

Interactive comment on “Analysis of projected hydrological behavior of catchments based on signature indices” by M. C. Casper et al.

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Dear Peter A. Troch,

Thank you very much for giving us the opportunity to resubmit the paper after mayor revisions. And thank you very much for the additional comments, which help to improve our paper significantly.

In order to have a clearer story, we will completely rearrange the paper. We will focus on the main topic of the paper: definition and application of signature indices for detection of hydrologic changes in time series form simulated from different sources (measured, simulated reference period, simulated near future). Signature indices first applied for

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model diagnostics and recently also applied for model calibration are useful tools for comparison of different model outputs. All selected indices are sensitive to changes in hydrological behavior which becomes visible as change in the flow duration curve or change in the distribution of event runoff coefficients. Our study is indented to show that these indices are a fast and reliable approach for detecting errors in the modeling chain and for visualizing hydrologic change inherent in climate simulations. Each signature has its own clearly distinguishable hydrological meaning, therefore we can address changes in water balance, reactivity, high flow and low flow volumes, runoff generation and seasonality of runoff generation. We will not entirely skip the Bias correction part. But we will reduce it to the minimum needed for discussion of our results.

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