

Reviewer 1

We thank Reviewer 1 for their constructive feedback. Our line-by-line responses are inserted below. Answers are marked in blue, whereas adaptations in the manuscript are marked in red. Line numbers refer to the revised manuscript.

General Comments:

The paper is of excellent scientific significance. It shows dynamics, environments and hazards of left- and right-moving supercells over Europe by using simulations of 2 km grid resolution in a current and warmer climate. Left-movers in particular have received little attention in the literature (especially in Europe) to date, even though, as this paper shows, they can produce hazard intensities similar to those caused by right-movers. Also, such a detailed list of various hazards and conditions, broken down by RM and LM, and at least for one idea of the future, makes it possible to understand that left movers are not simply mirror images of right movers, but rather that different conditions can lead to their formation at different positions in the trough-ridge system. In my opinion the scientific quality is already good, so I have only minor comments to include. The way of presenting the results is good in general. Please think at introducing all the variable names you are using in your plots either at some point in the text or in the figure caption.

Specific comments:

- Abstract: Maybe you could add “(+3°C)” behind “warmer climate” in line 4
Added (Line 4)
- L. 16: To my knowledge, it is more often defined by the deviation of the vertical wind shear vector. Please add this
The classification of left- and right-moving supercells is typically defined relative to the mean 0-6km wind rather than the shear vector. See e.g. the NOAA glossary: <https://forecast.weather.gov/glossary.php?word=supercell>
Right-moving (RM) supercells, which deviate to the right of the 0-6 km mean wind vector and rotate cyclonically in the Northern Hemisphere, are more frequent and generally associated with a higher hazard intensity and likelihood compared to their left-moving (LM) counterparts that deviate to the left of the mean wind vector and rotate anticyclonically (Homeyer et al., 2025; Bunkers et al., 2024, 2000; Davies-Jones, 1986). (Lines 17ff)
- L. 60: I would reference here the figure of the model domain in the appendix
Added (Line 71)

- L. 74: You are writing here about 60km radius. The figures (e.g. Fig. 1) are shown with a radius of 20km. If both numbers are correct and no typo, which radius is used to extract values for the distributions of specific hazards or environmental conditions? Please clarify.

The data is extracted in a radius of 60 km, this also refers to the data available for the analyses in the density diagrams. In the spatial plots, we zoom in to a 20 km radius, so that storm-scale features are clearly visible. This has been clarified in the methods section.

Aggregated analyses are performed within the whole 60 km radius, while spatial figures showing the storm structure are zoomed in to a 20 km radius. (Lines 92f)

- L. 90: You could mention here already one of the outcomes of Tonn et al. (2023) that this D has to be smaller for Europe. You could refer then back to that when discussing Fig.2 that you see also less deviation than Bunkers et al. in their studies for the US.

Added

In contrast, Tonn et al. (2023) suggests a combined C in Europe for both RM and LM of 3.5 m s^{-1} , smaller than any C tuned for the United States. (Line 103f)

- L. 104-105: Point to discuss, not necessarily to change here: why do you take exactly the 10th or 90th percentile? Since you calculate percentiles grid point wise, also for the median, e.g., the values should be higher in the region of the updraft than in the surrounding, shouldn't they? Do you expect the structure to change if you would choose different percentiles for this analysis or have you checked already others and can answer that? Is it just smoothed for lower percentiles or can also other structures emerge?

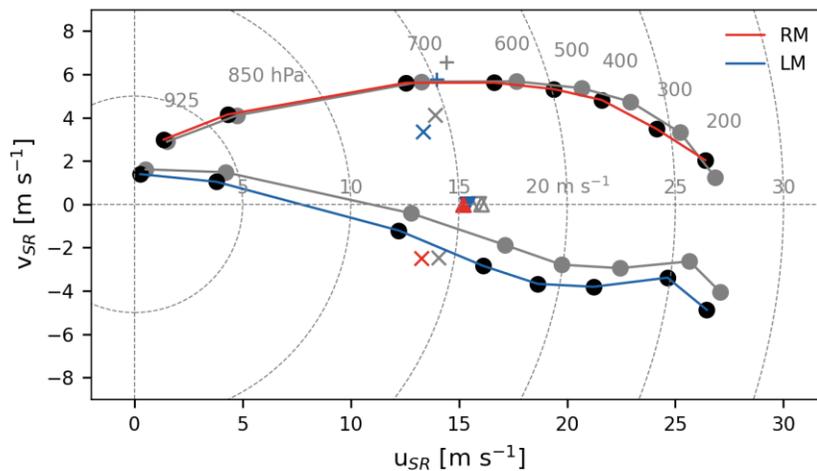
We used more extreme percentiles to better highlight localized storm-scale features. This is especially relevant for the analysis of the downdraft area. As the composite is not centered on the downdraft, this shifts more dynamically and in the mean, the downdraft area is dominated by the stronger updraft signal and no longer visible. No additional features emerge, it is just a smoothing towards updraft-dominated features when going towards the mean.

