A Big Earth Data Platform for Three Poles

**Lake ice phenology dataset across the Tibetan Plateau during 1978-2016**

1、Description

The dataset includes lake ice phenology information of 132 lakes across the Tibetan Plateau (with area larger than 40 km2) from 1978 to 2016 (freeze-up start date, freeze-up end date, break-up start date, break-up end, completely ice-duration and ice duration). The data set uses the combination of model and remote sensing to obtain the phenological information. Firstly, Using the average lake surface temperature extracted by MOD11A2 as calibration data, daily scale long-time series lake surface temperature series was simulated based on an improved lake semi-physical model (air2water). Then the temperature threshold of lake ice phenology was determined by the mod10a1 snow cover product. Compared with the existing research results and data sets, the correlation (R-square) is higher than 0.75. Combined with the advantages of remote sensing and numerical model, this dataset provides support for the analysis of water-air interface exchange, water or heat balance, biochemical processes and their response to climate change of lakes on a large spatio-temporal scale across the Tibetan Plateau.

2、Keywords

Theme：Lake ice phenology,Surface Freeze-thaw Cycle/State,Lake ice
Discipline：Cryosphere
Places：Tibetan Plateau
Time：1978-2016, Long time series

3、Data details

1.Scale：None

2.Projection：

3.Filesize：3.2MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：39.0 | - |
| west：78.0 | - | east：101.0 |
| - | south：28.0 | - |

5、Time frame:1977-12-31 16:00:00+00:00--2016-12-30 16:00:00+00:00

6、Reference method

References to data:

ZHANG Bing , GUO Linan , CHI Haojing , FAN Lanxin , WU Yanhong, ZHENG Hongxing. Lake ice phenology dataset across the Tibetan Plateau during 1978-2016. A Big Earth Data Platform for Three Poles, doi:10.6084/m9.figshare.18852338.v12022

References to articles:

7、Supporting project information

Second Tibetan Plateau Scientific Expedition Program

8、Data resource provider

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