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Ocean Science Discussions

Interactive comment on "Spatial scales of temperature and salinity variability estimated from Argo observations" *by* F. Ninove et al.

P.-M. Poulain (Referee)

ppoulain@inogs.it

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Argo data between 2005 and 2013 are used to estimate the spatial decorrelation scales of temperature and salinity in the World Ocean. These scales are found to vary with latitude (smaller values at high latitudes) and with depth. Zonal scales are generally larger than the meridional ones. This paper is well written, clearly organized and the figures support nicely the written statements. I recommend its publication in Ocean Sciences after minor revision based on the following comments:

Page 1795. Lines 10-11. I would change this sentence by a sentence like this: Even though the design resolution of Argo corresponding to the 3deg x 3 deg spatial sampling is 200-300 km, that is a scale larger than the mesoscale, simultaneous pairs of floats can have shorter separation distances, allowing to estimate decorrelation for

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scales as small as tens of km.

Page 1798. Line 7. Explain how did you find 3.337 for the value of a.

Page 1798. Line 9. Change to " .... carried out by using ....."

Page 1798. Line 23. Add "The 2-D temperature weekly temperature fields were sampled at the float positions in 2005 and 2013.

Page 1799. Line 2. What is L? Is it equal to Lx = Ly, do you assume an isotropic field?

I suggest to give somewhere the values of the scales estimated for all the regions defined in Fig. 3. For instance, add a table with the list of scales values (Lx and Ly) for all the large regions shown in Fig. 3., or post the values of Lx and Ly directly in Fig. 3.

Interactive comment on Ocean Sci. Discuss., 12, 1793, 2015.