

Review of Bauer and Ganopolski, 2017, CP

This version improved largely from the previous CPD version. However, still many small issues remain. Most importantly, the text should be written more concisely and clearer. I give some suggestions below, but many more remain in the text, and I therefore again highly recommend a thorough English language check (by a professional) before this manuscript is ready for publication.

Comments:

Page 1, abstract: delete “It uses the SEB ... snow aging”

Page 1, lines 6-7: “The standard version of the CLIMBER-2 model uses the SEB approach and simulates ice volume ...”

Page 1, line 8: “Using these simulated temperatures over the last glacial cycle, we calculate the ablation with ...”

Page 1, lines 14-15: “off-line simulations: no combination of PDD parameters simulates the ice sheet evolution realistically...”

Page 1, line 22: “These fluctuations result from the interplay of the processes...”

Page 2, lines 5-6 (as commented on before): Is it correct to say that the surface mass balance is the **main** factor affecting the evolution of ice sheets? What about calving, and basal processes?

Page 2, lines 15+: The PDD methods calculates the amount of ablation, the positive part of the surface mass balance, the accumulation, is not included in the PDD calculations. Please rewrite.

Page 3, line 4: “spatially and temporally dependent” on what?

Page 9, line 2: “mismatch” or similar instead of “discontinuity”

Page 9, line 9: so you mean again (3,(9,16)), right? Make that clear.

Page 9, lines 9-16: can be shortened.

Page 9, line 21: delete “appreciably”

Page 9, lines 23-35; change to “accumulation scheme remains...”

Section 4.1: refer to figure 10

Section 4.2 and 4.3: refer to the colors of the lines in Fig 10 when writing about I3/T3/L3 (e.g. I3 and I5, blue line in Fig 10.) to enhance readability.

Page 9, line 31: rewrite “recurrence to Holocene climate characteristics”.
Remember climate is more than just temperature.

Figure 11 caption: change “window” to “period”

Page 11, line 8: delete “In nature,”

Section 5 comes totally unexpected. I think that it is outside the scope of this study to discuss the different snow parameterizations in such detail, and suggest removing this section and related figures. If decided otherwise, then extensive rewriting is needed in order to explain its importance with respect to the first part of the study.

Also, page 11, line 9: “ablation occurs only in summer at the ice margin” is not true, please rewrite/delete.

Page 12, line 19: rewrite