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The Cryosphere Discussions

# *Interactive comment on* "The future sea-level contribution of the Greenland ice sheet: a multi-model ensemble study of ISMIP6" *by* Heiko Goelzer et al.

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This paper present a projection and uncertainties of the contribution of the Greenland ice sheet to sea level rise until 2100 under ISMIP6 framework. I think this paper is fairly well written with some exception (only minor) below, and can be accepted with minor revision.

P4,L7 about the period 01.01.2015 — 31.12.2100. I think it not necessary to write calendar dates here. I cannot found text to mention about day or month throughout the paper, but 'end of 2014' or similar notation. I read Nowicki et al (2020a) about SMB forcing. As far as I understand, SMB anomalies for ice sheet are provided as



yearly averages (although the source of SMB anomalies is provided by regional model following the calendar).

P5,L12. about changes in SMB due to elevation changes. I suspect that the experiment ctrl_proj also includes this SMB/elevation feedback but there are no clear explanation in the text.

P6 L23 xhttp to http.

Table 2 and some figures (e.g., Fig. 5). I suggest to sort the table and figures not by contributors but by models (model column). It may help to extract common/uncommon features in the same ice-sheet model more easily (Of course a common feature may be just a coincidence).

Figure 4. It is very hard to detect in this figure which is grey dotted or which is stippled line.

P12. L5 and Figure 5. about log of the velocity. Not clear. log with base e of velocity in m/yr?

Figure 5d. Is this plot is just an ice-sheet volume change?. If not, what is different between absolute thickness changes integrated over the model grid and volume changes?

P16 L2. About NOISM. How to compute this? I assume that something like a 5km-resolution ice-sheet model (with fixed geometry) is used.

Figure 8. Is it possible to rotate the cross symbol by 45 degree (+ to x)? Some medians and means can be distinguished easily.

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