Response to reviewer 01 (2nd round) – Manuscript: *"Combining uncertainty quantification and entropy-inspired concepts into a single objective function for rainfall-runoff model calibration"* by Pizarro, Montanari & Koutsoyiannis

Below, we list reviewer's comments verbatim in **bold**, followed by responses to these comments in blue. We *italicise* the revised additions to the manuscript.

Thank you again for your helpful feedback!

Reviewer 01: Keith Beven

Obs. 1: L103 would better read: "having different hydroclimatic contexts, with …"
Ans. 1: Thank you for this suggestion. The sentence was updated in the main text.

Obs. 2: L127 would better read: "It is worth mentioning that…"
Ans. 2: Thank you for this suggestion. The sentence was updated in the main text.

Obs. 3: L170. Would better read: "outcomes, allowing the stochastic result to be considered as a representative …
Ans. 3: Thank you for this suggestion. The sentence was updated in the main text.

Obs. 4: L176. It is still not clear how m1 and m2 are chosen?
Ans. 4: Thank you for raising this issue. We improved the main text, adding a clarification sentence. It reads now:

"m_1 and m_2 were adopted as 20 because the lowest and highest quantiles can be empirically estimated (corresponding to $1/41 \approx 2.5\%$ and $1 – 1/40 \approx 97.5\%$, respectively)"

Obs. 5: L220 replace desire with functionality
Ans. 5: Done.

Obs. 6: Conclusions: there are still some catchments within the set that are not well simulated (might it be worth also showing some of those hydrographs?) but no comment about where these might be coming from. It was suggested that the quality control of the CAMELS-CL data is such that "the data of good quality" (can this really be the case?) and the problem of time discretisation and rainfall interpolations mentioned in the previous review are not mentioned here. But these must surely interact with the model structure (which perhaps is not perceptually consistent with some of the catchments in such a wide range of characteristics?). Does this not merit some comment?
Ans. 6: Thank you for pointing out this suggestion. We added some sentences in the conclusions section mentioning that some catchments had deficient modelling results. This paragraph reads now:

"Even though the data used followed quality control, there are still some potential issues in terms of time discretisation or input variables interpolation. Additionally, some catchments in northern Chile have a low annual precipitation and therefore, a high aridity index. In such catchments, modelling results were deficient. The latter is probably due to an inconsistency between catchment characteristics, data availability and quality, and model structure."