

Interactive comment on “Nordic Seas and Arctic Ocean CFC data in CARINA” by E. Jeansson et al.

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The manuscript presents a valuable overview of the quality control process in the Carina database. The work is clearly presented and will be an excellent reference for all users of the dataset. My only major concern is that all information about the methodology used to perform the quality control is only available in the referenced literature. It would be nice if a few sentences could be added at the end of paragraph 4 which would explain the weighted least square inversion and its benefits and limitations.

It is valuable to have a paragraph for each cruise explaining the findings for the respective CFC species. However it is difficult to understand the reasoning behind the subjective decisions taken on the individual correction factors. I am sure that a lot of discussion and interpretation went into the adjustments of the correction factors, but

C153

it might be good to add some information on the overall strategy and the subjective fine-tuning of the coefficients.

Specific comments:

Abstract: the abstract mentions the Southern Ocean as part of the Carina data base, which is not part of this paper. It might be confusing to readers to make this reference in the abstract. The sentence 'The Arctic Mediterranean Sea is comprised of the Arctic...' appears out of context and would be better connected in the next paragraph.

Introduction: What is meant by 'the second part of the carina data base'? The sentence 'Calculated and interpolated values have the quality flag 0.' appears out of context and can be deleted.

5.6 Any ideas why only the surface levels of CFC-12 appear too high? What could go wrong analytically or could contaminate samples only in a certain layer?

5.8 I have difficulties with the decision not to perform any adjustments for the CFC-11, CCl₄ data of this cruise while for other cruises the data have been flagged questionable when high corrections were suggested by the inversion. I understand that is near impossible to check the order of the adjustment without independent information, but it still seems to be a rather subjective decision.

8. Arctic ocean Would there be any model simulation to help to determine the saturation levels for CFC-113 in the Arctic?

9. cruise 06AQ199607, I have a similar comment as for 5.8. It is a bit troublesome to have some datasets corrected and leave others as they are, if the magnitude of the correction is too difficult to determine. This should somehow be reflected in the data set, maybe a new flag as to be invented.