We are thankful to all reviewers for their valuable and constructive feedback which helped us to improve the manuscript. In response, aside from several minor corrections, we have introduced the following main changes to the paper:

(1) We have considerably expanded the methodology section to clarify the model characteristics and its calibration process. In addition, we have added more discussion along with the relevant references to compare the outcome of this study with existing comparative precipitation assessments.

(2) Motivated by the reviewers' ideas, we have developed and expanded our analyses in two main directions by introducing; i) daily-scale results to compare the propagation of rainfall uncertainty across different time scales, and ii) a mean ensemble of the individual precipitation products to explore its potential to reduce uncertainty in runoff simulations.

The results show that our findings on the climate-dependent propagation of precipitation uncertainty are valid across daily and monthly time scales, and that the mean precipitation ensemble yields runoff simulations which agree better with observations than for any individual precipitation product.

Please note that we additionally corrected (i) Figures 3 and 4 to show results for May-September as indicated in the caption, while previously it was erroneously April-October, and (ii) the considered catchments to be consistently determined through the criterion of NSE(runoff)>0.36, resulting in a slight increase in the number of considered catchments.

Reviewer #2

The study setup is nice and well tailored, maybe beside the missing of sub-monthly evaluations of the streamflow. Outcomes are interesting, but not surprize with respect to general expectations.

B1: We thank the reviewer for encouraging comments and detailed suggestions. We have included daily analyses, which also confirm the clear dependency of runoff simulations on the existing uncertainty within the input precipitation dataset and the difference in the uncertainty propagation to runoff and ET simulations across climate regimes. The results are displayed in Figures S3 and S7.

- Results and discussion (lines 140-142):
"In addition to the previous analyses using monthly averaged data, we re-compute Figure 4 using daily data. The results are shown in Figure S3. The similarity between Figures 4 and S3 suggests that our findings on the climate-dependent propagation of precipitation uncertainty are valid across daily and monthly time scales."

- Results and discussion (lines 173-174):
"Repeating the evaluation from Figure 5 with daily data (Figure S7) we find similar results. This suggests that the relative quality of the considered precipitation is comparable across daily and monthly time scales."

I am quite disappointed by the missing information on the calibration and validation of the model. Did I miss a link to previous work with your model?

B2: We thank the reviewer for raising this point. More details on the model calibration/validation are included in (lines 89-94):

"The simple water balance model employed in this study includes six adjustable parameters: water-holding capacity, inverse streamflow recession time scale, runoff ratio exponent, ET ratio exponent, maximum evaporative fraction, and a snow melting parameter (as in Orth and Seneviratne 2015, see also Table S1). For model calibration, 500 parameter sets are tested which are randomly sampled from the entire parameter space using Latin Hypercube Sampling (LHS; McKay et al., 1979). The ranges for each parameter within this parameter space are obtained from O et al., 2020 (see also Table S1). This way, we performed 500 corresponding simulations for each catchment over the entire considered time period 1984-2007."

- Data and methodology (lines 69-73):

"We use here the model version introduced by Orth and Seneviratne 2015 which is adapted to the daily time scale by addition of a streamflow recession parameter and an implicit form of the water balance equation. Note that the basic concept and the governing equations of runoff and ET formation used here are well established and employed in many similar conceptual models, such as HBV (Bergström 1995; Orth and Seneviratne, 2015)."

- Data and methodology (lines 101-103):

"Note that we perform only calibration of the model, and no validation. This is because we focus on the influence of the precipitation forcing on the modelled runoff performance, and not on the simulation capacity of the model outside training conditions which has been shown in previous studies (e.g. Orth et al. 2015)."

See all comments in the attached PDF.

Please also note the supplement to this comment:

https://www.hydrol-earth-syst-sci-discuss.net/hess-2019-660/hess-2019-660-RC2-

supplement.pdf

B3: Many thanks for the detailed comments. We have updated the manuscript following the reviewer's suggestion. Clarifications and additions inserted in response to your comments in the pdf have been highlighted in yellow for better traceability. Further, we particularly thank the reviewer for suggesting the inclusion of the SM2RAIN dataset into our analyses. As an independent and novel dataset, this would have been a valuable addition to our analyses. However, we decided not to use it as it does not cover the investigated time period 1984-2007, and the data gaps constitute a problem for application in hydrological modelling requiring gap-free data, while developing a suitable gap-filling approach was beyond the scope of this analysis.