

Interactive comment on “SWAT use of gridded observations for simulating runoff – a Vietnam river basin study” by M. T. Vu et al.

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REFeree #2 COMMENTS Thank you for your comment. We have tried our best to reply to your queries. Here is the answer: (1) Page 10680: Abstract: The abstract is well written and summaries most of the paper but it doesn't include any mentioning to the results of the paper.

(2) Page 10681: Introduction: The introduction is missing a review of other studies where rainfall gridded data was used in rainfall-runoff modelling.

Authors' Response: Added accordingly

(3) Page 10682 Line 10: Please revise the second sentence according to the following

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comment. The SWAT model uses the skewed distribution or the mixed exponential distribution to generate rainfall data when no actual rainfall is available. To obtain the spatial distribution of the rainfall data over the catchment SWAT is using different procedure explained in the user manual of the model.

Authors' Response: Revised accordingly

(4) Page 10683: Study catchment: From the sensitivity analysis the model seems to be sensitive to parameters related to base flow. Therefore the study catchment description should also describe the groundwater and the types of aquifer in this catchment.

Authors' Response: Revised accordingly

Base flow reception constant: Alpha_BF is a very sensitive parameter to SWAT model in many Study region. However, here in this study, we do not focus much on groundwater study hence no introduction about that has been produced.

(5) Page 10684 Line 13: Was the definition of the Potential evapotranspiration been suggested by the authors or it has been found somewhere else. Please clarify.

Authors' Response: Defintion removed as we felt it is not actually necessary. Changed accordingly

(6) Page 10684 line 23: Hydrological Response Units (HRUs). Please describe the discretization of the study catchment into sub-basins and HRUs.

Authors' Response: SWAT can describe the catchment as a single watershed or digitize it into multiple hydrological connected watersheds. Thus, each watershed is first divided into sub-basins (base on DEM) and then hydrologic response units (HRUs) based on land use and soil distribution.

(7) Page 10688 Line 24: Model calibration and validation should be revised based on the following comment. It will be good if the model is calibrated by taken data of the period from 1995-2000 and the remaining data is used for validation. The results from

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this calibration validation scenario should be compared against the one already done in order to find the best model parameters which can be used in the subsequent analysis in the paper.

Authors' Response: Noted your comment with thanks. The reason for using period of 2000-2005 as calibration period is based on the availability data of the land use and soil map collected from local authorities for the year 2002 (which we did not mention in the main text).

(8) Page 10692 Line 7: Evaluation of model performance can be extended further by considering the following comment. It is worthwhile to have a table or graph showing the percentage of error in the rainfall from the various gridded data versus the percentage of error in the runoff estimation. This allows of investigation the influence of the rainfall estimation error on the runoff estimation error.

Authors' Response: Noted the comment with thanks. We will incorporate this in our future research.

Please also note the supplement to this comment:

<http://www.hydrol-earth-syst-sci-discuss.net/8/C6456/2012/hessd-8-C6456-2012-supplement.pdf>

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 8, 10679, 2011.

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