Comparing Intensity-Duration-Frequency curves derived from CMORPH and radar rainfall estimates over the Eastern Mediterranean

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I think that this is a very relevant paper because it compares the statistics of extremes for independent instruments over a climatic region characterized by strong gradients in precipitation patterns, for several temporal and spatial aggregations. The authors present a complete set of analyses showing the value of the extreme value theory applied to remotely sensed precipitation measurements available for a relative short period.

I have only minor comments and therefore I strongly encourage publication in HESS.

Minor comments

1) The rain gauges used to adjust satellite measurements are the same used in this study?

2) pag. 5 line 10. Can you provide an estimate of the amount of missing data? Do you know if some of your annual maxima from one instrument were measured when the others instruments were not working? This could potentially lead to a bias in the results, and, if it happened, should be mentioned in the text. Moreover, the sentence "In order to focus on a unique set of IDFs for each dataset, .." it is rather unclear to me.

3) Pag. 5 line 12: Since most of the rainfall occurs in winter and you are using calendar years, did you set a minimum time lag between close annual maxima occurred in separate years (e.g. if max rainfall occurs on 31 Dec and 1 Jan of following year, do you take them as two separate maximum)? Since your events should be independent according to the GEV theory, could you comment on this?

4) Pag. 24, line 23. The difference behavior of shape with temporal aggregation among satellite and radar should probably investigated a bit more. You state that the larger values of shape for the radar might be due to radar shutdowns, so you should probably check how many annual maxima from satellite were not measured by the radar because of the radar shutdowns.

5) Pag. 7 line 6: The sentences *"This means that the smoothing effect due to spatial and temporal aggregation of rainfall measurement depends on the return period, and is more pronounced for longer return periods. This relates to a non-homogeneity of the scales of rainfall extremes with return period: the more extreme an event is (.i.e. the longer its return period), the more localized it is expected to be in both space and time"* need some additional clarifications.

For satellites, your shape parameters were not decreasing with temporal aggregation, as shown in figure 2. Thus, the decrease in shape with temporal aggregation that you observe for radar (in figures 2 and 3) could not only be due to the smoothing effect, otherwise you should notice it also for the satellite in figure 2. It is true that the more extreme an event is, the more localized it is expected to be in both space and time, but in this study an event is defined according to a given spatio-temporal scale and not in absolute terms. Thus, I don't think it is correct to state that the longer is the return period, the more localized is the event in both space and time, because the return period is also relative to a given spatio-temporal scale. If your inhomogeneity of scales was true, than it would mean that we should have smaller shapes for longer spatial and temporal aggregations, but, for example, you did not get this for temporal aggregations for satellite. I am wondering if it is not just a

matter of archive length, i.e. within short archives it is less probable to observe the very heavy cases for large spatial and long temporal scales than for smaller scales. I think these aspects should be clarified a bit more in the text.

6) Shouldn't figure 4 be called return level plot and not IDF according to the standard nomenclature?

7) Pag. 7, line 23: do you have an idea why the spatial variability of the return levels values increases with return period?

8) Pag. 8 line 8: *"this reflects what observed……i.e. to predict larger intensities for longer return periods"*. I think you should add "with respect to longer durations", otherwise the sentence is rather obvious.

9) Table 1. I suggest to write: Number of pixels analyzed for each climatic region according to Koppen-Geiger classification. Are T_{hot} and T_{cold} the average monthly temperatures? Please specify.