

Interactive comment on “Regional estimation of daily to annual evapotranspiration with MODIS data in the Yellow River Delta wetland” by L. Jia et al.

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This paper discuss an important and interesting scientific issue about the spatial variation of water consumption using remote sensing based techniques and it is very relevant to HESS objectives. The authors combines the results of ET estimates using MODIS satellite images from SEBS algorithm with a novel gap filling method(HANTS algorithm for cloudy days) for the monthly, seasonal and annual actual ET over the Yellow River Delta wetland. The findings of the paper demonstrates the applicability of remote sensing based techniques for knowing the vegetation health and water requirements of large wetlands in data sparse environments and the finidings have a

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possibility to apply for wetlands located in other parts of the world.

The paper is generally very well written, easy to read and have very solid conclusions. The most important finding of the paper is the non-applicability of crop coefficient K_c in the Yellow River Delta Wetland which contradict the current and historical use of crop coefficient for estimation of crop ET using the standard FAO 56 method. Although, the author proves that the usability of crop coefficient is not possible due to high spatial variation of ET for a same class pixels located within the satellite imagery. However, I would recommend authors to support their statement with any other published work.

In the results section, the authors mentioned that annual average ET is around 900 mm with a standard deviation (SD) of 452 mm which doubts the overall accuracy of ET results. It would be recommended if the authors could provide more details about the possible causes for high SD results. Overall, the conclusions are well written and provides a very concise findings from this paper.

In the reference section, the authors needs to get rid from the following reference because it is not discussed anywhere in the main text section.

Brusaert, W. H.: Evaporation into the Atmosphere: Theory, History, and Applications, Reidel, Dordrecht, The Netherlands, p. 299, 1982.

I recommend this paper for a publication after the incorporation of comments mentioned above.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 6, 2301, 2009.

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6, C762–C763, 2009

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