

## ***Interactive comment on “Seasonal source variability of carbonaceous aerosols at the Rwanda climate Observatory” by August Andersson et al.***

### **Anonymous Referee #1**

Received and published: 23 November 2019

This paper presents a two-year monthly time series of measurements of aerosol chemistry (organic and inorganic) from a sampling site in the Ugandan mountains, and area sensitively placed to record seasonal variations in aerosol sources in sub-Saharan Africa. The measurements include radiocarbon and stable carbon isotope determinations on a subset of samples from across the wet and dry seasonal cycle. These measurements enable the delineation of major changes in aerosol source related mostly to a changing input of aerosols derived from savanna burning.

While there is nothing that is particularly novel in the results compared to the range of previous work in the region over the last decades, the results do contribute to a growing

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and useful body of aerosol data from this very large region of the world. The study has been well conducted and a series of robust results generated that clearly show the seasonal impact of savanna burning on local aerosol composition. The source apportionment using carbon isotopes is particularly valuable. I do not have any substantive issues with the analysis or interpretation

The paper is possibly somewhat long for the amount of data it presents, and does make some slightly overblown claims about the importance of the results in the context of regional environmental sustainability, climate and health that could be reduced in scope. I have also identified a large number of grammatical issues on the attached pdf

Please also note the supplement to this comment:

<https://www.atmos-chem-phys-discuss.net/acp-2019-1027/acp-2019-1027-RC1-supplement.pdf>

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Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2019-1027>, 2019.

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