

Egusphere-2025-4152 – Point-by-point response to editor’s comment

Abstract

Line 23 AGB was already defined at line 15.

5 Author response: We removed the redundant definition at line 23.

Line 25 – I suggest to change tree dimensions into tree dimensions (such as such as diameter at breast height (DBH) and total height).

Author response: We implemented this change.

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I suggest to split this sentence in two:

Our best performing model—combining variables on species identity, tree dimensions, stand structure, site conditions and climate—explained 82% of total wood density variation, though it captured only a modest portion of intraspecific variability, found mainly driven by tree dimensions and mean annual
15 temperature.

Into:

Our best performing model—combining variables on species identity, tree dimensions, stand structure, site conditions and climate—explained 82% of total wood density variation. The best model captured only a modest portion of intraspecific variability of wood density, which is found to be mainly driven
20 by tree dimensions and mean annual temperature.

Author response: We split the sentence as suggested. It now reads:

*“Our best performing model—combining variables on species identity, tree dimensions (such as diameter at breast height and total height), stand structure, site conditions and climate—explained 82% of total wood density variation. It captured only a modest portion of intraspecific variability of wood
25 density, which was found to be mainly driven by tree dimensions and mean annual temperature.”*

Main text

Caption Table 1 – please add also there “See supplementary Table S1 for details on the variables)

30 Author response: This addition has been made.

Lines 2030-235 please be sure to define all the acronyms that are not defined in the text, SNA, RAD, SWC. etc. The meaning is explained in Table 1 but the acronyms should be defined in the main text as well. Please be sure all acronyms are spelled the first time is used (but check as I found acronyms
35 spelled the second or third time. Example: Line 336 – AGB was already spelled at line 315.

Author response: We carefully reviewed the manuscript to ensure that all acronyms are defined upon first use in the main text and consistently spelled out at their first occurrence throughout the manuscript.

Figure 7 – The maps are relative differences and should be indicated, including in respect to what. The
40 same for Figure S7.

Author response: We clarified in the legends of both Figure 7 and Figure S7 that the values shown are *relative differences*, and we specified the reference for comparison. For example, the legend of Figure 7 now states:

“Figure 7: Relative differences in forest aboveground biomass (AGB) stocks depending on the method
45 used to predict wood density: the ‘NFI-based model’, the ‘GIS-based model’ or a single average coefficient. All values represent relative differences with respect to the AGB estimated using the ‘NFI-based model’. Comparisons are presented across three spatial levels: biogeographical regions (A and D), biogeographical subregions (B and E), and forest plots inventoried by the French NFI (C and F). Maps on the left show the relative differences in AGB between estimates obtained using the average
50 coefficient and those derived from the ‘NFI-based model’. Maps on the right display the relative differences between estimates derived from the ‘GIS-based model’ and those from the ‘NFI-based model’.”

Figure S6 Y=X should be 1:1, what is shown there is the 1:1 line

55 Author response: We corrected the legend of Figure S6. It now reads: *“The solid blue line represents the OLS regression between predicted and measured values, and the dashed black line represents the 1:1 reference line.”*

We made the same correction to the legend of Figure 4.