Review 1

I do not understand how you obtain the RCP2.6 and RCP8.5 radar data. Is this what you refer to in lines 242–243 and lines 251–252 as the "1x1 km interpolated station-based RaKlida dataset" and "the regional climate model was downscaled to 1 km grid by the PRIDE model"? If so, stating that it is RCP2.6 and RCP8.5 radar data is misleading, because it is really just downscaled climate model data and not the observed radar data.	We guess a misunderstanding occurred here. We use both radar observations 5/10 min data (lines 222-235) and daily climate projection (CP) modelled data with 2 RCPs scenarios (lines 236-252). Radar is used for models' validation in the first part of the results, while CP are used to show the models' application in the second part. Additionally, radar data is used to derive precipitation characteristics for the model (like a training dataset), which then are used for CP disaggregation. We did not find in text where we mix terms of CP and radar. Maybe the Reviewer refers to the legend of Fig.12, where namings like e.g. 'RCP 2.6 - Radar (daily)' occurs. Here '-' sign means 'between', referring to the change factor between CP and radar data on a daily scale. We suggest changing it to 'and' to avoid confusion (e.g. 'Daily scale: RCP 2.6 and Radar').
I assume you are using the same downscaled data to ingest into WayDown and LetItRain as RCP2.6 and RCP8.5 radar data, correct? If so, please state that explicitly in the methods.	Agreed, will be clarified.
Since you are using different models and different downscaling methods for climate projections and Germany and South Korea, I do not think it is fair to compare how well the disaggregation models compare against each other in those two locations because they have different model data they are ingesting. However, when you compare the "change factors" *within* each location, that is OK.	Agreed, the result section containing CP disaggregation comparison will be corrected.
Please improve the resolution of the figures, notably Fig.5's legend, Fig. 6 and 7.	Agreed, all produced figures have originally 300 dpi resolution, we guess the resolution was muffled due to word-to-pdf conversion. Will be double check it during the article production process.
Line 144: When you say "binary 5-minute precipitation", I am guessing you are referring to whether it rained or not? If so, please make that clear.	Agreed, will be clarified.

Figure 2: Please make this figure caption clearer. I recommend referring to the appropriate panel after the corresponding text. I am guessing “daily value of 15 mm” refers to the left panel?	Agreed, will be clarified. 15 mm refers to daily value, first panel represents uniform distribution of these 15 mm for 10 min intervals, second - binary event sampling and third how the model ‘fills’ binary data with real values and corrects them.
Line 202: Do you calibrate the model using the raw future climate data? Please state what you use for calibration.	We did not use the raw future climate data for model calibration. To calibrate the model for future climate, we follow the procedure as follows. At first we derived linear regression between rainfall statistics using high-resolution reference data (radar). Secondly, the climate change signal from the climate data is reflected using a change factor. Change factor is defined as the ratio of mean between historical and future periods and is used to adjust future 10-minute precipitation mean. Thirdly, future rainfall statistics are estimated using the obtained linear regressions from radar data and calculated change factor. The future 10-minute rainfall mean is estimated by multiplying the observed 10-minute rainfall mean by the change factor. Afterwards, other future rainfall statistics are estimated using this future 10-minute rainfall and linear regression between statistics. The set of estimated future rainfall statistics is used for calibrating the model. This procedure is described in manuscript L183-L201.
Line 232–235: I am glad you use an algorithm to correct reflectivity, but I am wondering if you considered the impact of beam-blockage due to the mountains in South Korea? Did you account for this?	Yes, the radar dataset accounts for this effect. We elaborated on the dataset description (Radar Quality Control) in more detail. Firstly, in this algorithm, corrected reflectivity data is utilised. This corrected reflectivity data is obtained by applying the Gaussian Model Adaptive Processing (GMAP) filter (Siggia and Passarelli, 2004), which corrects for echoes caused by the surrounding terrain, such as beam blockage due to mountainous terrain, in the reflectivity data. Then, this algorithm detects non-precipitation echoes thereafter removing them based on the criterion related to the difference of reflectivity at the upper and lower side from a certain altitude (Park et al., 2014). Siggia, A. D., & Passarelli, R. E. (2004, September). Gaussian model adaptive processing (GMAP) for improved ground clutter cancellation and moment calculation. In Proc.

	ERAD (Vol. 2, pp. 421-424).
Figure 6: I recommend labeling the five separate events with text or plotting the five different events in five different colors. Also, how do you determine which events count as separate, as some have multiple peaks in precipitation?	Agreed, the figure will be improved to have more clear separation between picked days. Since this figure shows just an example of daily disaggregation, sub-daily events here are not separated. To avoid confusion we suggest to change caption name (events -> days with precipitation)
Lines 295–300: Please refer to the subplots in the above figure to make the text easier to interpret.	Agreed, will be added.
Line 389–390: I recommend putting more detail in the methods to explain how you obtained the 1000-year time series.	Agreed, will be elaborated. For WayDown, the model was run 50 times for German and 91 for Korean stations with the same daily radar input for each station, so that the total length of n-times run was equivalent to 1000 years. Differences between runs are introduced by the model event-values generation process. For LetItRain the model was calibrated to station data and then 1000 years data was simulated as it is a generator model type.
Line 445–447/Fig. 13: Are you using the same time period to compare the radar data to RCP2.6 and RCP8.5?	The length of CP data is for both countries 80 years, the length of radar data is 20 / 11 years for Germany and South Korea. We always used the full available length; hence, the differences between extreme statistics between countries could be introduced not only by climate differences, but also due to different data length. We will point it out in conclusion.
Line 28: Please remove “of” after “understanding”. Line 94–97: I recommend making these two sentences one sentence by stating …”driving variables, and which are not depending…”. Line 141: Please remove “i.e.” Line 304: You are missing a word between “of” and “means”. Line 505: Please remove “the statistics” after “For LetItRain” as this is redundant.	Agreed, will be corrected.