

## ***Interactive comment on “Retrospective analysis of a non-forecasted rain-on-snow flood in the Alps – a matter of model-limitations or unpredictable nature?” by O. Rössler et al.***

**K. Stahl (Editor)**

kerstin.stahl@hydrology.uni-freiburg.de

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Dear authors,

thanks for the detailed responses. The order in the HESSD process however is somewhat different than how you interpreted it: authors make online replies to each referee for the public discussion (ideally quickly after appearance of the referee comment to allow further online debate), then after the online replies were made, the Editor decides on the requested general revision level (minor, major, reject). Only after that, i.e. now, will you be able to upload a revised manuscript to the system along with a

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point by point reply to all referees and to the Editor decision. Hence I cannot consider the revised version already uploaded as a supplement to your author comment. Please consider my decisions below before uploading the revised manuscript properly through the system when it asks you to.

While the referees were generally positive towards publication of your manuscript, their comments were substantial enough to be classified as "major revisions". The revised version of the manuscript will therefore be re-reviewed by Referee 1, who requested this, and either by Referee 2 or a third referee depending on availability.

Besides the many detailed aspects raised by the referees, please carefully address the first referee's questioning of the "atmospheric river" actually being one and consider whether it may be fair not to overuse this term to catch attention but to be correct in describing the atmospheric situation and classify its unusualness regardless of terminology.

With respect to the hydrological modelling, a large number of clarifications and thorough discussion of model concepts are necessary. One particular aspect raised by the reviewer, and that I would like to re-emphasise that I also think needs some re-thinking are the parameter "adjustments". Good practices for modelling as a research tool foresee calibration, validation and verification. How does your parameter adjustment fit in there? I am aware that in operational hydrological modelling e.g. for forecasting all sorts of post-calibration adjustments and assimilations are done. However, this is a research paper, and the model experiment should be designed to lead to a better understanding of processes or to the testing of hypotheses on these processes. How does the parameter "adjustment" exactly enter the concept the modelling concept in this respect needs to be made clear and justified within the overall research concept of the study.

Regards Kerstin Stahl