Hydrol. Earth Syst. Sci. Discuss., 7, C2323–C2324, 2010
www.hydrol-earth-syst-sci-discuss.net/7/C2323/2010/

Hydrology and Earth System Sciences Discussions

Interactive comment on "Observed and simulated hydroclimatology using distributed hydrologic model from in-situ and multi-satellite remote sensing datasets in Lake Victoria region in East Africa" *by* S. I. Khan et al.

t. Ashagrie (Referee)

tegenu@gmail.com

Received and published: 15 September 2010

The paper is well done and I hope this will add up the knowledge to understand the spatial-temporal distribution of hydro climatology conditions of East Africa using measured and satellite data as model inputs. I want to say just few things: 1. In the paper, the daily discharge is simulated at a low accuracy compared to the monthly discharge. Distributed models usually should simulate the daily discharge at a reasonable accuracy. Monthly values may not clearly show what is happening at a specific place and

time within a day or for a given unit time. Therefore, calibrating the input parameters for better daily or weekly discharge simulation values will be very helpful. (section 4) 2. It would be wise to reason out why the model underestimates runoff estimates R for the months of June, July, August and September. These are months with high rainfall and runoff in East Africa and the outputs matter (section 5.1) 3. Regarding the trend of increasing peak discharges for low precipitation after the mid 1990s (section 6, 5), reasons are mentioned as effect of land use/cover and increased basin channelization will have caused that. More and brief explanation about the extent and type of land use changes that would increase the peak flow would be important here 4. Add Sensitivity analysis for all input parameters. This will show for which parameter the model is highly sensitive 5. Support the result with previous similar works outputs and literature. The effort is already there but needs to be strongly supported further

tegenu@gmail.com

Please also note the supplement to this comment:
http://www.hydrol-earth-syst-sci-discuss.net/7/C2323/2010/hessd-7-C2323-2010-supplement.pdf

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 7, 4785, 2010.