Interactive comment on “Decreased summer drought affects plant productivity and soil carbon dynamics in Mediterranean woodland” by M. F. Cotrufo et al.

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We are again most pleased to hear that also referee 3 appreciated our work. This referee, while considered the work worth of publication, suggested several minor revisions and we report below our punctual response to each of the reviewer’s suggestion. We like to thank this reviewer for the thorough job he/she did in revising our work, which significantly improved its readability.

Title: “a” was added. We like effective titles that communicate the major result of the study. Decreased precipitation did not affect the system – adding that result in the title would make it too long and losing effectiveness. We are however ready to revisit our decision if the editor asks for a new title.

Line 10: this line was removed as explained in the response to remark 5960 line 13.
Line 14: corrected
Line 15: corrected
Line 18: corrected
Line 21 and 23: corrected
5957 line 12: removed
5957 line 19: we substituted it here and elsewhere in the text where appeared better suited. Different words have slightly different meanings and we did not use precipitation all the times, when other terms (i.e. rainfall, throughfall, etc.) were more appropriate.
5958 line 1-3: Rephrase. Now it reads: “In addition, precipitation changes may directly or indirectly affect many processes in terrestrial ecosystems, increasing the complexity of ecosystem responses to precipitation changes (Heisler and Weltzin, 2006)”.
5958 line 4: done
5958 line 19: corrected
5958 line 14: changed as suggested
5958 line 14: changed as suggested
5958 line 19: corrected
5958 line 28: corrected
5958 line 29: corrected
5959 line 1: corrected
The referee is right. The initial experimental design was a straight comparison between two extreme (dry and wet) soil moisture regimes (Ripullone et al., 2009). Later we realized the importance of the control – and included the control treatment to help explaining the interesting observed differences between the dry and wet treatments. Throughout the text we clearly report when data are compared to control, and focus our discussion on the years when all treatments were available. To avoid confusion, we now have removed the sentence at line 10 of the Abstract.

Details on the weather station are now provided. The new text reads: “In addition, a weather station was set-up near the experimental site to measure air temperature and air humidity (HMP45AC, Vaisala), incoming solar radiation (CMP3, Kipp and Zonen), wind speed and direction (03002-L, Campbell scientific) and rainfall (Davis pluviometer). All variables were measured at 10 seconds interval (0.1 Hz) and then averaged to a half-hourly time step using a Campbell Scientific CR10X datalogger”.

The time interval is correct, 0.1 Hz, but for clarity we also added “at 10 seconds interval”.

The “25” is not in our text – it was the page number at the side. I am sorry if that generated confusion, but our text reads “for each of the experimental treatments”, which as the referee correctly notes are 3.

To avoid confusion, the sentence was replaced with: “For the determination of tree growth nine manual dendrometer”. Tree growth was measured between April 2009 and April 2010, thus it provides tree growth for the 2009 growing season, since negligible growth occurs during the first months of the year.

we disagree here, once introduced the C4 soil, in our opinion does not need to go in between “..”. Thus, we did not change the text.
4. Discussion. Our discussion follows a logical flow and we would prefer not to separate it into specific sections. However, if the editors request us to break it into sections, we'll be happy to do so.

5969 line 1: corrected

5969 line 5-16: Also referee 1 suggested removing this paragraph. Given that both referees shared the same opinion, we removed the paragraph.

5969 line 17: corrected

5969 line 20: the referee is right; the presentation of results is not needed here and we removed this paragraph.

5970 line 8: The referee is right that these are results, but in this case they are functional to the discussion. Therefore we did not remove them. In our opinion it is actually good practice to briefly restate the main results from the study, when discussing them in the context of previous studies.

5970 line 15: corrected

5970 line 17: corrected

5970 line 20: corrected. The comparison is indeed between wet and dry.

5970 line 24: corrected

5970 line 27: corrected, with the exception of "leaf litter was reduced", because it is not a correct statement (see table 3)

5970 line 29: corrected

5971 line 6: corrected
Again the referee is correct that these are results. But repeating them here is functional to the clarity of the discussions. Therefore we left this paragraph in but corrected it as suggested.

The correction suggested modify the meaning of the text, and is incorrect. All their sites was inundated (not only the wet treatment) and it also loses the comparison between “their moist” site and “our xeric” site. Therefore the text was not modified.

We corrected “did not” but did not replace “and” with “to”, since our original expression is the correct one in English.

Table 1: The caption has been rephrased to: “Amounts and timing of water additions to the wet treatment by irrigation, and total water input (i.e., irrigation + rainfall) for the growing season (March to September), for the five years of the water manipulation experiment. For comparison, annual rainfall, rainfall during the growing season and long term means (LTM, 1980-2010) are also provided.”

Table 4 was removed as the reviewer suggested and the sentence “estimated SPP was 117±62, 82±29 and 190±13 g C m-2 yr-1, for the dry, control and wet treatments, respectively” was added in the result section.

Figure 2 was removed as suggested and all figure numbers in the text modified accordingly.

Figure 7 was removed as suggested by referee 1.

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