

## ***Interactive comment on “Modelling water, sediment and nutrient fluxes from a mixed land-use catchment in New Zealand: effects of hydrologic conditions on SWAT model performance” by W. Me et al.***

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The Article is potentially of interest for the SWAT users community and for the broader hydrological audience, but it needs significant revisions. The reviewers offer important suggestions, which I recommend to follow attentively. In addition, I provide some additional points below.

1. A plus of the paper is that it attempts to model transport in addition to flow. The results of transport simulation, however, are not so encouraging. There is a strong

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difference between calibration and validation performance, with much better model performance during the validation period. I would recommend a split sample approach, where the calibration and validation period are inverted, so to check the consistency of results.

2. Can the bad performance for transport simulation during the calibration period be due to too short warmup period? What is the warmup period, and can it be increased?

3. The authors seem to compare observed instantaneous concentration data (measured once per month) with modeled monthly averages. They should compare observed averaged with simulated averages, or observed instantaneous values with simulated instantaneous values. Please clarify this aspect and correct the manuscript if necessary.

4. The paper structure could be improved. “study area and model configuration” should be 2 separate paragraphs. The model configuration section needs more details. E.g. how many HRUs does the catchment have? How were they defined? How many parameters in total?, etc.

5. Tables 2 and 3: can the parameters corresponding to hydrology, chemistry and sediment transport simulations be clearly separated.

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