- Fig. 1 caption: I would recommend to introduce your variable names (e.g. ζ) either in the caption or in the text before already. This holds also for the abbreviations of other variables in the paper, especially LPI was a problem for me since I did not know it before.

In the data section a new table has been added including all variable abbreviations and units. (Table 1)

- Fig. 2: if it is possible without covering other numbers, I would recommend to increase the font size of the axis and numbers here. I also think that captions above the figure itself is not necessary here since it should be and is described in the caption below.

This Figure has been redesigned in the process of revisions and no longer has 2 panels. (new Fig. 3)



- L. 140: see comment regarding Line 90
 Added
 In combination, these are closer to $C = 3.5 \text{ m s}^{-1}$ as estimated by Tonn et al. (2023). (Line 159f)
- L.146: can you really conclude that from the angle difference? (even if I totally agree from your other results, that a different location is the case). Even assuming the same synoptic setting, there would be an angle difference if one cell moves to the right and the other to the left but how large would be this angle difference?
 This has been rephrased for clarity. The separation for the two storm types would be larger, if they were to take place in the same synoptic situation. While this is not fully compelling at this point, it is one of many factors pointing in this direction, so we do want to highlight it as one of the pieces of evidence.
 The relatively small angle difference between the storm types suggests that they form in different systematic relative locations within the parent synoptic systems, where the hodograph shape and orientation, and subsequent mean wind vector are different. (Lines 165ff)

- Fig. 3b: refers also to the Fig. 5, 6, 8, 9 & 10 and to the comment to Line 74: are these distributions calculated by taking all grid points within the 60km radius? Are they somehow weighted by their distance to the supercell center or not? Maybe clarifying in the paragraph from Line 73 on where the cookie-cutter method is introduced could help the reader.

Yes, these are calculated from the entire 60-km radius area, without weighting. Filtering is applied to pre-storm variables to remove areas with active convection. This section in the methods has been expanded and an additional note has been in the beginning of these figures.

We investigate the thermodynamic environment both in a composite skew-T log-p diagram (see Fig. 5) and by comparing the distribution of composite environmental parameters (see Fig. 6) throughout the extracted 60 km radius. (Lines 170f)

- Fig. 5: I recommend deleting “Pre-storm environment, 1h prior, full domain” since it can be taken directly from the caption

The figure titles have been shortened.

- Fig. 6: same as for Figure 5
- Table 1: Are the statements from this table the same if you use median instead of mean? For some of the variables this could be better

The main conclusions are the same. This table is a quantitative extension of the skew-T diagrams, which are computed with the means. Both the figure and table cannot be compared to the distribution plots, as the instability metrics in the distribution plots were derived from model levels and saved directly as model output, while these two had to be recomputed from 8 levels of pressure-level data. The data section contains an added note on the limitations of the output on 8 pressure levels.

3D data is available on 8 pressure levels. A limited set of convective parameters was computed online from 60 model levels. (Line83f)

- Fig. 7: If possible please increase the font size of the colorbar a bit
- Fig. 8/9/10: Again general caption above not necessary; please put this information in the figure caption below

The font size has been increased.

See prior.

- L. 206/207: At the moment: 1420 for “moderate occurrence” and 447 for “higher occurrence”. Is this statement because of putting the numbers in relation to the respective area size or is there a typo in the numbers

This is owed to the very differing size of the areas. We added the sizes as reference.

The IP region is ~ 6.5 times larger compared to NAL (ca. 1'000'000 km² vs. ca.

150'000 km²), with a moderate supercell occurrence (1420 mesocyclones and 20.8% LMs.). (Lines 228f)

- L. 213: I would add here “relatively” in front of “drier” since for absolute numbers of humidity LM is higher than RM

Added (Line 235)

- L. 230 / 349-350: have you quantified that? From just looking at the plots I would agree for NAL, but for IP LM and RM are often very close together and the difference to the +3°C is larger

This has been rephrased to highlight that the variability between the storm types can reach the same magnitude as climate change regimes.

