Hydrology and Earth System Sciences Discussions

Hydrol. Earth Syst. Sci. Discuss., editor comment EC1
https://doi.org/10.5194/hess-2022-96-EC1, 2022

Editor comment

Daniel Green (Editor)

Editor comment on "FarmCan: a physical, statistical, and machine learning model to forecast crop water deficit for farms" by Sara Sadri et al., Hydrol. Earth Syst. Sci. Discuss., https://doi.org/10.5194/hess-2022-96-EC1, 2022

Dear authors,

This paper presents a study of using a machine learning framework, “FarmCan”, to forecast irrigation demand in 4 farms in Canada using machine learning. The authors find that soil moisture shows a strong correlation with precipitation and that ET and PET are effective predictors of NI. The study shows the potential of using machine learning models to improve the timing of irrigation and therefore to save water and achieve sustainable agricultural production.

The Editors would like to acknowledge the efforts all of the reviewers who have made comments on this manuscript. Due to an editorial issue during the invitation of reviewers phase, we have received 12 reviewer comments on the submitted manuscript, and an additional two community comments (14 reports to address in total). Invitations for review were sent out to a large volume of reviewers and we had an unusually large number of request for manuscript reviews accepted. Although this highlights the novelty and importance of the work undertaken, it is unrealistic to expect you to address all of these comments in turn.

In light of the editorial issues, I recommend that the Authors reply individually to three Reviewer comments (RC 1, RC 2, RC 3), which request relatively minor revisions. Further, I recommend that the Authors also reply to this Editor comment addressing the specific and general comments which have been summarised and taken from the remaining reviewer comments below (divided into general and specific comments, as well as those relating to the figures/tables). Please see attached document.

Generally, most reviewers recommend that a reviewed version should be accepted after minor revisions (with the exception of Reviewers 9 and 12; RC9 recommend work due to some methodological shortcomings, and RC12 recommend rejection of the paper as they do not recognise the added values for predicting future conditions).

Once again, we apologise for the unusually large amount of reviewer comments received, but we hope this solution helps in responding to all of the reviewer’s comments whilst recognising the inputs from all reviewers. Thank you again for submitting your manuscript to this Special Issue in HESS and we look forward to receiving your response.

Kind regards,

Dr. Daniel Green

Please also note the supplement to this comment:
https://hess.copernicus.org/preprints/hess-2022-96/hess-2022-96-EC1-supplement.pdf