A Big Earth Data Platform for Three Poles

**Dataset on the freeze-thaw process in Antarctic and Arctic ice sheets (1978-2015)**

1、Description

This dataset is the spatial distribution map of the marshes in the source area of the Yellow River near the Zaling Lake-Eling Lake, covering an area of about 21,000 square kilometers. The data set is classified by the Landsat 8 image through an expert decision tree and corrected by manual visual interpretation. The spatial resolution of the image is 30m, using the WGS 1984 UTM projected coordinate system, and the data format is grid format. The image is divided into five types of land, the land type 1 is “water body”, the land type 2 is “high-cover vegetation”, the land type 3 is “naked land”, and the land type 4 is “low-cover vegetation”, and the land type 5 is For "marsh", low-coverage vegetation and high-coverage vegetation are distinguished by vegetation coverage. The threshold is 0.1 to 0.4 for low-cover vegetation and 0.4 to 1 for high-cover vegetation.

2、Keywords

Theme：Freeze thawing,Glacier(Ice Sheet),Frozen Ground  
Discipline：Cryosphere  
Places：Arctic, Antarctica, Greenland  
Time：1978-2015

3、Data details

1.Scale：None

2.Projection：

3.Filesize：100000.0MB

4.Data format：bin

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：-60.0 | - |
| west：None | - | east：360.0 |
| - | south：-90.0 | - |

5、Time frame:1978-10-27 16:00:00+00:00--2016-01-05 16:00:00+00:00

6、Reference method

References to data:

Li Xinwu. Dataset on the freeze-thaw process in Antarctic and Arctic ice sheets (1978-2015). A Big Earth Data Platform for Three Poles, doi:10.11888/GlaciolGeocryol.tpe.00000032.file2018

References to articles:

Lei Liang, Huadong Guo, Xinwu Li & Xiao Cheng. Automated ice-sheet snowmelt detection using microwave radiometer measurements [J]. Polar Research, 2013, 32, 19746, http://dx.doi.org/10.3402/polar.v32i0.19746.

7、Supporting project information

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

8、Data resource provider

name: Li Xinwu  
unit: Institute of Remote Sensing and Digital Earth, Chinses Academy of Sciences  
email: lixw@radi.ac.cn