

Response to Reviewer-2's comments

The revised manuscript on using simple supply-demand frameworks in hydrology really showed some nice improvements compared to the previous version. I am happy the authors addressed my comments and I just have several minor issues.

Response: Thanks for your comments and time.

Regarding Figure 2, I do understand what the authors want to show, and I also agree with the authors that variations might be explained by other controlling factors. However, you cannot deny that the used model may have deficiencies as well, and I think this needs to be added at least in the discussion. So I suggest to just add some lines on that.

Response: The following text has been added: The evapotranspiration ratio plotted in Figure 2 could have bias as they are based on Noah land surface model estimates from GLDAS-2 model. For large basins, estimating evapotranspiration as the difference between precipitation and streamflow is more accurate as the ET ratio and aridity index are purely based on observed information (Sankarasubramanian and Vogel, 2003).

With regard to my comment on Figure 5, I meant adding a color scale for each year (e.g. darker colors for more recent years). Mainly because I wondered if the points in Figure 5 are sequential. In other words, are the points towards lower ratios for more recent years and higher ratios for years more in the past? Is the environmental flow partition reducing over time?

Response: There is no temporal pattern as the data points are more influenced by inflow variability. So, we did not change the colors of those data points. However, there were few minor edits on the labeling with some of the subscripts were not proper. Hence, we revised Figure 5.

From line 256, the authors start a more general discussion, which does not seem to fit under the current section of Representing Human Demand and Environmental Flows in from Reservoir Operation. I suggest to place this part in a different section.

Response: We revised it as follows: We argue that the Budyko supply and demand framework could also be considered for understanding the role of humans in altering the land-surface fluxes.

Minor comments

L236-237. Sentence seems a bit off.

Response:

L.541. Y axis → Y-axis

Response: Modified as suggested.

L.551-552. I think the descriptions of the top row and bottom row do not match with what the figure shows.

Response: Modified as suggested.