A Big Earth Data Platform for Three Poles

**The variations of hydrological elements in ten lakes in Jiangsu Province (2003-2019)**

1、Description

The data set contains the variations of water level, area, and volume for ten lakes in Jiangsu Province (Taihu Lake, Hongze Lake, Gaoyou Lake, Luoma Lake, Shijiu Lake, Gehu Lake, Yangcheng Lake, Baima Lake, Shaobo Lake and Dianshan Lake) from 2003 to 2019, which provides important parameters for the study of lake hydrological ecosystem balance in Jiangsu Province in recent years.
The water level data of the ten lakes were obtained from altimetry satellites Envisat/RA-2, Cryosat-2, ICESat, and ICESat-2. The water area data were obtained from Landsat TM/OLI images bsed on Modified Normalized Difference Water Index. For the four lakes with complete water level data (Hongze Lake, Gaoyou Lake, Gehu Lake and Taihu Lake), the water volume changes from 2003 to 2019 were estimated according to the water level and area results.
Compared with the in-situ water level data, the water level extracted from altimetry data showed significantly consistent (α = 0.05) for all the ten lakes, with the average absolute error of 0.168 m.
The data set provides the variations of water level, area, and volume for the ten lakes in Jiangsu Province from 2003 to 2019, which can provide data support for the management and dispatching of water resources in Jiangsu Province.

2、Keywords

Theme：Area,Surface Water,Water level,Hydrology,Terrestrial Surface Remote Sensing,Lakes,Hydrological remote sensing products
Discipline：Terrestrial Surface
Places：Jiangsu Province
Time：2003-2019

3、Data details

1.Scale：None

2.Projection：None

3.Filesize：0.02MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：36.0 | - |
| west：116.0 | - | east：122.0 |
| - | south：30.0 | - |

5、Time frame:None--None

6、Reference method

References to data:

KE Changqing, CHANG Xiangyu, CAI Yu, XIA Wentao. The variations of hydrological elements in ten lakes in Jiangsu Province (2003-2019). A Big Earth Data Platform for Three Poles, doi:10.11888/Hydro.tpdc.2717152021

References to articles:

7、Supporting project information

the Programs for Jiangsu Natural Science Foundation

8、Data resource provider

name: KE Changqing
unit:
email: kecq@nju.edu.cn

name: CHANG Xiangyu
unit:
email: 1119398084@qq.com

name: CAI Yu
unit:
email: caiyu13834585@163.com

name: XIA Wentao
unit:
email: kv85kv@hotmail.com