

Interactive
Comment

Interactive comment on “Variability of Antarctic intermediate water properties in the South Pacific Ocean” by M. Tomczak

Anonymous Referee #2

Received and published: 22 January 2007

General Comments.

This paper uses Argo profile data from the South Pacific (52S to 10S) that were held in the data base in June 2005. The profile data were quality controlled by the author. The study focuses on the salinity variability of Antarctic Intermediate water. The Argo salinity profiles are compared to reconstructed WOA data. This comparison suggests that the evolution of the salinity minimum is best described by turbulent rather than a slowly diffusive flow field.

Discussion of results and reference to figures 7-12 and 14. The author refers the reader to these figures to show the difference between Argo profiles and the WOA climatology and refers the reader to different features based on numbers of days. I was confused

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as to whether this was days from float deployment or days from reference date given on figures. For example when discussing figure7 (page 2030) the reader is referred to the first 150 days of profiles from float 3900121 but in figure 7 float data does not begin until approximately day 280 on figure axis. Why has the author reference the float data to the date given on the figures and why are these not consistent for all figures?

When reconstructing the float cruise track from WOA was a spatial and temporal interpolation used? Are some of the differences discussed between the WOA and float data related to seasonal changes in the salinity minimum particularly near the formation region?

The author provides detail of how many floats were used in the analysis, but how many profiles were used?

The manuscript should be acceptable for publication after the author has addressed these questions and comments.

Specific Comments. The author interchanges the usage of “float” with “buoy” in the manuscript. I suggest the sole use of float or float profile in the manuscript. Also the author may consider replacing “group 4.1” to “section 4.1” (see page 2030 l 27), and similar throughout the text.

Figure 1, 2, 6 and 16. What is the bathymetry contour show?

Figure 10, 11 12 and 14. What is the red contour on left panel?

Pg 2028, l 27. Add ‘.’ After “data distribution.”

Pg 2032, l 25. ‘men” should be ‘mean’

Interactive comment on Ocean Sci. Discuss., 3, 2021, 2006.

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