

Review of “**Improving snow water equivalent modelling: a comparative study of hybrid machine learning techniques**”

Pomarol Moya et al. 2025

General comments

I appreciate the author’s work put into the revisions and the resulting modifications. I understand the arguments made in the rebuttal against the use of meteorological variables instead of in-situ for the input features. I also agree with the reframing of the manuscript away from forecasting SWE. I only have one small comment as a point of clarification.

Thank you for your feedback, we are glad to know that you are pleased with these changes.

Minor comments (line numbers from tracked changes version)

L343 in tracked changes document: What is meant by “Nonetheless, all ML-based models captured the expected physics correlations between inputs and outputs worse...”? I think I am thrown by the phrase “physics correlations”.

We agree that mentioning such “physical correlations” may not be clear or suitable in this context. It was referring to the subsequent sentence, where we highlighted the deviations from the expected (i.e., physical) linear impact of snowfall on the predicted Δ SWE. The sentence has been changed to:

“Nonetheless, the ML-based models evaluated on the station split exhibited anomalies in how certain input variables influenced their predictions.”