

## ***Interactive comment on “Grassland fire effect on soil organic carbon reservoirs in semiarid environment” by A. Novara et al.***

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Response to the reviewers' comments (manuscript: Grassland fire effect on soil organic carbon reservoirs in a semiarid environment)

We have received the comments of the two reviewers and we thank them for their helpful contribution to improve our manuscript. The original comment of the reviewers (black type) and our answers (blue type) are reported below. Review 1 Some comments on paper are next: - Fig. 1. Please, this figure should be improved, especially, the more detailed map. Is it also representing the topography? If so, indicate. The figure and the caption were changed. Review 2 General comments As general comments on the manuscript, I consider that in the present form, the evaluation of the manuscript only need minor revision. Results and discussion must be rewrite in a bet-

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ter form taking into accounts their objectives to improve the work. I hope authors find the comments constructive to improve the paper. Please take into account that I have evaluated the scientific contents in the paper and the format request by the Journal, but English is not my native language, so I think others reviewers did this well than me.

The English was revised by native speaker

Specific comments Abstract Line 14: change C by SOC OK Introduction Line 20: replace a by an experimental fire OK Line 24: Granged et al, 2011 a or b?? Please check OK Material and methods Line 3: delete grassland OK Line 4: delete grassland respectively OK Line 5: Why do you use a natural wildfire and not a experimental fire? Your objective is to quantify SOC stock change as a result of an experimental fire: : . We did an experimental fire in order to simulate the effect of a real fire, very common in the study area Line 8: please add more information about thermocouple. It was added Line 20: how did you measure aboveground biomass? A sentence in M&M was added

Results and discussion Please rewrite in a better form For instance, the values are in the figure 1. Please comment what happened after fire. The information in line 1 of page 888 have the same information than the first paragraph of page 887. In the line 1 of page 888 we used the percentages to introduce some final considerations on small soc change recorded. Line 7:  $-13^{\circ}\text{C}$ , discuss briefly the added information of this analysis. Line 12: Delete “In our experiment: : . ok Line15: is 13? Or 12? Figure 3 It was 12 Line 18: lowest? English review Ok the English was revised Line 24: more discussion about time of burning is needed. The maximum temperature is  $480^{\circ}\text{C}$ . Combustion of OC  $450\text{--}500^{\circ}\text{C}$ . The information required and explanation were added. The reason for this different peaks is attributable to the amount of fuel and specie flammability. It is visible that the soil temperature decreased very fast and this is related with the mentioned above. Conclusions

Sentence 1 and two are equal. We deleted the first part of the second sentence

Reference Review Gristina et al., 2008 in the text It was deleted Change Ûbeda by

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Úbeda also in Line 22 of page 887 OK Figure 2. Add colors to differentiate before and after fire. ok Add SOC (g/kg) in axes X.ok Add parenthesis before and after \_C.

Please also note the supplement to this comment:

<http://www.solid-earth-discuss.net/5/C438/2013/sed-5-C438-2013-supplement.pdf>

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Interactive comment on Solid Earth Discuss., 5, 883, 2013.

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