Overall, within these sub-regions, the hazard intensities between LMs and RMs can have similar variability as the climate scenarios. (Line 252ff)

Overall, the differences between regional climates are generally greater than the differences between LMs and RMs, whereas the differences between LMs and RMs are of similar magnitude as the differences between the climate scenarios. (Line 268ff)

- L. 240: what exactly is this number “+21%” and what is the difference to “14%” in L.235? If 21% is correct here, I would write “more than” instead of “approximately”

Our apologies, these two numbers should be the same and have been corrected. (Lines 257 and 262)

- Figure 11: Since it is only a schematic, how did you come up with this specific numbers? Probably a good way anyway to show the higher pressure for LM and the order of magnitude for the gradient

These were derived from Fig. 1 and mainly serve to show the higher pressure for LM and the direction/order of magnitude of the gradient. Expressing this in general variables would be rather confusing for a reader. We have added a clarifying addition to the caption, that geopotential height is taken from the domain mean.

Schematic of supercell structures derived from current climate model composites: black outline --- precipitation contour, red area --- updraft, blue area --- downdraft, black dashed lines --- isohypses (dam), gray arrow --- storm motion. Structural differences between LM and RM: smaller storm area, similar strength up- and downdrafts, less deviant motion for LMs, lesser gradient of geopotential height, and greater geopotential height. Features are exaggerated and not true to scale.

(Caption Figure 12)

- General comment on chapter 4: I really like the idea of this chapter, summarizing what was found out in the chapter before and bringing it in a context with all the different literature. My feeling is that it is a bit lengthy and I would appreciate if you

would manage to shorten it a bit, however still with bringing it in the larger context. [Chapter 4 has been revised and shortened, where possible \(see tracked changes document for details\)](#).

Technical Corrections:

- L66: “,” instead of “;”
[Adapted](#)
- L. 183: “second row” must be replaced by “third column”
[Changed to panel letters](#)

Reviewer 2

General Comments:

This manuscript is of excellent scientific significance. It addresses an important gap in the literature for left and right moving supercells in Europe (but probably has broader applicability), and investigates a pressing issue as our warming climate impacts thunderstorm environments and characteristics around the world. The methods also appear to be robust and well suited for this endeavor.

The presentation quality needs additional work in some areas, in my opinion. I have included suggestions below for many of the figures. With respect to the writing, there are several grammatical issues throughout the manuscript that need to be addressed before publication (see below). There are also numerous instances of one and two sentence paragraphs throughout, which should be addressed.

We thank Reviewer 2 for their helpful comments and remarks. Point-by-point responses are listed below. The responses are marked in blue, while changes in the manuscript text are marked in red.

Specific comments:

- Title: European left- and right-moving supercell dynamics, environments and hazards — today and in the future - Not that the physics that result in supercells in Europe are different than anywhere else, but the way in which favorable environments and the hazards they support certainly could be. And, since the simulations are focused here, I think this is needed.
We thank the reviewer for the suggestion. While the simulations are conducted over Europe, the physical mechanisms governing left- and right-moving supercells are not region-specific. The geographical focus of the study is clearly stated in the abstract and introduction, and we therefore prefer to retain the more concise title. Including “European” would make the title considerably longer without adding substantial clarification for the reader.
- Fig 1: why have the right and left mover labels oriented differently than the subplot colorbars or labels? I find myself turning my head to try to read this, which is annoying. Also, it would be nice to show these same fields for the PGW simulations (not raw values, but as deltas vs present day). I think you can shrink the subplot size just a little and fit this all into one figure. If you made this figure the same format as you have in Figure 7, it would be much more readable.

The Figure has been redesigned in a similar layout as Fig. 7. Additionally, the new Fig. 2 includes the PGW version of this figure. Owing to the multi-layer nature with the overlain contours of geopotential height and precipitation, the Deltas are more challenging to interpret and the absolute values provide a more straightforward context. A small discussion of the future climate has also been added at the end of this section.

