

Atmos. Chem. Phys. Discuss., referee comment RC3
<https://doi.org/10.5194/acp-2021-674-RC3>, 2021
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Reply on AC1

Anonymous Referee #1

Referee comment on "Radiative and microphysical responses of clouds to an anomalous increase in fire particles over the Maritime Continent in 2015" by Azusa Takeishi and Chien Wang, Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2021-674-RC3>, 2021

1. *It would be helpful if the reviewer could provide more details on the data sources and their availability, so that we could further examine the quantitative differences between FINN v1.5 and GFED.*

My previous figure is based on the output of FIRECAM (<https://globalfires.earthengine.app/view/firecam>) except for FINN2.4. I also made similar figures by myself, and I can not find a problem in my procedure. Please check the attached file (info_for_figure.zip). I am afraid that the authors have forgotten to divide by 30 (days) for the figure of FINN1.5.

2. *We deem that the ratio of 5:1 is not an uncommon parent-to-nested ratio and has been used in similar studies. It is not entirely clear to us what/which incorrect feedback (e.g., relevant to aerosol-cloud interaction?) was being referred to, and indeed, we would greatly appreciate it if the reviewer could provide some relevant publication on this matter. Even if the indexing was slightly off, we do not believe that it has an impact significant enough to invalidate our scientific findings from our simulations.*

I am afraid that the authors have not checked the release note of WRF version 4.2 which I have shown, but

detailed information related to this problem can be found at:

<https://github.com/wrf-model/WRF/pull/1100>

I recommend the authors to conduct a sensitivity test by yourself whether this problem might affect your result or not, by using corrected source code (share/interp_fcn.F).

3. I am also wondering why the variation is centered at 0.2mm in Figures 8c and 8d. Did you edit the value by adding some offset without explanation? If so, it degrades the reliability of the results in this paper.

Please also note the supplement to this comment:

<https://acp.copernicus.org/preprints/acp-2021-674/acp-2021-674-RC3-supplement.zip>