A Big Earth Data Platform for Three Poles

**An elevation change dataset in Greenland ice sheet from 2003 to 2020 using satellite altimetry data**

1、Description

This dataset provided the long-term elevation change rates data of the GrIS in three different periods using the ICESat data (February 2003 to October 2009), the Cryosat-2 data (August 2010 to October 2018) and the ICESat-2 data (October 2018 to December 2020) respectively. The dataset is named by the data.The data revealed that the elevation change rates of the GrIS were -12.19±3.81 cm/yr, -19.70±3.61 cm/yr and -23.39±3.06 cm/yr in the three different periods. In general, the obtained results agree with the trends discovered by other studies that were also derived from satellite altimetry data. This dataset provides the basic data for research into the impact of climate change over the GrIS.

2、Keywords

Theme：ICESat-2,CryoSat-2,Remote Sensing Product,Satellite Altimetry,plane fit,crossover analysis,Remote Sensing Technology,ICESat-1,Glacier(Ice Sheet),Glacier elevation change,Elevation change
Discipline：Remote Sensing Technology,Cryosphere
Places：Greenland
Time：2003 to 2020

3、Data details

1.Scale：None

2.Projection：

3.Filesize：7.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：83.0 | - |
| west：73.0 | - | east：11.0 |
| - | south：59.0 | - |

5、Time frame:2003-01-31 16:00:00+00:00--2020-12-30 16:00:00+00:00

6、Reference method

References to data:

LIANG Shuang , YANG Bojin , HUANG Huabing , LI Xinwu . An elevation change dataset in Greenland ice sheet from 2003 to 2020 using satellite altimetry data. A Big Earth Data Platform for Three Poles, doi:10.11888/Cryos.tpdc.2727582022

References to articles:

7、Supporting project information

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

8、Data resource provider

name: HUANG Huabing
unit: Sun Yat-Sen University
email: huanghb55@mail.sysu.edu.cn

name: YANG Bojin
unit: Aerospace Information Research Institute, Chinese Academy of Sciences
email: yangbojin20@mails.ucas.ac.cn

name: LIANG Shuang
unit: Aerospace Information Research Institute, Chinese Academy of Sciences
email: liangpr@radi.ac.cn

name: LI Xinwu
unit: Aerospace Information Research Institute, Chinese Academy of Sciences
email: lixw@aircas.ac.cn