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Hydrology and Earth System Sciences
Discussions

Interactive comment on "Using expert knowledge to increase realism in environmental system models can dramatically reduce the need for calibration" *by* S. Gharari et al.

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This paper is interesting and well written. I recommended minor revision for this one. But I was also asked to review another companion paper, hess-2013-520, and I share with the 1st reviewer, Dr. Gong, the same concern on the seemly overlapping between these two manuscripts. A substantial revision of hess-2013-520 and better balancing between these two manuscripts are therefore needed. Overall, hess-2013-520 could be positioned as documenting a generic methodology framework, and the current paper, hess-2013-519, should follow as an illustration at a real case.

We would like to thank the first anonymous reviewer for his/her comment on our work. We appreciate his/her understanding of the massage that we meant to address.
We, however, do not fully agree that the technical note is the core of our work. In our view, our main contribution is formulating the model structure, and designing hydrologically meaningful constraints based on any source of information available. The proposed search algorithm is just a tool which helps us solving our more interesting hydrological problem. The efficiency of this search might be questioned and more efficient algorithm can be developed for solving the same hydrological problem. Therefore we prefer to keep the order of the paper as original without merging them. We tried to enrich the technical note in the revised version.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 10, 14801, 2013.