

Interactive comment on “Analyzing cloud base at local and regional scales to understand tropical montane cloud forest vulnerability to climate change” by Ashley E. Van Beusekom et al.

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D. Baumgardner: This manuscript is a revision of a submission that I reviewed prior to its publication as a discussion. I am pleased that the authors acted on some of my recommendations with respect to expanding its scope and supplementing the ceilometer measurements with satellite and radiosonde data. In my opinion the current submission is much improved and I recommend publication. The results are compelling and provide useful information about clouds that impact Tropical Montane Forests. The only recommendation that I have is to add more explanation about the metrics that are used in defining the cloud bases. I would suggest making this part of the Appendix. A representative frequency histogram of cloud bases, such as referred in the text, could be

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used to mark the various quartiles and tertiles that are being used to define cloud base minimums. In this same appendix it would be useful to further explain to the reader why these particular metrics are optimum, as there are no references to other studies that might have used them. If this is a first time such metrics have been used, then future studies by other investigators would have a cite-able reference if they use the same metrics.

A. Van Beusekom on behalf of the authors: We thank D. Baumgardner for his comments on the earlier version of this manuscript which led to the satellite data being analyzed in the study, and we are pleased he is happy with the expanded scope. With regards to the new comment, we have added a supplement to the manuscript that outlines the workflow of the calculations of metrics on two random days in different seasons. A text section explains why and how we chose the metrics, and how another study could design similar metrics. The histograms of the raw data per day are shown, with the values of the metrics derived from them. The histograms of the hourly metrics used to make the daily metrics are also shown.

[Interactive comment on Atmos. Chem. Phys. Discuss.](#), doi:10.5194/acp-2016-1166, 2017.

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