We thank the reviewer for the comments and suggestions. Individual responses to each of the reviewer's comments can be found below.

[The] aerosols can affect precipitation in a second way, i.e., through formation of rain embryos by large/giant aerosols. It is thus possible that for the same total PCASP concentration, the precipitation will vary depending on the presence and the load of large aerosol particles (larger than 1 micron), e.g. large sea-salt particles. The concentrations of the latter depend on the sea surface wind which is a macrophysical factor. It would be quite beneficial to discuss in the paper how the presence and magnitude of surface winds and large sea salt aerosols may affect the precipitation susceptibility and, possibly, the conclusions of the study.

In addition to the PCASP, we had the Cloud Droplet Probe (CDP) onboard the C-130 during VOCALS REx. The CDP, which normally measures cloud droplet concentrations in the size range of 1-52 micrometer, can also be used to measure aerosol concentrations in cloud-free conditions. This may allow us to measure the effect of large aerosol particles. To isolate the effect of GCCN on precipitation from the effect of cloud thickness and the effect of aerosol that we study in the paper, we need to bin the data by the known factors controlling precipitation, i.e. both the aerosol concentration, as measured by the PCASP, and the cloud thickness.

We divide the data into four bins of cloud thickness, as in the paper, and then divide the data in each h bin into terciles of PCASP aerosol concentration. In each bin, we then calculate the correlation coefficient between CDP-measured aerosol concentration and the precipitation rate. The data has been screened for possible drizzle effects, by filtering out cases where the liquid water probe detected liquid water content greater than 0.04 g m^{-3}.

Each of the eight plots in Fig. α show the distribution of CDP-measured aerosol concentration and the associated precipitation rate in a specific h bin and tercile of PCASP concentration. The columns are organized from thinnest to thickest quartile of cloud thicknesses from left to right (corresponding to h_1, h_2, h_3, and h_4 of the paper). The top row corresponds to data with high PCASP aerosol concentration, and the bottom row corresponds to data with low PCASP aerosol concentration.

We find from this short analysis that the positive correlation between larger CCN and precipitation rate does not show up across all bins. We also find that the concentration of giant CCN does not correlate well with wind speed (at the altitude of the C-130 – 150m) in any of the four cloud thickness bins (Fig. β). Therefore, we do not expect that during VOCALS REx the wind speed has affected our susceptibility estimates.

To address the possibility of effects of giant CCN on precipitation, we have inserted the following sentence after the sentence "…precipitation formation (Albrecht, 1989 inter alia)" on page 33382 Line 13: This effect of accumulation mode aerosols on precipitation is different from the effect that larger giant cloud condensation nuclei (GCCN) have on the precipitation. Studies of GCCN show that in certain situations, increases in the concentration of GCCN leads to more precipitation (Feingold et al., 1999; L'Ecuyer et al., 2009; Hudson et al., 2011), though the overall impacts remain inconclusive (Gerber and Frick, 2012).

Feingold, G., Cotton, W. R., Kreidenweis, S. M., & Davis, J. T. (1999). The impact of giant cloud condensation nuclei on drizzle formation in stratocumulus: Implications for cloud radiative properties. *Journal of the Atmospheric Sciences*, 56(24), 4100–4117.

Gerber, H., & Frick, G. (2012). Drizzle rates and large sea-salt nuclei in small cumulus. *Journal of Geophysical Research*, 117(D1), 1-7. doi:10.1029/2011JD016249

Hudson, J. G., Jha, V., & Noble, S. (2011). Drizzle correlations with giant nuclei. *Geophysical Research Letters*, 38(5), 1-5. doi:10.1029/2010GL046207

L'Ecuyer, T. S., Berg, W., Haynes, J., Lebsock, M., & Takemura, T. (2009). Global observations of aerosol impacts on precipitation occurrence in warm maritime clouds. *Journal of Geophysical Research*, 114(D9), 1-15. doi:10.1029/2008JD011273

