Review of 'Impact of Multiple Radar reflectivity data assimilation on the numerical simulation of a Flash Flood Event during the HyMeX campaign' by Maiello *et al.*

General comments

The authors have improved their manuscript by clarifying their goal and their contribution to the field of hydro-meteorological research.

I am pleased to read that the authors 'accept the advice to go deeply into the meteorology of the event to see which is its interaction with the data assimilation method'. However, I do not see much evidence of it in the revised manuscript.

My opinion is that without any clear statistical significance (see below my comment regarding confidence intervals) or in-depth analysis of the data assimilation process, the manuscript fails to meet publication standards.

Specific comments

Most of my previous specific comments have been addressed satisfyingly. I list here below those that still need to be addressed.

- Subsection 3.1: In my previous review, I asked for more details regarding the assimilated radar observations. I still do not understand what exactly is being done. The authors replied that no thinning was performed. I think that this piece of information should be mentioned in the text.

  I do not know what 'model format' means (l 171). Does it mean that the radar data are interpolated onto the model grid? If yes, how? Is there any smoothing? What is the minimum assimilated reflectivity? Does it depend on the range?

  It should be added in the text that pixels affected by partial beam blockage have been removed, as mentioned by the authors in their reply to one of my comments.

- ll 219-222: The reader wonders which experiment is actually selected. I suggest moving the contents of Subsection 4.1 right after ll 219-222 (and remove the subsectioning of Section 4 or rename the current Subsection 4.2 as a new Section 5). So that MET is already introduced, ll 239-245 could form the contents of a Subsection 3.3 titled, eg, 'Evaluation'.

- ll 264-266: The details given by the authors regarding how the statistical indices are computed ('The 12 hours accumulations have been calculated from the 2012-09-14 12:00:00 to 2012-09-16 00:00 every 6 hours') should be added to the text.

It seems that MET also provides bootstrap confidence intervals. It would be useful to consider them when discussing the results.

- ll 292-293: I still do not understand why CON_3KM is worse than CTL (it seems quite obvious from Table 5 or Table 7). The authors explain that there are only few data ingested in the smaller domain. But it is anyway more than no data as in CTL, isn't it? Also, why does data assimilation in both domains (experiment CON_12KM_3KM) produce low statistics compared to no assimilation at all (CTL) or assimilation in the coarser-resolution domain only (CON_HR_12KM)?

- Fig 1: The source of the data (most likely analyses of a global model, I suppose) should be mentioned.

- Table 2: Points ('.') should be used instead of commas (',') as decimal separators. The SI symbol for kilometre is 'km', not 'Km'. Degree symbols ('°') should be added after elevation angles (I suppose degrees are actually used here).