Fig. 1:

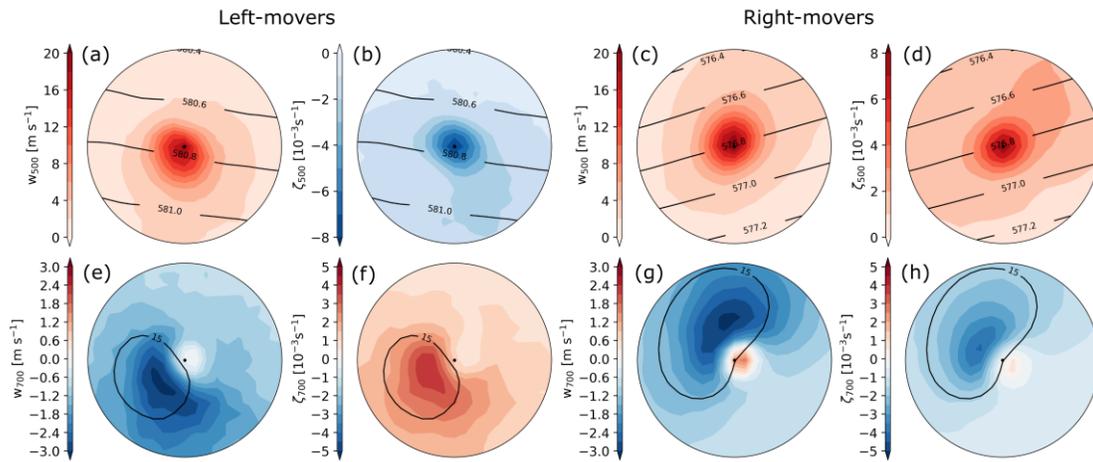


Fig. 2:

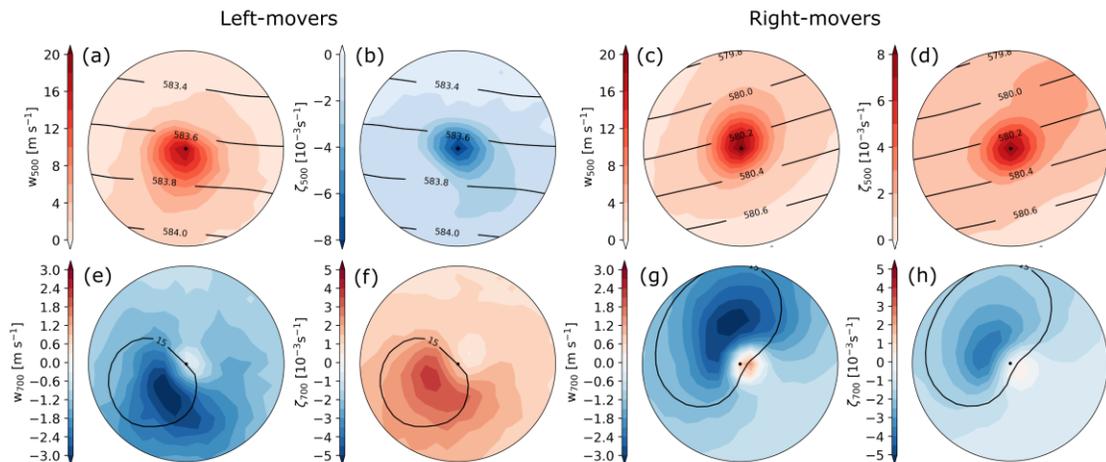


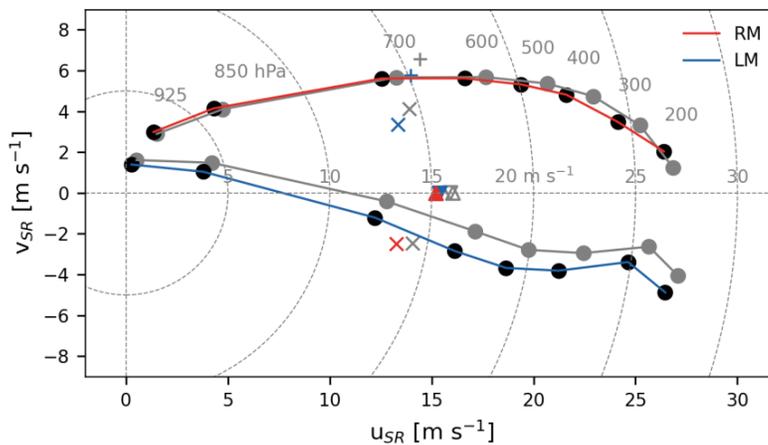
Figure 2 shows the same composites of storm structure and synoptic environment for the future climate. The hallmark features remain the same, with left- and right-leaning storm contours, and deviant motion to the left and right of the geopotential height contours. The most noticeable changes are an increase in storm precipitation area for both LMs and RMs, as well as a distinct increase of the 500 hPa geopotential height by ~ 3 dam. Both up- and downdraft areas appear

slightly broader in LMs and RMs, though reach similar peak values in the composite. (Lines 135ff)

- Figure 2: I think you can show both present day and future hodographs on the same plot (use a different shade of the colors for present vs future, or use a different linestyle). It would be easier to visualize changes (or lack thereof). As it currently is, it's difficult to see what those are. You could make the plot bigger this way too. You do this in several of the other figures, why not here?

