

Dear Dr.Merz,

Many thanks for your constructive comments which will be very helpful in improving the manuscript. Our responses to the comments are as follows:

Before potential publication in HESS I think it is necessary (next to the reviewer's comments) to address the following issues.

- Please discuss how your results can be generalized. You just analyse one catchment. Would be the ranking of the methods different for another catchment?

Reply: Agreed. We will apply the proposed methodology to additional two catchments (with different geophysical characteristics) to explore its generalisation capabilities.

- You can not see much in Figure 11. By showing all the time period there is hardly any differences between simulated and observed and hardly any differences between the various calibration schemes. Please focus on different time periods, so that one can really see differences between simulated and observed (and discuss the reason for the differences) or try to increase the information content in another way. (or skip the figure).

Reply: Agreed. Figure 11 will be plotted in a better way to show the differences between the simulated flow and observed flow for different calibration schemes. The reason for the differences will also be discussed in the revised manuscript.

- Is the selected catchment a good one for demonstrating time variant model parameters? Is there any change in the climate? I think it is not shown in the paper.

Reply: Figure 7 has shown that the selected catchment has varied model parameters depending on the time. As to the climate change, the temperature rise during the study period is neglectable compared with its natural variations between seasons. We will further clarify all these in the revised manuscript.

We hope our responses to the comments are satisfactory and look forward to more suggestions.

Best regards,

Binru Zhao, the corresponding author