

Interactive comment on “Spatial variations of nitrogen trace gas emissions from tropical mountain forests in Nyungwe, Rwanda” by N. Gharahi Ghehi et al.

O. Van Cleemput

oswald.vanCleemput@ugent.be

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This is a nice paper on emission of N₂O and NO from a tropical forest of Africa. This paper helps to build up larger data sets on a part of the world of which the size of GHG emissions is not well documented. In relation to other parts of the world, information on GHG emissions from Africa is far below the size of data from the other continents. The paper reveals also some very interesting points: next to biological processes responsible for N₂O and NO emission, it is postulated that also chemical processes (chemo-denitrification) might be important, all related to the soil properties. As mentioned by the authors more research is needed to verify the importance of chemo-denitrification.

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Anyway the soil characteristics are in favour for this process. In fact, I wonder if at low pH also other reduced elements (next to Fe) can interfere with the reduction of N. Another point that strikes me is the following: whatever the process of N₂O formation is, through biological or/and chemical processes, why is the N₂O reduction to N₂ not stimulated at higher WFPS ? No doubt more information and research can further clarify the observed results. However, this study adds an important amount of data on N₂O and NO emission from part of a continent of which the available information is too limited, and therefore merits a rapid publication.

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