

Hydrol. Earth Syst. Sci. Discuss., referee comment RC1
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Comment on hess-2022-50

Anonymous Referee #1

Referee comment on "Monitoring the combined effects of drought and salinity stress on crops using remote sensing in the Netherlands" by Wen Wen et al., Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2022-50-RC1>, 2022

The combined effect of drought and salinity on crops is very important for food security under global change background. Remote sensing shows its advantage for large-scale applications. This paper used the sentinel-2 satellite data to conduct an analysis in this regard. The findings are interesting. I have the following major concerns:

Major:

- 1) Irrigation can mitigate the drought effect to a large extent. I would like to know how irrigation has influenced the analysis. There is no information reported in this regard.
- 2) Five different indicators were used to depict the health condition of different crops. I am wondering how the stress factors influence the final yield. Is it possible to have some discussion in this regard?

Moreover, please find below some minor comments:

Line 33, more deeply challenged.

Line 37, delete 'of' and 'more than'

Lines 83-90, why was SPEI selected as the drought indicator rather than the others? What is the RD_new projection? Where are the precipitation and PET data from?

Lines 124-129, Include some information about Sentinel-2 in the data description although it was pointed out in Fig. 1.

Line 145, why was the biomass effect removed? Is this contradictory to the Cab*LAI and Cw*LAI at Line 142?

Line 151, What do you mean by 'due to the unbalance in the occurrence of stress conditions'?

Lines 163-173, More explanations are needed to illustrate the connotations of different indicators in the ANOVA analysis, to increase the readability. Probably this can be supplemented in the methodology section.

Line 200, Add some information for the different letters indicating the significance level.

Line 220 and Line 244, It was concluded at Line 220 that there is no additive effect for drought and salinity. Is it in contradiction to the severe effect of the co-occurrence of

drought and salinity?

Line 257, why was the drought effect mitigated? Please add more explanations.

Line 278, 'Considering the additional', remove the comma. Change 'promising' to 'probable'.

Line 283, 'In addition to facilitating the evaluation...'

Line 285, distinctively

Line 288, understand

Line 289, as compared to

Line 291, In this respect

Line 292, the transpiration demand normally refers to the atmospheric demand, like VPD and incoming radiation. What do you mean here?

Please check the English writing more carefully to enhance the readability.