

## ***Interactive comment on “Satellite climatology of cloud liquid water path over the Southeast Pacific between 2002 and 2009” by L. W. O’Neill et al.***

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This paper revisits the topic of satellite LWPs, previously discussed by O’Dell et al., 2008 but this paper focuses explicitly on the southeast Pacific. The figure set is carefully done and described. Figs. 17-19 struck me as the most original contribution of the paper.

The work would be improved by more physical interpretation, however, such as is provided by looking at other larger-scale variables - e.g., SLP, SST - and by a more comprehensive literature review. The authors need to stress more clearly what is new about their work that couldn’t be learned from the O’Dell climatology (which I would suggest be incorporated directly into fig. 8).

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More can also be done with the focus on the VOCALS time frame through a deeper survey of the VOCALS literature. For example, the anomalies for 2008 shown in Fig. 17 should find plausible explanations in the papers detailing the VOCALS large-scale circulation (e.g., Rahn and Garreaud, Tomiazzo; ACP). The 2006/2007 anomalies occurred during warm/cool enso phases, see also the SST fields shown in Zuidema et al. 2009 jclim fig. 1. The interannual anomalies in the diurnal cycle phase, shown in Fig. 19, are interesting. Since land sensible heating is postulated to be the mechanism driving the diurnal subsidence wave, it would be worth investigating if interannual changes in the diurnal cycle phase can be related to changes in land precipitation amounts - or at the least to a shift in the Bolivian High. Last, these datasets are useful for putting vocals results into context. What are the implications of the C-130 sampling time for its lwps? Were the C-130 lwps (shown in Zuidema et al., 2012, acp) representative? How about the Twin Otter noon time sampling at point alpha? Wood, Kohler, Bennartz & Odell, 2009, QJRMS would also help add physical interpretation to this project’s findings.

other comments:

-section 6 does not follow the figure order. -the abstract lacks mention of vocals

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