

Interactive comment on “Importance of spatial and depth-dependent drivers in groundwater level modeling through machine learning” by Pragnaditya Malakar et al.

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The authors have investigated the relative influence of major drivers in groundwater level change and linked them with the performance of machine learning-based predictive models, in a very important transboundary system. The study illustrates the advantages and limitations of machine learning-based modeling in a very heterogeneous regime. Due to this specific study area, this study is particularly important. The spatial and depth-dependent variability in model performance using GWL data is novel. The depth component of the study is particularly impressive, and probably first of its kind. In my view, the manuscript should be accepted with minor revision.

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The manuscript is well written, well-segmented and concise. However, there are some typos that should be corrected.

I have a few suggestions.

- 1) If possible please add few lines on major drivers in the introduction section, importantly for the abstracted part of the aquifer.
- 2) It would be better if the flow chart is moved into the main article from the supplementary section.
- 3) The Geology and hydrology of the study area could be expanded a little more.
- 4) In Figure 6 please mention the full form of the abbreviation used, at least in the figure captions.
- 5) In the ANN, SVM table (Table 1) the author should explain in short Model A, B, C.

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