Both climate scenarios are now in the same plot. To maintain legibility, the future climate is indicated in gray.

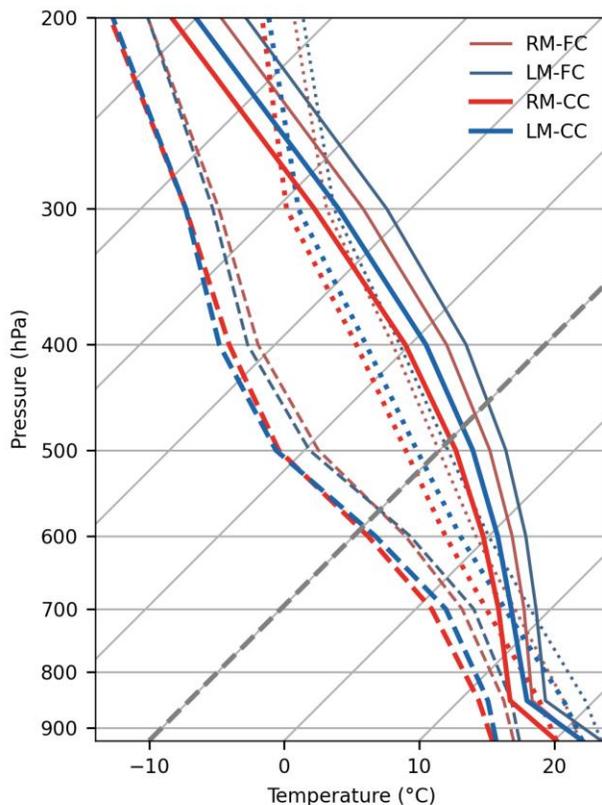
Fig. 3:



- Figure 4: As with figure 2, changes between epochs don't stand out, and these plots have a lot going on. Would imagine most readers of this journal are familiar with the basics of skew-T's, so having all the adiabats/mixing ratio lines/LCL height dots/CAPE & CIN shading, and the notation on the -10C isotherm aren't necessary and make the plot messy. Like with the hodographs, you could make this into a larger single figure, and then use solid lines for the present day and dashed lines for the future (again, considering the audience, don't think it's necessary to make the Td lines dashed - we all know which lines are which). At minimum, I'd move LM's to one subplot and RM's to the other. As it is, this seems like we're comparing those environments (which we already know are going to be different) vs changes between present and future.

As with Fig. 3, the future climate is desaturated / grayed out next to the current climate. Both panels are now merged into one, allowing for a larger figure size. The background lines have been simplified considerably.

Fig. 5:



- Figure 5: I really like how the comparisons between both storm types and epochs on the same plots here, but I wonder what some of the parameters that the literature has shown to have statistical separation and can be helpful discriminators between RM/LM storm environments: 0-1, 0-3m or 1-3 km SRH like Bunkers 2002 used, along with some of the other parameters that have shown separation between supercell and nonsupercell environments, highlighted from Thompson et al. 2003 (https://journals.ametsoc.org/view/journals/wefo/18/6/1520-0434_2003_018_1243_cpswse_2_0_co_2.xml), e.g. LCL height, 0-1 and 0-6 km bulk wind difference, and supercell composite parameter. While these parameters surely would be interesting, we are limited by the coarseness of the model output data, where the 3D data is only available on 8 pressure levels. This is particularly precarious for low-level shear metrics. For further clarification, this limitation has been added to the data section. Table 1 provides an overview of analyzed variables. Precipitation variables are stored at a 5-min resolution, whereas all other variables are stored hourly. 3D data is available on 8 pressure levels. A limited set of convective parameters was computed online from 60 model levels. (Lines 82ff)

