Geoscientific
Model Development
Discussions

Interactive comment on "Sea Ice Model Intercomparison Project (SIMIP): Understanding sea ice through climate-model simulations" *by* Dirk Notz et al.

D. Bailey (Referee)

dbailey@ucar.edu

Received and published: 16 May 2016

This manuscript describes the overall motivation and description of the requested documentation and variables for the sea ice part of the Coupled Model Intercomparison Project (CMIP). Overall, I feel this is a very good descriptive paper and should be considered for publication subject to a few minor revisions which I have listed here.

1. The concept of "extensive" and "intensive" variables is still a bit confusing to me. I can think of examples such at top melting on sea ice (sidmassmelttop) that I could argue either way. I would request that in the appendices C-F the authors add the label of extensive or intensive to the variables, so that we in the community can be on the same page.

2. The concept of sea ice freeboard is interesting and challenging even for the remote sensing community. I believe more description should be added here so as to make it clear what satellite product(s) we would be comparing the models against.

3. Another issue is that most models that I am aware of do not keep track of terms for the sea ice and snow on top of sea ice separately. I would recommend that the following be expanded/clarified as to what is preferred: sidmassevapsubl and sndmassdyn. I know that in the CICE model we do not separate these for sea ice/snow.

Note that while I checked Excellent for scientific reproducibility, I believe this should actually be N/A.

Interactive comment on Geosci. Model Dev. Discuss., doi:10.5194/gmd-2016-67, 2016.