

Interactive comment on “Fluxes of CO₂, CH₄ and N₂O from soil of burned grassland savannah of central Africa” by S. Castaldi et al.

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All the corrections indicated by the referee have been included in the text.

We find correct the comment of referee that this kind of ecosystem can be considered a tropical grassland rather than an herbaceous savanna. So this concept has been corrected throughout the paper and also the text has been modified. Also the wording savanna has been corrected and checked.

The bulk density is reported in the text (site description, soil characteristics). As required by all the 3 referees soil water content has been expressed as WFPS in all the graphs relative to field data and as a percentage of maximum water holding capacity (WHCmax) for laboratory experiments.

We agree with the comment of referee 1 that the citation on Guinean savanna by Menault et al. 1991 is an overestimation so the sentence has been deleted from text.

The detection limit for the two electrodes, when a low level measurement procedure is used for the calibration curve, is 0.01 ppm of N-NH₄⁺ and 0.1 ppm of N-NO₃⁻. Indeed this technique is not the better technique to estimates precisely concentrations below 0.5 ug N g⁻¹ soil dry weight. However, looking at Table 1 both NH₄⁺-N and a-amino N were generally above 1 ug N g⁻¹ soil dry weight, so we can assume that measurements of these variables reported in Table 1 were quite reliable and indeed the fraction of soluble organic N was higher than the fraction of mineral NH₄⁺-N.

As required by referee 2, the ETo has been deleted. No more mention was made in the following text of this measurement as it was not used for further discussion.

The differences between slopes and between intercepts were tested by an analysis of covariance with SAS with a GLM procedure. The details are now reported in the text (in Material and Methods and in Results sections).

Clarifications on figure 4 and 5 have been added and time dimension has been added to fig 8.

Please also note the supplement to this comment:

<http://www.biogeosciences-discuss.net/7/C1920/2010/bgd-7-C1920-2010-supplement.pdf>

Interactive comment on Biogeosciences Discuss., 7, 4089, 2010.

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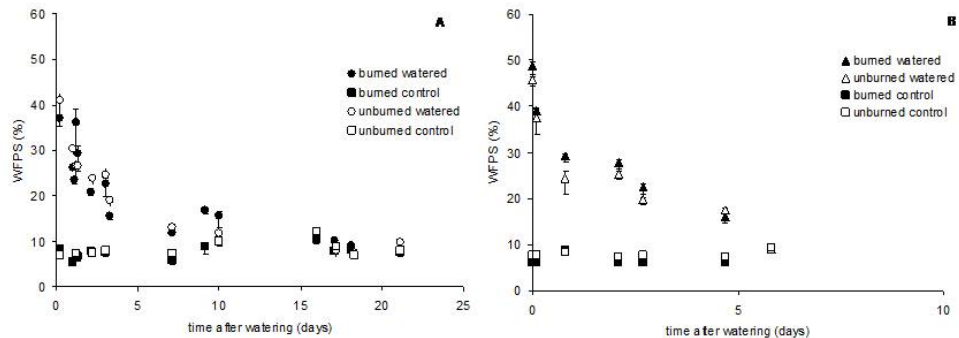


Fig. 1.

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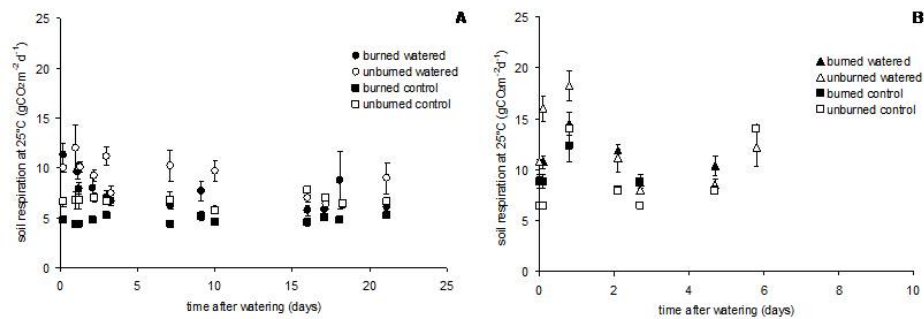


Fig. 2.

