A Big Earth Data Platform for Three Poles

**Map of permafrost distribution in the Qilian Mountains**

1、Description

The data includes continuous and discontinuous permafrost and seasonally frozen ground distributed in the Qilian Mountains. Based on the field investigation, borehole drillings along the highway as well as previous data collected from the documentations, the lower limits of permafrost and the formula of the lower limits of permafrost in the Qilian Mountains is obtained by regression analysis. The digital elevation model (DEM) data is the SRTM (Shuttle Radar Topography Mission) jointly measured by NASA and NIMA. After the data being transformed into GCS WGS 1984 coordinate system, it is resampled into 100 m spatial resolution. The altitude of 3000 m was used to define the area of the Qilian Mountains. With the aid of ArcGIS platform and the support of DEM data, the permafrost distribution map of the Qilian Mountains with a resolution of 100 m is simulated. The lower limits of permafrost obtained by the regression analysis passed the significance test. According to the 548 existing borehole data points, the verification accuracy of permafrost area is 90.11%. The data can be used to estimate the ground ice content and the amount of water released from permafrost degradation.

2、Keywords

Theme：Frozen ground distribution,Seasonally frozen ground,Discontinuous permafrost,Frozen Ground,Permafrost
Discipline：Cryosphere
Places：Qilian Mountains, Tibetan Plateau
Time：2019

3、Data details

1.Scale：100

2.Projection：WGS84

3.Filesize：37.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：35.84 | - |
| west：93.5 | - | east：103.05 |
| - | south：39.84 | - |

5、Time frame:2019-07-13 08:00:00+00:00--2020-07-11 19:59:59+00:00

6、Reference method

References to data:

Map of permafrost distribution in the Qilian Mountains. A Big Earth Data Platform for Three Poles, doi:10.11888/Geocry.tpdc.2704562020

References to articles:

7、Supporting project information

Pan-Third Pole Environment Study for a Green Silk Road-A CAS Strategic Priority A Program

8、Data resource provider