A Big Earth Data Platform for Three Poles

**The lakes larger than 1k㎡ in Tibetan Plateau (V3.0) (1970s-2021)**

1、Description

Lakes on the Tibetan Plateau (TP) are an indicator and sentinel of climatic changes. We extended lake area changes on the TP from 2010 to 2021, and provided a long and dense lake observations between the 1970s and 2021. We found that the number of lakes, with area larger than 1 k㎡ , has increased to ~1400 in 2021 from ~1000 in the 1970s. The total area of these lakes decreased between the 1970s and ~1995, and then showed a robust increase, with the exception of a slight decrease in 2015. This expansion of the lakes on the highest plateau in the world is a response to a hydrological cycle intensified by recent climate changes.

2、Keywords

Theme：Surface Water,Galactic System,Lake ice
Discipline：Terrestrial Surface,Solar-Terrestrial Physics and Astronomy,Cryosphere
Places：Tibetan Plateau
Time：1970s-2021

3、Data details

1.Scale：None

2.Projection：

3.Filesize：100.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：40.0 | - |
| west：70.0 | - | east：105.0 |
| - | south：29.0 | - |

5、Time frame:1969-12-31 16:00:00+00:00--2021-12-30 16:00:00+00:00

6、Reference method

References to data:

ZHANG Guoqing. The lakes larger than 1k㎡ in Tibetan Plateau (V3.0) (1970s-2021). A Big Earth Data Platform for Three Poles, doi:10.11888/Hydro.tpdc.2703032019

References to articles:

Zhang, G.Q., Luo, W., Chen, W.F., & Zheng, G.X. (2019). A robust but variable lake expansion on the tibetan plateau. Science Bulletin, 64(18), 1306-1309, doi: 10.1016/j.scib.2019.07.018

Zhang, G.Q., Yao, T., Xie, H.J., Zhang, K.X., Zhu, F.J. (2014). Lakes' state and abundance across the Tibetan Plateau, Chinese Sci Bull, 59(24), 3010−3021, doi: 10.1007/s11434-014-0258-x

7、Supporting project information

8、Data resource provider

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