

Interactive comment on “Review Article: A comprehensive review of datasets and methodologies employed to produce thunderstorm climatologies” by Leah Hayward et al.

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Received and published: 12 April 2020

The paper reviews the datasets and methodologies which have been used to produce thunderstorm climatologies. Precisely, it analyses the different implemented approaches for the computation of thunderstorm frequency, thunderstorm tracking or lightning flash density. The study concludes that the best choice of the applied method is related to the coverage and the quality of the available dataset and the controlling factors under investigation. The manuscript offers an additional contribution to understanding the advantages and disadvantages of the available methodologies applied in

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thunderstorm climatology. However, the manuscript needs to be more organized in some sections. Thus, I recommend the minor revision of the manuscript before it is published. My detailed comments are given below:

1. The main objective and the motivation of this paper must be more clearly explained in the manuscript.
2. A paragraph at the end of the introduction that informs about the following structure of this manuscript must be added.
3. The “data section” must be in a separate section, not at the section of thunderstorm climatology.
4. Sometimes the authors write the lightning density as “flash density”, sometimes as “lightning flash density” or “lightning density”. One terminology must be selected.

Technical corrections

1. Title: without a full stop at the end.
2. Abstract: “. . . influenced by dataset coverage, quality and the controlling factors under investigation.” What quality do you mean? Something is missing. . .
3. Table 1 2.14 The statement “Can be to produce longer climatologies for. . .” must be rephrased “Can be used to reconstruct activity in areas of poor coverage (Allen and Karoly, 2014)”. Do you mean lightning activity?
4. You must explain the acronym CAPE at Line 103, not at Line 108.
5. Lines 163-165: You have already mentioned about radar reflectivity in section 2.1.2
6. Line 186: “(Wapler and James, 2015) showed that 2 lightning strokes within a 15km radius was found to be the most effective.”, without parenthesis at the names.
7. Line 327: Please, rephrase it.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2020-25>, 2020.

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