Improving forecasts of snow water equivalent with hybrid machine learning
O. Pomarol Moya et al. 2025

General and Major comments

The manuscript is improved from its previous iteration; however I still have several concerns. I especially appreciate the extra effort and detail put into the feature importance analysis. In the first round of revisions, between myself and the other reviewer, the two most major concerns were (1) the data scarcity issue, and (2) the method's applicability for forecasting. While these issues were discussed in the manuscript, neither were truly addressed. I believe that actually addressing either one of these major issues (either by implementing more training data or by testing the application with model forecast data instead of in-situ meteorological data) would greatly improve the manuscript. As such, I am a bit disappointed by the changes made from the previous iteration and questions what this manuscript adds, especially given the similarities with Steele et al (2024). At a minimum, the framing of the manuscript should be changed from SWE forecasting to maybe just comparing hybrid SWE model setups. Testing these setups with model forecast data to demonstrate their applicability for SWE forecasting would greatly strengthen the manuscript.

Minor comments (line numbers from tracked changes version)

L30 – "water resources" -> "water resource"

L31 – "its" -> SWE

L74 – "2) targeting SWE prediction at ungauged stations" – How is this done? I guess this means the model was tested on sites not used in the training? But these stations used for evaluation were still gauged so I find this a bit misleading.

When you use the word "significantly" does this mean "statistically significant"? Did you do tests of significance in these cases? If not, avoid using this term

L379 – remove "tremendous"

L398 – "its measured equivalent" – what is meant by this here?

L401 – What does "they" refer to in this sentence?