

Interactive comment on “CO₂, CH₄ and N₂O fluxes along an altitudinal gradient in the northern Ecuadorean Andes: N₂O consumption at higher altitudes” by Paula Alejandra Lamprea Pineda et al.

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We would like to thank the two reviewers for their assessment of our manuscript. We acknowledge that this dataset is limited and agree with the reviewers that we should interpret the data likewise. Hence, we can review the manuscript for overstatements, and shorten the general manuscript.

We are still convinced, however, that tropical montane forests are largely understudied in terms of GHG emissions [especially at higher elevations], asking for reporting – even

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with currently limited datasets. Moreover, the combination of the isotope analysis with a range in N₂O fluxes (from net emission to net consumption, along the elevational gradient) is – in our opinion – novel and important. Additionally; only a few full soil GHG balances have been reported for tropical forests that range so strongly in environmental conditions and most of those also suffer from similar temporal constraints. This is in part due to the generally poor accessibility of these forests, especially at high elevation, hampering the deployment of novel portable analyzers and more automated systems to obtain a longer temporal coverage. Although the temporal coverage is indeed limited, the observation of a shift from a net positive to a net negative non-CO₂ GHG balance with increasing altitude is new and seems to be of interest to the readership of Biogeosciences. Therefore, we are willing to shorten and restructure the manuscript as suggested, as a shorter research paper, or in another manuscript type.

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