A Big Earth Data Platform for Three Poles

**A comprehensive dataset of surface mass balance field observations over the Antarctic Ice Sheet**

1、Description

This data set includes daily, annual and multi-year surface mass balance data from Antarctic ice cap poles, ice (snow) cores / snow pits, automatic weather station altimeters and ground penetrating radar observations. The data come from published literature, data reports and international data sharing platform. After quality control, the most perfect data set of daily, annual and multi-year resolution of surface mass balance of Antarctic ice sheet has been formed. Its middle-aged resolution data span the past 1000 years. The data set is mainly used in glaciology, climatology, hydrology and other disciplines, especially in the quantitative analysis of the temporal and spatial changes of Antarctic surface mass balance, climate model validation, driving ice sheet model and snow granulation model, etc.

2、Keywords

Theme：Snow accumulation,Surface mass balance,Snow height changes,Glacier(Ice Sheet)  
Discipline：Cryosphere  
Places：Antarctica  
Time：For the last 1,000 years

3、Data details

1.Scale：None

2.Projection：

3.Filesize：23.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：-60.0 | - |
| west：-180.0 | - | east：180.0 |
| - | south：-90.0 | - |

5、Time frame:2014-12-30 16:00:00+00:00--2014-12-30 16:00:00+00:00

6、Reference method

References to data:

A comprehensive dataset of surface mass balance field observations over the Antarctic Ice Sheet. A Big Earth Data Platform for Three Poles, doi:10.11888/Glacio.tpdc.2711482021

References to articles:

Wang, Y. , Ding, M. , Reijmer, C. H. , Smeets, P. , & Xiao, C. . (2021). The AntSMB dataset: a comprehensive compilation of surface mass balance field observations over the antarctic ice sheet. Earth System Science Data, 13(6), 3057-3074.

7、Supporting project information

CASEarth:Big Earth Data for Three Poles（grant No. XDA19070000）

8、Data resource provider