A Big Earth Data Platform for Three Poles

**Frozen land temperature monitoring dataset of Tibet Plateau Beibeihe meteorological station (2017-2018)**

1、Description

Frozen soil refers to a soil or rock mass with a temperature lower than or equal to 0 ° C and containing ice. It is particularly sensitive to temperature and its physical and mechanical properties change significantly with temperature. The frost heaving deformation and melt settlement deformation of frozen soil are the most common frozen soil disasters. Their occurrence is mainly caused by the change of the inherent temperature of frozen soil due to the frozen soil engineering activities. Therefore, the protection of frozen soil is mainly to protect the temperature of frozen soil. , to maintain it in the closest state before the engineering activities. The main method for obtaining the temperature of the frozen land is to embed the temperature measuring cable. Through the data acquisition function of the CR3000, the resistance value of the temperature measuring cable is obtained at different times, and the temperature value is calculated by the correspondence between the calibration coefficient and the resistance value. According to the sensitive characteristics of frozen soil to temperature, the change of ground temperature can reflect the change of climate, and can also analyze the influence mechanism and degree of human activities on the stability of frozen soil in combination with other factors, so as to guide the later engineering activities. Upgrading and upgrading of frozen soil protection measures.

2、Keywords

Theme：Ground temperature,Frozen Ground  
Discipline：Cryosphere  
Places：Tibetan Plateau  
Time：2017-2018, daily

3、Data details

1.Scale：None

2.Projection：

3.Filesize：0.13MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：35.0 | - |
| west：92.0 | - | east：92.0 |
| - | south：35.0 | - |

5、Time frame:2017-07-07 08:00:00+00:00--2019-05-06 08:00:00+00:00

6、Reference method

References to data:

CHEN Ji. Frozen land temperature monitoring dataset of Tibet Plateau Beibeihe meteorological station (2017-2018). A Big Earth Data Platform for Three Poles, doi:10.11888/Geocry.tpdc.2705362019

References to articles:

Chen, J., Zhao, J.Y., Li, K., &Sheng, Y. (2016). Discussion on applying an analytical method to optimize the anti-freeze design parameters for underground water pipelines in seasonally frozen areas. Sciences in Cold and Arid Regions, 8(6), 467–476.

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: CHEN Ji  
unit: Northwest Institute of Eco-Environment and Resources, CAS  
email: chenji@lzb.ac.cn