

Review 2 of “Aerosol effects on convective storms under pseudo-global warming conditions: insights from case studies in Germany”

The authors undertook a great effort to implement all comments. The manuscript is much improved, especially in terms of framing the findings and improving readability. A few points remain, they are detailed in the following:

1. Figs 3 and 4: part of my confusion stemmed from the fact that the colorbar extends to -300% frequency change, which should not occur as a relative change. Looking at the values in the Figures, it appears they actually never decrease under -100%. The colorbar should be cropped to avoid confusion.
2. Hail size discussion and observational references: While I understand that an absolute reproduction of observations is not the goal here, at least a literature-based discussion of absolute values is warranted. Figs R1 and R2 show that the max. hailsize does indeed appear realistic and I think it is important for the reader to get this impression from the manuscript. These figures could e.g. be added in a supplement. The same goes for observational comparisons from radar data or the field campaign. If anything, it is an opportunity to increase the credibility of the results, without claiming a verification of the simulation.
3. Supercells vs all storms and updraft helicity: I don't quite follow, why the changes in UH cannot be split into changes in storm number vs changes in UH intensity. A cell tracking has already been performed, so the number of cells meeting supercell criteria should be easily identifiable, as well as their respective mean UH values / UH areas. Sure, the statement on UH changes can be attributed to both cell number and intensity changes is valid, but it would be nice to explicitly state this here, given that the data is available. I am aware that the revised version focuses more on convection overall and has a less pronounced supercell focus.
4. Constant RH: Thurnherr et al. 2025 does show a decrease in RH of ~3% for central Europe in the summer months, when the case studies take place. But this discussion can hinge on any number of climate models producing RH trends for central Europe. [WCD - A pan-European analysis of large-scale drivers of severe convective outbreaks](#) also shows a decrease of 1-3% per decade based on ERA5 trends. I don't want to convince you to cite this paper, but just point out that this decision warrants a justification or short discussion.

Minor remarks:

- Both [The Effect of 3° \\$C Global Warming on Hail Over Europe - Thurnherr - 2025 - Geophysical Research Letters - Wiley Online Library](#) and [NHES - Insights from hailstorm track analysis in European climate change simulations](#) were published at the time when the revised manuscript was submitted.

- Line 519: Feldmann et al. 2025 actually show no significant changes in updraft velocity. The way it is phrased currently, could be misleading what exactly this is referring to.
- There are still some instances of convection-resolving instead of convection-permitting.

Given the extensive amount of literature recommended that also included my own work, I waive my anonymity at this point.

With best regards,

Monika Feldmann