The revised manuscript “Catchments do not strictly follow Budyko curves over multiple decades but deviations are minor and predictable” is a very improved version of the earlier manuscript. I feel that all the reviewers’ comments have been very well addressed, with complete and detailed answers and well-chosen adjustments made accordingly to the manuscript.

I feel the introduction is very complete and interesting; the method is a lot clearer, with the choices made better explained and discussed. The figures are clear, complete and the adjustments made help to better show the richness of the results. I believe that this manuscript is very well integrated into the current literature and the current stakes surrounding models' robustness for predictions. This article would be an interesting contribution to the field, and I recommend it for publication.

Here are still some minor comments and small corrections I would suggest:

I would thank the authors for adding more perspective to the results by showing the effect on discharge changes / IE (%), which are easier to understand than changes in the median. I would maybe specify more clearly that these changes in Q are changes due to the deviation to the curve only (if I understood correctly). There is a predicted change along the Budyko curve, what the authors evaluate is the part that is not predicted due to a deviation to the curve.

Also, how is the median value of deviation interpreted? A unit for the median could be interesting to understand the order of magnitude analysed. Is it a relative variation in IE? Or an absolute variation in IE? If it is the latter, the regional aggregation of median distributions (l 539) would need to be further discussed.

L 78 : missing a parenthesis for the e.g.

L 160: ‘Ti’, not very clear it is a notation. Maybe be more explicit (noted Ti for the ith period) or refer to Table 1. At minima, write Ti and not Ti, as done later on. Otherwise, it's a very good paragraph.

L 503: “decrease in the seasonality”: what does it mean?