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Hydrology and Earth System Sciences Discussions

Interactive comment on "Estimation of flooded area in the Bahr El-Jebel basin using remote sensing techniques" *by* M. A. H. Shamseddin et al.

Anonymous Referee #4

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General Comments:

The paper addressed an interesting problem of estimating flooded area using remote sensing. It is a case study that uses available data, that are subsequently processed and then provides an area estimation. It is not clear, however, what the novelty and the scientific contribution of the paper is. It certainly provides pathways for problem solving, but no hypotheses are stated or clearly tested. In this respect it seems to me that there is a dimension missing in this paper that could clarify how this research provides progress in the hydrological sciences.

In particular, if area estimates are the centre of the paper, then it would be most valu-

able if the authors could prove that the method gives realistic values within an acceptable error margin. This would require some degree of ground truthing which apparently hasn't been done. Some independent assessment of flooded area needs to be considered within this context. Alternatively, if flooded area evolution is being modeled, a clear indication on how climate affects flooded area dynamics could be extremely useful, again requiring perhaps climate and weather data that my not be available. The key point here is, that the authors need to convince the reader that something novel has been done that is reproducible.

Overall the paper is very brief with missing information - which can be easily fixed.

Specific Comments:

Introduction:

A clear statement of scientific objectives needs to be presented.

Materials and Methods: This section is very short and I have some trouble to get all the information to make this study reproducible. For example very little is said about the parameterization of the model and about the input data needed for it. Also, some assumptions are not justified - eg the initial storage volume was set to 1 m without providing any justification for this. Some symbols are not explained eg k in equation 2.

Results and Discussion: This section makes little attempt to provide the reader with the context of the study. It is focused on the study area only with little reference to scientific issues on flooded area estimation. It is not clear what has been achieved with this study and whether the results have anything to do what is actually happening in the field. There are no succinct conclusions.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 3, 1851, 2006.