

Interactive comment on “Intense precipitation events in the Central range of the Iberian Peninsula”

by Manuel Mora García et al.

Response to RC3

General Comments

For example I suggest that in the introduction authors could put into context the region studied with recent article by Alvarez-Rodriguez et al (2007) - see references below- and the results, at least the case studies described, could be compared with the absolute maximum precipitation fit lines for different time periods given by Gonzalez and Bech (2017), either for Spain or for specific Spanish provinces.

Cited references have been incorporated into the text.

Specific Comments

1. Page 2, line 3. **(Now, line 7 on page 2)** Prat and Barros (2010): reference not found in references section. Please check and add it.
The reference has been added.
2. Page 4, line 12. Suggest: comparable to convective -> comparable to those from convective origin
The text has been corrected.
3. Page 4, lines 14 & 15 (and elsewhere in the text). Check English: regimen -> regime
The text has been corrected.
4. Page 4, line 21 (and elsewhere). Please check units of the amount given (4.7).
Values (units) have been fixed.
5. Page 4, line 25. m.a.s.l. -> m a.s.l.
The text has been corrected.
6. Page 4, line 31. Please clarify the selection method of the events. Is it 100 mm in 24h or during which period?
The selection of the events has clarified in the text.
7. Page 5, line 6. Middle -> Medium
The text has been corrected.
8. Page 5, line 7. interval. -> interval [remove "." before the URL in brackets]
The text has been corrected.
9. Page 6, line 8. For consistency, please use Type in capital letters if you refer to a specific type (Type I, Type II, etc.) as in line 6.
The text has been corrected.
10. Page 6, line 13. Suggest: static stability low and the mountain barrier narrow-> static stability is low and the mountain barrier is narrow
The text has been corrected.

11. Page 6, line 14. (Now, lines 28-30 on page 5) This sentence is a bit confusing. What about: of the flow in the mountains -> of the flow perpendicular to the mountains ?
Usually considered the intensity of wind perpendicular to the mountains, therefore is not indicated the direction, only intensity. These episodes are always given with a SW wind.
12. Page 6, line 14. I suggest: cause -> favour, because in fact it depends on the stability conditions
The text has been corrected.
13. Page 7, line 1. (Now, line 17 on page 6) I think additional decimal digits should be given for the Madrid sounding location.
The text has been corrected.
14. Page 7, line 2 (and elsewhere in the text). Suggest: remote-controlled station -> automatic [I do not think that being remote-controlled is relevant]
The text has been corrected.
15. Page 7, line 17. Hickey, 2011: reference not listed in references section.
The reference has been added.
16. Page 11, Table 3. caption indices along 27 -> indices along 26, 27 and 28
The text has been corrected.
17. Page 11, Table 3 caption. Clarify in the caption which variables listed refer to 850hPa level.
The caption of Table 3 has been corrected.
18. Page 12, Table 1. Typo: Máximo -> Maximum (without accent)
The text has been corrected.
19. Page 12, Table 1. Units should be given also for Vq mean.
The text has been corrected.
20. Page 13, Table 2. Suggest adding more columns with the maximum precipitation in 24h and other periods such as 1h, 3h, 6h or 12h; I strongly recommend at least including the 24h; the 1h value may be useful to assess the convective character of the event. Values currently listed are difficult to compare as may correspond to different time periods.
Added a new column to the Table 2, with the values of the maximum precipitation in 24 hours.
21. Page 15, line 3, Figure 1 caption. Show- shown
The text has been corrected.
22. Page 15, Figure 2 caption. Please add: Average fields -> Average fields for the episodes studied (listed in Table 1)
The text has been corrected.
23. Page 15, Figure 3 caption. Average precipitation for which time period? All the event?
It corresponds to the average precipitation of all events. Added to the caption of the Figure 3.

24. Page 15, Figure 4 caption. Suggest: units -> labelled in kt
The text has been corrected.
25. Page 15, Figure 7 caption. Spatial -> Topographic
The text has been corrected.
26. Page 15, Figure 8 caption. Doppler radar image -> Doppler radar wind (m/s) PPI image [you can expand PPI into Plan Position Indicator if preferred]
The text has been corrected.
27. Figure 2. I suggest to improve the panels by removing the current titles above each panel (the labels a,b.. should suffice) and also by redrawing the legend bar to fit the width of each panel. This should allow a more compact and clear display.
According to the comment, the Figure 2 has been rectified.
28. Figure 3. Please improve the quality of the image (resolution, units in brackets).
According to the comment, the Figure 3 has been rectified.
29. Figure 4, Could it be possible to add a colour legend for the cloud top temperatures? Coldest values could be commented in the text.
According to the comment, we have added a colour legend.
30. Figure 6b. Please improve resolution.
Unfortunately the quality of this figure can not be improved. The inclusion of this figure, (average precipitation 1971-2000), serves to confirm that the study area presents a clear orographic influence on rainfall.
31. Figure 7. Regarding the x-axis units labels note that you are using a dot "." which in English usually means decimal separator. Presumably the label 400.000 m means 400 km, doesn't it? Please check and make necessary corrections to avoid confusions.
According to the comment, the Figure 7 has been rectified.
32. Figure 8b. The star symbol seems to be wrongly placed - it is not at the centre of the PPI image - it seems to me it should be further south-west from the current position.

Unfortunately the Doppler radar PPI image is slightly distorted, so that the symbol should be a circle and not a star, which corresponds to the position where the radar is located. The radar is located in Autilla del Pino (41.99°N 4.63°W) about 200 km from the study area, but its image is representative of the average synoptic flow, considering that it is in a particularly flat area. This symbol should not be confused with the point of grid that we have selected to perform reanalysis.