that everyone applied a model he/she was familiar with, but obviously this

makes it difficult to distinguish between model and modeler effects. Can we really rule out that the differences are mainly due to different model structures? On page 8896, 20 the authors state that the differences could mainly be attribute to different modeler decisions. While I would also feel so, I do not see this being really demonstrated in this study. It would be valuable if at least one model would be applied by different modelers, or one modeler would apply different models.

2) Also related to the study design, I see several reasons why models where changed in round 2 and 3. These are as mentioned the field visit and the additional data and, mentioned less clearly, of course also the interaction among the modelers (as far as I understand the field visit where done by all scientist together, i.e. there certainly was informal information exchange to some degree). It would be quite interesting to distinguish between these points, but with the given study design, I am not sure, to which degree this might be possible.

3) Are the modelers being studied or are they studying? The text is written in a way as if the modelers were studied, at the same time, they seem to be co-authors (i.e., studying). In hydrology we are not used to study human beings and to reflect on the researchers own role in the process. This study certainly would benefit from looking at other sciences, where the situation of being involved in the process one wants to study, is more common. The text is also formulated in a way that tries to not reveal who the respective modelers were, but of course it is easy from the author list and the models to guess, who was who, especially n the case where the modeler is a 'she'. I feel it would be better to include the names in a table, rather than have the readers guessing. Also it has to clarified more clearly what the contribution of the different co-authors was. Did the 'modelers' just do their respective modeling or where they also involved in analyzing results and in the evaluations, discussions & writing? When it comes to evaluating what a modeler was thinking, for instance, it is crucial to know whether he/she had any influence on what was written.

4) The study is limited by the number of models/modelers. Conclusions on the effect

of prior knowledge etc. are therefore difficult. While I can see that it is difficult to get a much larger number of modelers, this is an issue that needs to be clarified more clearly.

5) Paper structure: to be honest, I got lost when reading the manuscript. The structure needs to be improved, currently there is a mixture of methods, results and discussion at many places. Also I find the manuscript in several parts too anecdotic, I found it very hard to follow the text and the see how did what and why. At some parts it is also unclear, what is a description of the results of the previous study and what are new results. With many outstanding scientists on the co-author list, I am a bit surprised that the presentation quality is not as good as it could be.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 10, 8875, 2013.