The overall quality of the manuscript has improved and I appreciate the efforts of the authors in taking all of my suggestions into account. I still have a few more suggestions. Please see the comments below.

- Please have a native speaker proofread the manuscript. There are too many grammatically incorrect sentences present in the current version.
- Lines 70-73: There needs to be a reference after this statement, e.g.

1) Tan, I., T. Storelvmo, and M. D. Zelinka. "Observational constraints on mixed-phase clouds imply higher climate sensitivity." *Science* 352.6282 (2016): 224-227.
2) McCoy, D. T., Hartmann, D. L., Zelinka, M. D., Ceppi, P., and Grosvenor, D. P. (2015). Mixed‐phase cloud physics and Southern Ocean cloud feedback in climate models. *Journal of Geophysical Research: Atmospheres*, *120*(18), 9539-9554.
3) Tsushima, Yoko, S. Emori, T. Ogura, M. Kimoto, M. J. Webb, K. D. Williams, M. A. Ringer, B. J. Soden, B. Li, and N. Andronova. "Importance of the mixed-phase cloud distribution in the control climate for assessing the response of clouds to carbon dioxide increase: a multi-model study." *Climate Dynamics* 27, no. 2-3 (2006): 113-126.

- Lines 116-118: I know what the authors are saying here, but this needs to be more thoroughly explained to a reader who is not familiar with this study.
- Section 3.2: I appreciate the explanations provided by the authors, but this section is not well-organized and needs to be re-written for the sake of the reader.
- Figure 11 and lines 547-556: Coming back to this, the original results combining the two hemispheres shown in the second round of revisions (originally d to f) should be shown here instead of the results separating the southern hemisphere (new figures g to i), the reason being that the southern hemisphere has far fewer aerosols compared to the northern hemisphere. Thus, just as how the correlations weaken or even vanish at colder temperatures as the authors have shown, the correlations between SCFs and aerosol frequencies are less likely to be statistically significant in the southern hemisphere, as the authors have already pointed out on lines 552-553 (the confidence level was reduced). It would therefore be more appropriate to show the more statistically robust results shown in the original Figure 11 instead of the less statistically robust results presented in the current version of the manuscript. Moreover, the fact that the aerosol product used in this study was the Level 2 product, which does not have the additional level of screening that the Level 3 product that Tan et al. (2014) used, adds to the level of uncertainty.
- Lines 560- 564: This statement implies a causal relationship based on statistical correlations, which is incorrect. One cannot be "certain" from the analysis that the meteorological parameters examined in the study impact the variation of SCFs. The authors need to be much more careful in their language and avoid making causal statements.