

Interactive comment on “Subseasonal hydrometeorological ensemble predictions in small-and medium-size mountainous catchments: Benefits of the NWP approach” by Samuel Monhart et al.

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Thank you for your comments and your valuable input. We will account for your suggestions in the revised version of the manuscript. Regarding the selection of the watersheds we want to stress that this is not an arbitrary choice but rather a compromise between the intended application of our results (within hydropower optimization in the Alpine region) and to adequately meet the requirements of a scientific analysis. Hence, the Klöntal and the Verzasca catchment both are selected because of existing hydropower installation in these watersheds and the Thur catchment was chosen as a

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representative catchment with different hydroclimatic characteristics and because the catchment is often considered in hydrological research in Switzerland. We will further highlight this in the revised version of the manuscript. Furthermore, we will give an explanation for the good modelling quality using the gridded observations and provide more information of the number of forecasts used (1040 forecasts with 5 members each are used, corresponding to 1 forecast a week for the full 20-year reforecast horizon). In addition, we will make some changes in section 2 and 3 to improve the distinction between these sections. We can add additional comments on how the pre-processing of only temperature and precipitation affects and propagates through the hydrological simulation by extending the existing discussion. Furthermore, we will add a discussion about the potential enhancement of the performance of the ESP predictions based on a selection of years where the initial conditions show high similarity with present conditions and put it in relation to existing literature as for example Crochemore et al. (2017) who showed that seasonal forecasts can benefit by conditioning climatology. However, a thorough assessment of conditioning the ESP predictions is beyond the scope of the present study but could be considered for further studies within this area. We will provide more extensive replies to your comments during the upcoming revision process.

Crochemore, L., Ramos, M.-H., Pappenberger, F., and Perrin, C.: Seasonal streamflow forecasting by conditioning climatology with precipitation indices, *Hydrol. Earth Syst. Sci.*, 21, 1573-1591, <https://doi.org/10.5194/hess-21-1573-2017>, 2017.

Interactive comment on *Hydrol. Earth Syst. Sci. Discuss.*, <https://doi.org/10.5194/hess-2018-458>, 2018.

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