

## ***Interactive comment on “Real time updating of the flood frequency distribution through data assimilation” by Cristina Aguilar et al.***

### **Anonymous Referee #1**

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The manuscript describes an analysis to update the flood frequency distribution including some proxies of the catchment memory.

The topic is interesting and the manuscript is well written and pleasant to read.

I have just few comments and suggestions to share with the authors.

Authors adopted the Normal Quantile Transformation in order to build and manage a bivariate Gaussian distribution, however they did not justify this choice. My feeling is that a bivariate distribution directly inferred on the data could provide more accurate results.

It would be interesting to quantify the uncertainty of the proposed conditioned distributions.

C1

Minor point: page 11 line 14. It should be Table 3.

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., doi:10.5194/hess-2016-575, 2016.

C2