Thank you for your thoughtful review of our manuscript on hail events in Germany. We appreciate your insights and the opportunity to clarify and enhance our work based on your feedback. Below, we address the key points raised in your review.

Response to Review Points

Short Timeframe and Lack of Trend Analysis: The six-year period (2018-2023) used in the radar analysis is too brief to establish meaningful long-term trends. As hail events vary significantly year-to-year, a longer dataset or a more in-depth discussion of the limitations imposed by the short timeframe would enhance the studys credibility.

We acknowledge that long-term trend analysis is a valuable aspect of meteorological studies, but we agree with the reviewer that six years of data is not sufficient for a trend analysis. Therefore, a trend analysis was not the primary goal of our research. Our focus was on utilizing advanced radar techniques to analyze recent hail events. However, we recognize the importance of understanding trends over time. In the revised manuscript, we will include an outlook discussing potential data sources that could be leveraged for future trend estimation, such as historical weather records and climate models. Additionally, we are committed to reanalyzing the data continuously as new data will be made available.

Over-Reliance on Radar Data with Limited Corrections: While radar data is central to the study, its known issue of overestimating hail sizes is acknowledged but not adequately corrected. This over-reliance, without stronger validation or adjustment methods, weakens the conclusions and leaves room for potential inaccuracies.

We are aware that radar data has its limitations, particularly regarding overestimation of hail sizes. To address this, we undertook our own calibration of the MESH (Maximum Estimated Size of Hail) methodology as part of our study. This calibration effort aims to improve the accuracy of our hail size estimations. We will add a paragraph about how other studies deal with these uncertainties to the introduction e.g. the empirical correction done by Brook et al. (2024) and threshold-based optimization derived by CNNs by Forcadell et al. (2024).

Brook, Jordan P., et al. "A Radar-Based Hail Climatology of Australia." *Monthly Weather Review* 152.2 (2024): 607-628.

Forcadell, Vincent, et al. "Severe hail detection with C-band dual-polarisation radars using convolutional neural networks." *EGUsphere* 2024 (2024): 1-43.

Superficial Treatment of Crowd-Sourced Data and Insurance Claims: Though crowd-sourced data and insurance claims are included, the analysis does not fully explore their potential biases (e.g., urban reporting bias) or offer solutions to mitigate them. The insurance data, in particular, is not sufficiently explored for regional or structural factors, making this section feel underdeveloped relative to the overall scope of the study.

We truly appreciate your insightful suggestion to explore the implications of bias in crowd-sourced data within our analysis. To enhance this aspect, we plan to provide a clearer comparison between population density and crowd-reported observations. We recognize that our reliance on insurance data, which is derived solely from postal code areas, may not provide a complete picture of hail events (see Figure 1). This limitation is why we chose to leave spatial analysis out of our examination of insurance data. By focusing primarily on larger hail events, we may inadvertently overlook occurrences of smaller hail, which are equally significant.

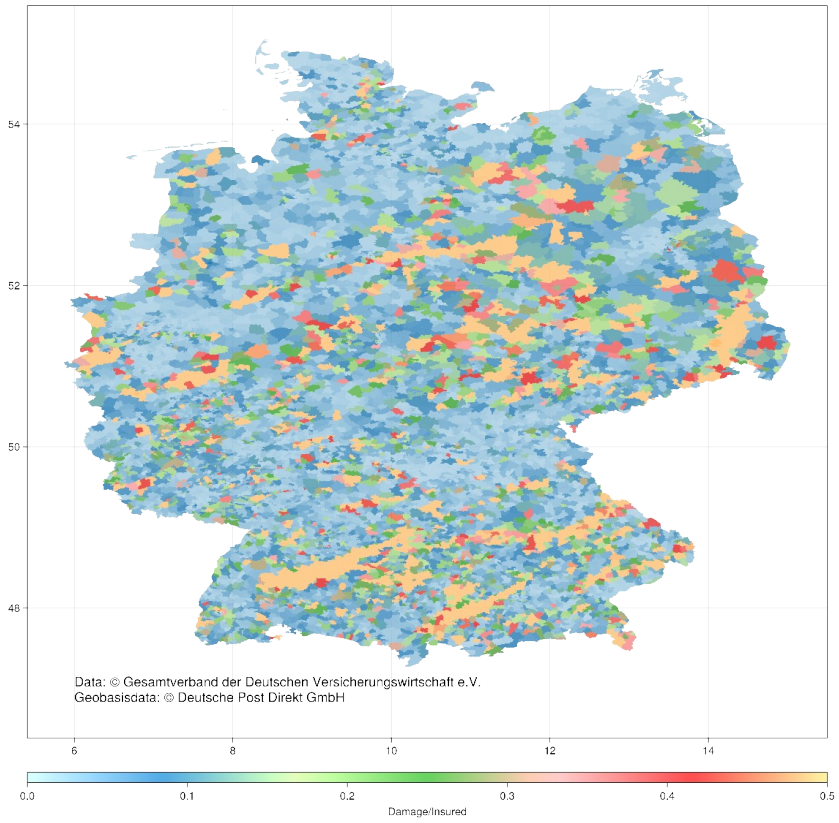

Figure 1: Loss [€] / Insured Value [€]

We are grateful for your constructive feedback, which will help us improve the quality and depth of our manuscript. By addressing these points, we aim to provide a more robust analysis of hail events in Germany while acknowledging the complexities involved in interpreting radar data and auxiliary sources. Thank you once again for your valuable insights. We look forward to submitting a revised version that addresses your concerns.