A Big Earth Data Platform for Three Poles

**Glacier height change data of QTP V1.0 (1970-2012)**

1、Description

This product is based on multi-source remote sensing DEM data generation. The steps are as follows: select control points in relatively stable and flat terrain area with Landsat ETM +, SRTM and ICESat remote sensing data as reference. The horizontal coordinates of the control points are obtained with Landsat ETM + l1t panchromatic image as the horizontal reference. The height coordinates of the control points are mainly obtained by ICESat gla14 elevation data, and are supplemented by SRTM elevation data in areas without ICESat distribution. Using the selected control points and automatically generated connection points, the lens distortion and residual deformation are compensated by Brown's physical model, so that the total RMSE of all stereo image pairs in the aerial triangulation results is less than 1 pixel. In order to edit the extracted DEM data to eliminate the obvious elevation abnormal value, DEM Interpolation, DEM filtering and DEM smoothing are used to edit the DEM on the glacier, and kh-9 DEM data in the West Kunlun West and West Kunlun east regions are spliced to form products.

2、Keywords

Theme：Glacier(Ice Sheet)  
Discipline：Cryosphere  
Places：QTP  
Time：1970-2000, 2000-2012

3、Data details

1.Scale：None

2.Projection：

3.Filesize：30.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：39.7 | - |
| west：104.7 | - | east：73.33 |
| - | south：26.0 | - |

5、Time frame:1970-01-14 08:00:00+00:00--2013-01-13 08:00:00+00:00

6、Reference method

References to data:

ZHOU Jianming. Glacier height change data of QTP V1.0 (1970-2012). A Big Earth Data Platform for Three Poles, doi:10.11888/Glacio.tpdc.2709862019

References to articles:

7、Supporting project information

CASEarth:Big Earth Data for Three Poles（grant No. XDA19070000）

8、Data resource provider

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