

Interactive comment on “Rainfall patterns after fire differentially affect the recruitment of three Mediterranean shrubs” by J. M. Moreno et al.

J. M. Moreno et al.

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The manuscript represents a substantial contribution to scientific progress within the scope of Biogeosciences. The topic is well introduced and the experimental design is appropriate.

C1.1: However the experimental design is also complex and an effort should be made to guide the reader through the experiment. For example year and precipitation often coincide but the arbitrary use of the two terms intricate the reading.

R1.1: A new figure has been drafted showing design and timing of sampling through the years that is self-explanatory and will help the reader to better understand the experiment.

C3085

C1.2: Given the complex design of the experiment and the way it is presented, results are hard to follow, also because there is a mismatch between the figure number in the text and the number in the captions.

R1.2: Mismatch has been corrected.

C1.3: Graphs are not easy to read and some of the information that the text presents as results cannot be deduced from the graphs. For example Figure 3 “seedling emergence of three seeder species. . .” is to dense and the feeling is that an extra graph would help the reader.

R1.3: Presenting the three species and all the emergence data in one graph has value because one can easily see what yearly cohort is important. We will modify the quality of the figure, changing the fillings and enlarging them to highlight the differences and make it more readable.

C1.4: The authors recall the average precipitation of the past 40 years to give an idea of the inter-annual variability, however the graph shows the mean values and not the variability.

R1.4: Although we did not provide the actual data of variability, we contextualized the precipitation in the various years of monitoring after fire with regard to the long-term (40 years) observations by showing to which percentile of the 40-yr they corresponded. To further clarify this, we will provide a new plate in fig. 1 with the long term monthly precipitation variability around the mean.

C1.5: Some of the comments in the result section should be in the discussion, while the discussion does not meet the readers expectations as it is often a repletion of the results with little explanation. The discussion is also hard to follow as the results are not presented clearly.

R1.5: We have edited the results and, particularly, the discussion sections, expanding some of the topics to be more comprehensive, while avoiding unnecessary repetitions.

C3086

We have also included subheading in the discussion, to help the reader understand the focus of the discussion of the various paragraphs.

Specific comments:

C1.6 To evaluate emergence it would be useful to know the seed bank size of the species in the plots, how can we know if a greater emergence is not due to a higher number of seeds?

R1.6: Knowing the seed bank is totally out of scope since that would be a major undertaking in its own right. We, indeed, assumed that greater emergence in LS fires would be due to a larger seed bank following the phenology of hypothesis. However, we did not expect large variations from one year to the next since, in relative terms to the existing soil seed bank, variations across years would decrease with stand age, and this was a rather old stand.

C1.7: Similar comment for recruitment, would it not be useful to present recruitment as a percentage of emergence?

R1.7: Real values of density of plants have a very important meaning and should be provided. Obviously, presenting recruitment as percentages is not a problem, but the reader can do the simple calculations. We were interested in relating emergence with recruitment, thus avoided changing the units.

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C3087