

The authors proposed a downscaling method based on CDF to obtain hourly 0.05 ° grid precipitation data. This topic is interesting and would be useful for the climate change community. In general, this paper is well-written for most parts. However, a minor revision is needed before it is published in HESS.

Comments:

1. Precipitation is more complex to downscaling than temperature. Until now, hundreds of methods have been developed via statistical and dynamical approaches. However, there is none common method for all regions. The authors did not state clearly about statistical and dynamical downscaling methods in the introduction. The presented study is a statistical downscaling which only used the outputs (CMORPH and GEO-IR) to explore a statistical link. From my side, this approach is similar with Quantile-Mapping (QM), which the authors did not mention. What is the difference between QM and DCDF? The reviewer did not figure out from the Equations (1) to (7).
2. Is it possible that the information is missing in the process of 0.05 degree data aggregated to 0.25degree? Can the built relationship from a coarse resolution represent the similar features for a higher resolution? What method was used in the aggregation, sum or mean? Does it affect the result?
3. The structure may be adjusted. I prefer to introduce the data and study area firstly and then followed by the method. The equations for validate criteria are not necessary since they are common used.
4. The authors claimed that DCDF performs better in the frontal rain systems but worse in mountainous. Is CMORPH the main reason for that? If use the reanalysis (e.g. ERA-Interim) for downscaling, will be better? I suggest more discussions on it.
5. How to define the rain-no-rain threshold?
6. How the DCDF works for each region in each month, rather than seasonal? Figure 8 is for all regions?
7. Table 3, CDF => DCDF
8. P7 L18: It seem => It seems
9. What is the specific means of a, b, c, and d in equations 11 to 13.
10. Figure 7 is hard to follow. Please revise it in a more readable way.
11. Some information is missing or wrong in Fig 9a.