

Interactive comment on “An ecohydrological sketch of climate change impacts on water and natural ecosystems for The Netherlands: bridging the gap between science and society” by J. P. M. Witte et al.

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In this manuscript, the authors combined model simulation, literature review and expert knowledge to produce a sketch-map which indicates climate changes effects on the "high part" and "low part" of The Netherlands. The authors present a thoughtful review of the modelling exercises for climate change predictions and raises some compelling limitations. Then the authors bring up a combination method. The scope of the study fits HESS well and the manuscript is generally well written. I recommend publi-

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cation after appropriate changes. There are some suggestions which I hope could help improve the quality and readability of the manuscript.

1. Page 6313 Line 10-13 This sentence makes the work look like "published" and "old". I would suggest remove this sentence or put it in the Discussion section.
2. Page 6321 Line 7 Why 1967 and 1949 were chosen? I believe there are better quality data in recent years. This requires further justification and explanations.
3. Are the vegetation types in the current vegetation map the same as the early years (1949 and 1967)? If not, what are the consequences?
4. Section 2.4 It would be helpful to clarify which parts are from literature survey and which parts are from expert knowledge?
5. What's the "validation" procedure of this new approach?
6. The the section 4.1. It would be helpful to discuss not only model uncertainties, but uncertainties in general, e.g., what are the uncertainties/limitations in literature survey and expert knowledge and what are the repercussions of the uncertainties?
7. I think adding some societal implications of the projected change would strengthen the paper. We have a recent synthesis paper in HESS dealing with natural and societal aspects of ecohydrological processes in water-limited systems. Some of the issues and technical advances such as water demand, food and water security could be relevant here as well. Wang, L., D'Odorico, P., Evans, J., Eldridge, D., McCabe, M., Caylor, K., and King, E.: Dryland ecohydrology and climate change: critical issues and technical advances, *Hydrology and Earth System Sciences*, 16, 2585-2603, 10.5194/hess-16-2585-2012, 2012.

Minor comments:

Page 6316 Line 16 Change "directly of use" to "direct use"? Page 6317 The first paragraph. I think it would be useful to bring up the fact about some network efforts to

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generate large scale ET dataset (e.g., FLUXNET) for model validation. In addition, there are ongoing efforts to partition large scale ET into E and T (e.g., Evapotranspiration partitioning with woody plant cover: assessment of a stable isotope technique, Geophysical Research Letters, 37, L09401, 10.1029/2010GL043228), which will provide more constraints for model exercises. Page 6320 Line 10 Remove "only"? Page 6322 It is not typical to start a sentence with many references and it makes the sentence hard to follow. I would suggest rewrite this sentence.

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