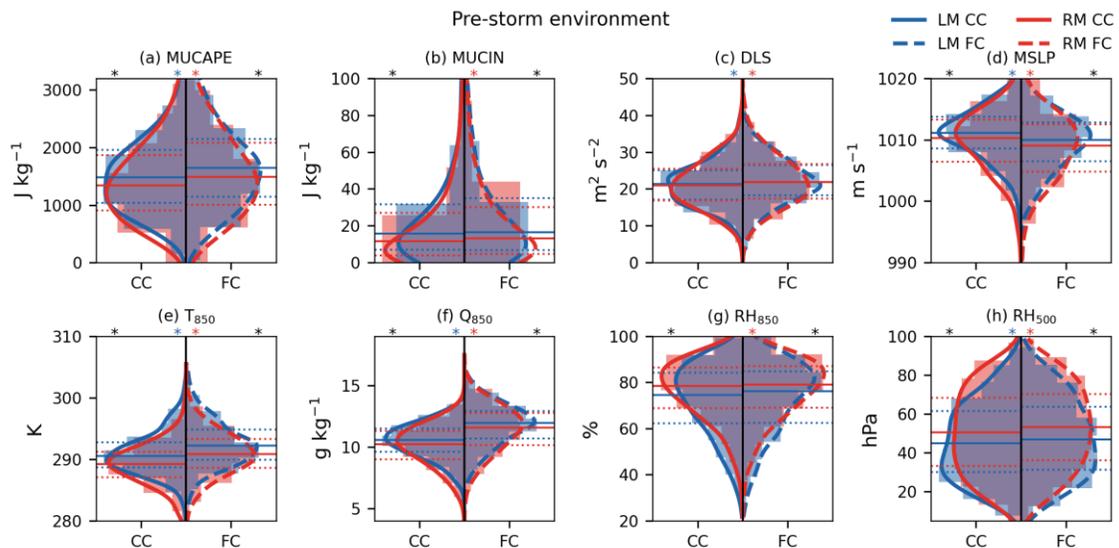
- I realize these are from the USA, but it would be very interesting to see what the separation (or overlap) might be between both storm types and between both epochs. I also think LCL height may be a better moisture parameter for you to test here, since it implicitly takes into account more than just moisture content. When you say “shear” in figure 5...what is that? Deep layer shear - and if so, between what vertical levels? 0-6 km? 0-8 km? I don’t see this clarified anywhere in the text, unless I missed it, and I think it needs to be. Another suggestion for this figure - L165 mentions the typical synoptic location of most european severe storms, and the environmental schematic from Feldmann et al. 2025b indicates an EML is often present for these events. Perhaps it would also be helpful to look at lapse rates and/or RH in the mid-levels (e.g. 2-5 km AGL) - again, similarities or differences here would be an interesting thing to note (especially since Fig 8 shows updraft area increases in the PGW simulations, which would make the future storms more resistant to EML entrainment, which could have some feedbacks on other areas).

As also requested by Reviewer 1, the methods and data section has been expanded by a table containing the definitions of all analyzed parameters.

LCL height can only be recomputed from 8 pressure-levels, drastically reducing the accuracy of the analysis.

We added RH_500 in Fig. 6 and we expanded the discussion of the composite skewT diagram to include the moisture profile and lapse rates, given that the full vertical profile is visible there.

Fig. 6:



Overall, the composite thermodynamic profiles show typical features of severe convective environments in Europe, with a moist boundary layer and increasingly

dry mid-levels, consistent with the possible presence of an elevated mixed layer (Schulz et al., 2025). (Lines 197ff)

Larger updrafts are more resistant to midlevel entrainment and additionally, the mid-levels are significantly moister in future (Fig. 6h). (Lines 209f)

- Figure 9 might need to be updated depending on what kind of changes you make here.

Figure 9 currently stays as-is, as the bulk of the EML discussion hinges on the skewT diagram.

- Figure 7: I really like the takeaway points from this figure, but the caption doesn't provide an adequate description, and I think it's confusing the way different colorbars are used for each peril and delta. I can see the validity of using a different colorbar for each peril to distinguish between them, but suggest using coolwarm, BWR, or seismic (diverging matplotlib cmaps, with negative values in blues, and positive values in red) for all of the delta plots (columns 2 and 4).

