

***Interactive comment on “The firn meltwater
Retention Model Intercomparison Project
(RetMIP): Evaluation of nine firn models at four
weather station sites on the Greenland ice sheet”
by Baptiste Vandecrux et al.***

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This report is significant in that it compares the performance of multiple firn models in Greenland, run using the same forcing data and boundary conditions, to field observations. The importance of this work, however, is obscured by the poor organization of the report, particularly in the discussion section. Improvements to the organization of the report through the implementation of an interpretation framework and systematic discussion would increase its relevance to the modeling community.

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The discussion currently reads as a list of findings, instead of taking the reader through the results in a systematic way. Organizing the discussion using a framework (e.g. in terms of model type, site, result type) similar to that used in the results section would improve clarity. Additionally, it is unclear why some sections are included in the discussion section. For example, section 5.1.10 discusses the importance of the value used for fresh snow density in the model; however, this section cites only previous studies and does not discuss how this is demonstrated by the results of this work. Additionally, with the many abbreviations used for model and site names, keeping track of the properties of each model without constant reference to Table 2 is difficult if the reader is not familiar with all the models. Having a framework in which these models are referenced, and a more systematic discussion of results, would improve readability.

This report is of particular interest to those deciding between firn models to use and those interpreting results from such models. As such, the results of this paper could be presented in a way to highlight the effect that these findings have on choosing or interpreting these models. These findings are touched on in the abstract but are difficult to parse from the discussion. Better organization of the discussion, as previously suggested, would remedy this issue.

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