Earth Syst. Sci. Data Discuss.,
https://doi.org/10.5194/essd-2018-48-RC2, 2018

Open Access Earth System Science Data Discussions

Interactive comment on "25 years of Cloud Base Height Measurements by Ceilometer in Ny Ålesund, Svalbard" *by* Marion Maturilli and Kerstin Ebell

Anonymous Referee #2

Received and published: 23 May 2018

This manuscript presents an extensive data set of Ceilometer measurements at Ny-Alesund, Svalbard over 25 years. It explains the characteristics of the data and shows different examples what the data can be useful for. I think it is great to make this data set available to use and suggest accepting the manuscript with minor revisions.

Specific comments:

- I am missing a discussion of the uncertainty range of the presented data set (or each sub data set). It is mentioned at several places that the data can not be used for long-term trend analysis because it is very instrument dependent or different between the different instrument periods. Given that it should be mentioned what the general

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uncertainty range is and what the constraints are when using the data.

- The data set presented here consists of three time periods where the data was derived with different instruments. There is no overlap between all three instruments, which makes sense in terms of having one complete consistent data set. However, in case there was an overlap between the different instruments it would be interesting to add an comparison as an aspect referring to the sensitivity/uncertainty of the overall data set.

- Looking at the link how to download the data it seams that the download has to be done on a monthly basis? Please provide one data file for the whole data set presented here or some way to easily download it as a whole since it is also presented as one data set in the manuscript. In case that is available but I was not able to find it, make sure that the website is easy to navigate.

- page 3, line 31: Could there be a microphysical reason for the disappearance of this cloud? Wha there some precipitation or graupel or similar observed?

- page 5, line 6: How often did it happen that a month had more than 20% missing data and was excluded?

- page 5, line 11: You say here that the signal could be masked by the different sensitivities of the different ceilometers, but you don't really discuss how large the uncertainty of the signal and the sensitivities of the different ceilometers are. It would be good to have some information here to relate to.

- Figure 1: Mark which instrument is the ceilometer in the picture.

- Figure 2: The abbreviations of the cloud types might need to be explained.

- Figure 2: Change to a vector graphic.

- Figure 5: The shading is very light and difficult to see. It disappeared on my print-out. Check again to make sure it can be clearly seen.

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- Table 1: In the text everywhere it is mentioned that the technology got better, the vertical resolution however went down from 1998-2011 to the actual data set from 2011 ongoing. Please comment this (and change in the text accordingly).

Small remarks,typos:

- page 1, line 22: exchange climate with global or add global to emphasize that this refers to a global mean.

- page 2, line 2: add , before which.

- page 2, line 26: replace was with were.

- page 3, line 9: avoid line break between number and unit.

- page 3, line 26: replace stably by stable.

- caption Fig. 3: replace symbols with dots.

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