

Reply to comments from Referee#3

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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.

We appreciate Ashagrie's encouraging comments. Thank you for the review and constructive suggestions.

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)

The model is calibrated and validated at daily time step. Please see figure a, b and c).

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)

More discussion on fluctuation of runoff during those seasons will be added. This will improve the quality of the manuscript.

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

This point is raised by other referrers, therefore we intend to address this comment during the revision.

4. Add Sensitivity analysis for all input parameters. This will show for which parameter the model is highly sensitive

As pointed by the Reviewer 2, we will add more information on land use and soil properties of the Nzoia.

5. Support the result with previous similar works outputs and literature. The effort is already there but needs to be strongly supported further

More relevant literature review will be added.

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