A Big Earth Data Platform for Three Poles

**Lake volume changes on the Tibetan Plateau during 1976–2020 (>1 km2) v2.0**

1、Description

We comprehensively estimated water volume changes for 1132 lakes larger than 1 km2. Overall, the water mass stored in the lakes increased by 169.7±15.1 Gt (3.9±0.4 Gt yr-1) between 1976 and 2019, mainly in the Inner-TP (157.6±11.6 or 3.7±0.3 Gt yr-1). A substantial increase in mass occurred between 1995 and 2019 (214.9±12.7 Gt or 9.0±0.5 Gt yr-1), following a period of decrease (-45.2±8.2 Gt or -2.4±0.4 Gt yr-1) prior to 1995. A slowdown in the rate of water mass increase occurred between 2010 and 2015 (23.1±6.5 Gt or 4.6±1.3 Gt yr-1), followed again by a high value between 2015 and 2019 (65.7±6.7 Gt or 16.4±1.7 Gt yr-1). The increased lake-water mass occurred predominately in glacier-fed lakes (127.1±14.3 Gt) in contrast to non-glacier-fed lakes (42.6±4.9 Gt), and in endorheic lakes (161.9±14.0 Gt) against exorheic lakes (7.8±5.8 Gt) over 1976−2019.

2、Keywords

Theme：Surface Water,Hydrology
Discipline：Terrestrial Surface,Cryosphere
Places：Tibetan Plateau
Time：1976-2019

3、Data details

1.Scale：None

2.Projection：

3.Filesize：10.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：40.0 | - |
| west：70.0 | - | east：110.0 |
| - | south：28.0 | - |

5、Time frame:1976-06-30 16:00:00+00:00--2019-07-30 16:00:00+00:00

6、Reference method

References to data:

ZHANG Guoqing. Lake volume changes on the Tibetan Plateau during 1976–2020 (>1 km2) v2.0. A Big Earth Data Platform for Three Poles, doi:10.11888/Hydro.tpdc.2711692021

References to articles:

Zhang, G., T. Bolch, W. Chen, and J.-F. Crétaux. (2021). Comprehensive estimation of lake volume changes on the Tibetan Plateau during 1976–2019 and basin-wide glacier contribution. Science of the Total Environment 145463, doi: 10.1016/j.scitotenv.2021.145463

7、Supporting project information

8、Data resource provider

name: ZHANG Guoqing
unit:
email: guoqing.zhang@itpcas.ac.cn