

Interactive comment on “Diagnosis toward predicting mean annual runoff in ungauged basins” by Yuan Gao et al.

Anonymous Referee #3

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Wang and Gao et al conducted a study to develop a nonparametric mean annual water balance model for prediction in ungauged basins. They found that climate and topography play essential roles determining the storage capacity and its shape. I found this study is quite interesting and fits the scope of HESS. Relevant studies should be encouraged to understand and diagnose the impacts of different features on runoff generation in different time scales and their connections. Here I have several comments for the authors to consider for further improving the quality:

1. Why did the authors only use 35 catchments in this study? There are over 400 catchments in MOPEX data. Please clarify the reasons to exclude most catchments.
2. Line 73-74. I cannot follow this sentence. Please rephrase it.

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3. Line 243. The S_b in Chattahoochee River watershed reaches to 1870mm. This value is too large, which let me doubt the physical meaning of the S_b parameter.

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