A Big Earth Data Platform for Three Poles

**The Tibet Plateau river lake ice range / coverage data set V1.0（2002-2018）**

1、Description

There are many lakes in the Qinghai Tibet Plateau. The glacial phenology and duration of lakes in this region are very sensitive to regional and global climate change, so they are used as the key indicators of climate change research, especially the comparative study of the three polar environmental changes of the earth. However, due to its poor natural environment and sparse population, there is a lack of conventional field measurement of lake ice phenology. The lake ice was monitored with a resolution of 500 meters by using the normalized difference snow index (NDSI) data of MODIS. The traditional snow map algorithm is used to detect the lake daily ice amount and coverage under the condition of sunny days, and the lake daily ice amount and coverage under the condition of cloud cover are re determined through a series of steps based on the spatiotemporal continuity of the lake surface conditions. Through time series analysis, 308 lakes larger than 3km2 are identified as effective records of lake ice range and coverage, forming a daily lake ice range and coverage data set, including 216 lakes.

2、Keywords

Theme：Lake ice,Cryosphere remote sensing products,Lake ice,Surface Freeze-thaw Cycle/state Remote Sensing  
Discipline：Cryosphere  
Places：Tibetan Plateau  
Time：2002-2018

3、Data details

1.Scale：None

2.Projection：WGS84

3.Filesize：323.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：46.0 | - |
| west：62.0 | - | east：105.0 |
| - | south：26.0 | - |

5、Time frame:2002-07-17 00:00:00+00:00--2018-07-06 00:00:00+00:00

6、Reference method

References to data:

QIU Yubao. The Tibet Plateau river lake ice range / coverage data set V1.0（2002-2018）. A Big Earth Data Platform for Three Poles, doi:10.11922/sciencedb.7442019

References to articles:

Qiu, Y., Xie, P., Matti Leppäranta, Wang, X., Lemmetyinen, J., Lin, H., Shi, L. (2019). Modis-based daily lake ice extent and coverage dataset for Tibetan Plateau. Big Earth Data, 3(2), 170-185.

7、Supporting project information

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

8、Data resource provider

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