

Interactive comment on “Simulation of high mountainous discharge: how much information do we need?” by B. Schaefli and M. Huss

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Received and published: 11 November 2010

We noticed that we did not include a reference to a recent paper by Konz and Seibert (2010) that investigates the same question, i.e. how much information is contained in glacier mass balance and discharge data and the complementarity of the two types of data. Given the high relevance of this paper for the discussion in our paper, we shortly summarize their findings here.

Konz and Seibert (2010) tackle the question from a slightly different angle. They investigate the predictive power of limited discharge measurements alone or in combination with a single glacier-wide mass balance observation (by means of Monte Carlo analyses combined to multi-criteria performance analysis). They use a similar hydrological

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model (albeit with a more sophisticated melt model accounting for differences in slope aspects) and three different case studies, including our case study. Their results suggest that a single annual glacier-wide mass balance observation can contain useful information to constrain their hydrological model. Furthermore, they demonstrate that discharge measurements alone can be misleading and the power of combining a few mass balance observations and discharge measurements at well chosen moments in time, to reproduce discharge as well as glacier mass balance. Their results are in line with our conclusions concerning the need for sufficient information about the seasonal mass balance terms. We will include the above in the discussion of our results in the revised version.

Reference: Konz, M., and Seibert, J.: On the value of glacier mass balances for hydrological model calibration, *Journal of Hydrology*, 385, 238-246, 2010.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 7, 8661, 2010.