Response to comments:

We sincerely thank the Topic Editor and the Editorial Support Team for their careful evaluation of our manuscript entitled, “Global consumption-based deforestation carbon emissions and regional hotspots: 2001–2020” (essd-2026-243) and for their helpful suggestions.

Following their suggestions, we have carefully revised the manuscript. The major revisions include:

(1) Updated references. We have updated the Introduction by incorporating the latest Global Forest Resources Assessment (FAO, 2025) and the recent forest emissions assessment by Tubiello et al. (2026). (2) Completed reference information. We have checked the references and added the missing DOIs to all relevant entries. (3) Clarified methodological descriptions. We have refined the descriptions in Sections 2.2.1 and 2.2.2 to more accurately reflect the accounting and spatial allocation procedures used in this study. These clarifications do not affect the underlying calculations or results.

We sincerely appreciate the editors’ valuable suggestions, which have helped us improve the clarity of the manuscript.

Detailed point-by-point responses are provided below. Changes made in the revised manuscript are highlighted in blue, while unchanged text is shown in black.

Thank you for the opportunity to revise our manuscript.

Response to the Topic Editor's comment (16 October 2026)

The authors have addressed fully the comments received through peer review. The Editor suggests to update/complement the reference made to the FRA 2015 with the newest FRA 2025 report and accompanying deforestation emissions assessment, the latter also published in ESSD (https://doi.org/10.5194/essd-18-6799-2026).

Response: We sincerely thank the Topic Editor for the positive assessment and helpful suggestion. We have updated the Introduction by incorporating the latest Global Forest Resources Assessment (FAO, 2025), replacing the previous reference to FAO (2015). We have also added the recent deforestation emissions assessment by Tubiello et al. (2026), published in Earth System Science Data, to provide updated estimates of carbon emissions associated with net forest loss.

The revised Section 1 on Lines 19-25, Page 1 now reads:

"Although the annual rate of net forest loss declined from 10.7 million ha in 1990–2000 to 4.12 million ha in 2015–2025, deforestation remains a major environmental concern, with an estimated annual deforestation rate of 10.9 million ha during 2015–2025 (Fao, 2025). Deforestation contributes substantially to global carbon emissions, which remained at approximately 1.9 Gt C yr^{-1} during the period from 2013 to 2022, accounting for about 17% of total anthropogenic emissions (Friedlingstein et al., 2023). A recent FAO assessment also estimated emissions associated with net forest loss at 2.8–3.8 Gt CO_2 yr^{-1} during 2015–2025 (Tubiello et al., 2026)."

The revised References Section on Lines 438, Page 20 now reads:

"FAO: Global Forest Resources Assessment, Rome, https://doi.org/10.4060/cd6709en, 2025."

The revised References Section on Lines 510-512, Page 20 now reads:

"Tubiello, F. N., Branthomme, A., Obli-Laryea, G., Piccoli, M., Ramadan, N., Condor, R. D., Wanner, N., Brivio, R., Jonsson, Ö., Conchedda, G., and Pekkarinen, A.: FAO estimates of net forest emissions and removals, 1990–2025, Earth Syst. Sci. Data, 18, 6799-6813, 10.5194/essd-18-6799-2026, 2026."

Response to the Editorial Support Team's comment (4 October 2026)

We noticed that some references in your manuscript are missing DOIs. Please add DOIs to the affected references where available (this is typically the case for publications from 2010 onwards). If a DOI is not available, please provide a stable

URL for the referenced source instead. The report of our reference list check is available at: https://editor.copernicus.org/ESSD/reference-verification/essd-2026-243/manuscript-version/3.

Reference 4 [No DOI/URL]
FAO: Global forest rescources assessment 2015: how are the world's forests changing? , FAO, Rome, 2015.

Reference 6 [No DOI/URL]
Friis, C. and Nielsen, J. Ø.: Telecoupling: Exploring land-use change in a globalised world, Palgrave Studies in Natural Resource Management, Springer, Switzerland2019.

Reference 7 [No DOI/URL]
Gries, T., Naudé, W., and Matthee, M.: The optimal distance to port for exporting firms, Journal of Regional Science, 49, 513-528, 2009.

Reference 13 [No DOI/URL]
Hochard, J. and Barbier, E.: Market accessibility and economic growth: Insights from a new dimension of inequality, World Development, 97, 279-297, 2017.

Response: Thank you for pointing out this issue. We have checked the references and added the missing DOIs where available. For references without DOIs, we have provided stable URLs.

The revised References Section on Lines 438, Page 20 now reads:

"FAO: Global Forest Resources Assessment, Rome, https://doi.org/10.4060/cd6709en, 2025."

The revised References Section on Lines 454, Page 20 now reads:

"Friis, C. and Nielsen, J. Ø.: Telecoupling: Exploring land-use change in a globalised world, Palgrave Studies in Natural Resource Management, Springer, Switzerland, 10.1007/978-3-030-11105-2, 2019."

The revised References Section on Lines 456, Page 20 now reads:

"Gries, T., Naudé, W., and Matthee, M.: The optimal distance to port for exporting firms, Journal of Regional Science, 49, 513-528, 10.1111/j.1467-9787.2008.00599.x, 2009."

The revised References Section on Lines 472, Page 21 now reads:

“Hochard, J. and Barbier, E.: Market accessibility and economic growth: Insights from a new dimension of inequality, World Development, 97, 279-297, 10.1016/j.worlddev.2017.04.018, 2017.”