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Interactive comment on "A new global interior ocean mapped climatology: the 1° × 1° GLODAP version 2" *by* Siv K. Lauvset et al.

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Thanks very much for taking on this monumental task. It is a critical contribution to the ocean carbon community and deeply appreciated. Before final publication however, the authors should address the strong spherical/poleward elongation of features towards the seam at 180 which diminishes the value of the analysis for the Pacific. See attached map of surface DIC illustrating this feature. The following are three recommendations to address this issue, but there may be other factors as well:

1) the choice of having the seem at 180 degrees is very unfortunate, both because this longitude is mostly ocean (making decisions about how to treat the seam important), and because the cruise tracks are relatively far apart (making the influence of those tracks relatively large). I recommend the authors repeat their calculations with

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the seam at either 20E or 120E which are both longitudes that are primarily land to make the results less dependent on the choice of seam and allow them to assess the implications of seam longitude choice.

2) while the authors demonstrated foresight in including an overlap of 10 degrees at the seam, this choice is not broad enough to span the additional cruise tracks that would constrain the solution the overlap should be at least 30 degrees, and probably more.

3) similarly, the zonal decorrelation length scale appears to be too weak, particularly in the tropics, such that there is considerable structure in the Pacific at the individual cruise tracks. A longer zonal scale would help bring in more data to constrain the analysis - perhaps as a function of Coriolis. This issue appears to be particularly strong in the 2000-2013 binned dic estimate.

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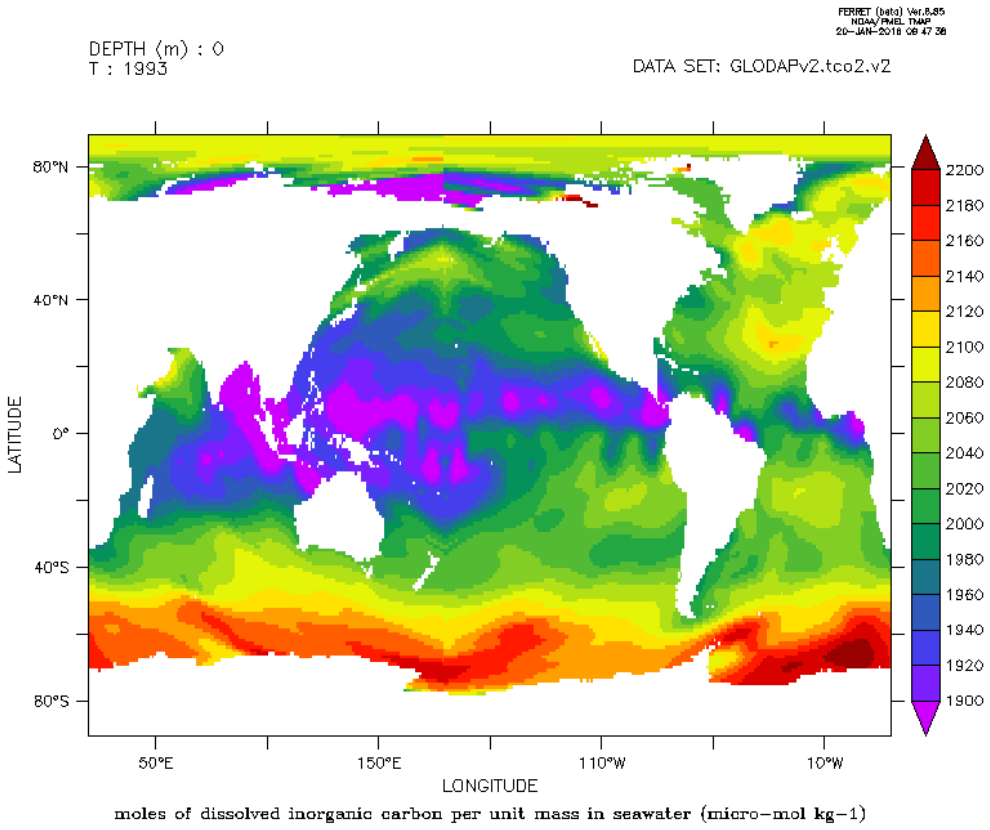

Fig. 1.

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