

Respond to the comments of RC1 (Changqing Ke)

This paper provides a new quality-controlled dataset of meteorological records from Antarctic automatic weather stations (AntAWS dataset) at 3-hourly, daily and monthly resolutions. The dataset compiles the measurements of air temperature, air pressure, relative humidity, and wind speed and direction from 216 AWSs available during 1980-2021. This dataset will be valuable for better characterizing surface climatology throughout the continent of Antarctica, improving our understanding of Antarctic surface snow-atmosphere interactions, and estimating regional climate models or meteorological reanalysis products. It can be published after minor revision.

Response:

We are grateful to the reviewer for the great work and his recognition of the value on our study. We realized that he has a great expertise to make most useful comments and suggestions. We also appreciate the constructive comments and suggestion, and we have considered all the points, and please see our point-by-point responses on the comments.

1. Fig.1's resolution is too low, should be replaced with high quality pictures.

Response:

The resolution of the Fig.1 will be greatly improved using a higher resolution picture of an AAD AWS (Ian Allison have agreed to provide the picture), and other pictures. We will finish this when submitting the revised manuscript.

2. Fig.2 with same problem, very low resolution.

Response:

We have further improved its resolution.

3. Fig.3 should add some main location names.

Response:

Thank you for your constructive comments, we have added some main Antarctic location names to the Fig.3 in the revised manuscript. However, we still choose to use the form of digital annotation for the station names, because the number of sites is too large, making it is relatively messy to add the station names. The corresponding site

names of the numbers on the map are presented in Table S1. We have added this in the Fig.3 caption, as follows.

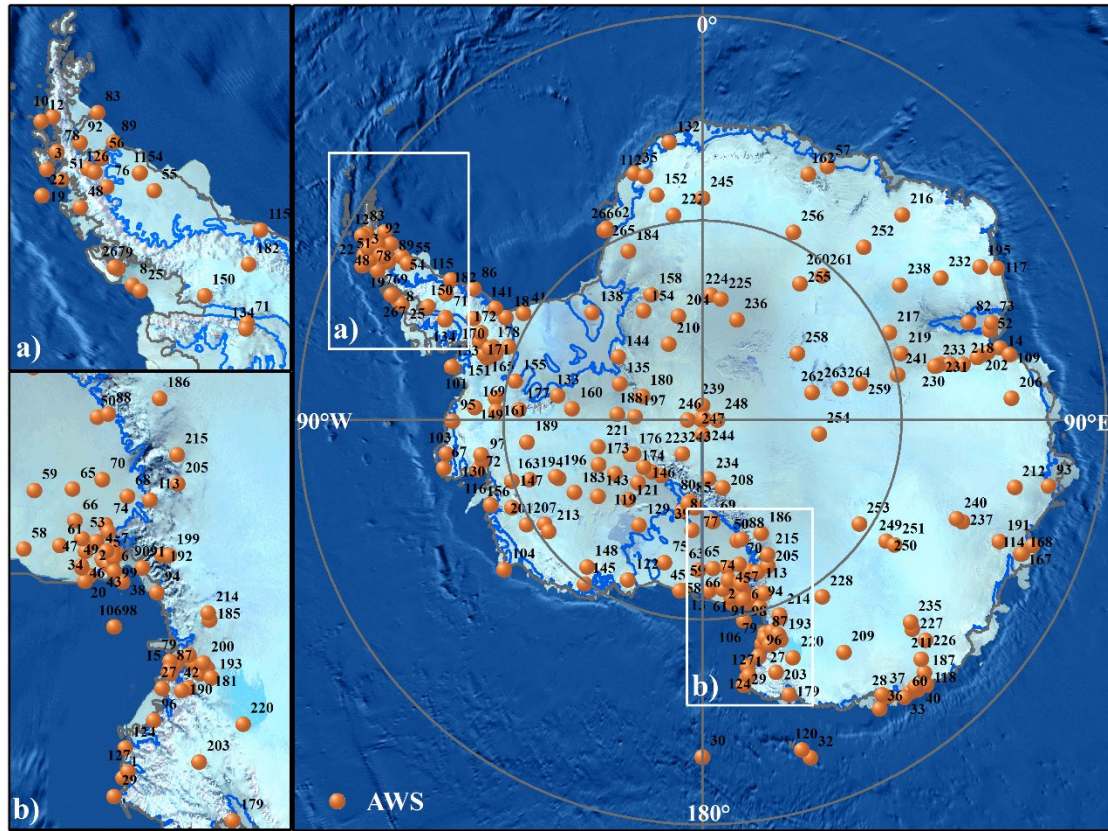


Fig.3. Mapping the sites of 267 Automatic Weather Stations (AWSs), the numbers (1-267) corresponds to NO. in Table S1.

4. Fig.5's caption should add full names which have abbreviations on the maps, for example, Tmax means maximum temperature, etc.

Response:

Following your advice, the corresponding changes have made in the Fig.5's caption accordingly.

5. P4 L143-144, 'snow height' should be 'snow depth'.

Response:

It has been modified.