

***Interactive comment on “Greenland ice sheet  
surface mass balance: evaluating simulations and  
making projections with regional climate models”  
by J. G. L. Rae et al.***

**Anonymous Referee #2**

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This paper presents a thorough and timely modelling study of the response of the Greenland Ice Sheet surface mass balance (SMB) to future climate change, as simulated by a suite of regional climate models (RCMs). It is a valuable, well-written study, and merits publication in The Cryosphere without substantial modification.

I concur with the comments already made during the discussion. In addition, I would urge the authors to redraw Fig. 2. Although many readers will access this article purely electronically, and so font size is perhaps of debatable importance, I found the extreme smallness of the font rather inconvenient - the text is essentially unreadable at normal zoom levels. In particular, the legend in sub-plot (a) would be better placed separate

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from the sub-plots, and increased in size. It might also help to transpose the x and y arrangement of the grid of sub-plots, so that there are two rows of four. Finally, a spurious number '11' seems to have crept in between the final two sub-plots.

A similar comment applies to Fig. 9. Again, perhaps adjusting the layout of the sub-plots would help? Shifting one sub-plot onto a second row would allow all three to be larger.

A few other minor layout/clarity suggestions:

Page 2076, line 11: "ECHAM-E1-forced" should presumably be "ECHAM5-E1-forced"

Page 2080, line 15: "HIRHAM" should be "HIRHAM5"?

Page 2082, lines 5 and 6: the use of a dash to denote a range between two numbers becomes rather clumsy when one or both of those numbers is negative, or has an explicit plus sign attached to it. I would suggest at least adding spaces around the dash, but preferably replacing with the form "between ... and ... Gt yr<sup>-1</sup>".

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Interactive comment on The Cryosphere Discuss., 6, 2059, 2012.