

Interactive comment on “Eddy Surface properties and propagation at Southern Hemisphere western boundary current systems” by G. S. Pilo et al.

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This paper was chosen as the subject of a journal review workshop here at the National Oceanography Centre. The following is a summary of some of the comments raised in group discussion, and does not necessarily represent the view of only myself or NOC as a whole. I hope that this proves helpful to the authors in improving their paper.

The authors need to make it clearer how helpful this article is and for whom. There are lots of metrics of the eddies, but what is the context of the work, exactly what questions they are attempting to answer and what new or corroborated answers are found?

The group was not filled with confidence that the analysis is robust. In particular, the use of standard deviations and z-tests for significance when the distributions are not

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normal needs justification. The methods could be set out more clearly to aid reproduction, in particular the section at the end of p147. A more thorough description of methods would permit an assessment as to whether they are correct / appropriate.

2D contour plots for fig 5 would be more meaningful, so the reader can see eg whether the same eddies have low amplitude as low rotation speed. Figure 5 also appears to have mis-labelled axes.

"p146 line 10: This drift occurs due to interactions between eddies and the vorticity field of surrounding water parcels (Morrow, 2004; Cushman-Roisin and Beckers, 2006), resulting in an equatorward (poleward) drift of anticyclonic (cyclonic) eddies, regardless their hemisphere." This is the only reference to vorticity. Further discussion on the dynamics / processes / context would be interesting

The maps and most of the figures were generally clear and appropriate, but the cyan and pink line on fig 4 are hard to see and fig 6 is cluttered. Are there separate black crosses and stars? Significance could be more easily seen by hashing/fading out regions of little significance.

fig 4: Are the quiet patches east of Australia (154E, 38S) of interest?

p141 line 13: "As expected" - Why?

Further copy-editing for English is required throughout, eg "particularities" and the use of "after" on p137.

The group consensus was that the paper has potential for future publication in OS, but is not yet of sufficient quality and requires substantial revision.

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