

We again thank referee #1 for the careful review of the manuscript and comments. The comments were addressed in the revised manuscript as follows:

[1] Sentence was rewritten on line 15 onward.

[2, 3] Sentence was clarified in lines 36 - 39, the goal of the study is to provide a baseline for future convection studies.

[4] Sentences were moved to the introduction, lines 27 - 34.

[5] Term was removed in line 46.

[6] Sentences and terms were removed in lines 56 - 61.

[7] Phrase was removed in line 59.

[8] Term was rewritten in line 64.

[9, 10] Several sentences were shortened following subsequent comments and our own reviews, specially in the results section.

[11] TATHU mention removed in line 69 in order to focus on the definition in the next paragraph.

[12] The first paragraph (lines 71 - 85) is focused on the description of TATHU, while the next paragraphs focus on the settings used, including the thresholds. The term "cluster" is meant to be more general for two reasons: it is the same term used in the algorithm itself, and a "cluster" can contain one or several storm convective cells because of the 20-dBZ threshold.

[13] The term "agglomerates" is used only in the definition, line 74.

[14, 15, 16] In line 75, we complemented "clusters" by "clusters of storm cells" to clarify.

[17] Term added in line 100.

[18] "layers" definition clarified in line 109.

[21] Since this conceptualization depends on the setting used in the study, we believe is more appropriated to keep it after the definition of TATHU and the settings itself.

[20] The sentence was rewritten according to the suggestion in line 115.

[23] Figure 2 was complemented according to the suggestion.

[24] Sentences were separated in lines 137 - 143.

[27] When analyzing the reflectivity distributions, yes, the 2-threshold filter is more important.

[26] The max count can be the same, but the total count of clusters is smaller than the total count of convective systems, so the distribution of the max area drops faster.

[28] A new cluster originated from a split cannot be considered “new” in a sense of “spontaneous generation”, so TATHU classifies this first step of the convective system as “split”. However, in a merge, the resulting cluster can be considered continuity of one of the previous clusters or not depending on the size of each cluster (for example, if one of the clusters is much larger than the other, the convective system of the smaller cluster will end while the convective system of the larger cluster will continue). TATHU provides the relations between convective systems in all merge/split situations if one is interested in follow all the ramifications.

[29] The filtering cited is clarified in line 169.

[31] We believe that the raw results have scientific value and will be referenced in future studies that will use the raw dataset.

[37] Figure 6 shows frequency by local time, so larger values are equal to larger frequencies in this case.

[38] A sentence was added to clarify the affirmation in lines 189 - 190.

[39] While the raw dataset can have several limitations, we believe it has scientific value, for this reason both datasets are provided and compared. An example of use was added in lines 205 - 206.

[33] Term was rewritten in line 216.

[34, 35] Sentence was rewritten in lines 217 - 222.

[41] The limitation was already explained in the methods, but was complemented in lines 81 - 85.