A Big Earth Data Platform for Three Poles

**Permafrost map along at the 1:600 000 in the Tibet Highway (1983)**

1、Description

The data are a digitized permafrost map along the Qinghai-Tibet Highway (1:600,000) (Boliang Tong, et al. 1983), which was compiled by Boliang Tong, shude Li, Jueying bu, and Guoqing Qiu from the Cold and Arid Regions Environmental and Engineering Research Institute of the Chinese Academy of Sciences (originally called the Lanzhou Institute of Glaciology and Cryopedology, Chinese Academy of Sciences) in 1981. The map aims to reflect the basic laws of permafrost distribution along the highway and its relationship with the main natural environmental factors.
The basic data for the compilation of the map include hydrogeological and engineering geological survey results and maps along the Qinghai-Tibet Highway(1:200000) (First Hydrogeological Engineering Geological Brigade of Qinghai Province, Institute of Geomechanics of the Academy of Geological Science), the cryopedological research results of the Institute of Glaciology and Cryopedology of Chinese Academy of Sciences since 1960 in nine locations along the Qinghai-Tibet Highway (West Datan, Kunlun pass basin, Qingshuihe, Fenghuohe, Tuotuohe, the Sangma Basin, Buquhe, Tumengela, and Liangdaohe) and drilling data of the Golmud-Lhasa oil pipeline and aerial topographic data of the work area. Taking the 1:200000 topographic map as the working base map, a permafrost map was compiled, which was then downscaled to a 1:600000 map to ensure the accuracy of the map. To make up for the lack of data in a larger area along the line, the characteristics and principles of the frozen soils found in the nine frozen soil research points along the highway were applied to areas with the same geologic and geographical conditions; meanwhile, aerial photographs were used as supplements to the freeze-thaw geology and frozen soil characteristics.
The permafrost map along the Qinghai-Tibet Highway (1:600,000) includes the annual average temperature contour map along the Qinghai-Tibet Highway (1:7,200,000) and the permafrost map along the Qinghai-Tibet Highway (1:600,000). The permafrost map along the Qinghai-Tibet Highway also contains information on permafrost types, lithology, frozen soil phenomena, types of through-melting zones, classification of frozen soil engineering, and geological structural fractures. These data contain only digitized permafrost information. The spatial coverage is from Daxitan on the Qinghai-Tibet Highway in the north to Sangxiong in the south and is nearly 800 kilometers long and 40-50 kilometers wide.
The data set includes a vectorized and a scanned map of the permafrost map along the Qinghai-Tibet Highway. The attribute information of the map is as follows.
A-1; Continuous permafrost; >0°C; remained as a frozen soil layer and isolation layer

A-2; Continuous permafrost; 0~-0.5°C; 0-25 m

A-3; Continuous permafrost; -0.5~-1.5°C; 25-60 m

A-4; Continuous permafrost; -1.5~-3.5°C; 60-120 m

A-5;Continuous permafrost;<-3.5°C;>120 m

B-1; Island permafrost ground; Seasonal Frozen Ground;

B-2; Continuous permafrost; >0°C; remained as a frozen soil layer and isolation layer

B-3; Island permafrost extent; 0~-0.5°C; 0-25 m

B-4; Island permafrost extent; -0.5~-1.5°C; 25-60 m

B-5; Island permafrost extent; -1.5~-3.5°C; 60-120 m

2、Keywords

Theme：Temperature,Frozen ground distribution,Frozen Ground
Discipline：Atmosphere,Cryosphere
Places：Qinghai, Tibet, Tibetan Plateau , the Qinghai-Tibet Railway, the Qinghai-Tibet Highway
Time：

3、Data details

1.Scale：600000

2.Projection：Transverse\_Mercator

3.Filesize：63.4MB

4.Data format：shp

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：36.0 | - |
| west：91.0 | - | east：94.9 |
| - | south：30.77 | - |

5、Time frame:1983-01-10 16:00:00+00:00--1983-11-10 16:00:00+00:00

6、Reference method

References to data:

BO Jueying, LI Shude, TONG Boliang, QIU Guoqing. Permafrost map along at the 1:600 000 in the Tibet Highway (1983). A Big Earth Data Platform for Three Poles, doi:10.11888/Geocry.tpdc.2706212011

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Tong, B., Li, S., Pu, J., & Qiu, G. (1983). Principle and method of compilation of map of the distribution of permafrost along the Qinghai-Tibetan Highway (1:600,000). In Proceedings of the 2nd Chinese Conference on Glaciology and Geocryology, Lanzhou Institute of Glaciology and Geocryology, Chinese Academy of Sciences (eds). Gansu People's Press: Lanzhou, 52-57.

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7、Supporting project information

8、Data resource provider

name: LI Shude
unit:
email:

name: QIU Guoqing
unit:
email:

name: BO Jueying
unit: Cold and Arid Regions Environmental and Engineering Research Institute, CAS
email: tingting

name: TONG Boliang
unit:
email: