Response to the reviewer's comments on the manuscript

Title: Building a comprehensive library of observed Lagrangian trajectories for testing modeled cloud evolution, aerosol-cloud interactions, and marine cloud brightening
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REVIEWER COMMENTS:

Reviewer #1:
N/A

Reviewer #2:
I am satisfied the authors' thoughtful and thorough response to comments and appreciative of their additional quantitative analysis. The additional description of trajectory package and additional justification of the use of PCA and exclusion of correlated variables is convincing. I feel that this article is suitable for publication and have only two minor suggestions which could further strengthen the article:

1. Include figure R2 in the supplement as well, instead of stating "Figure not shown." It is a highly convincing quantitative motivation for PCA.
We thank the reviewer for their constructive comments. To answer the above comment, we added Figure R2 to the supplement (now, Figure S2b) and modified the text to reflect this (by changing "figure not shown" to "Fig. S2b" in Line 514).

2. I still feel it is inaccurate to claim that "The two trajectories used for LES modeling were selected to represent distinct regions of the PC1-PC2 space", as both trajectories are in the upper left tail of an otherwise symmetric 2D distribution. I would remove this statement or reframe it as something like: "selected to illustrate distinct regimes among important cloud and atmospheric properties including…[P_MSL, CTH, LWP, etc.]"
We deleted this sentence and replaced it with the one suggested by the reviewer (Line 525).