

## ***Interactive comment on “Improved large-scale hydrological modelling through the assimilation of streamflow and downscaled satellite soil moisture observations” by P. Lopez Lopez et al.***

### **Anonymous Referee #1**

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The Paper is well written, logical and tests an important aspect of global hydrological modelling. As such it is a reasonable contribution to the literature and global modelling development.

The more overarching questions that global modelling community, and authors of this paper too, need to ask is – to what effect do we do these improvements?

And also – what is the development problem that these global models, improved by the approaches described in the paper, are trying to solve.

Some discussion of these aspects would be great to have in each paper that deals with global hydrological modelling.

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This paper deals with improvement of just one global model, but there are 10+ of such global models now, and their development seems to be done by relevant groups with limited interactions. What is the point of having parallel similar modelling efforts and where will this go? At what point in the future we will accept that we have a reasonable global model (s), and will not invest into this anymore?

Understanding and measuring the global water cycle is of utmost importance, no doubt. But this will not be achieved through global modelling. We need to focus our attention on improvement of actual data acquisition – through remote sensing methods, if traditional techniques do not work (and we know that they do not).

It would be good to have some elements of discussion on the above in this paper (and other papers that cover global modelling).

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