

Interactive comment on “Assessment of surface water resources availability using catchment modeling and the results of tracer studies in the meso-scale Migina Catchment, Rwanda” by O. Munyaneza et al.

Anonymous Referee #1

Received and published: 2 March 2014

Date: 2/27/14 Comments on “Assessment of surface water resources availability in a meso-scale catchment using catchment modeling and the results of tracer studies in the meso-scale Migina Catchment, Rwanda”

General Comments:

This paper tried to address the assessment of water resources availability of the Migina catchment at Rwanda from a hydrological modeling prospective. I think that there is a real need for such work; however this paper should be rewritten with a better

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focus on the central theme of assessment of water resources availability (e.g., using different scenarios and assess the impacts). I have not seen a contribution that can serve as an advancement of science within the work presented to assess the water resources availability at the study area. In addition, I suggest that the manuscript should have better information on how the model was parameterized and how results were interpreted. Another major note that the authors need to consider is to address the limitations associated with the approach that the authors undertook to answer the paper main question. Therefore, I have decided that the manuscript should be rejected.

Specific Comments:

HEC-HMS is a deterministic model. How do you see the application of its result in the face of climate change.

After you stated your problem and why it is important can you give a glimpse of your paper results and what have you found at the introduction paragraph? I suggest rewriting the Introduction paragraph to present the whole story of your paper (why, how and what you have found!).

Page 15381, Line 16. What about soil properties. In your input data there is no say about soil texture/properties. How do you address the lack of soil data in setting up your model?

Page 15382, Line 8. How did you address the spatial variability in radiation and air temperature values across the various sub-watersheds modeled to estimate reference crop evaporation values?

Page 15388, Line 10. How the watershed soil percent is treated as a variable? In table 2 you showed that the soil percent has been calibrated in your modeling work while in table 1 you showed that you have information about land use and imperviousness which to me means you have information about watershed soils.

Technical Corrections:

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I have realized that the manuscript has many typo errors so I recommend re-editing it.

Swap Figures 1 and 2. Figure 1 should give the location of your catchment.

From where did you get the information listed in Table 1?

Page 15380, Line 10. Rewrite the sentence “supported the idea of building . . .” with breaks. It is too long.

Page 15381, Line 1-5. This introductory should be moved up the study area section.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 10, 15375, 2013.

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