

Interactive comment on “CARINA: nutrient data in the Atlantic Ocean” by T. Tanhua et al.

Anonymous Referee #2

Received and published: 19 October 2009

General comments

This paper is one in a special ESSD issue series on the creation of the CARINA data bank on carbon and related chemical parameters in the Atlantic Ocean. It describes the data sources and the methods used to apply, or not apply, adjustments to the original cruise data on nutrients. The description of the data and methods needs to be thorough and it is so in general and supported with the same issue paper by Tanhua et al, 2009. Some issues are, however, addressed under specific comments for improvement before publication.

Specific comments

Page 69 Paragraph starting line 15.

C67

This paragraph summarises the methods to determine adjustments to the nutrient data. Nitrate phosphate plots are mentioned as a specific and useful tool and the plots are shown in Fig.2. An example of this application is for cruise #17. However, the paper lacks a description of the basis for this tool and how it should be, or was, used.

It is also apparent from the treatment of individual cruises that other aspects were taken into consideration, e.g. hydrographic variability, Antarctic influence, Mediterranean outflow. Does this imply regional variability in the confidence of applied, or not applied, adjustments? A further elaboration of the working procedures for these regions would be useful as well as an overview on the regions in question.

Section 4.1

The magnitude of the adjustments applied is quite large in some cases, e.g. 1.25 for phosphate from cruise #25. Was consideration given to the upper limit on adjustments to apply?

Section 4.1 and Table 1.

When data are labelled with NC, they are not considered in the secondary QC. But are they all included in the CARINA data product? E.g. silicate in cruise #159.

The paper would benefit from a summary section with for example information on the number of cruise data sets, respectively on phosphate, nitrate and silicate, had to be excluded from the CARINA product.

Technical comments

Page 69 line 8 clear up: and all were all

Page 70 line 19 clear up: are not further discussed any further

Page 71 line 10 suggest replacing *provided* with *suggested*.

C68

Reference

Tanhua, T., van Heuven, S., Key, R. M., Velo, A., Olsen, A., and Schirnick, C.: Quality control procedures and methods of the CARINA database, *Earth Syst. Sci. Data Discuss.*, 2, 205–240, 2009

Interactive comment on *Earth Syst. Sci. Data Discuss.*, 2, 63, 2009.