Review of: "Open-Source Remote Sensing Determination of Carbon Emissions From Tropical Deforestation Scenarios in Southeast Nigeria"

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Potential competing interests: No potential competing interests to declare.

The paper presents interesting information on the estimation of carbon emissions related to deforestation activities in tropical forest ecosystems. However, there are several aspects that could be improved in order to make both the methodology and the results more concrete. In this regard, the following specific observations are made:

1) Care should be taken with the style of writing, as paragraphs are presented in isolation, which can be integrated into a single paragraph in such a way that a central idea is linked and followed up.

2) It is important that when referring to an acronym, the meaning of the acronym should be stated the first time it is used. In this way, the meanings of all acronyms used in the text should be indicated.

3) The acronym NBS (2017) is not presented in the bibliographical references. It should be added.

4) It is stated that it is intended to determine "the exact amount of carbon emissions"; however, it is relevant to change this perspective, as the accuracy of such determinations cannot be guaranteed. Accordingly, it is suggested to change the term from "exact" to "estimated."

5) The relevance and justification of the work should be better articulated. For this, much of the information presented in the discussion section should be used.

6) It is not clear why the GFW tool has not been adequately used by researchers to quantify the exact amounts of forest-related carbon emissions. This should be specified with some examples.

7) The quality of Figure 1 should be improved, especially in the texts presented, especially in the images. Also, the coordinates of the study area should be included.

8) The figure presented in Table 1, which refers to the 136 mm of rainfall that occurred in Abia State in 2012, should be checked, as it does not make sense with the amounts of rainfall reported in subsequent years.

9) On the field data collection procedure, it should be specified how the sample size (number of sample points) was determined.

10) In Figure 2, a coordinate system and a legend box should be added. Furthermore, it should be specified to which area

it refers, as it does not correspond to the contour of the Southeast zone.

11) For what and why only the diameter of the trees was measured at the sample points. Why were other parameters such as height, crown diameter, crown height, etc., not measured?

12) If diameter tapes were used to measure tree diameter, why was a formula used to convert circumference to diameter?

13) It is relevant to point out how the carbon emission estimates determined with the GFW platform were validated. It is indicated that 54 sample points were located (of which only the diameter of the trees was measured), but nothing is said about how this field information was used. Accordingly, the methodological process followed to validate the resulting estimate with the GFW platform should be made very clear.

14) It is suggested that the information presented in the second paragraph of the section "Aggregate Tree Cover Loss Trend In Southeastern Nigeria" be presented in a table.

15) In Figure 6, the use of two scales on the vertical axis is not clear. It is therefore suggested that it be separated into two graphs.

16) It is stated that in the period between 2000 and 2020, Southeastern Nigeria gained 81.3 kilometers of hectares (kha), in this regard: a) this unit of measurement should be explained; and b) does the increase stated refer to natural regeneration or to plantations?

17) In the "Discussion" section, a comparative analysis of the differences and similarities of the results obtained in this work with the results of similar works is expected. The information presented in this section is well suited to support both the importance and justification of the work and can be used as a basis for the introduction.

18) It is suggested that in Figure 7, in addition to presenting gains, losses of tree cover should be presented. With this information, an important result on the location and sizing of the areas that require restoration can be determined.

19) It is important to mention the advantages of planting bamboo instead of restoring with native vegetation, mainly in terms of biodiversity, soil protection, water catchment, etc.

20) Throughout the text, reference is made to the GFW platform; however, the corresponding year should be specified (according to the bibliographical references).

21) In the bibliographical references, many more scientific articles should be included, as only 38.7% of the references are scientific articles. Furthermore, the sources of consultation should be more varied, since of the articles presented: a) 66.67% are co-authored by Ogbodo; and b) 41.67% are articles from the International Journal of Bamboo and Rattan.