

The authors did a good job responding to my previous comments. This article is recommended for publication after replying to the following minor comments.

1. Line 35, "... add heating as frequent as possible, ..." : why it should be "frequent"? or replace by "as accurately as possible".
2. Line 86 : add brackets to "Bedka et al. 2016". Same in line 314 for Vicente et al. 2002 and please check citation styles throughout the manuscript.
3. Line 101 : change "... temporal trends of the data were used but, since ..." to "... temporal trends of the data were used, but since ..."
4. Line 134 : change "... as they progress upwards, ..." to "as clouds develop upwards"
5. Line 166 : replace "... the magnitude of the gradients are ..." by "... the magnitude of the gradients is..."
6. Line 166, "... use horizontal gradients" : should it be both horizontal and vertical? or remove it and please check throughout the manuscript.
7. Line 216-218, "However, not all the detection by the method is done early since MRMS product is created not just using high reflectivity, it is rather good at detecting early convection." : need correction here for better understanding.
8. Line 269, "... due to the IR's 2km resolution ..." : suggestion "due to their relatively lower spatial resolution"
9. Line 278 : would leave this sentence out.
10. Line 284 : add comma after "... vertical level". Same in line 317 after "...convective regions"
11. Line 291 : suggest to add "together" after "... since both clouds were detected"
12. Line 280 and 325 : please add the names of the cities on the map.
13. Line 327, "during 22:30UTC~22:40UTC" : please use a hyphen. Same in line 337
14. Line 350 : replace by "... decrease with latitude"
15. Line 348-350 : The effects of solar zenith angle or lower spatial resolution seem to conflict with each other. For this case (greater convective area), then is this probably due to the large SZA as it is in the afternoon? Please clarify.
16. Line 359-364: The information should be also in the caption of Table 3, and please mention how the values in percentage are calculated. The numbers can be provided here together.
17. Line 372 : replace "Most of the detection is ..." by "Most of the detection are ..."
18. Line 374 : Tables 1 and 2 don't have FAR information.
19. Line 374-375, "Relatively small FAR compared to Tables 1 and 2 would be because Tables 1 and 2 are obtained based on each cloud while FAR and POD are calculated based on each grid point." : Please give more explanation on this.
20. Line 380 : replace "... which is essentially ..." by "... which are essentially ..."
21. Line 385-386 : what is meant by "a random chance"? Please state explicitly.
22. Line 395 : replace "It is better to not ..." by "It is better not to ...". Please clarify more on "... give any information".
23. Line 427 : suggest to add "in a more effective way" after "... facilitate cloud tracking". Please revise this sentence "... helps the accuracy of the detection method when calculating decreases in Tb of the same cloud."
24. Line 441 : where does the figure "~85%" come from?
25. Line 443-444 : There are already some studies using machine learning algorithms and even deep learning for detecting convective initiation or overshooting cloud tops. Related studies can be mentioned in the Introduction.

26. Figure 2 : In the 4th box, replace "... at channel 8 and 10 are calculated." by "... at channel 8 and 10 is calculated."
27. Figure 7, Line 705: replace "Times next to each box represents ..." by "Times next to each box represent ...". Should "the mature cloud detection method" be "the growing cloud detection method"?