

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 #3

Received and published: 17 April 2007

The paper describes remote sensing estimation of the flooded area of the Bahr El-Jebel wetland and from that, developing water balance estimates of evaporation losses. There is clearly a need for better understanding the hydrology of this part of the world. However, I found the scientific innovation of this paper difficult to identify from the text. I would recommend the authors develop a clear and testable scientific hypothesis. Alternatively, if the intention is to report a case study, the paper should demonstrate significant implications for improving the science.

The authors use existing remote sensing and image analysis/classification techniques however there is only one citation on these subjects. There is no critical analysis of the adopted methodology, in the context of the existing remote sensing and image anal-

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper

ysis sciences. Similarly there is no critical analysis of the uncertainty of the resulting aerial estimates of flooded area using these techniques via validation or modelling. Incorporation of these would improve the manuscript.

The authors should spend more time explaining the modeling and the assumptions of the modelling. How for example were rainfall, inflows, outflows and soil moisture recharge calculated. Rainfall is notoriously spatially variable. Given the uncertainty of aerial estimates what is the uncertainty of evaporation estimates. What is SEBEL? There is no description of it at all in the paper other than results. How was open water evaporation calculated, with what data and with what assumptions? The above are critical issues in order to make the methods reproducible.

There are numerous sentences and paragraphs containing poor grammar, much like my own I suspect. This is unfortunate because I was unclear of some of the arguments being developed by the authors. I would recommend the authors have the manuscript thoroughly reviewed in this context. This is easily changed.

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

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper