Review of
*Coarse-mode sea spray aerosols enhance warm rain formation in marine low clouds***,** Misfud et al.

Misfud et al. investigate how giant cloud condensation nuclei (GCCN) influence precipitation formation in marine low clouds using aircraft observations from the NASA ACTIVATE campaign together with a 1D super-droplet model. They present compelling observational and modeling evidence that observed GCCN distributions, particularly GGCN mass rather than number, enhances collision-coalescence and accelerates drizzle initiation. Through data compositing of LWC, Nd, GCCN concentrations, and precipitation efficiency, the authors identify GCCN- and microphysical-regime-specific conditions that favor drizzle formation, particularly under relatively low GCCN concentrations and moderate LWC and Nd. Data compositing (LWC, Nd, GCCN concentration, and precipitation efficiency) provided characterization of GCCN+LWP regime-specific conditions that promote drizzle, particularly for low GCCN concentrations and moderate LWC/Nd.

I found the paper to be well written and thorough in its description of the methods, presentation of the results, and discussion of the broader implications. The analyses are convincing, and the conclusions are clearly supported by the evidence presented. I believe this paper is well suited for ACP and should be accepted following the consideration of my minor comments.

- The authors should consider renaming the parameter "concentration" to "number concentration." Similarly, "mass" should be referred to as "mass concentration." Since both quantities are concentrations, referring to one simply as "concentration" can be ambiguous. Although this distinction is made in some portions of the manuscript and figures, the terminology is not used consistently throughout. Iternatively, the authors could consistently use the notation $N_{d>2}$and $M_{d>2}$, which would reduce repetition and improve clarity.

- Figure 7: I could not find definitions of N_r, N_c, or $N_r + N_c$in either the main text or the figure caption. Are these intended to represent rain drop number concentration (i.e., particles measured by the 2D-S with diameters of 62.70–1464.90 μm, as described in lines 527–528)? If so, I suggest defining these variables explicitly in either the text or the caption.

- Figures 9: I The authors may wish to consider presenting these data as scatter plots with points colored by month, either in the main text or as supplementary material. In the current format, it is somewhat difficult to discern the temporal relationships discussed in the text.