Answers to reviewer 1

1) Lines 14-16. These sentence is a bit strange to me. Please reformulate;

   Ans-1)   Lines 14-16. have been changed and reformulated;

2) The Introduction section does not provide any previous studies over the study area or concerning the satellite rainfall product. I suggest to extend the Introduction by adding more details. When describing problems related to the density of gauge network, I think the study by Kidd et all., (2017) should be cited;

   Ans-2)   More references mentioned in the Introduction section regarding previous studies over the study area;

3) Lines 44-50. Although this is not the goal of the paper, it is a very important aspect, please add some references;

   Ans-3)   Lines 44-50. – added further details and references;

4) Lines 104-105. Please define where the totals increase. Probably a map showing mean rainfall could help;

   Ans-4)   Lines 104-105. map showing mean rainfall added as appendix;

5) Check for consistency of names from Figure1 and Table 1;

   Ans-5)   Figure1 and Table 1 are corrected;

6) The authors performed a comparison between gauge stations data and satellite estimates. How did the authors choose the pairs? Did they use the closest station to each satellite pixels? Is there any possibility that more than one station is within the same satellite pixel? Please, add some details about this;

   Ans-6)   For the comparison between gauge stations data and satellite estimates we used the closest station to each satellite pixels. There was only one station within the same satellite pixel

7) Did the authors consider any rainfall threshold for defining the contingency table and the related categorical scores? In previous studies I have seen POD, FAR and CSI estimated for several rainfall thresholds (i.e. rainfall amount that have to be reached in order to identify a rainfall event). See for instance (Chen et al., 2012 or Ciabatta et al., 2017);

   Ans-7)   a rainfall threshold of 0.1 mm was used for defining the contingency table and the related categorical scores. This threshold has been mentioned.;

8) It is a pity that the analysis stopped in 2008, why did the authors did not extend the analysis till recent past? This could represent an added value of the research, showing results for more than 15 years;

Ans-8)   the analysis has been done from 1998 till 2008, because more recent data could not be acquired.;

9) The analysis has been carried out at monthly, seasonal and annual scales. Why the authors did not carry out the daily analysis?;

Ans-9)   In addition to the analysis carried out at monthly, seasonal and annual scales, we have carried out and added daily analysis now;

10) I would add some comparison with previous studies over the analysis area, there is a very limited discussion section in the manuscript.

Ans-10)   the analysis area is restructured, and more references added;

Minor comments:

1) Line 137 – please check this sentence;

Ans-1)   Line 137 – restructured;

2) Please check line 141, probably something is missing;

Ans-2)   line 141, restructured;

3) Line 180 – FAR has a perfect score of 0, that means b=0. The perfect score of 1, means that a=0, please correct;

Ans-3)   Line 180 – FAR has a perfect score of 0, which was corrected;

4) Line 217-220 – I do not understand this sentence. Please reformulate;

Ans-4)   Line 217-220 –reformulated;

General Changes:

- There were some mistakes in the equations, given results and tables. Therefore, the results were substituted.
- Skill statistics were also calculated for the daily aggregated data,
- A figure showing Graphs for UIB average (all stations together), for monthly, seasonal and annual precipitation totals was added.
- Discussions were added to the conclusion part, and renamed as "Discussions and conclusions"

1. The English quality of the manuscript should be revised and improved. Although most of the text is reasonably well written and well structured, there are some particular (and important) grammatical errors and typos.

2. The authors are requested to highlight the main contributions of the study with respect to the state of the art.

   Ans-1 & 2   (slight improvement done and a few references added on the state of the knowledge)

3. Typos in equations 1-4 should be fixed.

   Ans-3.   Typos in equations 1-4 are fixed.

4. Briefly define in the text a, b, c, d and total in equations 5-10 referring to table 2.

   Ans-4.   Brief definition in the text added for a, b, c, d and total in equations 5-10 referring to table 2.

5. Comment further on the correlation coefficient results in the statistical analysis. For instance, why do annual estimates perform better in terms of bias and RMSE, but show lower correlation?

   Ans-5.   the calculations and analyses had some mistakes, so they are re-done and accordingly explained;

6. TRMM also provides an improved monthly data set (TRMM 3B43). Would you expect the results to vary significantly if this data set was used for monthly and annual analysis? In that case, the authors are encouraged to compare the performance of this data set to the monthly and annual aggregations of TRM 3B42 or provide reasons to choose the hourly data set.

   Ans-6.   The monthly data set (TRMM 3B43) was not used because we intended to check the suitability of the daily product (TRM 3B42) in order to check its suitability for hydrological modeling in UIB, wherefore the (distributed) mydrological models under consideration, require all daily precipitation data as input;

7. It is encouraged to review and comment on methods that aim to calibrate the accuracy of satellite-born products (e.g., gauge-satellite merging techniques) to provide the readers with possible solutions to the poor performance of TRMM in the UIB.

   Ans-7.   The accuracy of gauge data is mentioned in detail in the study, and how even the gauge data is underestimating the true precipitation for higher elevations, and for the UIB as a whole. Therefore no straight forward solution could be suggested, other than assuming that there also errors in the gauge data.

In fact, the authors have worked further on this issue to develop a solution for the problems in available precipitation products/data in UIB, which is going to be published as a separate paper, and referred to in this paper

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