I thank the authors for providing a succinct article investigating the sensitivity of extreme precipitation events in OpenIFS to model time step and horizontal resolution. I have tried to make some minor edits to improve the readability of your article in places but in general the quality of scientific writing and accompanying figures is very good. I have one substantive point for you to think about in relation to RMSEs at different percentile thresholds – and specifically what precipitation amounts these percentiles correspond to. I also encourage the authors to consider using "finer (or coarser) horizontal resolution" and "shorter (or longer) model time step" as it will help the readability of your article.

Substantive point

In Fig. 5 you show the RMSE for different percentiles thresholds and state the "RMSEs increase exponentially with increasing percentiles". It would be useful here to have some additional knowledge of what rainfall amount the e.g. 70th, 80th and 90th percentiles correspond to. For example, the 80th percentile may correspond to only perhaps <2mm/day, in which case would it follow that the RMSE for all resolutions (and time step lengths) would be much smaller at these lower (less extreme) percentiles? Lines 285-288 – is RMSE the best statistic to use to support this conclusion? Given the discussion above around rainfall amounts that correspond to each percentile – I'd advise calculating and/or stating the rainfall amounts that the 70th, 80th and 90th percentiles correspond to.

Minor comments

In section 3.1 (**lines 206-210**) - I think it is worth starting that ERA-5 is a reanalysis product that assimilates observations of precipitation. Therefore we should expect it to e.g. do a better job of reproducing dry (1994) and wet (2010) years – than OpenIFS AMIP simulation that doesn't "see" the precipitation observations.

Line 233 – missing word – add percentile after 99th

Lines 240-242 – also in Fig. S1 and Fig. S2 there looks to be a shift northwards of the highest orography in LR compared with MR and HR – this could be brought into this discussion.

Line 293 – suggest reversing statement to make it clearer to the reader what you mean – i.e. shorter timestep corresponds to smaller RMSE. e.g. "The RMSEs for LR, LR30m, and LR60m are smaller when the model time step is shorter. However…"

Line 303 – I think it is more common to say "unresolved" convective motions in this context.

Line 306 – suggest to help the reader follow what you are saying here "When moving to finer (or higher) horizontal resolutions, large-scale precipitation is likely to increase"

Line 312 – mostly "consistent of" or shorten to "extreme precipitation is mostly large-scale…"

Lines 317-319 – 40N also cuts out a significant part of southern Spain, Greece and far south of Italy and Sicily. This may be intended but I suggest its worth stating explicitly that you are cutting off more than just North Africa.

Line 348 – Revise wording slightly for readability - "It is likely due to "the"(?) large-scale precipitation "increasing"(?) by a larger percentage…". Can you provide any evidence to support this statement? E.g. "This is due to the large-scale precipitation increasing by XX%, whereas convective precipitation only increases by YY%."

Lines 345-353 – this section needs some editing and in places is a bit weak e.g. “it is likely” – try to be more concise and provide evidence to support these statements. As is stands I’m not sure this paragraph adds to the results section.

Line 356 – consider saying a “shorter model time step” (and elsewhere in this paragraph).

I think the section detailing native grid results should be within its own sub-section under the results heading – to give clarity to the reader that you are re-producing earlier results but without the re-gridding step applied previously.

Line 395 – remove the word “and” – use a comma after (Fig. 11 a-d) instead.

Line 395 – change “coarsened resolution results” to “regridded results”

Line 397 – as above “regridded results”. Coarsened resolution to the reader implies you are discussing the resolution of the model whereas my understanding is that here you are comparing with earlier results where you had regridded the higher-resolution data to a common 0.9 degree grid.

Results and discussion section – be careful in your use of “increasing horizontal resolution” – perhaps change to “finer horizontal resolution” or similar.

The final paragraph of your discussion on precipitation observational datasets is interesting. Given some of the issues that you correctly highlight I wonder whether it would be worth considering adding a line about future work that would follow-on from this study. You could compare model output to “an ensemble” of observational products – this would helpfully provide a spread of observational estimates and allow insights on whether and which model configurations sit within the observational spread.

<u>Minor changes to improve figures</u>

Fig. 1 – consider removing vertical grid lines to reduce clutter on the plot. Update the figure line labels (e.g. capitalise RMSE).

Fig. 3 and Fig. 4 – could you change the panel layout so that each panel is larger. I understand that you want to show differences to obs below relevant model data but its very challenging to see significance stippling at current image size

Table 1- In HR column – the “native” output resolution is not 400x800 – this data has already been coarsened or regridded as stated in lines 384-385 of the manuscript. For clarity suggest you state the native resolution and in brackets add the data resolution you used for your evaluation.