

Hydrol. Earth Syst. Sci. Discuss., referee comment RC3
<https://doi.org/10.5194/hess-2021-393-RC3>, 2021
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Comment on hess-2021-393

Anonymous Referee #3

Referee comment on "Ensemble streamflow forecasting over a cascade reservoir catchment with integrated hydrometeorological modeling and machine learning" by Junjiang Liu et al., Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2021-393-RC3>, 2021

The manuscript "Ensemble streamflow forecasting over a cascade reservoir catchment with integrated hydrometeorological modeling and machine learning" integrate the meteorological forecast, land surface hydrological model simulation and machine learning to forecast hourly streamflow over the Yantan catchment, and the results show that the flood forecast has been significantly improved. This work is very meaningful and the paper has been well-written. I therefore recommend this paper resubmitted after minor revisions. My comments are listed as follows:

- The number of ESP members is 40, while the number of members used from TIGGE-ECMWF is 51, which is not the same as ESP, Will the evaluation result over predicted due to the number of members used from TIGGE is larger?
- The upstream basin streamflow are used as CSSPv2 model inputs to provide the upstream inflow information. In the hindcast experiments, the upstream outflow inputs used are forecasts or observations? When lacking upstream outflow prediction, how does the system operate?
- Is it possible to forecast the rainfall-streamflow using meteorological forcing from a closed watershed controlled by the Yantan station and correct it by LSTM instead?
- The upstream inputs are also essential to this forecast system, hope to see some evaluation about this element.
- The calibration results evaluated by NSE shows a worse result in the upstream grids than downstream ones. Is it possible to improve the calibration results by increasing the Iteration times set in the SCE-UA methods?