

Interactive comment on “Integrated Impact of Digital Elevation Model and Land Cover Resolutions on Simulated Runoff by SWAT Model” by Mahmoud Saleh Al-Khafaji and Fouad Hussein Al-Sweiti

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Comment 1: " I have never conducted thorough assessment of the influence of the DEM and LC resolutions on the hydrological model performance, but quick search through the papers has shown much more studies that those, addressed by the authors, e.g. works of Geza and McCray, 2007; Jenson, 1991; Wechsler, 2007; Li and Wong, 2010; Wu et al, 2007; Mou Leong Tan et al. 2015; Jeongkon Kim et al. 2012; Branger et al. 2013; Bormann et al. 2009; Sharifi and Kalin 2010 etc. : ." Response: Wechsler, 2007: Discussed the Uncertainties associated with digital elevation models for hydrologic ap-

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plications. Simulation results of SWAT model by using DEM with different resolution were not considered.

Geza and McCray, 2007; Examined the soil data, not the DEM and LC. Jenson,1991: Used DEM to delineate the watershed. She did not consider the LC.

Li and Wong, 2010; Wu et al, 2007: it is not relevant to the paper subject. Mou Leong Tan et al. 2015: It is one of the considered references in this paper

Comment 2:" lines 9-10, 28, 37 etc. There are also grammar mistakes in the text, a re-check by a native speaker is essential!" Response: The authors agree with this note.

Comment 3:" Another major issue – the hydrological model cannot be calibrated over two years and then validated over one year – this is too short for a simulation. Please use a longer period of time, at least 5 years for calibration and 5 years for validation." Response: The model was calibrated and validated based on daily data. 730 point to calibration and 730 points to validation. There are many researchers used data of one year for calibration and two years for validation such as Chaubey 2005. While Dixon 2009 used only two years data with a monthly scale to calibration. See also, Chang 2013, Zhang2014. The considered areas have a scarce data.

Comment 4:" Another issue of the methodology: all datasets used have different quality of the informationence the runoff! Otherwise, the entire analysis doesn't make any sense." Response: To increase the accuracy, ASTER DEM 30 m was used. This DEM was resampled to 50m. to decrease the gap between the DEM 30 m and DEM 90 m.

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