Ocean Sci. Discuss., 8, C281–C282, 2011
www.ocean-sci-discuss.net/8/C281/2011/

Ocean Science
Discussions

Interactive comment on "How well can we derive Global Ocean Indicators from Argo data?" *by* K. von Schuckmann and P.-Y. Le Traon

Anonymous Referee #1

Received and published: 15 June 2011

"How well can we derive Global Ocean Indicators from Argo data?", puts forward a simple and fast way to estimate the magnitude and uncertainty of Global Ocean indicators (GOIs). In particular they look at global upper ocean heat content (OHC), global ocean freshwater content (OFC), and global steric sea level (GSSL). This method is clever and useful. While they discuss all of the 3 of the GOIs, the paper mostly focuses on OHC. As the paper clearly states, the uncertainties used are not complete, as they do not include uncertainty do to systematic errors. This is a well-written paper that should be accepted subject to minor revisions that are listed below.

1. General comment: Validation of this method was done for OHC and GSSL. I suspect that the results to OFC would not of turned out as well. The Authors should talk about the differences between computing OHC and GSSL vs. OFC. They are not the same.

OFC is highly sensitive to reference climatology, while OHC and GSSL are not.

2. page 1000, ln 2: Is the array 100% complete to 2000m?

3. page 1000 ln 27: Add additional references.

4. page 1001 lns 9-13: Reference.

5. page 1010 lns 22-26: The GSSL from the AVISO grid does not look the same as the subsampled result (Fig. 4). The subsampled result has a clearly larger slope. This needs to be addressed in the text.

Interactive comment on Ocean Sci. Discuss., 8, 999, 2011.