

Interactive comment on “Water resource monitoring systems and the role of satellite observations” by A. I. J. M. van Dijk and L. J. Renzullo

Anonymous Referee #2

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The author illustrates the Spatial water resource monitoring systems (SWRMS) which can provide valuable information in support of water management, especially in poor water area Australia. It's a very interesting model for water use. I suggest to publish with a minor correction.

For me, the paper failed to evaluate so many parameters used in SWRMS. You'd better give us a example to show the good results. For example, you mentioned the LST, albedo and so on, do you validate the results in Australia? The model can be used in Australia irrigation area and give us a general results.

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The author have a review of operational and research applications demonstrates that satellite observations can improve accuracy and spatial detail in hydrological model estimation. That is very important for you model. Unfortunately you don't say if it suit in Australia?

Over all the paper is too long, especially for instruction for Spatial hydrological models part. Each part you referred many references, for reader we have no any idea except we read the reference again. You have to tell us a general information then give a reference.

Data assimilation is a important work for your model, but the author only talk about the advantages and disadvantages. You'd better give a proper way to your model operation stably.

How do you think the daily or monthly ET is accurate? Also you mentioned many ways to get ET, here I want to say the detailed work is very important for future model. As we know, only ETa's calculation has many problems in observation sites. To validate the ETa, so many papers published in recent years. I am not sure the author's group can do all of the work, such as numerical model, remote sensing for land surface parameters, ET etc (You mentioned use the results directly, but you have to do the validation firstly), data assimilation.

In detail: 2.2 Operational monitoring systems, this part is too long and affect the later parts.

p6312, line23 "These include flood and drought monitoring systems based on atmospheric model output". You need to tell reader what model to be used?

p6316, line17 "Prior estimates for all parameters were based on literature review or analyses carried out as part of model development." Here you have to illustrate the suitable factor in Australia.

p6318, line21 "Optical observations of albedo and thermal infrared (TIR) and mi-

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microwave brightness temperatures or derived land surface temperatures (LSTs) can be assimilated into surface radiation and energy balance models to improve the accuracy of ET estimates". Just mentioned in former part. In this part you need say what remote sensing results? If it is right to get the accuracy of ETa?

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