A Big Earth Data Platform for Three Poles

**1:4 million map of the Glaciers, Frozen Ground and Deserts in China (2006)**

1、Description

The compilation basis of frozen soil map includes: (1) frozen soil field survey, exploration and measurement data; (2) aerial photo and satellite image interpretation; (3) topo300 1km resolution ground elevation data; (4) temperature and ground temperature data. Among them, the distribution of permafrost in the Qinghai Tibet Plateau adopts the research results of nanzhuo Tong et al. (2002). Using the measured annual average ground temperature data of 76 boreholes along the Qinghai Tibet highway, regression statistical analysis is carried out to obtain the relationship between the annual average ground temperature and latitude, elevation, and based on this relationship, combined with the gtopo30 elevation data (developed under the leadership of the center for earth resources observation and science and technology, USGS) Global 1 km DEM data) to simulate the annual mean ground temperature distribution over the whole Tibetan Plateau. Taking the annual average ground temperature of 0.5 ℃ as the boundary between permafrost and seasonal permafrost, the boundary between discontinuous Permafrost on the plateau and island Permafrost on the plateau is delimited by referring to the map of ice and snow permafrost in China (1:4 million) (Shi Yafeng et al., 1988); in addition, the division map of Permafrost on the big and small Xing'an Mountains in the Northeast (Guo Dongxin et al., 1981), the distribution map of permafrost and underground ice around the Arctic (b According to rown et al. 1997) and the latest field survey data, the Permafrost Boundary in Northeast China has been revised; the Permafrost Boundary in Northwest mountains mostly uses the boundary defined in the map of ice and snow permafrost in China (1:4 million) (Shi Yafeng et al., 1988).  
According to the data, the area of permafrost in China is about 1.75 × 106km2, accounting for about 18.25% of China's territory. Among them, alpine permafrost is 0.29 × 106km2, accounting for about 3.03% of China's territory.  
For more information, please refer to the specification of "1:4 million map of glacial and frozen deserts in China" (Institute of environment and Engineering in cold and dry areas, Chinese Academy of Sciences, 2006)

2、Keywords

Theme：Desert,Desert, sand,Glaciers,Glacier(Ice Sheet),Frozen Ground,Permafrost   
Discipline：Terrestrial Surface,Cryosphere  
Places：China  
Time：2006

3、Data details

1.Scale：None

2.Projection：None

3.Filesize：36.4MB

4.Data format：栅格

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：53.9 | - |
| west：73.2 | - | east：135.5 |
| - | south：17.8 | - |

5、Time frame:2006-01-17 16:00:00+00:00--2007-01-17 03:59:59+00:00

6、Reference method

References to data:

WANG Tao. 1:4 million map of the Glaciers, Frozen Ground and Deserts in China (2006). A Big Earth Data Platform for Three Poles, doi:10.3972/westdc.015.2013.db2013

References to articles:

王涛. (2006). 1:400万中国冰川冻土沙漠图. 北京, 中国地图出版社.

7、Supporting project information

8、Data resource provider

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