

Review of revised manuscript

Page 11, line 235-242: I appreciate your inclusion of the MDF and like your calculation and arguments for it. That being said I miss some description of how you apply it. As I read it I cannot really find information on how you apply this MDF. If you do not use it, then why have you included it.

In your answer you argue that small flux values might very well be real and hence you include it. Then why do you have MDF? The MDF is to serve as a control so as to sort out data that cannot be trusted in a statistical sense. In a laboratory setup you have the benefit of being able to autoclave soil samples and use those as controls to get the background noise. Analogue to this you have MDF in the field measurements. Every instrument has noise below which you cannot say with certainty that you have a real flux. That is a consequence of the technique. My argument to sort out fluxes $< \text{MDF}$ is to have a less variable mean value.

At the very least you should inform the reader in the results (section 3.2 CH₄ exchange) how many of your flux measurements fall below MDF if there are any. I believe this is important so as to convince the reader that your chamber is working and able to capture the lowest fluxes at the sites. If you choose to keep fluxes that are below MDF you should argue differently other than just saying "could very well be real". You need a more convincing argument. Would it jeopardize your entire analyses and you have them out of necessity? How would the absolute value and variance of mean values change if you omitted the non-detectable fluxes and would that at all change the overall conclusion of your statistical analyses? If you can do this convincingly I can accept that you include the non-detectable fluxes. The reason I ask this question stems from the fact that you do not provide any info on how you use the MDF. This is a little confusing at present, but I believe you could clarify it with a few more lines of text in the 2.6 in M&M and 3.2 in Results.

Page 12, line 257: Please add the missing word at the question mark in the sentence "The coefficients are the number that the variables would be multiplied with ? if CH₄..."

Page 16, line 357: insert "the" before "water table"

Table captions

Table 2: Please specify what time period these analyses are based on. Is the entire dataset over time?

Figure Captions

Fig. 3: Change "Fig. 3a" to "Fig. 3" and include the abbreviations for the different treatments in the caption. Right now abbreviations are in the figures, but not in the caption.