

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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That is a nicely written paper on soil CO₂, CH₄, N₂O fluxes on a largely understudied tropical montane region in the Andes. My main concern, which is rather substantial, is that all interpretations are based on one week measurements (per strata) in August and again in September. I don't think that such a rather limited dataset allows for fundamental conclusions on site differences, magnitude of fluxes, correlations, temperature effects etc. as e.g. seasonal effects can't be considered and response ratios, e.g. to soil pH might change depending on sampling time and soil environmental conditions. I

C1

am bit puzzled that data restrictions are not at all mentioned in the abstract, and conclusions. Conclusions: far reaching, but given the dataset, highly speculative as well as comparisons to existing datasets as done in the discussions. Sorry, but, what is needed here is to cook down the messages and implications within the paper as the dataset is very limited so that results, statistical interpretations etc. remain speculative. I do see the potential for an opinion paper, i.e. focusing on why such measurements are needed and how one might address the challenge to get tangible datasets for such remote regions and what can be achieved by short targeted campaigns (and as well important: what can't be achieved). For me the data are a starting point for a proposal for longer term measurements as would broaden the scientific knowledge on the contribution of these regions to the GHG balance and potential changes which might occur given the dynamic environmental changes occurring.

All the best

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C2