Interactive comment on “Information on the early Holocene climate constrains the summer sea ice projections for the 21st century” by H. Goosse et al.

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In the discussion paper, the model-data comparison was focused on the few data that really allow to reject experiment E5 (i.e. mainly the evidence described in de Vernal et al. 2006). However, the suggestion of the reviewer to make a more comprehensive model-data comparison is interesting and we follow this suggestion in the revised version of the paper. We would also like to thank the Referee for the synthesis performed in the Review and for mentioning interesting references that were very useful during the revision of the paper.

In the revised version, the model-data comparison starts by a brief discussion of the limitation of this kind of exercise because of the local (regional) character of the proxy
record and of the inability of LOVECLIM to simulate some regional features. We then briefly describe the information provided by the proxy data, citing nearly all the papers mentioned by the Referee. We next discuss more extensively the interest of the model-data comparison in the selecting of the most reliable parameter sets. In this framework, the winter ice cover is presented. Unfortunately, the differences between the different parameter sets are weak for this period. As a consequence, the changes in annual mean ice concentration mainly reflect the summer changes and, to avoid repetition, they are not presented in the revised version of the paper.