

## ***Interactive comment on “Dynamic C and N stocks – key factors controlling the C gas exchange of maize in a heterogenous peatland” by M. Pohl et al.***

### **Anonymous Referee #2**

Received and published: 13 January 2015

This manuscript reports on a study of soil C and N stocks and C gas exchange in a disturbed peat and landscape. Three soils, representing a gradient in soil C stocks and GWL level were investigated. By recognising the heterogeneity of such landscape, and attempting to capture it in GHG exchange studies this project makes a very useful contribution to the scientific literature. Also, the concept of dynamic soil C and N stocks is interesting and warrants discussion in the literature.

Overall I am in agreement with the manuscript in its current form but feel that the following suggestions would improve it.

Comments

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Title: While it may have been a peatland can it still be called that? There is a mosaic of soils but can an arenosol be considered peat?

L28 How can this be considered a gradient of pedogenesis? Are these soils not the result of drainage and disturbance? Indeed more detail is needed on this regarding the study sites. Can the authors provide information on the disturbance history?

L167 More detail is needed. Was the model run separately for each soil type and if so how were the differences in soil properties overcome?

L255 More detail is needed on why NEE was transformed in this way.

Given the importance of soil C dynamics I wonder why the authors did not measure heterotrophic respiration? This could reveal more about the influence of GWL and soil C on soil respiration.

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Interactive comment on Biogeosciences Discuss., 11, 16135, 2014.

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