Biogeosciences

Discussions

Open Access

EGU

BGD

Interactive
comment

Interactive comment on "Variation of key elements in soils and plant tissues in subalpine forests of the northern Rocky Mountains, USA" *by* David P. Pompeani et al.

Anonymous Referee #1

Received and published: 12 December 2018

There are difficulties to read. The title does not specify the temporality of the study and that it focuses on the long term. Authors do not speak at all of the long-term effect of fires on the ground. Just at the begginning of the abstract you analyze the effect of wildfires in these key soil elements. Please modify your title according to your study including the role of "wildfires" in these key elements. And also something to long-term. The introduction is tedious and unstructured in some parts as in the last paragraph. Without a structural logic or coherence in the "n" used in each case that varies from samples to subsamples and according to the elements analyzed. They provide information on soil properties that have not been analyzed. Missing information about the study area. Failures in the experimental design, depth of sampling, without

Discussion paper

references to other papers with the same methodology. The latter also occurs with laboratory analyzes where the description finds lack of scientific support and is chaotic. The MS must be bounded according to what is to be analyzed (the topic of the study) and from there to do it. Different depths, vegetation, years from the last wildfire are mixed, probably different soil type due to the length of the transect and the differences in the vegetation, areas of different severity of fire are mixed without knowing the pre-fire conditions and where it is assumed that it was of high severity but it is not said why and due to the heterogeneity of the severity in a fire, by the pulses of the fire, the authors try to synthesize without success the effects on which said severity depends but they do not detail in their study how the severity was in this case. They use ratios like the N / P without having analyzed P. It does not follow the same order of description of the elements in all the sections of the paper.

Specific Comments Material and Methods Please provide information in "Study area" section about topography, soil type according to SSS or WRB, slope, aspect, mean anual temperature and precipitation, recent wildfires, etc. Lines 83-90 should be placed in "Study area". Authors appointed that there are 15 sampling areas but in line 103 appointed that there are 14. Line 113: Why id you selected this depth despite the low termal conductivity of soil?? Please, add references where this experimental designed was used to check the scientific validation of your study. If you are study areas where the last wildfire was 100 years ago, why did you sample to 25 cm? Line 114: How many cores did you selected form each site? and how did you select the studied sites? Lines 125 and 126: Then, as I can understand, you only took one sample from 0-10 cm depth. Why? This depth vary in each core? How you can know if the selected soils are from previously or after a wildfire? How many samples did you analyze from each depth? Line 143: So then you did not use n=44? Please, clarify here and in study Fieldwork section how many samples you took from each area, depth, etc. Line 146: As I can underestand, then, all the soil elements do not have the same "n" value. Please clarify. Results and discussion The discussion is scarce and poorly focused on MS topics. Conclusions The conclusions are appropiated to the MS.

C2

Printer-friendly version

Discussion paper