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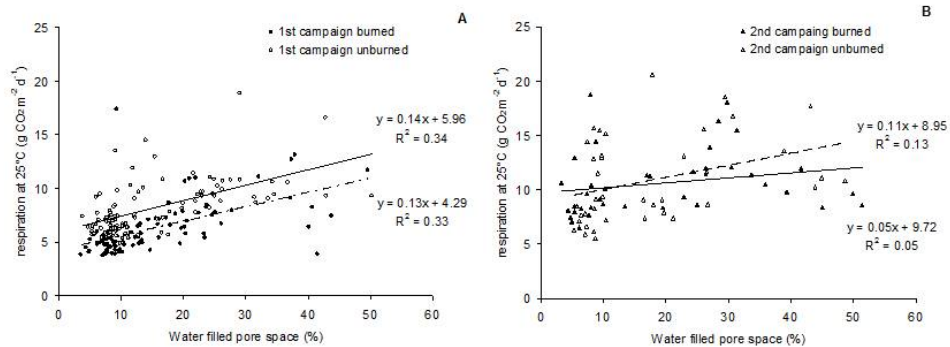
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Fig. 3.

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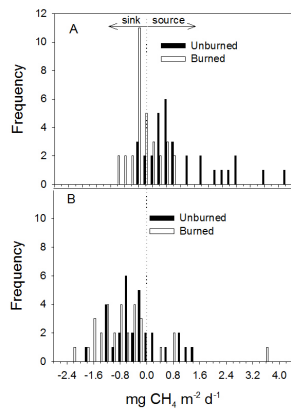


Fig. 4.

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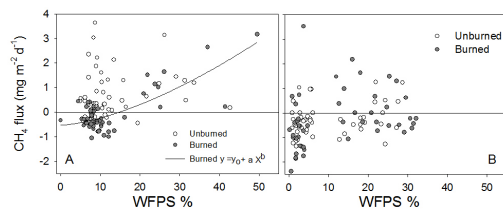


Fig. 5.

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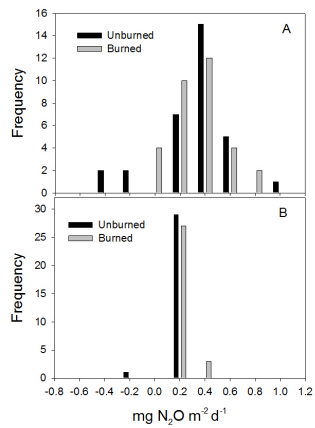


Fig. 6.

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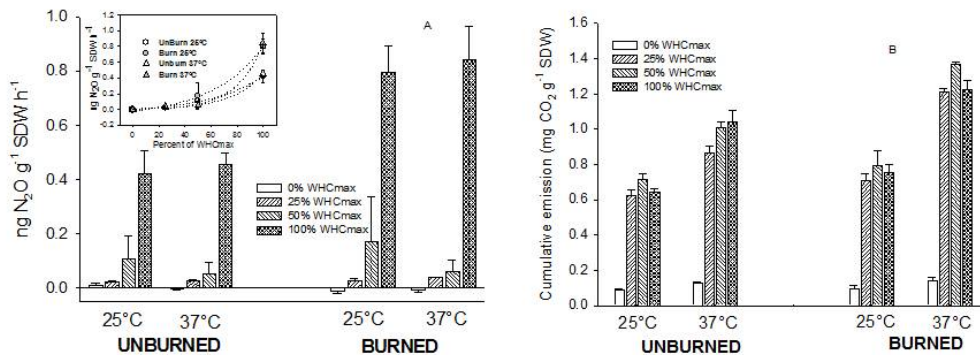


Fig. 7.

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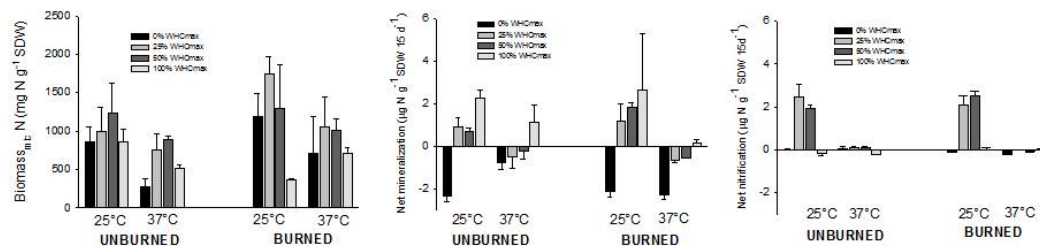


Fig. 8.

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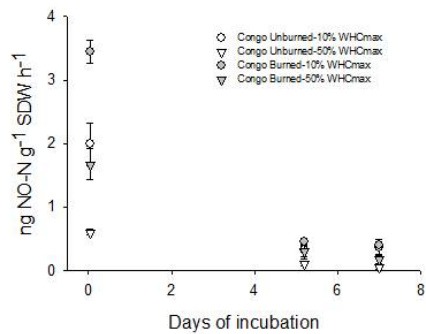
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Fig. 9.

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