Review of “Can the combining of wetlands with reservoir operation largely reduce the risk of future flood and droughts?”

Wu et al. deals with flood and hydrological drought risk under future climate change by considering the combined effects of wetlands and reservoirs. The author develops a novelty framework coupling wetlands and reservoir operations with a semi-spatially explicit hydrological model and then apply it in a case study basin to project future flood and drought characteristics under CMIP6 scenarios. This topic will be of general interest in view of new insights into the role of grey-green infrastructure such as wetlands-reservoir in mitigating hydrological extremes. The manuscript is well written, the figures are excellent, and the contribution is clear presented. Overall, I think the topic falls into the scope of HESS.

I have a concern with the role of tributary reservoirs in flood and drought management, and some suggestions for improving the manuscript (see details below). Overall, I recommend minor revisions.

Major comments

In this study, the Nierji reservoirs located in mainstream were mainly considered, but the water regulation role of tributary reservoirs cannot be ignored. Some sub-basins of the Nengjiang River basin also have reservoirs and can make a certain degree of impact on streamflow (Meng et al., 2019), i.e. on the characteristics of floods and droughts. Would the risk of future floods and droughts be different if coupled simulations of multiple reservoirs-wetlands in the mainstream and tributaries were carried out? Such point is important for the next work of multi-objective optimization algorithm. Although the authors did not state such concern may be due to data limitations, I think this point is crucial to mention and discuss.

The figure has problems such as title and content not corresponding, and wrong unit labeling, which need to be carefully checked and revised to improve readability.

Specific comments

Line 180-181. Latitude information is missing in Fig.1. The title and content of Figure 1 do not match. Where are the subfigures (a), (b) and (c)? Please rewrite the title.

Line 207. Insert ‘basin’ between ‘a’ and ‘hydrological’ to maintain consistency with subgraph (a).

Lines 297-298. What are the resolution of the raster datasets used?

Line 309. Delete the sentence 'Of the ten stations, seven are located upstream of the Nierji Reservoir.' to avoid repetition with the first sentence of the next paragraph.

Line 342. This is the first occurrence of the NSE and needs to be stated in full name, not in the second occurrence of the NSE in line 349.

Line 369. What is SSP, please specify the full name when it first appears.

Line 394.Change ‘used’ to ‘adopted’.

Line 411. What is the specific time period of the historical period?

Line 595. Insert ‘scenarios’ at the end of this sentence.

Line 597. The Y-axis is 'Peak flow' not the ‘Peakflow’; and should be consistent with the other figures and main text.

For Fig.6, Fig.8, Fig.9, and Fig.A3, the unit of drought deficit should be ‘m^3’ rather than ‘m^3/s’

based on equation (4).
Lines 903 and 908. Change ‘wetlands/wetlands and reservoir’ to ‘wetlands/wetlands-reservoir’

Supporting references:

Meng, B., Liu, J. L., Bao, K., & Sun, B. (2019). Water fluxes of Nenjiang River Basin with ecological network analysis: Conflict and coordination between agricultural development and wetland restoration. Journal of Cleaner Production, 213, 933-943.