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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "Flash-flood forecasting in two Spanish Mediterranean catchments: a comparison of distinct hydrometeorological ensemble prediction strategies" *by* Béatrice Vincendon and Arnau Amengual

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We appreciate the comments made by the reviewer. However, the authors would like also to point out that the previous comments of the HESSD's reviewers have been useful in order to improve the present paper submitted to NHESSD. Specifically, the following changes have been made:

- The SREPS approach has been deeper introduced and described. Additional references on the subject over the last years have been added. The bibliography has been

supplemented

- The differences between the previous hydro-meteorological forecasting chain tested by Amengual et al. (2015) and the implemented in this work have been clearly specified.

- Some points that remained unclear and misunderstood the previous reviewers have further been clarified in the current manuscript: the actual resolution of AROME WMED-EPS, the perturbation method, title of section 4.1, sample concerned by figure 3, and so on.

- The current manuscript no longer aims to compare the different hydrological model structures as we agree with the previous reviewers' comments than comparing the results from a calibrated and verified hydrological model with these from an uncalibrated model could influence this comparison. In addition, the authors have included further analysis on the role of each hydrological model on simulating discharge

- A section about the evaluation methods has been added (section 3.4) as well as an appendix to describe the computed scores.

- We fully disagree with previous reviewers' comments that state that the main conclusions of the present work are quite expected and similar to conclusions of previous works by the authors.

- English has been carefully checked throughout the entire manuscript in order to achieve international standards. In addition, all the minor/technical corrections have been corrected.

Furthermore, the authors feel that some of the comments of the previous reviewers are directly out of the scope of the present work. For instance, to apply a statistical post-processing approach to merge the input from both meteorological ensembles so as to be used as a single input to the hydrological simulations. As stated in the manuscript, the main scope of the present work frames in one major goal of the HYdrological cycle

in the Mediterranean EXperiment (HyMeX, http://www.hymex.org). That is, to foster a better understanding, quantification and modelling of precipitation and flood extremes in the Mediterranean.

In view of these facts, the authors hope that the reviewer would kindly agree in revising the current manuscript submitted to NHESSD. Even if the meteorological and hydrological models used in this study have been used in previous studies, it still remains interesting to enlarge the evaluation samples of hazardous flash-floods and to confirm the results in different configurations, catchments and events and to inter-compare these systems.

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