

With pleasure I read the revised manuscript by O'Conner et al on the effect of ground water depth on evapotranspiration, land surface temperature and vegetation growth. I was also one of the reviewers of the first version of the manuscript. The authors well answered to questions raised by both reviewers and incorporated the suggestions.

Savanna is added to the manuscript as a distinct third land cover class, for example by adding it in fig. 2 and by discussing its characteristics and interest. This, together with the clear connection between the introduction (specifically paragraph 4) and discussion, greatly improved the structure of the paper. The methods section is clear and complete and the authors addressed all concerns of the reviewers in their revised manuscript.

I have two small questions remaining and I have a few language related suggestions that the authors might want to look into. This is not a complete list, but just a few things that I came across when reading the paper.

L503: "water logging of soils has been shown to be an important factor in determining vegetation distribution". Is this statement based on literature?

L470: "we also expected that the influence of WTD would be most important during the wet season transition". This hypothesis is not phrased in the introduction. Do you hypothesise the influence of WTD to be more important during the WST compared to the DST? If so, why?

- I suggest to define the abbreviations once and use them consistently throughout the document, e.g. DST and WST.
- L55 "has lower leaf surface area"
- L56 "and agricultural vegetation usually has"
- L102 "agricultural crops are known"
- L107 "thus access to soil moisture is an important limiting factor for photosynthesis and transpiration". Do you mean limited access to soil moisture?
- L127 "we expect to find"
- L146 "with a maximum of 700 **m** and a minimum of 100 m"
- L194 "Despite low albedo (..) and high net radiation". What do you mean by despite?
- L200 "as **EVI** is less sensitive"
- L217 "due to our large sample size, we still **have** enough"
- L220 / L232: both start with finally
- L231 "SI.9.4"
- L234 "which was then applied to an accumulation to calculate" This sentence is unclear to me.
- L247 "the model overestimated deep WTD" / L458 "may be underestimated"
- L251 "these depths were selected as they represent rooting depth"
- L270 "crop vegetation **has** a low"
- L310 "The WST and DST periods were selected .."
- L318 "shallow rooted vegetation"
- L376 "effect of ground water depth **on** Land Surface Temperature"
- L401 "between deep and shallow **WTD**"
- L412 with between, do you mean among?

- L425 “we expect to see the largest influence of WTD in crop vegetation”.
- L428 “was not different between crop **areas** in ..”
- L430 replace “a high / a low” with for example a maximum / a minimum”
- L440 “and therefore evaporative cooling **could explain** the cooler”
- L476 “higher in shallow than deep WTD **areas**”
- L475 “during the WST EVI is increasing / increases faster”
- L531 “can vary between September at October”. Do you mean September and October?
- L561 the sentence “on a local scale show signs that ..” is unclear to me.