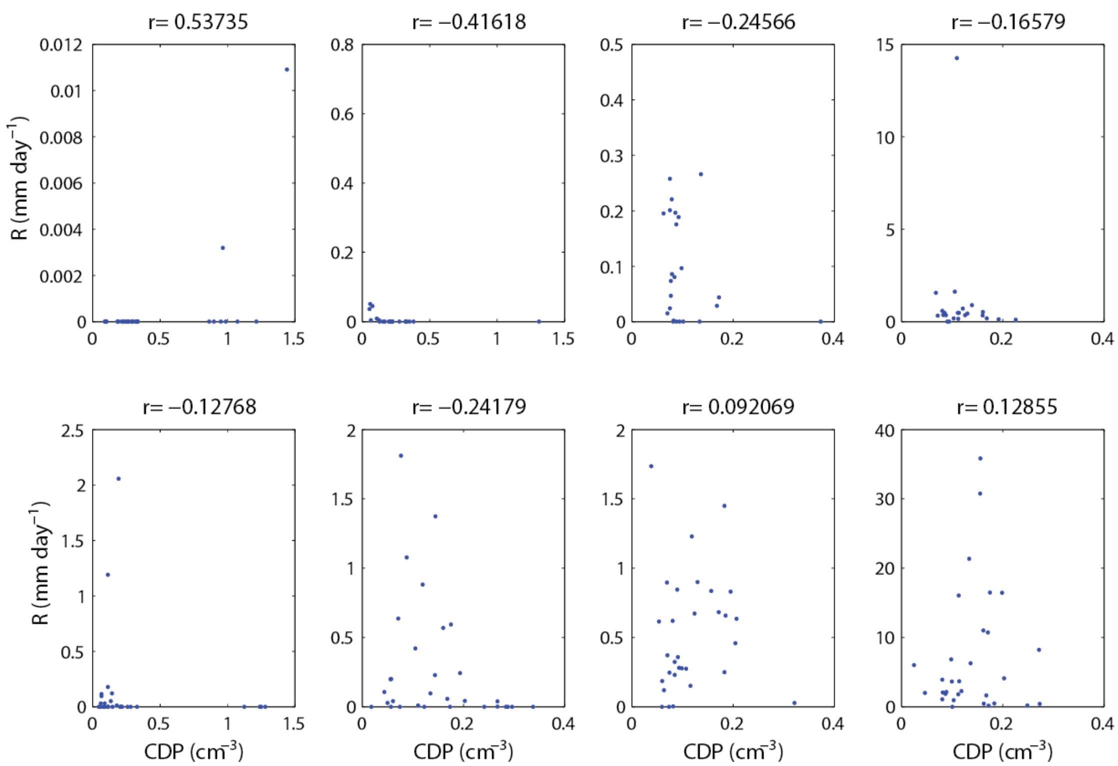

Figure α: Distribution of CDP-measured aerosol concentration and cloud base precipitation rate in each cloud thickness bin and tercile of PCASP aerosol concentration. The values at the top of each plot indicate the bootstrap mean correlation coefficient of the distribution.

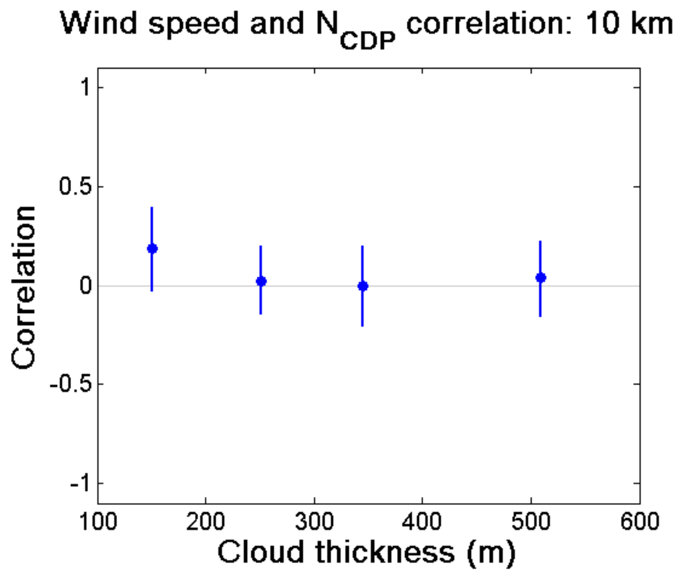

Figure β: Correlation between CDP-measured aerosol concentration and wind speed at 150 m in the four cloud thickness bins.

p. 4 last para: For readers convenience please define in the text "cloud condensation nuclei proxy "alfa", and the "second formulation of susceptibility".

Since the sentences were confusing, we have changed the text such that it now reads…

In the satellite studies, the aerosol index, which is the product of the aerosol optical depth and the Angstrom exponent and an indicator of column integrated CCN concentrations, was used in place of α. This study uses the ambient accumulation mode aerosol concentration in place of α to calculate the susceptibility.