Reply to Reviewer #2

We thank Reviewer #2 for the helpful comments! Please note that we will change parts of the paper based on the suggestions of Reviewer #1: We would like to reorganize parts of the paper. We will add more details regarding the course background, design, requirements and goals in the introduction. Additionally, we used a survey to ask the participants of the first course to recap what they have learned. These results will be added to the conclusion part. To stay within the recommended page range, we will shorten the part about the students' contributions and write it in a more concise way. As a result of these changes, some of your comments might not be fully addressed in the final paper. However, we greatly appreciate your valuable feedback, which has contributed to improving the quality of our paper.

Please note that we formatted the reviewer comments in bold and cursive text settings, and the authors' answers in blue.

Comments of Reviewer #2 (abbreviated as R2): Recommendation: Minor revisions

RC2: Summary: The paper outlines a 2-week block course designed to teach participants how to run the CM1 model and use state-of-the-art visualization tools to analyze the data. Detailed lesson plans are also provided, enabling instructors to easily adopt the material. The paper is well-written, and I only have a handful of minor suggestions.

> Answers and Comments of the Authors (abbreviated as AC): Thanks for your helpful comments! We will address you comments point by point in the following.

General comments:

RC2: 1. Can the authors provide a URL pointing directly to the course material? I landed on a German webpage that I found hard to navigate (I struggled a bit finding the course content).
> AC: Thanks for the advice! We additionally uploaded the material to researchgate (under the same license), so it should be easier accessible for non-german speakers. The reference is: Schielicke, Lisa, 2024: "Cloud Model 1 & Visualization - A Block course", ResearchGate, Preprint, January 2024, last access: 2-Feb.2024. DOI: 10.13140/RG.2.2.30017.12642

RC2: 2. Perhaps use "participant" rather than "student"?
> AC: Thanks, we will change it according to your suggestion.

RC2: Specific comments:

RC2: 1. Line 2: CM1 is actually convection resolving (not only convection permitting).
> AC: Thanks, we will use convection-resolving instead

RC2: 2. Line 10: Suggest adding "e.g." before the reference.
   AC: Thanks, we will do this.

RC2: 3. Line 21: Use state-of-the-art instead of up-to-date? And again, consider "cloud resolving" instead of convection permitting.
   AC: We will follow your advice.

RC2: 4. Line 25: run documented?
   AC: Thanks, we will change "run" to "documented" in line 24.

RC2: 5. Lines 48, 49: Replace "chapter" with "section"
   AC: Thanks, we will replace chapter with section.

RC2: 6. Line 55: Did the participants have to produce the 20 page report within the 2-week period?
   AC: No, they had approximately 4 weeks to finish the report. We will clarify this in the text.

RC2: 7. Line 67: Here and elsewhere: Instead of single-computer, consider "single-processor" or "serial application"
   AC: Thanks! We will change it according to your suggestion to single-processor.

RC2: 8. Line 80: Is this level of detail needed (background of individual participants)?
   AC: Thanks, we will delete the extra information.

RC2: 9. Line 81: Suggest rewording: Not or only partially covered.
   AC: Thanks, we will follow your advice.

RC2: 10. Line 94: How did the participant quantify the degree of lift in the field?
   AC: Thank you for the comment - indeed our text can be more clear here: With "weaker" forcing, it is meant that storm cell intensity is regarded in a thermodynamic profile associated with a weak forcing scenario. This scenario was characterized by the absence of quasi-geostrophic forcing as well as the absence of frontal lift. As a measure to investigate cell intensity, the participant used the maximum vertical velocity of each cell. In a later work based on the presented work during this course, the participant compared his results to a strongly-forced situation using a sounding associated with frontal lift on another day:

   REFERENCE: Sperschneider, A. and Bott, A.: Influence of the Orography of West-Central European Low Mountain Ranges on the Intensity of Deep Moist Convection, 11th European Conference on Severe Storms, Bucharest, Romania, 8–12 May 2023, ECSS2023-89, https://doi.org/10.5194/ecss2023-89, 2023.

RC2: 11. Line 104: Higher-resolution: Compared to what—perhaps report the grid spacing used in the different simulations?
   AC: The majority of the simulations had horizontal grid spacings of 1000 m and a vertical grid spacing of 500 m. In the high-resolution run the horizontal grid spacings

changed to 500 m. We will clarify this in the text and add the grid spacing to the figure..

RC2: 12. Line 111, section header: Instead of "classic" perhaps use "intermediate"? The term "classic supercell" is usually part of the "high-precipitation", "classic", "low-precipitation" trio.

AC: Probably the text is not clear enough. Indeed, we focus on a classic supercell structure (Weisman-Klemp sounding) and investigate if it evolves into a high-precip or low-precip storm in response to modifications of the environmental moisture profile. We will clarify this point in the manuscript accordingly. However, it might change due to the changes we plan to make in this chapter.

RC2: 13. Line 125: Add a reference here?

AC: Thanks, we will add a reference here.

RC2: 14. Line 157: Replace "Fazit" with "feedback", and consider removing "and co-author to this paper

AC: Thanks, we will change both according to your suggestions.