

Interactive comment on “On an improved sub-regional water resources management representation for integration into earth system models” by N. Voisin et al.

Anonymous Referee #3

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Authors: N. Voisin, H. Li, D. Ward, M. Huang, M. Wigmosta, and L. R. Leung
Title: On an improved sub-regional water resources management representation for integration into earth system models
General comments: The content of the paper falls into the uncertainties of the reservoir models from different implementations of the generic operating rules. In this work, author set up a reservoir which is coupled to the routing model. Both models are run using the same time step, which can vary from minutes to days. In an offline mode like in this setup, the consumptive use is being extracted instead of withdrawals, which would be more appropriate in a fully coupled ESM in which the return flow would be simulated. Author use a similar set up for all the reservoir

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model configurations. In general, the scientific work is relatively well established and meaningful. However, there are some major comments and suggestions also have to be considered:

1. The construction of some sections need to be considered, also the content should be concise. For example, I suggest not stating too much content that is not necessary in section 3.4 and 6, especially for the conclusion.
2. Time distribution for data used in this paper is mostly 1984-1999. Due to the climate changes of recent years and some other reasons, river flow may change a lot. Is the result representative?
3. Please recheck the references; they should be listed in accordance to the journal requirements. Although a large number of literatures were cited, but the literatures recent years are not sufficient, and the reference is not updated.

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