

Interactive comment on “Concentrations and biosphere–atmosphere fluxes of inorganic trace gases and associated ionic aerosol counterparts over the Amazon rainforest” by Robbie Ramsay et al.

Anonymous Referee #1

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This study presents a systematic high-resolution measurement of concentrations, fluxes and deposition velocities of the inorganic trace gases and their water-soluble aerosol counterparts during the dry season of the Amazon rainforest. This study provides a highly useful dataset for atmospheric chemistry studies over the tropical rainforest, especially considering the lack of systematic measurements in such environments. The paper is generally well written. I suggest that it be accepted for publication after the authors make the following minor revisions.

1) Line 2-4: The wet season can also be affected by anthropogenic pollution, such as

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that from Manaus.

2) Line 354-360: What are the possible reasons for the large difference between GRAEGOR and ToF-ACSM measurements for nitrate and chloride?

3) Line 779-780: Trebs et al. (2004) shows an average NH_3 concentration of about 2 ppb in the dry season, which is about 4 times larger than the measurement of this study (about 0.5 ppb).

4) Many texts in the figures are quite small. You need to make sure that all texts are legible without zooming in.

5) Figs. 2 and 3: You should also describe the black dashed lines and grey dashed lines in the figure captions.

6) Figs. 4 and 8: Please describe the meanings of each component of the boxplots.

7) Fig. 6: This figure does not show pre-correction values as suggested by the caption.

8) Fig. 14: This figure is very similar to Fig. 1d except that an SO_2 line is added. I think it can be simply combined into Fig. 1. Also, I am wondering why the period before October 7 is not shown in Fig. 14.

9) Fig. 15: I think “total suspended particulate” is not an appropriate term here because only a few inorganic components are included. Sometimes you used “water-soluble total suspended particulate” in the text. This is better but still not accurate since some organic components are also water-soluble.

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