

Interactive comment on “One-way coupling of an integrated assessment model and a water resources model: evaluation and implications of future changes over the US Midwest” by N. Voisin et al.

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Received and published: 25 August 2013

I thank both reviewers for their constructive yet thorough comments, and the authors for their elaborate reply. It creates expectations of a significantly revised and improved manuscript, to which I surely look forward.

However, I would like to second and emphasize the first reviewer’s suggestion to augment the discussion of the importance of the approach to advancing our understanding of the earth system response to climate disruption. Indeed, 1-way coupling is the

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simplest approach to combining climate and impact models. It can also be seen as a baseline for much more complex 2-way coupling, which does not only allow for a more detailed study of feedbacks and interactions, but at the same time poses many scientific challenges.

As a result, there are very many applications of 1-way coupling available in the literature, and many have a tendency to provide little insights beyond the specific future impact in the specific location of interest. While there surely is scientific value in such studies, I would encourage the authors to be more ambitious, and highlight any findings and conclusions that go beyond the local scale, and may contribute to an improved conceptual understanding of how we model and predict the earth system. This would make the manuscript stand out better from the plethora of impact studies, and at the same time significantly improve its relevance and impact.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 10, 6359, 2013.