A Big Earth Data Platform for Three Poles

**Land cover dataset with 30m spatial resolution over Qilian Mountain area (1985-2017) V1.0**

1、Description

This dataset contains land cover products in Qilian Mountain Area from 1985 to 2017 every 5 years. The dataset was produced by two steps. Firstly, land cover product in 2015 is produced using time series Landsat-8/OLI data. In view of the different NDVI time series curves of various land features with time variation, the knowledge of different land features is summarized, the extraction rules of different land features are set, and the land cover classification map in 2015 is obtained. The classification system refers to IGBP and FROM\_LC classification system. It is divided into 10 categories: cultivated land, woodland, grassland, shrub, wetland, water body, impermeable surface, bare land, glacier and snow cover. According to the accuracy evaluation of Google Earth high-definition image and field survey data, the overall accuracy of land cover classification products in 2015 is as high as 92.19%. Secondly, taking the land cover classification products in 2015 as the base map, a large number of samples are selected according to the proportion of different types. Based on the Landsat series data and powerful data processing ability of Google Earth Engine platform, the random forest classifier is selected to train the band information and NDVI, MNDWI, NDBI and other indices by using the idea of in-depth learning. The land of each five-year period from 1985 to 2017 is produced. By comparing two classified products in 2015, it is concluded that the land cover classified products based on Google Earth Engine platform have good consistency with those based on time series method. In conclusion, the land cover data set in the core area of Qilian Mountains has high overall accuracy , and the method based on sample training of Google Earth Engine platform can expand the existing classification products in time and space, and the frequency of every five years can reflect more land cover type change information in long time series.

2、Keywords

Theme：Land Use/Land Cover,Land-use and land-cover change(LUCC),Terrestrial Surface Remote Sensing
Discipline：Terrestrial Surface
Places：Qilian Mountain Area
Time：1985-2017

3、Data details

1.Scale：None

2.Projection：WGS84

3.Filesize：48000.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：45.0 | - |
| west：89.0 | - | east：107.0 |
| - | south：34.0 | - |

5、Time frame:1985-01-11 08:00:00+00:00--2018-01-10 08:00:00+00:00

6、Reference method

References to data:

ZHONG Bo, JUE Kunsheng, WU Junjun. Land cover dataset with 30m spatial resolution over Qilian Mountain area (1985-2017) V1.0. A Big Earth Data Platform for Three Poles, doi:10.11888/Geogra.tpdc.2701302019

References to articles:

Zhong, B., Yang, A.X., Nie, A.H., Yao, Y.J., Zhang, H., Wu, S.L., & Liu, Q.H. (2015). Finer resolution land-cover mapping using multiple classifiers and multisource remotely sensed data in the Heihe river basin. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 8(10), 4973-4992.

Zhong, B., Ma, P., Nie, A.H., Yang, A.X., Yao, Y.J., Lü, W.B., Zhang, H., & Liu, Q.H. (2014). Land cover mapping using time series HJ-1/CCD data. Science China Earth Sciences, 57(8), 1790-1799.

7、Supporting project information

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

8、Data resource provider

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