

# Review of: "Peat Mass Change and Water Level Influence on Regenerated Melaleuca Forest After a Fire in U Minh Thuong National Park, Vietnam"

Iskandar Iskandar<sup>1</sup>

<sup>1</sup> Bogor Agricultural University

Potential competing interests: No potential competing interests to declare.

1. Line 90: How do you define peat? What classification system do you use? According to the USDA Soil Taxonomy system, the thickness of the peat (Histosol) is more than 40 cm. Anything less than this can be classified as mineral soil
2. Line 132: Maps need to be equipped with legends, coordinates, north marks, etc.; Take a look at the caption on this map: what does it have to do with Tioma Island, Malaysia?
3. Line 150: Hooijer et al (2010) assume that all organic C in peat that experiences subsidence will emit CQ. In fact, emissions can also come from root respiration. Peat subsidence occurs due to the compaction process caused by drainage. In this compaction process, only a small portion of the organic C in the peat is emitted as CO<sub>2</sub>. Because Hooijer's data is based on assumptions, my suggestion is to use the latest data from long-term measurements using the Eddy Covariance method. Please read, among others, Deshmukh et al. (2023): Net greenhouse gas balance of fiber woodplantation on peat in Indonesia. Nature 616:740-746. <https://doi.org/10.1038/s41586-023-05860-9>
4. Line 164-166: This peat thickness does not need to be repeated
5. Lines 168-171: What is meant by Mun and Nito? Walkley Black is a method to determine organic C, not humus or humic acid levels.
6. Line 200: This sentence is a bit confusing for me, especially the part where you write "peat layer". Does peat layer mean the same as peat thickness? These are 2 different things.
7. Line 206: This graph is already on Table 1, so there is no need to re-present it. Please use tables or pictures instead.
8. Line 208: If this map is to be displayed, then the necessary cartographic conditions must be followed: the legend needs to be clarified because it is illegible, and coordinates, scale, and north direction mark must also be added
9. Line 210-213: It seems that black peat is peat with a sapric decomposition level, while brown peat is fibric or hemic. Is it really like that? If so, the more general terms sapric, hemic or sapric should be used.
10. Line 220: If Figure 4 is to be displayed, it must be cited in the text
11. Line 223-226: Does this sentence mean that a peat layer was found at a depth of between 120 and 130 cm (there was a 10 cm thick peat layer), above and below this layer there was mineral soil? Or does it mean peat with a thickness of 120-130 cm covering an area of 148 ha?
12. Line 228: You should refer to Table 1, and there is no need for Figure 5
13. Line 255: typo average %C at peat thickness 70-100 cm

14. Line 275-277: This sentence is the same as the sentences in lines 252-255 and 347-349. Why do sentences like these have to be repeated over and over again? Please just write them once
15. Line 283: Using the Soil Taxonomy (USDA) classification system, the peat area in this national park is only peat that has a thickness of >40 cm, the rest (>2000 Ha) is more appropriate to be classified as mineral soil
16. Line 284: the peat thickness range listed is inconsistent. This becomes a little confusing. Can you use the range of peat thicknesses as in Fig. 6?
17. Line 295: What is meant by Nts?
18. Lines 297 and 314: Is this the nutrient content of peat or peat water? Why do you use units in mg/L? For solids, the units used are usually % or ppm (mg/kg) based on dry weight.
19. Line 361: How is it possible that the humic acid content in peat can exceed 100%?
20. Line 373: What is D1.3, Hvn, Hdc, Dt? Write this abbreviation as a note below the table
21. Line 375: There is already a table, no more need for Figure 7
22. Line 389: You must choose to use tables or figures.