A Big Earth Data Platform for Three Poles

**Dataset of lake ice type in alpine region V1.0 (2015-2018)**

1、Description

Lake ice is an important parameter of the cryosphere, its change is closely related to the climate parameters such as temperature and precipitation, and can directly reflect the climate change, so it is an important indicator of the regional climate parameter change. However, because the research area is often located in the area with poor natural environment and few population, large-scale field observation is difficult to carry out, so sentinel 1 satellite data is used. The spatial resolution of 10 m and the temporal resolution of better than 30 days are used to monitor the changes of different types of lake ice, which fills the observation gap. Hmrf algorithm is used to classify different types of lake ice. Through time series analysis of the distribution of different types of lake ice in three polar regions with a part area of more than 25km2, a lake ice type data set is formed. The distribution of different types of lake ice in these lakes can be obtained. The data includes the serial number of the processed lake, the year in which it is located and the serial number in the time series, vector and other information. The data set includes the algorithm used, sentinel-1 satellite data used, imaging time, polar area, lake ice type and other information. Users can determine the changes of different types of lake ice in the time series according to the vector file.

2、Keywords

Theme：Lake ice,Lake ice  
Discipline：Cryosphere  
Places：Alaska, Tibetan Plateau, Siberia  
Time：2015-2018

3、Data details

1.Scale：None

2.Projection：

3.Filesize：47.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：40.0 | - |
| west：65.0 | - | east：105.0 |
| - | south：25.0 | - |

5、Time frame:2015-09-10 08:00:00+00:00--2018-07-09 08:00:00+00:00

6、Reference method

References to data:

Tian Bangsen, Qiu Yubao. Dataset of lake ice type in alpine region V1.0 (2015-2018). A Big Earth Data Platform for Three Poles, doi:10.11888/Glacio.tpdc.2702622019

References to articles:

7、Supporting project information

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

8、Data resource provider

name: Tian Bangsen  
unit: Institute of Remote Sensing and Digital Earth, CAS  
email: tianbs@radi.ac.cn  
  
name: Qiu Yubao  
unit: Institute of Remote Sensing and Digital Earth, CAS  
email: qiuyb@radi.ac.cn