Thanks for addressing my comments in detail with your revisions. Regarding my previous comment and request for clarification (pasted below):

"Figures 8 & 9 are of concern because of the very large CFO near the surface. Describe in detail how you got this profile and how you calculate cloud fractions at each height. Especially near the surface, >50% cloud occurrence in the lowest 50 meters seems improbable. If your approach was to define a minimum threshold on the ceilometer backscatter, you should discuss (and potentially rethink) this."

After reviewing your response, it seems clear that the approach taken for observational data (black lines in Figs. 8 & 9) is resulting in an overestimation of the near-surface cloud frequency of occurrence. You define a minimum threshold of ceilometer backscatter based on Kuma et al. [2021], but it seems you have not attempted to screen for precipitation occurrence (if I have misunderstood this, please clarify!).

Line-specific comments:

Line 263-264: "The cloud detection algorithm typically identifies observed precipitation as "cloud", whereas the simulated profile does not show any backscattering in the area where precipitation is occurring."

Does this mean that the precipitation which had erroneously resulted in a cloud detection is then corrected (no backscatter → no cloud)? It seems this is the case for the simulated but not the observed profiles, but again, please clarify.

Line 264-267: "Upon reviewing the backscatter profiles, certain layers beneath stratocumulus clouds are identified as clouds, potentially consisting of drizzle, snow, fog, or aerosol. Nevertheless, the frequency of such occurrences is insufficient to significantly impact the statistics in a manner comparable to the model bias. Stanford et al. (2023) found ceilometer on Macquarie Island was obscured 2.5 % of the time because of fog."

Even if fog occurs only 2.5% of the time, you are neglecting to emphasize the extent to which drizzle might be biasing the low-level CFO pictured in Figs. 8 & 9. In Tansey et al. [2022] we estimate small-particle precipitation (drizzle) occurrence to be ~36% at the MICRE site. How is this impacting the observation CFOs in your plots?

My suggestions for minor revisions are as follows:

1) At the very least, discuss this uncertainty in the chosen approach: precipitation, which occurs very often at Macquarie Island, is causing backscatter near the surface to surpass your detection threshold and thus, the observational data's low-level CFO is overestimated (possibly by as much as >30%). It is not sufficient to state that the

frequency of precipitation does not significantly impact the statistics, without providing some quantitative reasoning.

2) Kuma et al. discuss how precipitation may account for disagreement between simulated and observed profiles and they suggest screening for this: “If desired, the attenuated volume backscattering coefficient profiles affected by precipitation can be excluded before the comparison or their fraction determined by visually inspecting the observed attenuated volume backscattering to assess their possible effect on the statistical results.”

   You might attempt to exclude precipitation, e.g. by defining cloudy bins only above the estimated CBH; neglect bins below CBH that are likely drizzle, and re-calculate the black lines in Figs. 8 & 9.