

## ***Interactive comment on “Nordic Seas nutrients data in CARINA” by J. Olafsson and A. Olsen***

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### ***Responses to Reviewer #2***

We would like to thank the reviewer for taking time to assess the manuscript and for the comments, which have helped us clarify some issues in the manuscript. In the following we address the comments one-by-one. The reviewer's comments are in italics and our responses in normal font.

### ***Specific comments***

C1 (Page 56, line 2)

*Line 13: It's not completely true to tell, that the 188 cruises were previously not available publicly. At least part of these data (e.g. T & S) have been available. This is probably*

C90

*not true for CARBON specific parameters.*

We will clarify this statement by adding “as a collection”.

C2 (Page 58, line 9 )

*Lines 55-56. I suggest to insert here just a couple of sentences explaining which procedures belong to the primary QC and what is the essence of the secondary QC.*

The procedures of the primary QC was explained in Tanuha et al. (2010) and Key et al. (2010). We will add references to both of these and we will also briefly summarize the procedures involved.

C3 (Page 58, line 25)

*Line 72: calculated carbon parametrs. It's probably better to say “carbon-related” parameters. (pH, for instance, does not “contain” any carbon)*

This we will change to “calculated carbonate system parameters”.

C4 (Page 59, line 5)

*Line 79: change “describes the secondary QC” to “describes only the secondary QC”. Please, explain why the primary QC is not described.*

As mentioned in response to C2 we will briefly summarize the procedures involved in our revised manuscript.

C5 (Page 59, line 15)

*Line 89: “long term QC procedures” - please, explain, what is meant here.*

We will explain that long term QC procedures involve e.g. control charts and use of certified reference materials, CRMs.

C6 (Page 60, line 21)

C91

*Line 123-124: I suggest to change “using a k-means clustering routine” to “a clustering routine”. Otherwise, an explanation of what “k-means” mean is required, as not everyone might know about this specific routine.*

We believe it is appropriate to detail exactly which clustering routine was used, the interested reader can consult Seber (1984) which is referenced.

C7 (Page 61, line 6)

*Line 132: “the offsets and uncertainties” - the “d” by “and” is missing*

This has been corrected.

C8 (Page 62, line 9)

*Line 161: please be more specific in what range of intercept values belongs to “mall and possibly slightly negative values”.*

Numeric range of values is added.

C9 Page 62, lines 21-26)

*Lines 175-179. Please omit all cruise codes here, because they are listed again in the lines 183-184. The paragraph should be accordingly reformulated, so that just the numbers of cruises outside the 5% limits for each parameter should be given here.*

This text is modified.

C10 (page 67, line 2)

*Line 278: I think “nutrients data” should be replaced by “nutrient data”.*

This is changed as suggested.

C11 (Page 67, line 9)

C92

*Line 284: “The inversion suggests” (s is missing).*

This is corrected.

C12 (Page 72)

*Table 1: Line 406. I agree that the abbreviation “nuts” is understandable. Nevertheless, it is probably better not to use this slang.*

“-nuts paper” is deleted.

C13 (Page 74)

*Line 419 What are the 5-percent limits?*

The 5-percent limits were used as a guide for applying adjustments. In section 4 we explain this, and we have added a reference to this section in the figure caption

C14 Pages 75, 76, 77)

*Lines 427, 432, 437: everywhere delete “drawn at”*

This is corrected.

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Interactive comment on Earth Syst. Sci. Data Discuss., 3, 55, 2010.

C93