A Big Earth Data Platform for Three Poles

**High resolution (5m) dataset of glacier elevation changes in Nyainqentanglha mountains on the Tibetan Plateau (2000‒2013, 2000‒2017)**

1、Description

This dataset includes data of glacier elevation changes in 2000‒2013 and 2000‒2017 at high spatial resolution (5 m). The specific areas are Namco area in the west section of Nyainqentangula Mountains (WNM) and Kangri Karpo area in the east section of Nyainqentangula Mountains (ENM). Glacier boundary refers to Randolph Glacier Inventory Version 4.0 (RGI 4.0). The glacier elevation changes were calculated from the DEM data generated by ZiYuan-3 Three-Line-Array (ZY-3 TLA) stereo images in 2013 and 2017 and SRTM DEM data in 2000, respectively. The data in the WNM include three periods, i.e., 2000‒2013, 2013‒2017 and 2000‒2017. The data in the ENM include one period, i.e., 2000‒2017.
The spatial resolution of the dataset is 5 meters, the unit is m a^−1, the data format is GeoTIFF, the data type is floating-point, and the projection mode is UTM 46N for the west segment and UTM 47N for the east segment.
The glacier elevation change can be transformed into the glacier mass balance (unit: w.e. a^−1) of corresponding temporal intervals by multiplying the average density of the glacier. This dataset can provide the details of the spatial patterns of glacier elevation changes to support modeling studies of glacier mass balance in this region.

2、Keywords

Theme：ZY-3 satellite,Glacier elevation change,Glacier(Ice Sheet),Terrestrial Surface Remote Sensing
Discipline：Terrestrial Surface,Cryosphere
Places：Nyainqentanglha Mountains, Tibetan Plateau
Time：2000-2017

3、Data details

1.Scale：None

2.Projection：UTM

3.Filesize：208.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：30.6 | - |
| west：97.2 | - | east：90.1 |
| - | south：28.8 | - |

5、Time frame:None--None

6、Reference method

References to data:

REN Shaoting, JIA Li . High resolution (5m) dataset of glacier elevation changes in Nyainqentanglha mountains on the Tibetan Plateau (2000‒2013, 2000‒2017). A Big Earth Data Platform for Three Poles, doi:10.11888/Geogra.tpdc.2712582021

References to articles:

Ren, S.T., Menenti, M., Jia,L., Zhang, J., Zhang, J., Li, X. (2020). Glacier mass balance in the Nyainqentanglha Mountains between 2000 and 2017 retrieved from ZiYuan-3 stereo images and the SRTM DEM. Remote Sensing, 2020, 12, 864, https://doi.org/10.3390/rs12050864

7、Supporting project information

The Strategic Priority Research Program of the Chinese Academy of Sciences
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8、Data resource provider

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