

Response to Editor's Comments

Publish subject to technical corrections (13 Apr 2015) by Dan Goldberg

Comments to the Author:

The authors have made an admirable effort in responding to all referee comments, particularly in their new 30-year hires run which (a) resolved an apparent code bug and (b) removed some of the confusion regarding drawing conclusions for the short hi-res run from the the longer low-resolution run. The paper is in good shape. I have minor technical comments:

We appreciate the efforts of the editor during this prolonged review process.

p6, L25: I don't see any size distribution in your section 2.1 -- surely you mean section 2.1 of the cited reference?

We have clarified "... and size distributions are specified as in MA10."

p12, L26: to remove all ambiguity, perhaps you can reword so that these figures (20% and 10%) do not seem like concentrations? That is, concentration is given by percentages -- so a drop in concentration from 20% to 19% can either be referred to as a 5% drop in concentration, or a drop in concentration by 1 percentage point. I think your meaning is the former. Is there any way to remove the ambiguity?

We have clarified "In parts of the eastern Weddell Sea, concentration decreases by up to ~20% – e.g., at around 25°W, 70°S, concentration decreases from ~0.6 in CONTROL to ~0.5 in ICEBERG – with more limited increases, of up to ~10% in the Bellingshausen Sea." (p.12, lines 26-28). We have further modified the Abstract (p.2, lines 9-10) and Discussion (p.20, lines 1-3).

p15 L28: this is difficult to see -- i think it is because red and violet are difficult to distinguish in the figure -- and there is supposed to be a blob of violet in the labrador sea, if i understand correctly. could the color scale be modified to make this clearer?

It is not easy to re-plot. Instead, we have tried to clarify the text: "... shallower in ICEBERG by up to 100 m (purple shading in Fig. 11b), notably in the central Labrador Sea, and in patches north and south of Iceland." (p.15, line 30 – p.16, line 1).