

Interactive comment on “Calibration and validation of SWAT model and estimation of water balance components of Shaya mountainous watershed, Southeastern Ethiopia” by A. A. Shawul et al.

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Dear Sir/Madam

First of all, we would like to acknowledge Anonymous Referee #1 for reviewing and providing detail comments on our research article that all the comments are pertinent to comprehend the research article.

Basically the SWAT model was calibrated and validated on a daily, monthly, seasonal

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and annual time step even though the daily calibration result was not as good as monthly and annual basis. If the model is efficient at monthly time step it can be taken for scenario simulation in a data scarce situation like remote areas Ethiopia as have been indicated in many SWAT model developer literature. It is possible to include the daily, seasonal and annual model calibration and validation results, if necessary.

Most of the specific comments are already indicated in the document such as the analysis of how well the model captures hydrological processes of the watershed is well indicated on Fig. 4 and Fig. 5. The study watershed area is also indicated in description of the study area section and the HRU used for calibration is the whole HRUs calibration is performed at the outlet of the watershed Fig 1. Base flow separation was undertaken on the bases of daily discharge data. The other comments like elevation of weather stations, the rating curve can be corrected within short period of time.

Thank You, Alemayehu Abate Shawul (First Author)

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 10, 13955, 2013.

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