

## ***Interactive comment on “Future shifts in extreme flow regimes in Alpine regions” by M. I. Brunner et al.***

**M. I. Brunner et al.**

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Received and published: 10 July 2019

Dear Prof. Bronstert,

Thank you for your comment. We completely agree that the hydrological model used for future simulations needs to be validated first for current conditions. We did this by first driving the model using meteorological observations. In a second step, we drove the model with meteorological data simulated using a GCM-RCM model chain. The hydrological regimes derived in the first step (observed meteorology) were compared to the hydrological regimes derived in the second step (simulated meteorology). Figure 6 in the revised manuscript shows that the model and the simulated meteorology are well able to reproduce the regimes derived from the simulations generated using the

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observed meteorology except for one region (i.e. Engadin) where the low-flow regime is overestimated when using the simulated meteorology. Given these validation results, we are convinced that the model is suitable for answering our research questions.

Best regards, Manuela Brunner

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2019-144>, 2019.

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