A Big Earth Data Platform for Three Poles

**Data of annual lake area in the endorheic basin of the Qinghai-Tibet Plateau from 1986 to 2019**

1、Description

This data provides the annual lake area of ​​582 lakes with an area greater than 1 km2 in the enorheic basin of the Qinghai-Tibet Plateau from 1986 to 2019.

First, based on JRC and SRTM DEM data, 582 lakes are identified in the area that are larger than 1 km2. All Landsat 5/7/8 remote sensing images covering a lake are used to make annual composite images. NDWI index and Ostu algorithm were used to dynamically segment lakes, and the size of each lake from 1986 to 2019 is then calculated.

This study is based on the Landsat satellite remote sensing images, and using Google Earth Engine allowed us to process all Landsat images available to create the most complete annual lake area data set of more than 1 km2 in the Qinghai-Tibet Plateau area; A set of lake area automatic extraction algorithms were developed to calculate of the area of ​​a lake for many years; This data is of great significance for the analysis of lake area dynamics and water balance in the Qinghai-Tibet Plateau region, as well as the study of the climate change of the Qinghai-Tibet Plateau lake.

2、Keywords

Theme：Surface Water,Lakes
Discipline：Terrestrial Surface
Places：Pan-third pole
Time：annual

3、Data details

1.Scale：None

2.Projection：

3.Filesize：0.22MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：40.0 | - |
| west：100.0 | - | east：78.0 |
| - | south：29.0 | - |

5、Time frame:1986-01-23 16:00:00+00:00--2020-01-22 16:00:00+00:00

6、Reference method

References to data:

ZHU Liping. Data of annual lake area in the endorheic basin of the Qinghai-Tibet Plateau from 1986 to 2019. A Big Earth Data Platform for Three Poles, doi:10.11888/Hydro.tpdc.2707482020

References to articles:

王君櫹, 李新功, 李梦瑶, 王刘明. ( 2020). 青藏高原内陆流域1986-2019年际湖泊面积数据产品, 泛第三极大数据系统.

7、Supporting project information

Pan-Third Pole Environment Study for a Green Silk Road-A CAS Strategic Priority A Program

8、Data resource provider

name: ZHU Liping
unit: Institute of Tibetan Plateau Research, CAS
email: lpzhu@itpcas.ac.cn