Review of: A unified dataset of airborne cloud remote sensing using the HALO Microwave Package (HAMP)

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Accept with minor revisions

This manuscript provides an overview of the HAMP data gathered from 37 flights of 4 campaigns. The datasets have been made publicly-available, with the DOIs included in the abstract. The manuscript is well organized and the datasets are adequately described. The included links to the datasets are functionnal. This is the appropriate journal for this type of manuscript.

My main 3 comments are that 1) it would be nice to see an example of at least one scientific application of the dataset, including retrieved liquid water path, water vapor paths, radar/lidar derived cloud properties. Figures 2 and 3 are good as it is also nice to see what the actual quicklooks look like. These also communicate that the retrieval work remains to be done. Are there any examples of retrieved physical quantities from any of the flights that could be mentioned? Or any scientific results, perhaps already published in other papers? This could be considered to fall outside the scope of the ESSD journal, and if the editor also feels that way, then so be it, but it would help increase the impact of the manuscript to show the reader why they might be interested in working with it. My second comment is that the manuscript contains many small grammatical inconsistencies. These merely reflect that the authors are not native English speakers and the meaning is generally clear, but if a native English speaker could be found to read through the manuscipt and improve the English, that would be worth doing. My third comment is that the description of the Vaisala dropsondes, "RD94" on p. 6, doesn't mean anything to mean. Some description and a reference to their performance would be nice. Is a correction incorporated for a solar radiation bias, as is done for research grade radiosondes in the US? Are there any issues for the user to be aware of?

Minor comments:

page 1, line 21: "the full atmospheric column…." this depends on the frequency, would be worth stating.

page 2, line 4-5: "12 dBZ….typical for light precip.." is confusing. How about : "12 dBZ, more suited for the detection of heavier precipitation, and less so for characterizing shallow convection."

p. 2, line 6: to -> with

p. 2 line 22: put "The" before "Center"
line 24: put 'was' before 'again'
lines 27,28: the verb tenses are not consistent.

p. 3, line 16: "collocating tracks": the word 'collocating' is used a lot within the manuscript. This is the first instance. At first I was not sure what the authors meant, it is not a typical usage. Perhaps rephrase as "and to evaluate satellite observations through flying underneath the

satellite, along the projected satellite track near the satellite overpass time". Once this is clearly defined the continued use of 'collocated' will be clear I think.
line 28: were -> was

p. 4, line 5: in -> for a
line 6: always preceed "Center" with a "The".

p.5, line 10: with -> at, in -> while

p.6
line 20: HOw can the median drift in the upper quatile (of what?) exceed the total median drift length? was there always wind shear present? I couldn't quite follow this sentence.
lline 23: were -> where
line 24: replace "and be able to release sondes" with ", where the sondes could be released."
line 28: include 'lower tropospheric' before 'profile'

p.7
lines 2-3 can be removed, this has already been stated.
over all the data description is okay, but the quicklooks, especially of the Tb, do not provide much information. An example of, e.g., the ability to retrieve a temperature profile, with a comparison to a dropsonde, would be nice.

p.8 line 7: add "of clear skies" after "profiles"
line 25: rewrite sentence as "The erroneous time stamps were reconstructed where possible"
line 29-30: rewrite the 2nd phrase to remove the passive voice. 'appeared to be' -> are. remove 'about'
line 31: add 'angles' after 'bank'

p9
line 1: 'They' -> The comparisonl
ine 22: add 'the' before 'height'

p. 10
line 9: corresponding -> correspond

p. 11 line 9: has-> have

Table 1: 'shallow trade wind convection' occurs within every Flight charateristcs. consider putting this in the table caption and restricting the characteristics to more differentiating features.

Table 5: "BAHAMAS" should be defined. not everyone will read the main text.