

## ***Interactive comment on “Uncertainty analysis of hydrological ensemble forecasts in a distributed model utilising short-range rainfall prediction” by I. D. Cluckie et al.***

### **Anonymous Referee #2**

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The authors address an important issue: the in general underestimation of precipitation in ensemble weather prediction systems. The authors come with a possible way to address the issue.

It is unfortunate that a relatively very small catchment has been chosen to address this issue. The typical resolution of ensemble systems is much coarser- in this case the ECMWF EPS has been used with a spatial resolution of roughly 80x80 km. Thus already 1 pixel covering 6400 km<sup>2</sup> - as compared to the catchment size of 135 km<sup>2</sup>. I am not sure if with all sorts of downscaling techniques you'll get somewhere, since the

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origin of the data is still the EPS resolution

The authors do state that the methodology they propose and discuss is not suitable in a forecasting mode. This is in my opinion exactly the added value application domain of ensemble prediction: possible expected weather patterns. So it could be argued, if the solution proposed in this publication has useful practical applications.

Given the above, it is quite obvious that a gauge-calibrated hydrological model will underpredict discharge using weather ensembles as they are produced, and indeed some sort of procedure is needed. Like discussed above, I am not sure if the solution suggested here is a practical way forward.

Ideally, EPS-based discharge forecasts should be compared to and run with a calibrated hydrological model forced by data of the similar nature, so some sort of EPS climatology.

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