A Big Earth Data Platform for Three Poles

**Long time series data set of north temperate lake ice cover occurrence values (1985-2020)**

1、Description

The data set mainly includes the ice observation frequency (ICO) of north temperate lakes in four periods from 1985 to 2020, as well as the location, area and elevation of the lakes. Among them, the four time periods are 1985-1998 (P1), 1999-2006 (P2), 2007-2014 (P3) and 2015-2020 (P4) respectively, in order to improve the "valid observation" times in the calculation period and improve the accuracy. The ICO of the four periods is calculated by the ratio of "icing" times and "valid observation" times counted by all Landsat images in each period. Other lake information corresponds to the HydroLAKEs data set through the "hylak\_id" column in the table. In addition, the data only retains about 30000 lakes with an area of more than 1 square kilometer, which are valid for P1-P4 observation. The data set can reflect the response of Lake icing to climate change in recent decades.

2、Keywords

Theme：Landsat,Surface Water,Terrestrial Surface Remote Sensing,Lakes  
Discipline：Terrestrial Surface  
Places：North Temperate Zone  
Time：1985-2020

3、Data details

1.Scale：None

2.Projection：

3.Filesize：3.15MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：66.5 | - |
| west：-180.0 | - | east：180.0 |
| - | south：23.5 | - |

5、Time frame:1984-12-31 16:00:00+00:00--2020-12-30 16:00:00+00:00

6、Reference method

References to data:

WANG Xinchi. Long time series data set of north temperate lake ice cover occurrence values (1985-2020). A Big Earth Data Platform for Three Poles, doi:10.11888/Hydro.tpdc.2717442021

References to articles:

Wang, X., Feng, L., Gibson, L., Qi, W., Liu, J., Zheng, Y., Tang, J., Zeng, Z., & Zheng, C. (2021). High-resolution mapping of ice cover changes in over 33,000 lakes across the North Temperate Zone. Geophysical Research Letters, e2021GL095614

7、Supporting project information

8、Data resource provider

name: WANG Xinchi  
unit:   
email: 11930633@mail.sustech.edu.cn