

### Response to Referee #3

This is a well-written manuscript. This reviewer only has minor technical comments. See attached for details.

**Response:** Thank you so much for your kind words and positive feedback. We are committed to continuously improving the quality of our manuscript, and your suggestions are invaluable. Thank you again for taking the time to share your comments and suggestions.

L130: the CMA precipitation gauge stations should be included as well on the map.

**Response:** Thank you for your suggestion. We will add it to Fig.1.

L150: “interpolated” is it resampling?

**Response:** Yes, it is. We will replace “resample” with “interpolate”.

L160: There are uncertainties among different DEM data. For example, below paper shows that SRTM deviates from the GPS-RTK measurement with min. error of 22m and max. error of 44m over Maqu region, Tibetan Plateau. This may impact the simulated stream flow. Please the author help clarify on this point.

Li, M., Zeng, Y., Lubczynski, M. W., Roy, J., Yu, L., Qian, H., Li, Z., Chen, J., Han, L., Zheng, H., Veldkamp, T., Schoorl, J. M., Hendricks Franssen, H.-J., Hou, K., Zhang, Q., Xu, P., Li, F., Lu, K., Li, Y., and Su, Z.: A first investigation of hydrogeology and hydrogeophysics of the Maqu catchment in the Yellow River source region, *Earth Syst. Sci. Data*, 13, 4727–4757, <https://doi.org/10.5194/essd-13-4727-2021>, 2021

**Response:** Thank you very much for your suggestion. We will clarify the uncertainty from the DEM data.

L577: this is the same as 5.5

**Response:** Thank you for pointing this out. It was a typo and we will fix it.

L578: are you sure streamflow is the predictor? And not target variable?

**Response:** Thank you for your question. This study used satellite precipitation-driven streamflow simulations as the predictor and ground precipitation-driven streamflow simulations as the target variable. We will use a clearer statement.