

# ***Interactive comment on “Modelling socio-hydrological systems: a review of concepts, approaches and applications” by P. Blair and W. Buytaert***

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Dear Reviewer,

Thank you for your insightful comments regarding this paper; the effort that was put into this is much appreciated. Responses to the comments that you have made are included below, as is a summary of the comment that each response refers to (in italics).

- *Paying more attention to the precursors of socio-hydrology, particularly integrated assessment modelling and global water resource models.* Thank you for this com-

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ment, it is well received. I agree that giving background to the subject through detailing the work of subjects which came before it is an important step, and also agree that, while I have given attention to subjects that studied human-nature and nature-water interactions, I have perhaps neglected to give enough attention to subjects other than socio-hydrology which integrate human and water systems in some sense. As you suggest, integrated assessment models and global water resource models are good examples, and so I will use these in this discussion. While doing this, I will also point out the differences between socio-hydrology and these subjects, in particular the focus on bi-directional interactions and the role of long-term dynamics (e.g. changing social norms) in socio-hydrology, which other subjects have not yet incorporated. The references suggested will be used in this discussion.

- *Issues with the ease of reading of the paper, due to its length and variety of topics.* This is a fair comment – the paper is indeed very long and covers many subjects. This, it was felt, was necessary in order to give a proper idea of how socio-hydrology and socio-hydrological modelling have developed, and where the subject may lead. Your idea of including a figure to show the structure of the paper and the connections between different chapters is excellent, and I will include such a figure in the revised version of this manuscript.

- *Minor point - odd sounding sentence.* In this sentence, I was trying to point out the fact that there are two sides to the complex systems 'coin'. On the one hand, complex systems can be very difficult to manage, due to difficulties in ascertaining the end results of interventions in systems of complex interaction, while on the other hand, the many parts in complex systems means that there can be multiple system components that can be targeted in efforts to manage these systems, which helps when trying to manage them. I will, however, make this sentence clearer and will point out that these aspects reveal a tension in management.

- *Minor points – typos and odds phrasings.* When revising the manuscript, I will check thoroughly for mistakes – thank you for drawing attention to those that you have pointed

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 12, 8761, 2015.

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