

Interactive comment on “Sea-ice evaluation of NEMO-Nordic 1.0: a NEMO–LIM3.6 based ocean–sea ice model setup for the North Sea and Baltic Sea” by Per Pemberton et al.

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We thank the topical editor Andrey Yool and the three referees Francois Massonet, David Bailey and Martin Vancoppenolle for their efforts reviewing our discussion paper. This is our authors final response to all the comments made by the referees. For our own convenience we gathered all replies in the same document (see supplemental pdf). Many thoughtful points were raised and the suggestions and comments, we believe, helped us improve the manuscript.

Following the suggestions, the following items have been explored/changed:

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- * We ran a suite of sensitivity experiments to: i) evaluate the thermodynamically vs dynamically grown ice in the fifth category. ii) evaluated the impact of the number ice categories and the distribution of category bounds on the ice thickness distribution. iii) estimated the amount snow-ice formation in the model.
- * Evaluated the air temperature and snow thickness bias against a set of observations from island, lightships, caisson lighthouses and on-ice measurements.
- * Removed the FDD section.
- * Extended section 3.1.
- * Regridded the BASIS/IceMap data to the same grid as the ocean model for a better comparison of the area-integrated and area-averaged quantities.
- * Removed the FDD and seasonal snow thickness figures (old figs 14 and 15).
- * Added new figures for air temperature (new fig 2) and snow thickness bias (new fig 3).
- * Changed the SST bias figure (fig 5) to include more stations

A detailed account of how we have addressed the general and specific comments and how we propose to change the revised manuscript is provided as a supplemental pdf-document. Our comments are given in bold text, in the supplemental document. In addition, the pdf-document also contains a latex-diff with highlighted text changes inserted. We hope that our proposed changes and our answers to all the referees' questions and comments are to your satisfaction.

Kind Regards, Per Pemberton (on behalf of the co-authors)

Please also note the supplement to this comment:

<http://www.geosci-model-dev-discuss.net/gmd-2017-10/gmd-2017-10-AC1-supplement.pdf>

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