Ocean Science
Discussions

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

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1) With the 1/1+E term, we just meant that in order to avoid ambiguity, it's better to be written as 1/(1+E). As a remark, here, E=Var(noise)/Var(signal), i.e. E is the RELATIVE observation+representativeness error variance.

2) We agree that large-scale biases in the Levitus climatology could lead to an overestimation in our length scales in Resnyanskii et al. (2010).

3) "A similar calculation was done by Resnyanskii et al. (2010) but with a more limited Argo data set (2005-2007). Our results are in a qualitative agreement with theirs although they found larger scales. This may be due to the differences in data sets but also to differences in the way spatial scales were computed. They did not remove,

in particular, biases in the Levitus climatology and did not adjust a covariance model taking into account noise level."

Here, we would like to note that in Resnyanskii et al. (2010), we didn't indeed attempt to fit a parametric correlation model, but this could not impact the length scales (as this didn't impact the empirical correlation functions we computed). We estimated the signal-to-noise ratio, 1/E, by extrapolation of the empirical correlations to the zero distance. Have you done this in a similar way?

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