

***Interactive comment on “The Irminger Sea and the
Iceland Sea time series measurements of sea
water carbon and nutrient chemistry 1983–2006”
by J. Olafsson et al.***

Anonymous Referee #2

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This is a useful manuscript which aims to validate the quality of an important data time series archive from two stations in the vicinity of Iceland where carbon chemistry variables have been sampled since 1983. These data were mostly excluded from the CARINA secondary analysis because they did not fulfill the depth criterion for quality control > 1500m. These data have nevertheless been included into the CARINA data archive and this manuscript is an important adjunct to support its quality.

The narrative and analysis of the manuscript is clear and achieves its goal. I have a few specific comments:

1. In the introduction the statement is made (twice) that these data were part of a

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seasonal variability study. However quarterly sampling would typically be considered short to resolve the seasonal cycle. It is probably enough to enable a reasonable interannual variability analysis. It would be useful to have a clearer view about the links between sampling scales and analysis scales.

2. the differences in TCO₂ related to errors in the gas loop volumes are clearly explained. but the positive systematic difference after 2002 is not clear.

minor points

certified reference material is variously referred to as CRM and DRM in section 3.5.1

pg.485: line 1: coulometric is misspelled

there are a few awkward sentence structures(eg: p485: In: 9 and In: 17 which could be polished by a careful read.

Overall the authors were successful in demonstrating that the work fulfilled their goal of validating the data set through careful comparisons to reference material. The manuscript should be published with very minor checks.

Interactive comment on Earth Syst. Sci. Data Discuss., 2, 477, 2009.