

Interactive comment on “Large-scale and synoptic meteorology in the South-East Pacific during the observations campaign VOCALS-REx in Spring 2008” by T. Tonietto et al.

T. Tonietto et al.

t.tonietto@reading.ac.uk

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General.

After making some detailed annotations on the first 10 pages (pp.226-235) of our manuscript, and probably reading 10 more pages (up to p.245), the reviewer became "frustrated" and gave up. (S)He concludes that the manuscript is unsuitable for publication. (S)He appears to raise two main reasons for this: first, the organisation and the presentation are poor; second, there are "few novel scientific contributions".

C368

We feel that to clarify these points, it will help to stress that this manuscript has two main aspects:

1. It serves as an integral part of the documentation of the meteorology during VOCALS-REx and as a reference to it, to be published alongside the other VOCALS operations papers on ACP in order to be easily available and accessible to all scientists involved in those operations or those who have an interest in case studies. This scope and content controlled much of the structure, organisation and contents of this paper. We concur with the reviewer that this material should be published, for the benefit of all the community who are or will work with VOCALS-REx data, and the best place to do so is in the ACP special issue covering VOCALS-REx.
2. Given the scope stated in 1., the manuscript covers a wide range of aspects of the atmospheric circulation in the sub-tropical anti-cyclone. In much of this, known science is applied to the specific context of VOCALS-REx. However, the paper does also contain new scientific results and insight, specifically on the linkage between the circulation at different scales and on how the effects cascade down to influence the regional cloud-cover. This work strengthens and qualifies previously hypotheses (e.g. George and Wood 2010) that the temporal variability of tropical marine Sc is controlled to a very significant degree by the meteorology alone.

The scope and structure of the manuscript is clearly stated and detailed in the introductory part, especially including the first Author's Comment (AC). While we accept that a different organisation is possible, and that perhaps a better one can be found, we chose the current one consistently with the aim of serving the scope of the manuscript's contents as well as we could. This does not mean that we are not prepared to make changes. This review however, while judging the organisation to be poor, offers no suggestions as to how it could be changed and improved.

C369

Having read only a small part of the manuscript, it might be understandably difficult for the reviewer to do so. Moreover, considering p.235 (as annotated) or even p.245 (as stated) as the limit of the reviewer's appreciation of this paper's contents, it is clear that the new scientific results therein were missed entirely. The concluding section (see also AC) gives a summary of the main findings of our work.

Finally, the statement that "the text does not match what is shown in the Figures" appears unmotivated, at least when the AC regarding Figure 14 is considered.

Specific comments and annotations.

Some of the detailed annotations made by the reviewer on the first part of the paper seem useful and we are more than happy to follow them where they improve the manuscript. Grammatical problems will be ironed out and adding a panel in Fig.1 with the contours for the inversion height is a good idea.

The overwhelming majority of the other comments appear to be of stylistic nature. In addition to modifying Figure 1, an exception is the comment about the Matsuno-Gill model, which is scientifically incorrect (see Matsuno 1966, p.27; Gill 1980, p.466 after Eqs. 11.14).

Concerning the Figures, most criticism seems again either purely stylistic (Figg. 2,6,7,8,10,12,13), or unjustified (Figg. 1,3,4,10,11: pressure is not barotropic; Abel 2010 is cited where relevant, and independent verification is given in Figure 9; "synoptic indices"?; hm is standard SI notation).

In the annotations, some reviewing effort seems to have gone awry: where simply adding the suffix 's' to a noun ("association") would suffice, the comment elaborately states a "verb subject mismatch". At other points incomprehension or misunderstanding appears wilfully based on a formal error in the punctuation or in the spelling (e.g. raise/rise), where so far other readers did not encounter such difficulties.

C370

Thomas Toniazzo
Steve Abel
Robert Wood
Carlos R. Mechoso
Grant Allen
Len Shaffrey

Interactive comment on *Atmos. Chem. Phys. Discuss.*, 11, 225, 2011.