

Interactive comment on “Using multi-source satellite data for lake level modelling in ungauged basins: a case study for Lake Turkana, East Africa” by N. M. Velpuri et al.

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The main contribution of this paper is the introduction of the use of precipitation estimates from satellite data in lake level fluctuation estimation. The topic is of a broad interest to the readership of this journal so I will recommend for publication. The only critiques of the manuscript that I have are 1. the lack of scheme that accounts water residence in the lake in equation 5. If a linear reservoir routing scheme was added to the lake outflow flux there would have been a better agreement between simulated lake water depth and satellite altimetry data in figure 5. The effects of neglecting the

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residence time of the inflow and outflow from the lake it shows in the lacking of the simulated lake depth to satellite altimetry of the lake levels. The residence of the inflow in the lake system is apparently longer than one month as authors have tried to fit. 2. Velpuri et al should make clearer that the uncertainty created in lake level estimations from the use of RFE as rainfall data. The RFE has been used successful as an early warning tool, to flag anomaly high or low rainfall events, that does not mean the RFE a good quantitative tool.

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