Given that virtually all changes are positive only, only the windgust plot has a divergent colorbar. Using a divergent colorbar on positive-only Deltas reduces the number of bins available per sign (best-practice for colorbars not to have more than ~10 bins). According to commonly used colors in climate reports, precipitation changes should be tied to a brown/green-blue gradient, using red for a positive precipitation change can intuitively signal drying to readers of different backgrounds, which is why we used the green-blue gradient. We use the red portion of a blue-red gradient for hail and lightning. For wind, blue can sometimes be confused for high wind, so we opted for a different divergent colorbar altogether. Given that the colorbars are placed directly next to each panel, we believe the interpretation remains clear.

- If all delta values are positive, as appears to be the case for everything but 10m wind gusts, I think truncating the colorbar accordingly or just using the "Reds" colorbar is fine...point is, stick to the same color scheme.

As noted above, using a single colorbar for all delta plots would conflict with commonly used color conventions in climate studies.

- Fig 11: I like this figure, and think it provides a nice overview of the RM/LM difference, but it may be wise to clarify more that these are composites from the simulations? Are the isohypses average values? There is no comparison between contemporary and PGW simulations. Do you have comparisons between these that could be shown here?

The caption has been expanded to clarify where the information was taken from.

The main point of this plot is to easily visualize the primary differences between RM and LM. Adding climate change effects here would drastically complicate the figure.

Caption Fig. 12: Schematic of supercell structures derived from current climate model composites: black outline --- precipitation contour, red area --- updraft, blue area --- downdraft, black dashed lines --- isohypses (dam), gray arrow --- storm motion. Structural differences between LM and RM: smaller storm area, similar strength up- and downdrafts, less deviant motion for LMs, lesser gradient of geopotential height, and greater geopotential height. Features are exaggerated and not true to scale.

- Fig A1: Why make this a supplemental figure? Would suggest moving this up in the order (start of section 3.4?) and showing it before any regional breakdown information. Perhaps these are common distinctions in the European WX research space that much of the expected audience is familiar with, but someone like me from the US (and may still find relevance to this work) is not.

As this paper does not include a true regional distribution analysis, the map only serves as reference for the location of the two analyzed sub-regions. The figure is now referenced earlier in the text and linked (Line 71). Given that the appendix remains in the same document as the main text, and the manuscript already contains a large number of figures, we opt to leave it where it currently is.

- L10: The relative increase
Adapted (Line 10)
- L11 - 12: Rephrase to: A regional decomposition across Europe indicates LMs tend to occur in warmer, more unstable conditions than RMs, and that these regional differences are generally greater than the differences in storm environments between LMs and RMs

Adapted (Lines 11-13)

- L16: Supercells rarely produce tornadoes? Most tornadoes are produced by supercells as far as I understand it...https://journals.ametsoc.org/view/journals/wefo/20/1/waf-835_1.xml. I know that paper is based in the US, but I find it hard to believe this claim. Don't think a citation is really needed here as most of your audience probably understands this, but I'd just maybe rephrase the sentence as "Their hazards include hail, torrential rainfall and flash flooding, lightning, tornadoes, and non-tornadic wind gusts." This eliminates some of the potentially misleading qualitative descriptors, and won't raise any eyebrows.

There may have been a misunderstanding here. While tornadoes are generally produced by supercells, the vast majority of supercells do not produce tornadoes in Europe, most notably due to the lack of low-level shear (see the lack of low-level shear in the hodograph figures). We have rephrased the sentence.

They frequently produce large hail, torrential rainfall, intense lightning, tornadoes, and non-tornadic wind gusts (Markowski and Richardson, 2010). (Lines 16f)

- L18: Higher hazard intensity? Are you referring to the magnitude of the hazard...e.g., 1 vs 2 inch hail? Or the propensity of these storms to produce hazards. Clarify/Rephrase.

Adapted

Right-moving (RM) supercells, which deviate to the right of the 0-6 km mean wind vector and rotate cyclonically in the Northern Hemisphere, are more frequent and generally associated with a higher hazard intensity and likelihood compared to ... (Lines 17ff)

- L19 - 25: I think there are a number of meaningful and relevant citations that are absent from the first paragraph of the introduction, especially when it pertains to left movers. I suggest reviewing the background sections of these: <https://digitalcommons.unl.edu/geoscidiss/159/> and <https://digitalcommons.unl.edu/geoscidiss/158/>. I'm not suggesting there needs to be an overly deep dive into every single thing LM's have ever done, but there is a much more extensive body of literature on these storms than is acknowledged in the way this paragraph is currently written, and there are some fundamental citations in this area of research (e.g. Bunkers 2002, which is cited in the results) that isn't mentioned up front.

