

Hydrol. Earth Syst. Sci. Discuss., referee comment RC2
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Comment on hess-2022-303

Anonymous Referee #2

Referee comment on "Phenophase-based comparison of field observations to satellite-based actual evaporation estimates of a natural woodland: miombo woodland, southern Africa" by Henry Zimba et al., Hydrol. Earth Syst. Sci. Discuss.,
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In this paper the DTS method was used to estimate total evaporation in a Miombo Woodland in Mpika, Zambia. These results were compared with four remote sensing products.

I commend the project team for the installation and maintenance of the equipment at what must have been a challenging site. The measurements in this particular vegetation type is where the paper makes a significant contribution. A second contribution is that remote sensing models do not do a great job of estimating ET accurately in tall, heterogenous natural vegetation types. In fact, I wondered whether this is not two separate papers with the first being the DTS measurements and the second the remote sensing? However, separately, they may be a bit sparse?

It would have helped me to understand the canopy better, if there had been a temporal graph of LAI, preferably measured monthly. It could be a satellite derived product though if no measurements were taken.

The Atmos41 was not the ideal choice of instrument to validate the DTS air T and RH measurements and it is designed to be a low maintenance station and not really for research grade experiments. Radiation shielding is the main problem and this is mentioned where the data is assessed.

This work makes a useful contribution but the grammar and language needs improvement throughout. It really made it difficult for me to review as it detracted from the scientific content. So, my suggestion is major revision of the grammar and manner in which sentences are structured. Generally, I'm happy with the paper structure and even the paragraphs are structured well. The paragraphs explaining why the RS models have problems are quite long and hard going to read through. I suggest possibly trying to put

the info into a table to reduce the length of the paragraphs?

I think the title needs to be reviewed or considered. Much of the paper is about RS but this is not reflected in the title? Consider replacing the word 'measuring' with 'estimating'? Did you actually measure evaporation? You measured temperatures really?

Please note the pdf attached with 232 comments and edits. I gave up on grammar issues at the start of section 3.5. I would think that most of the comments can be addressed relatively easily.

Please also note the supplement to this comment:

<https://hess.copernicus.org/preprints/hess-2022-303/hess-2022-303-RC2-supplement.pdf>