Review of 'Intermediate water flows in the South West Pacific from OUTPACE and THOT Argo floats', by Barbot, Petrenko and Maes

This paper explores aspects of intermediate water flows in the southwest and central Pacific using individual Argo floats. From an analysis of low oxygen intrusions in a float flowing within the NCJ the authors argue that they originate from the NVJ – advected by cyclonic eddies. The variable oscillatory trajectories of zonally propagating floats are examined in detail. The Lagrangian and Eulerian characteristics are determined. Their analysis shows that a single Rossby wave can explain the trajectories of 2 floats travelling in opposite directions. A further section considers the salinity and density structure at 1000m (the Argo parking depth) and the impact on the float trajectories.

I find that the paper lacks any overall focus. It comes across as a few mildly interesting but unconnected observations. They all involve aspects of the circulation in the region but ultimately do not make a coherent story. The content is simply not strong enough to be suitable for publication.

Further Comments

The title is very specialized. How many readers would know the meaning of the OUTPACE and THOT acronyms?

Page 1, Line 16 - …(WTSP) ~~interests~~ is of interest to the biogechemical …

Page 2, line 18 – Change to 'BGC data from the float allow us to determine whether it has encountered water masses coming from the NVJ.

2, line 35 - …during the OUTPACE cruise or ~~in the framework of~~ the THOT project.

4, line 1 – we also ~~replace~~ place the float trajectories ….

4, line 10 - ~~For memory, it begins with the descent of the float~~ The float descends to a depth around 1000m, called …

4, line 25 – An error estimate should be provided.

5, line 3 – Trajectory description for ~~the~~ a wave approach

5, line 4 – What type of waves?

11, line 14 – we ~~could hypothesized~~ hypothesize that such …

15, line 2 - …we are able to ~~replace~~ place the trajectory…

15, line 6 – This appears to be stating the very obvious point about the two different velocity observations.

18, 4 - ..and then be transported southwards ~~thanks to~~ by the current located…

18, line 7 - ..widen the ~~comprehension~~ understanding of the connection …

18, line 7 – and the NCJ and ~~claim for the~~ suggest that there be an explicit consideration of mesoscale ~~eddies~~ eddy variability in future modeling ~~approach~~ approaches.

20, line 8 – …. To replace place the

20, line 13 – of water mass~~es~~ properties,

20, line 16 – form a favorable ~~context~~ environment…

20, line 16 – Not sure what you mean by the sentence beginning ‘Correcting the impact of the Lagrangian observation

20, line 20 – would require ~~to wait until the time series are longer~~ a longer toime series.

A large portion of the paper (1/3) deals with the methods and description of decomposing the float trajectory into a wave framework. A briefer description of the method would be more appropriate for the paper.

The figure generally are poor, the captions are tiny and difficult to read. Figure 9 is simply impossible to distinguish any of the contours. To summarize the figures are below the standard required for publication. Any submission for review should provide figures that are ready for publication.