Geosci. Model Dev. Discuss.,
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Geoscientific Model Development Discussions
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Interactive comment on "Toward an open-access of high-frequency lake modelling and statistics data for scientists and practitioners. The case of Swiss Lakes using Simstrat v2.1" *by* Adrien Gaudard et al.

Anonymous Referee #2

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General comments:

Gaudard et al. presents a web-based platform for visualization and promotion of lake model outputs that are openly accessible to the general public. The web-based platform currently includes 54 lakes in Switzerland, and it could be useful in synthesizing lake model outputs in other geographical regions.

Specific comments:

Pg1, L13-14: and appropriate model, unless the authors have validated Simstrat v2.1

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Discussion paper

all over the world.

Pg2, L24: please replace 'It' with a real subject (e.g., model output data) to avoid potential interpretation confusion for this sentence.

Pg2, L26-27: 'and it can support the interpretation of biogeochemical observations, if the relevant processes are driven by thermal stratification and mixing'. This is confusing- does it mean models cannot support the interpretation of biogeochemical observations if the relevant processes are NOT driven by thermal stratification and mixing?

Pg3, L26-27: please replace 'adiabatic vertical rate' with the commonly used 'adiabatic lapse rate'. What are the ranges of altitude difference between the lakes and the meteorological stations? Adiabatic lapse rate is not necessarily -6.5 C/km, so such assumption could result significant errors when the altitude difference is large.

Pg4, L3-5: any reference that supports the light absorption coefficient parameterization described here?

Pg4, L8-10: what's the gap size for the 'highly seasonal variables'? How large is the inter annual variability for the 'highly seasonal variables', based on available measurements?

Pg5, L7: how do the authors determine the existence of ice? Is it measured or modeled?

Pg5, L25: what is the model validation period for RMSE? Is it the model timeframe listed in appendix A?

Pg 5, L 26: how large were the overestimations in the 6 lakes with RMSE > 2C?

Pg 6, L9: is the 'surface temperature' air temperature at the surface or lake surface temperature? Could the authors plot measured air temperature in Figure 4a?

Pg 6, L20: Figures 4e and 4e

P12, Fig1: please provide the full names of each abbreviation, e.g., what are Swisstopo, CTD, FOEN? Some abbreviations are defined in the main text (but scattering around), and it would be very helpful to list them in the figure caption. Also, observation files should be listed as an intermedium product instead of an output.

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