

5 January 2025

egusphere-2024-1876: Author's response, second review

Dear Editors,

Thank you for accepting our manuscript subject to technical corrections. Below we address the remaining comment of reviewer 2.

The comment was:

Regarding your reply about training the data on other time periods (e.g. periods with no extremes), I think this information would be useful to the reader.

Could you put a 1-2 sentence summary of your response to the question in the manuscript, and reference the MSc thesis? (Along the lines of "Note it is important to train on a period including extremes - when this was not done the model performance was notably poorer (ref)"...

We thank the reviewer for this suggestion and have added the following two sentences accordingly in section 5.2 of the revised manuscript, third paragraph:

It was important to train on a period including both extremes, i.e. small and large diurnal warming events, since otherwise the model performance was significantly poorer (see \cite{borner_modeling_2021}, section 6.1). Since all three parameters influence the amplitude of diurnal warming, a certain range of data is necessary to disentangle their effects (for instance, is it warming due to high insolation or low diffusivity?).

Furthermore, we added a missing axis label in Fig. B1. Otherwise, no further changes were made to the manuscript.

Your sincerely,
Reyk Börner

on behalf of all authors