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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Observations of the temporal variability in aerosol properties and their relationships to meteorology in the summer monsoonal South China Sea/East Sea: the role of monsoonal flows, the Madden–Julian Oscillation, tropical cyclones, squall lines and cold pools" *by* J. S. Reid et al.

J. S. Reid et al.

reidj@nrlmry.navy.mil

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Thank you for taking the time to review this lengthy paper. We have tried to add discussion as suggested where possible. In regard to chemistry and direct aerosol impact comments, we have ongoing efforts that will result in forthcoming publications.

Comment 1 “If possible, authors could provide the detail interpretation to address the effect of aerosol in this issue for clarity.” I interpret this comment as asking can we assess the role of aerosol particles in these periods of drier weather. At this stage, can only hazard hypotheses-although we have a modeling study underway to ascertain if aerosol particles have any role in modulating precipitation amount or type. The point here, which we now emphasize, is that the aerosol effect clearly has a covaying meteorological component that hinders apples to apples comparisons.

Comment 2: “During the ambient sampling periods, the significant biomass burning events were observed in the research area. In addition to the MODIS+MISR data presented in this study, are there any results regarding the chemical or components analysis of sampling aerosol can be discussed in the study?” There is. As we pointed in discussion associated with Figure 7 there are indeed chemical markers for biomass burning. Originally there was a longer discussion, but this was pushing an already long paper. Nofel Lagrosas will be submitting a paper by the end of the year on the detailed chemistry of the mission, including elemental particle and gas can VOCs.

Comment 3:” 3.In this study, the implications for aerosol, cloud, and precipitation interaction were further evaluated. The potential for confounding studies is also significant. Aerosol injections into the SCS/ES regions were clearly modulated by this research. However, regarding the effect of the climate change and extreme weather event related to this study. Could authors provide more interpretation and information to address this issue?” We have added further to the discussion section to link these findings to other aspect of regional climate change. Indeed, the aerosol component of climate change is one part of an interrelated process.

Interactive comment on Atmos. Chem. Phys. Discuss., 14, 20521, 2014.