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Interactive comment on "A high-resolution unified observational data product of mesoscale convective systems and isolated deep convection in the United States for 2004–2017" *by* Jianfeng Li et al.

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Dear authors,

The manuscript presents a new methodology for identifying mesoscale convective systems based on the combination of three different sources: satellite imagery, weather radar volumetric mosaics and rainfall charts obtained from the merging of radar estimation and rain gauge values. The work results interesting but there are some points that should be solved before its accepting. One is the large number of typos associated

with the table and figures references (what is S1, S2, . . .?). Second one is conceptual, and more important to me: when the authors define isolated deep convection, they do not refer in any case to supercells. Besides, while the limitations of the methodology about the spatial and temporal scales are minimized in the case of MCS (because of their extent and duration), the part of isolated convection does not look like solved as clearly. I think that the authors should try to explain better the limitations (if exists) about this issue or, at least, explain why the results are not affected by this point. Finally, the number of results is excessive and, in my opinion, deviates the attention about the main objective of the research: the application of the new methodology. On the contrary, they do not compare their results with other methodologies, which are easy to find and can verify the lines provided by the current manuscript.

please find my review comments in the attached document.

Best regards

Please also note the supplement to this comment:
https://essd.copernicus.org/preprints/essd-2020-151/essd-2020-151-RC1-supplement.pdf

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