A Big Earth Data Platform for Three Poles

**Lake daily water surface temperature dataset across Tibetan Plateau during 1978 to 2017**

1、Description

The dataset contains the continuous daily lake surface temperature of 160 Lakes (with an area of more than 40km2) in the Tibetan Plateau from 1978 to 2017. Firstly, an semi-physical lake model (air2water) based on energy balance was improved to realize the continuous simulation of lake surface temperature even during ice age. The impoved model was calibrated by lake surface temperature from MOD11A1 product. The correlation between the dataset and in-situ lake surface temperature of four lakes is higher than 0.9, and the root mean square errors are less than 2.5 ℃. The data set provides data support for understanding the water and heat balance , the process of aquatic ecosystem and its response to climate change of lakes in the Tibetan Plateau.

2、Keywords

Theme：Others,Surface Water,MODIS,Lake surface temperature  
Discipline：Terrestrial Surface,Remote Sensing Technology  
Places：Tibetan Plateau  
Time：Long time series, 1978-2017

3、Data details

1.Scale：None

2.Projection：

3.Filesize：37.5MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：39.0 | - |
| west：78.0 | - | east：103.0 |
| - | south：28.0 | - |

5、Time frame:1977-12-31 16:00:00+00:00--2017-12-30 16:00:00+00:00

6、Reference method

References to data:

ZHANG Bing , GUO Linan , WU Yanhong, WEN Mengxuan , ZHENG Hongxing . Lake daily water surface temperature dataset across Tibetan Plateau during 1978 to 2017. A Big Earth Data Platform for Three Poles, doi:10.5281/zenodo.58784362022

References to articles:

7、Supporting project information

Second Tibetan Plateau Scientific Expedition Program

8、Data resource provider

name: WU Yanhong  
unit:   
email: wuyh@radi.ac.cn  
  
name: ZHENG Hongxing   
unit: CSIRO Land and Water  
email: hongxing.zheng@csiro.au  
  
name: ZHANG Bing   
unit: Aerospace Information Research Institute, CAS  
email: zb@radi.ac.cn  
  
name: WEN Mengxuan   
unit: Aerospace Information Research Institute, CAS  
email: 2101180040@cugb.edu.cn  
  
name: GUO Linan   
unit: Institute of Tibetan Plateau Research, CAS  
email: guoln@radi.ac.cn