

Interactive comment on “Fine root dynamics for forests on contrasting soils in the colombian Amazon” by E. M. Jiménez et al.

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General comments:

This manuscript reports on a well-done study conducted in Colombia to investigate the effects of soil type and rainfall seasonality on fine root production and mass. The theme of the manuscript is important and interesting to the readership of Biogeosciences, especially because there are very few reports on fine root dynamics for tropical forest sites. In addition, there are very few studies that have combined different methods to estimate root production for tropical forests.

Specific comments:

- Why do you report your results in terms of carbon in the abstract only? This is not
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consistent throughout text.

- Introduction should be shortened.
- Page 3417, line 29 – Substitute for “This study evaluates. . .”
- In the material and methods section, authors should explain the reason for using different core volume and sampling interval.
- Page 3419, line 10 – Terra firme (mature?) forest
- Page 3422, line 4 – What do you mean by groups? You should consider using a repeated measure analysis to test for date effects on root production and mass.
- The authors should clarify why they did not test the correlation between FRP and rainfall.
- The authors associate the lower FRM and FRP with higher nutrient concentration in clayey soil sites. However, these forest sites also show high Al concentration and saturation compared to the white-sand soil site. Is it possible that Al toxicity play a role in constraining root production in the clayey soil forests?
- The association between FRM and soil water logging (page 3432, 1st paragraph) should be made with caution because there is not available data to support it. Or have you measured soil water status?
- The difference between FRM (in Mg ha⁻¹) and FRP (Mg ha⁻¹ yr⁻¹) should be clear throughout the text and figures. For example, in page 3433, lines 5-11, the authors present FRP values but refer to FRM. The authors also say (lines 6-7) that the ingrowth core method has been used to estimate FRM. Is that correct?
- Page 3434, line 5 – The sentence starting with “ However, . . . ” is not clear. It should be revised.
- Table 2 – Why do you present results in carbon unities?

- Table 3 – Are the maximum and minimum values statistically different?

Technical corrections:

- Page 3427, line 13 – Change to “which”.

- Table 3 – Change to “parenthesis”.

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