Dear the reviewers:

First, we would like to take this opportunity to thank the reviewer for your constructive comments and relevant questions. By adding the answers/revisions to these questions to the revised version of the manuscript, we feel that the quality of the manuscript has been improved. A revised manuscript has been submitted, and all modifications are only included in the revised manuscript for the sake of non-repeat. Answers to your concerns and questions are presented as follows.

Yours sincerely
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Respond to the editor comments:
The referees' comments are reproduced in black hereafter, and responses are shown in red.

This is a valuable paper relating to this data set that I am sure will be widely used.

Amélie Kirchgaessner has already made many useful suggestions for changes to the paper so I will not repeat those.

A few comments that I have are:

The link to READER on Line 127 should be changed to: https://www.bas.ac.uk/project/reader/
Response: It has been modified.

I think it would be best to remove lines 244-248 which refer to the temperature trends as these datasets are not enough for these to be statistically significant.
Response: It has been deleted.

In the section on relative humidity is not clear if this is with respect to water or with respect to ice so this should be made clear.
Response: The relevant description has been added to "2.1 Observation region and site descriptions" section. By consulting the sensors parameters, we found that the air temperature and relative humidity sensor is an integrated sensor, which itself considers the conversion of ice and water form. We don't consider the conversion of the RH data with regards to water or with regards to ice. The detail information with humidity and temperature probe, please see: https://www.vaisala.com/zh/vaisalahumicapr-technology.