

Responses to Review #1

The authors would like to thank the reviewer for his valuable comments which helped improving the quality of the manuscript. Our point-by-point responses to the reviewer's comments appear in bold below.

Line 18: gathered in → performed on

The correction has been made.

Line 20: and that → and thus

The correction has been made.

Line 37-38: update the given values to those of 2023

The value have been updated.

Line 52: a direct impact on the Mediterranean forest

The correction has been made.

Line 58: known plant species as well as → know plant and

The correction has been made.

Line 59: to understand how the Mediterranean forest

The correction has been made.

Line 59: Line break after future

The correction has been made.

Line 60: for studies over time periods related to climate change, indicate a typical number of years

This has been added: "... studies over several decades related to climate change..."

Line 75: Something strange with the reference T. Vashum and Jayakumar, 2012

After verification, it is indeed a surname. The full name of the author is Kuimi T. Vashum. There was however an error in the written reference. Thank you for pointing it out.

Line 82: update the launching date of the ESA's forest mission

The launch date has not changed. We have added the WEB site.

Line 100: Created in → Created on

The correction has been made.

Line 107: accents on the “E” of “Ecologie” and “Evolutive”

The correction has been made.

Line 133: so as to elaborate → to elaborate

The correction has been made.

Line 138: corresponding → sampling frequency corresponding

The correction has been made.

Line 138: add information on the range of heigh resolution

We have added: “...for a range of 1 km along the line of sight...”.

Line 165: the airborne lidar → ULICE-2

The correction has been made.

Line 166: as demonstrated by numerous studies, provide relevant citations

Citations have been given.

Line 168: Lidar profile allows to estimate TTH with an accuracy of → with an accuracy of

The correction has been made.

Line 169: link TTH to CBH. CBH is determined → link TTH to CBH, which is determined

The correction has been made.

Line 170: validated against field measurements, provide relevant citation

The word validated is not adapted and has been replaced by “established”. A reference has been given.

Line 170: field measurements linking CBH with TTH → field measurements

The correction has been made.

Line 172: different measurements with their error bars → different measurements with the relevant error bars.

The correction has been made.

Line 174: was thus fitted → was, thus, fitted

The correction has been made.

Line 201: in it via → in it, via

The correction has been made.

Line 237: To enable a comparison

The correction has been made.

Line 244-245: and standard deviations are of the order of 0.37 m, on the average.

The correction has been made.

Line 251: In section 4.3 the number of lidar measurements should, again, be mentioned mainly at the figure captions.

Sub-section 4.3 refers to field measurements (dendrometric measurements in the figure caption) and not lidar measurements. As explained, this shows that there is little change in tree heights from one year to the next. We agree that this is not clear in the text, so we have added: "...we have therefore compared TTHmax retrieved from dendrometric measurements...".

Line 315: the choice of the allometric law

The correction has been made.

Line 317: Even if the individuals studied → Even if the individual trees studied

The correction has been made.

Line 324: same types of trees planted in → same types of trees in

The correction has been made.

Line 327: The third source of uncertainty is the wood density and the carbon content.

The correction has been made.

Line 338: uncertainty associated with UGC could be estimated of ~4%

The correction has been made.

Line 340: footprint lidar employed, of only 355nm → footprint lidar employed, at 355nm

The correction has been made.

Line 342: are the most significant ones

The correction has been made.

Line 343: the relative measurement uncertainty is

The correction has been made.

Line 347: (Shang and Chazette, 2014b) → Shang and Chazette (2014b)

The correction has been made.

Line 351: drawn using the 2x2 m → drawn using a 2x2 m

The correction has been made.

Line 351: We can thus → We can, thus,

The correction has been made.

Line 386: Conclusion → Conclusions

The correction has been made.

Line 406: We are not → We do not

The correction has been made.

Line 407: talking here about validation → consider here validation

The correction has been made.

Line 408: rather about significant → rather a significant

The correction has been made.

Line 550: Is the T of T. Vashum a name or surname ?

The reference has been fixed.

Further suggestions:

In the current manuscript title replace "measurements" by "data".

Yes, it is more appropriate. The correction has been done.

Fig. 4 should have a higher dpi resolution.

The figure resolution has been upgraded to 600 dpi.