

Interactive comment on “Assessment of climate change impact and difference on the river runoff in four basins in China under 1.5 °C and 2.0 °C global warming” by Hongmei Xu et al.

Anonymous Referee #1

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There are a few general comments:

1. Was the conformity assessment of meteorological characteristics (for example, air temperature, precipitation, and other input variables of the SWAT model) from the WFD dataset to the observed values on the meteorological monitoring network carried out?
2. Was the assessment of reliability of meteorological conditions reproduction according to the GCMs data for the baseline period 1976-2005 in comparison with the WFD dataset carried out? as well as the annual and seasonal water regime of the rivers according to the simulation results of the SWAT model? This can be extremely important for future calculations.

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3. Probably, the low values of the Nash-Sutcliffe efficiency for gauges with a smaller catchment area (the Shiyang and Chaobai rivers) than for larger ones are explained by the insufficiently detailed grid of the meteorological data (0.5 degree).

4. How were the threshold values of 1.5 °C and 2 °C determined according to GCMs? at the end of the XXI century or during?

5. How different are the sets of calibrated parameters of the SWAT model for the four study rivers?

I believe that the authors' responses to these comments will allow us to more objectively evaluate the obtained simulation results and understand the features of the non-linear response of hydrological systems to climate change, which will further increase the scientific level and significance of the results of this article.

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