

Response to Reviewers – "Analysis of convective cell evolution with split and merge events using a graph-based methodology"

Jenna Ritvanen, Martin Aregger, Dmitri Moisseev, Urs Germann,
Alessandro Hering, and Seppo Pulkkinen

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We thank the reviewer for their comments on our submitted manuscript. We have copied the comments of the reviewers in black here and include our response to each individual comment in blue. We also include a latexdiff version of the manuscript to this response that shows the detailed changes from the original submission.

Please note that in addition to the changes listed below, we have updated the manuscript title in Figure 1 that was not updated in the previous revision round.

Reviewer 2

Dear Authors,

After your Review, I have only two comments:

- First, my major concern is that you must clarify (at the end of the Introduction and the beginning of the Methodology) that the technique has not been used for real-time purposes, if not for developing a climatology of splitting and merging processes.

We have specified in the introduction that in this study we conduct a post-event analysis of the dataset. In the methodology we have specified this with a new sentence (lines 180-181):

Here, the methodology is applied to historical data; if used in real-time analysis or nowcasting, the cell track graphs need to be reconstructed each time after new observation time steps are added to the dataset.

- The second point is less important, but it should also be considered: some references are out of date, and there are new works that the Authors should refer to.

We have added several new recent references; please see the latexdiff file for the new references.