

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

D. Hydes (Referee)

david.hydes@noc.soton.ac.uk

Received and published: 10 August 2009

The paper presents a brief introduction to the assessment of nutrient data selected for entry into the CARINA data base.

A problem with reviewing this paper is that it is one of series that will appear in special edition. The paper therefore makes various assumptions about the reader's knowledge - knowledge which is not actually available at the moment. I will make few suggestions that should allow the paper to be more free standing.

The work of CARINA is very useful exercise indeed however it would be useful to have clearer definition of what is covered in the GLODAP database and similarly what the time constraints on CARINA are. This should appear in the first few lines of the

C5

introduction.

page 68 line 2. It should be spelled out what the differences in approach are to those of Gouetski and Janke.

page 68 lines 11 -16 It is worthwhile making the comment about they way nitrate/nitrite data tends to be carelessly reported - just to encourage people to be more careful.

Similarly I would like to see a reference to some of the work that has been done over the years using inter-comparison exercises to improve the comparability of results from different laboratories (e.g. Aminot and Kirkwood, 1995). This mantle has recently been taken over by Aoyama (Aoyama et al 2008) who has successfully got endorsement for a joint ICES/IOC study group on nutrients standards. It is the lack of suitable reference materials that sets limit on the inter-comparability that can be achieved in the measurements of nutrients between labs and cruises. This is particularly true for silicate. This should be mentioned in on page70 around line 1. An “advert” for Aoyama's work would not be in appropriate here.

Page 69 line 13 I don't understand what the authors mean by “somewhat optimistic” I would like this to be expanded on.

Page 70 line 15. A more precise web address needs to be given. Today I could not find “All the results ..” only the original data sets.

Page 70 line 16 By “In this section ..” do they actually mean section 4.1

Page 71 It would be useful to repeat in this paper how the new CARINA cruise names have be derived.

Pages 71-89 The notes on the individual cruises are useful.

Page 94 The OMEX I data are included in this data base as one cruise this in inappropriate. The data where collected by 3 main groups and the offsets between those groups are significant as discussed by Hydes et al 2001.

C6

Aoyama M., J. Barwell-Clarke, S. Becker, M. Blum, Braga E. S., S. C. Coverly, E. Czubik, I. Dahllöf, M. H. Dai, G. O. Donnell, C. Engelke, G. C. Gong, Gi-Hoon Hong, D. J. Hydes, M. M. Jin, H. Kasai, R. Kerouel, Y. Kiyomono, M. Knockaert, N. Kress, K. A. Kroglund, M. Kumagai, S. Leterme, Yarong Li, S. Masuda, T. Miyao, T. Moutin, A. Murata, N. Nagai, G. Nausch, M. K. Ngirchchol, A. Nybakk, H. Ogawa, J. van Ooijen, H. Ota, J. M. Pan, C. Payne, O. Pierre-Duplessix, M. Pujo-Pay, T. Raabe, K. Saito, K. Sato, C. Schmidt, M. Schuett, T. M. Shammon, J. Sun, T. Tanhua, L. White, E.M.S. Woodward, P. Worsfold, P. Yeats, T. Yoshimura, A. Youenou, J. Z. Zhang, 2008: 2006 Intercomparison Exercise for Reference Material for Nutrients in Seawater in a Seawater Matrix, Technical Reports of the Meteorological Research Institute No. 58, 104pp.

Aminot, A. and D. S. Kirkwood, 1995: Report on the results of the fifth ICES Intercomparison Exercise for Nutrients in Seawater, ICES Cooperative Research Report No. 213, 79 pp.

Hydes, D.J.; Le Gall, A.C.; Miller, A.E.J.; Brockmann, U.; Raabe, T.; Holley, S.; Alvarez-Salgado, X.; Antia, A.; Balzer, W.; Chou, L.; Elskens, M.; Helder, W.; Joint, I.; Orren, M. 2001 Supply and demand of nutrient and dissolved organic matter at and across the NW European shelf break in relation to hydrography and biogeochemical activity. *Deep-Sea Research. Part 2: Topical Studies in Oceanography*, 48(14/15), 3023-3047; 2001 ISSN: 0967-0645

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