**Interactive comment on** “Physical, chemical and mineralogical attributes of a representative group of soils from the Eastern Amazon, Brazil” by Edna Santos de Souza et al.

Edna Santos de Souza et al.

anderson.braz@ufra.edu.br

Received and published: 5 July 2018

MS No.: soil-2018-3 MS Type: Original research article

Reviewer C. Pain:

Review by Colin Pain

General Comments

Aims are clear. Methods are appropriate.

Section 3, Results and Discussion. This section I found hard going, probably because the results and discussion are mixed together. It would be better to present the results in one section, and then discuss them in a following section. This of course requires a major rewrite, but I C1 comment think the paper would be better for it. Section 4

Conclusions. This is a bit weak considering all the very useful information you present in the paper. If you reorganise section 3 as I suggest you should be able to provide a more complete set of conclusions that are important for soil and land use in the area.

Reply: Thank you for your suggestions. The section 3 was reorganized into results and discussion. Conclusions were changed considering the relationship between the attributes as a function of the multivariate analysis. We also provided a more complete set of conclusions that are important for soil and land use in the area.

Specific Comments

You should include more details about the geological units, because their lithologies are important for soil formation. You could perhaps include a table listing formations and their lithologies? Technical Corrections

Figure 1 is too small – it is impossible to read the text.

Reply: figure 1 has been amended and extended

This comment also applies to Figs 2, 3 and 4. I think you need to redraw these maps so they are legible at the scale they will be published. In fact, you should check all the figures to make sure that text can be read at the published size. Also in Figure 9 some text is covered by other text.

Reply: figures 2, 3, 4, and 9 (current 11) were changed.

I have uploaded a file with some suggested edits.

Reply: All suggestions and corrections were included in the text.

CERTIFICATE OF ENGLISH EDITING - Editage

Thanks for the comments and suggestions that contribute significantly to improve the quality of the manuscript.

Kind regards,

Authors
Please also note the supplement to this comment:


Fig. 1. Map of soil sampling areas of the Para state
Sedimentary sequences, mainly psamitic, may include pyroclastic deposits. Metamorphic sequences of medium to low metamorphic grade sedimentary origin include green rocks. Sediments related to current alluviums and older terraces of the Holocene include sandy and clayey sediments, which may include carbonaceous levels of the Tertiary. Low to medium sandy and clay-carbonate sediments of metamorphic grade may be found. Magmatic Rocks include Grenáicas rocks of magmatic and/or sedimentary origin of metamorphic medium degree and granitic rocks developed during tectonism. Gneisses of magmatic and/or sedimentary origin of medium to high metamorphic degree and granitic rocks developed during tectonism are also present. Associations of rocks of volcanic and plutonic origin and felsic to mafic composition (positioned at the end or after tectonism) include metamorphic sandstones and shales.

Geological characterization and lithologies of the soils of Para state are detailed in the diagrams Fig. 2 and Fig. 3. Fig. 2 illustrates the Geological characterization and lithologies of the soils of Para state, while Fig. 3 shows the Climatic characterization of the Pará state.
Figure 11. Principal component analysis (PC1 and PC2) of the physical, chemical and mineralogical attributes of the samples from the surface layers (0-0.2 m) (A) and the subsurface layers – diagnostic horizon (B) of the soils of Para state.

Fig. 4. Principal component analysis (PC1 and PC2) of the physical, chemical and mineralogical attributes of the samples from the surface layers (0-0.2 m) (A) and the subsurface layers – diagnostic horizon (B) of the soils of Para state.