

Interactive comment on “Reducing uncertainties in satellite estimates of aerosol-cloud interactions over the subtropical ocean by integrating vertically resolved aerosol observations” by David Painemal et al.

Anonymous Referee #2

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Reducing uncertainties in satellite estimates of aerosol-cloud interactions over the subtropical ocean by integrating vertically resolved aerosol observations by Painemal et al. studies the relationship between CALIPSO products of aerosol properties and MODIS-derived cloud droplet number concentration. Stronger correlation is shown when the aerosol properties are resolved for altitude than when they are for the entire column.

The paper is easy to follow. The conclusion is, while not surprising, a useful reminder of a limitation in past satellite-based studies of aerosol-cloud interactions. I recommend publication. I only have minor comments.

Line 114. Insert a space in Fig. 1 and.

Line 123. Clarify that 333-m and 25-km refer to horizontal resolution.

Line 198. 4c should read 4b.

Line 204. To emphasize the similarity, unify the axis limits for Nd in Fig. 2, 3 and 6.

Line 216. Are the (mildly) higher r values for the all cases interpreted as strengthening of the relationship by drizzle? Can they be partly explained by the larger number of samples?

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Discussion paper

