**Interactive comment on** “Small farm dams: impact on river flows and sustainability in a context of climate change” **by F. Habets et al.**

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This paper makes an interesting contribution to understanding the impact of small reservoirs - a river basin process that may add considerable non-linearity to the catchment response, in particular under changing climate conditions. As for large-scale river basin modelling small farm dams often are a heterogeneous and diverse sub-scale feature that is difficult to represent in a model, the authors note that there are only few studies that comprehensively analyze the effect of a large number of small dams on river basin hydrology. As one of the few examples, the authors may add the semi-arid North-east of Brazil to their introduction, where a huge number of reservoirs of different sizes exist, with an important impact on river runoff, water availability and catchment
connectivity, reported on in the literature (e.g. Güntner et al. 2004, Malveira et al. 2012). The authors may compare their farm dam model to a large-scale modelling approach for small reservoirs by Güntner et al. (2004) in terms of model simplifications such as reservoir volumes, contributing catchment areas and reservoir in- and outflows, and discuss their results on the hydrological impact of small reservoirs also relative to the results of studies that have been performed for north-eastern Brazil.


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