The literature references in the introduction have been expanded.

... compared to their left-moving (LM) counterparts that deviate to the left of the mean wind vector and rotate anticyclonically (Homeyer et al., 2025; Bunkers et al., 2024, 2000; Davies-Jones, 1986). Due to the higher occurrence rate, most supercell research focuses on RMs (Zeeb et al., under review; Van Den Broeke et al., under review) and has led to little quantification and analysis of LMs in research that addresses future climate conditions (e.g., Feldmann et al., 2025a; Zeeb et al., 2024; Ashley et al., 2023). Most research on LMs focuses on case studies (Edwards and Thompson, 2024; Edwards and Hodanish, 2006; Edwards et al., 2004; Grasso, 2000; Brown and Meitín, 1994), while more recent studies focus more on fundamental characteristics and climatologies (Zeeb et al., under review; Van Den Broeke et al., under review; Homeyer et al., accepted; Bunkers et al., 2024; Tonn et al., 2023). Though less frequent, LMs still represent an important fraction of the storm population and can be prolific hail producers (Homeyer et al., 2025; Tonn et al., 2023; Edwards and Hodanish, 2006; Houze et al., 1993). Considering that LMs have different life-cycles and often require a different environmental parameter space than RMs (Zeeb et al., under review; Homeyer et al., 2025; Grasso, 2000; Brown and Meitín, 1994), their response to a warming climate may also differ. Indeed, how both

storm types respond to climate change is still subject to large uncertainties. (Lines 19ff)

- L35 - 39: Incomplete paragraph. Also, like with my comment above on LM research, probably could be some more meaningful details added about high-res severe storm simulations (and using PGW on these as well). There's been a lot of work done in this area, as I'm sure you're aware. Perhaps a brief overview on PGW would tie in well here, help round out this paragraph, and would flow nicely into your next paragraph.

This paragraph has been rephrased to touch both upon km-scale modeling and PGW experiments.

The emergence of kilometer-scale climate simulations allows studying explicitly resolved supercells in present and future climate simulations (Feldmann et al., 2025a; Kahraman et al., 2025; Ashley et al., 2023), as the kilometer-scale resolution approaches storm-resolving properties (Prein et al., 2025, 2021; Schär et al., 2020; Weisman et al., 1997). Although these simulations remain limited to single realizations so far, they overcome many limitations of proxy studies and allow direct analyses of storm structure, environments, and hazards. These single realizations lend to pseudo-global-warming (PGW) experiments, where observed boundary conditions are perturbed by a climate change Δ , allowing for a high-resolution climate change experiment (Hall et al., 2024; Brogli et al., 2023; Sato et al., 2007; Schär et al., 1996). The PGW approach has been popular in convective case studies (e.g., Trapp et al., 2025, 2021) but has also found application in multi-year climate simulations (Thurnherr et al., 2025; Heim et al., 2023). (Lines 40-48)

- L73: This comment is actually for instances the method is referred to later in the paper, but suggest not using "cookies"...just say 20 km radius.

The term "cookies" has been replaced with explicit radius values throughout the manuscript.

- L100: I think this figure shows composite storm structure. "Morphology" indicates a time evolution component.

Adapted (Line 114)

- L113/114: using "2h" and "one hour" in the same sentence.

Adapted (Lines 126f)

- L123: Instead of "A priori, we expect", go with "Prior research suggests" (or something like that).

Adapted (Line 141)

- L134: "do not exhibit large degrees of directional shear" could be somewhat confusing, since directional shear can also be characterized in degrees. Maybe just

say “do not contain substantial directional shear”

Adapted (Line 152)

- L146: “ different systematic relative locations of within the parent synoptic systems”

Adapted (Line 165f)

- L152: statistically significant differences? Or is significant being used as an adjective similar to substantial? Clarify or reword.

Added statistically – generally “significant” is only used to refer to statistical significance.

- L153: same as above

- L172: “identified” instead of “decomposed”?

Adapted (Line 191)

- L196: instead of having “max .”, type out “maximum

Adapted throughout the manuscript

- L303 and L346: rephrase “moister”

Adapted to “more humid” (Line 321 and 365)

- L348 - 350: I had to re-read this several times, and still am not sure I understand what you were going for here. Clarify/rephrase

Overall, the differences between regional climates are generally greater than the differences between LMs and RMs, whereas the differences between LMs and RMs are of similar magnitude as the differences between the climate scenarios. (Lines 368ff)