

***Interactive comment on* “Effects of climate model radiation, humidity and wind estimates on hydrological simulations” by I. Haddeland et al.**

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The reviewers identified a number of points where the paper could be improved, for which I am very thankful. In addition, Dr. Uwe Ehret identified a potentially fundamental problem with using bias correction of GCM data for hydrological prediction. I agree with Dr. Ehret that the issues brought up have to be openly discussed in HESS, and therefore, with the support from the Chief Editors of HESS, I encouraged him to submit an Opinion Paper to fuel a constructive debate.

In the mean time, I would like the authors of this manuscript to carefully consider all the points mentioned by the reviewers and highlight how they address them in the revised manuscript or why they are not relevant for the manuscript at hand.

It is not about making the authors "pay for" a potential flaw in a state-of-the-art method, but once a potential flaw is exposed, its implications have to be discussed in the context of any paper based on this method.

The analysis of this paper presents the effects of bias correction of different meteorological variables on the output of 4 state-of-the-art hydrological models. In my view, this analysis itself is likely to be useful for the discussion of the appropriateness of bias-corrected GCM data for hydrological predictions. However, in the light of the fundamental concerns expressed by Dr. Ehret, I would like to encourage the authors to carefully revise the paper in order to make the reader aware of the inconsistencies introduced by bias correction and avoid the impression that the paper can be used as a "recipe" to most effectively bias-correct GCM data for hydrological prediction. Currently, this impression can be gained mainly from the Abstract and the Introduction.

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