

Dear Editor,

We thank the editor for this positive assessment and for the suggestion.

To avoid any confusion regarding *Figure A5*: the cumulative-contribution figure showing that low-emission grid cells contribute only a small fraction of total emissions was submitted as *Figure 1* in our response to Reviewer II's comment and was not added to the manuscript. It is distinct from the manuscript's actual Figure A5, which shows the seasonality of savanna CO emission factors and we do not believe that is what the editor intended to reference.

We fully agree with the editor that this figure purely characterises the distribution of detected (i.e. non-zero emission) fires in the GFED5.1/GFAS priors; it was never intended to also represent undetected fires. We would prefer not to add the figure itself to the manuscript appendix, as it was constructed specifically to address Reviewer II's question and does not independently add information beyond what Sect. 4.2.1 already discusses about detection limitations.

Nonetheless, we are happy to elaborate on and further underline the fire-detection challenge in the manuscript. In response to the editor's comment, we have instead expanded line 447 in the discussion and incorporated the suggested references that had not yet been included:

"In previous research, underestimation of fire emissions has often been linked to missing small fires (Ramo et al., 2021; Roteta et al., 2019; Randerson et al., 2012; Ouattara et al., 2025). Detection can be further limited where dense smoke or aerosol loading suppresses the thermal signal used in FRP-based active-fire retrievals (Cohen, 2014)."

Kind regards,

Anne-Wil van den Berg, on behalf of all co-authors

References

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- Ramo, Ruben et al. (Mar. 2021). "African burned area and fire carbon emissions are strongly impacted by small fires undetected by coarse resolution satellite data". en. In: *Proceedings of the National Academy of Sciences* 118.9, e2011160118. ISSN: 0027-8424, 1091-6490. DOI: 10.1073/pnas.2011160118.
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