Geoscientific
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5, C1010–C1012, 2012

Interactive
Comment

Interactive comment on "COSTRICE – three model online coupling using OASIS: problems and solutions" *by* H. T. M. Ho et al.

Anonymous Referee #1

Received and published: 12 December 2012

The manuscript describes a coupled model system taking interactions and feedbacks between the atmosphere, ocean and sea-ice into account. The approach is very interesting because the three component coupling is innovative. In my opinion the manuscript deserves publication after minor revisions focussing on the presentation. The language need to be improved. Some parts of the manuscript are very difficult to read. Please help the reader.

Details:

1) Page 3262, line 1: omit "for the first time" because this is not true

2) Page 3263, line 21: It is certainly not HIRHAM. Please check. Either RCA or HIRLAM.

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3) Page 3266, lines 4-6: I do not agree with this sentence. The coupling frequency should be given by the processes that are important for the spatial and temporal scales under investigation. Please rephrase.

4) Page 3266, line 16: ...of one hour or less ...

5) Page 3270, line 11: Please explain what is FES2004. An ocean reanalysis?

6) Page 3271, lines 12-17: What is used in this study? Please explain.

7) Page 3272, line 1: "... over the Baltic Sea and Kattegat, a part of the North Sea."

8) Page 3272, lines 6-9: I don't understand which SST and ice fields do you use for the standalone runs STERva and STERhf for CCLM.

9) Page 3272, line 29: OISST has a very coarse resolution. I recommend to use the BASIS data set instead with higher resolution available from SMHI.

10) Page 3273, line 11: add comma after PSMILe

11) Page 3274, lines 5-9: For the albedo calculation also the ice concentration should be coupled. Why do you need both state variables and fluxes for the coupling of TRIMNP and CICE? Please explain better.

12) Page 3276, line 23: The Baltic Sea has a response time scale of 30 years. Please add this information.

13) Page 3277, line 7: You should discuss also albedo.

14) Page 3277, line 11: Strange sentence. Please rephrase.

15) Page 3278, line 3: Strange sentence. Please rephrase.

16) Page 3278, line 7: Skagerrak instead of Skagerrak Strait

17) Page 3278, line 10: are selected

18) Page 3279, line 3: Wind driven ice flows should determine the coupling time step.

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19) Page 3279, from line 6: please shorten the text and focus more on the essential findings.

Interactive comment on Geosci. Model Dev. Discuss., 5, 3261, 2012.

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