A Big Earth Data Platform for Three Poles

**Glacier volume dataset of the Qinghai-Tibetan Plateau in 1970s and 2000s**

1、Description

The dataset contains all individual glacial storage (unit: km3) over the Qinghai-Tibetan Plateau in 1970s and 2000s. It is sourced from the resultant data of the paper entitled "Consolidating the Randolph Glacier Inventory and the Glacier Inventory of China over the Qinghai-Tibetan Plateau and Investigating Glacier Changes Since the mid-20th Century". The first draft of this paper has been completed and is planned to be submitted to Earth System Science Data journal. The baseline glacier inventories in 1970s and 2000s are the Randolph Glacier Inventory 4.0 dataset, and the Glacier Inventory of China, respectively. Based on the individual glacial boundaries extracted from the above-mentioned two datasets, the grid-based bedrock elevation dataset (https://www.ngdc.noaa.gov/mgg/global/global.html, DOI: 10.7289/v5c8276m), and the glacier surface elevation obtained by a slope-dependent method, the individual glacier volumes in 1970s and 2000s are then calculated. In addition, the calculated results of individual glacier volumes in this study have been compared and verified with the existent results of several glacier volumes, relevant remote sensing datasets, and the global glacier thickness dataset based on the average of multiple glacier model outputs (https://www.research-collection.ethz.ch/handle/20.500.11850/315707, doi:10.3929/ethz-b-000315707), and the errors in the calculations have also been quantified (the error rates of all mountains are within 10%). The established dataset in this study is expected to provide the data basis for the future regional water resources estimation and glacier ablation-involved researches. Moreover, the acquisition of the data also provides a new idea for the future glacier storage estimation.

2、Keywords

Theme：Ice reserves,Glacier(Ice Sheet)
Discipline：Cryosphere
Places：Tibetan Plateau
Time：1970s and 2000s

3、Data details

1.Scale：None

2.Projection：

3.Filesize：209.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：39.78 | - |
| west：73.4 | - | east：104.78 |
| - | south：26.02 | - |

5、Time frame:None--None

6、Reference method

References to data:

Glacier volume dataset of the Qinghai-Tibetan Plateau in 1970s and 2000s. A Big Earth Data Platform for Three Poles, doi:10.11888/Glacio.tpdc.2703902020

References to articles:

7、Supporting project information

National Natural Science of China

8、Data resource provider

name: LIU Xiaowan
unit:
email: xiaowan@mail.bnu.edu.cn