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Interactive comment on "Factors controlling the productivity of tropical Andean forests: Climate and soil are more important than tree diversity" *by* Jürgen Homeier and Christoph Leuschner

Anonymous Referee #1

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General

This manuscript presents an analysis of various factors on wood productivity and net primary productivity across a series of plots located on two transects. Although the findings appear robust, logically, and technically correct, I believe the analysis could be improved by better describing key details like the calculation of wood productivity, inclusion of additional covariates (particularly stand structural attributes), and general model behavior as well as fit statistics. In addition, a few paragraphs in the Introduction could be further expanded with key details.

Specific

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Discussion paper

L14: How is “productivity” being defined here? ANPP?

L50-53: Seems this paragraph and a few the other ones above it should be further expanded? How widespread are tropical montane forests? Where are they primarily located? Why specifically focus on them?

L57: Don’t understand the use of “rarefied” here.

L60: I am confused by the “10 K” Can this be presented differently?

L67: TMF was not previously defined and I assume referring to tropical montane forests?

L106: Some additional details would be helpful here. I assume these are predicted biomass values? What was the average remeasurement length? Is annual AGB increment computed from tree rings?

L130-133: I am bit confused by this. Personally, I would use AGB to predict WP or NPP, while I would consider WSG to be more of a function of species composition than stand structure? Seems other structural attributes could be computed like total basal area, quadratic mean diameter, and measures of the diameter distribution?

L141: What are RMSEA and CFI?

Figure 2: Might not include 0 on graphs with narrow distributions like LAI and WSG to better highlight trends.

L276: Your LAI cover a very narrow range and often the strong relationships are observed when values are below 5-6.

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