

Interactive comment on “Precision agriculture suitability to improve vineyard terroir management” by J. M. Terrón et al.

J. M. Terrón et al.

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In my opinion, this work should be published after a major revision.

Comment 1: The paper is well-structured; English requires minor revision, like e.g. at page 953, rows 18-23, particularly: "(i) it was acquired... (ii) it was done..."; and at page 953 row 25; page 954, row 2/3: "The pixel size chosen in this case it was: : :"). Authors reply: Comment accepted. Text implementation Text was revised.

Comment 2: I'm not convinced that the comparison between just two years (2012 and 2013) can address to the first research question i.e., the impact of different irrigation treatments. Probably, for a more accurate analysis, more than 5 years are needed, in order to consider climate effects. Authors reply: Comment partially accepted. Text im-

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plementation In terms of climatic studies on agriculture and in Mediterranean climates, having two extreme years are normally more important than having data for 10 years. Authors agree with reviewer that having 10 years is different to having only two years, nevertheless considering the objectives of the article (spatial and temporal vegetation behavior) these two years reveal extreme climatic years behavior and in our opinion are relevant for the discussion here presented.

Comment 3: Section 3.2 "Geostatistical and statistical data processing" shows a need for further clarifications. Particularly, description at rows 6 13 is not quite clear, resulting in a lack of comprehension in the use of PCA. Probably a flowchart (in "Figures" section) could help. Authors reply: Comment accepted. Text implementation PCA procedure was revised to better understanding.

Comment 4: The benefit of fig. 7 is quite obscure. Is the PCA the best tool with just few (i.e. 5) images? Authors reply: Comment partially accepted. Text implementation Authors doesn't understand what referee means with Fig. 7 is quite obscure? To model NDVI, one needs to study the dominant variation factors and how much of these are necessary to achieve a satisfactory approximation to the original data. This is achieved with PCA. Of course, if the variable to regionalize comes from a few independent variables, the latter must contain at least 80% of the variation in the original data, which is got using variables throughout the growing season of the crop.

Comment 5: Some advices: (abstract) Page. 948, row 6: the definition of ATV is here needed. Page 953, row 11: Principal Component Analysis. Change "(ACP)" with "(PCA)". Page 954, row 2: change "The pixel size chosen..." with "The chosen geometric resolution was of 4 m". Authors reply: Comment accepted. Text implementation Text was revised.

Comment 6: Table 2: the column "Range" is not a range, but it indicates the difference between max and min values. Please, remove this column or add integration in caption, indicating what "Range" means. Authors reply: Comment partially accepted. Text

implementation In descriptive statistics, the range is the size of the smallest interval which contains all the data and provides an indication of dispersion. For a dataset given, this is the interval between the maximum and minimum values. However, table was revised to a better understanding.

Comment 7: Table 2: at each date, the addition of a new row under "Non-watered", indicating the mean values of mean, SD, min, max, can be useful to immediately see the differences between dates. Authors reply: Comment accepted. Text implementation Table was modified.

Please also note the supplement to this comment:

<http://www.soil-discuss.net/1/C688/2015/soild-1-C688-2015-supplement.pdf>

Interactive comment on SOIL Discuss., 1, 947, 2014.