

I want to thank the authors for their efforts to address the reviewers' comments. They have provided detailed responses to the comments that have improved my understanding of the manuscript. Many parts of the manuscript have improved in this iteration. Nevertheless, I still have a few concerns that the authors should address before publication. I list them below separated as general and specific comments. Please note that line numbers are based on the tracked changes version of the resubmitted manuscript.

General comments

1. Response to general comments by both reviewers: I think the authors still need to more clearly communicate the motivation of the manuscript. Their responses have helped me better understand it, but I feel important parts of these responses are missing in the manuscript. For example, 'Whether realistic urban perturbations remain detectable above model noise in high-background aerosol environments was previously unknown and represents an important finding.', was not readily apparent to me even in the text of the revised manuscript. I encourage the authors to read their responses to the reviewers' general comments and make sure that all the points mentioned in the responses are also clearly communicated in the manuscript. In my opinion that would make the manuscript much stronger.
2. I would like to see some more discussion on why the temporal evolution of the precipitation remains basically unchanged between BASE and NONURBAN (Fig. 6c and 9c). It is quite interesting that there is a spatial redistribution of precipitation but essentially no temporal redistribution. Actually, I do not really understand this result. How can there be significant microphysical changes in the cloud and spatial changes in the precipitation amounts, but temporally precipitation rates are virtually the same? I would like the authors to discuss potential reasons for this and potentially do further analysis to explore this (as much as the scope of this study allows). For reference, in Fan et al. (2018) (Fig. 3c) aerosols significantly change the temporal evolution of precipitation rates.
3. I would also like to see further discussion on the implications that such little aerosol differences can cause the results found here. As discussed before, the aerosol changes between the simulations are minimal compared to most other previous studies, yet some of the results are comparable. This could be a very important result, and potential reasons and implications for future studies should be discussed in more detail.

4. 492 – 493: In my opinion, the results from Fig. 9 do not support the statement of an early decay of this system. The temporal evolution of these bulk characteristics remains virtually unchanged.

Specific Comments

5. 36: this sentence still reads wrong, please consider revising E.g, '[...] cloud droplet size spectrum tends to consist of more numerous and smaller cloud droplets, [...]'
6. 274-275: You can consider citing Sharma et al. (2026) (<https://doi.org/10.1029/2025GL118530>), who found that 10 ensembles are a good number to cover effects of internal variability.
7. 338: 'diagonally'
8. Figure 6 and 9: Please add a color legend to the figure itself.
9. Please mention the Figures S2 – S5 at appropriate locations in the manuscript.