

Eects of soil depth on the dynamics of selected soil properties among the highlands resources of Northeast Wollega, Ethiopia: are these sign of degradation?

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Detailed comments

Page	Line	
2	1-3	The first lines in the abstract explain that the work aims to analyze the spatial variability of soil properties under four different land uses. But this is very scarce information. Why are these land uses relevant? What do the authors want to shed light on? Re-write: "soil properties (organic matter content, total N, available P, texture and exchangeable Mg ²⁺ , K ⁺ and Ca ²⁺)".
	4	Ethiopia?
	4-6	This sentence is confusing: How many samples per land use type? How many replicates (2, 3, 4 ...)? How were composite soil samples prepared (several samples mixed in one, two depth samples mixed in one...?)
	7	Delete "along" and re-write the sentence.
	8	Re-write the sentence and use full forms (abbreviations are not explained in the abstract) for "OM", "TN" and "AP". Mg ²⁺ is repeated. You mean Ca ²⁺ ? In the main text, exchangeable Na ⁺ is also included.
	19	Reword this: "and low in the availability of major soil nutrients, especially N and P". USDA (1999) is a very general reference and is not adequate for this statement.
	20	Delete "anthropogenic".
3	8	Use symbols for chemical elements.
	11-13	What are de depths studied by Abubakar (1997)?
	12-13	Re-write this sentence: "silt and clay fractions are higher [...] than the contents..."?
	14-15	I do not understand: "3 to 43% declining trend as soil depth increases".
	15-16	Define abbreviations: Organic C for OC? Total N for TN? TP should be total P, but the abstract says "AP" (available P?).
	17	"Across"? Re-write: "in depth". As you are providing exact values, please provide exact depths.
	18	Do you mean "woodlands"? What do you mean with "homesteads"? Frams? Croplands?
	19	Define "CEC", may be cation exchange complex or cation exchange capacity. What depth?
	23 and 24	OM content? "More strongly"?
	24-25	Reword this statement.
	28	Loss of what? Soil loss? Forestland loss? Although you may find this obvious, you must be very, very, very specific in a scientific paper.
	29	Delete "that has been cultivated for years".
	30	Can you provide a reference for this (tree mortality and mining)?
4	2	"There are not avai
	6-8	Re-write the objectives. I suggest:

- Therefore, the objective of this study was to examine the effects of soil depth (0-15 and 15-30 cm) on some selected soil properties (CEC, exchangeable - Na⁺, K⁺, Ca²⁺ and Mg²⁺-, TN, soil OC and AP) and compare them under different land use types (forestland, cultivated land, grazing land and bush land).
- 18 The current term is "Nitisol". Cite the classification system.
21 "Downgraded" is not an adequate term.
- 5 6 and 7 Substitute "tiles" with "plots". This is consistent with the division of "tiles" in for "sub-plots".
9-11 Delete the last sentence of the paragraph.
11 A plot has not been defined (only tiles and subplots). Do you mean that you collected five soil samples in five points (north, south, east, west and center) of a plot? Inside or outside the plot? What distances among them?
14 At this point, the reader has: four land uses, five tiles, four subplots, five spots and an undetermined number of "depth strata". How does that make 40 composite soil samples?
18-19 You need to provide a citation or your own results to support this: "15–30 cm depth is the layer where the clay particles leached from the topsoil accumulate". Is it only an observation?
24-25 Abbreviations should be explained before.
The exchange complex is saturated with cations, not elements. So, add charges (eg, Ca²⁺).
Use chemical symbols for N and C, as for the rest.
- 6 4 Substitute "percentage organic carbon" with "OC content".
6 "SOM" (soil organic matter?) is not defined.
7 The 1.724 factor is disused. The 2.0 factor is much more exact, according to Pribyl (2010): <http://dx.doi.org/10.1016/j.geoderma.2010.02.003>. However, it is not necessary to transform SOC to SOM if we can freely work with SOC data. I suggest not transforming.
9 The normal distribution of data must be checked before using parametric tests and correlation analyses. Results and statistical analyses are not acceptable unless this is checked (in SPSS, Analyze > Descriptive Statistics > Explore and mark the "normality plots with tests" cell). If data are not normally distributed, non-parametric tests must be used or data transformations are required.