A Big Earth Data Platform for Three Poles

**Dataset of urban impervious surface area and green space fractions in the Tibetan Plateau (2000-2020)**

1、Description

The data sources of this dataset mainly include domestic satellite images such as HJ-1A/B, GF-1/2, ZY-3, and Landsat TM/ETM+/OLI series satellite image data. Using the domestic satellite images supplemented by Google Earth images to generate the component training sample and validation sample data of different geographical divisions. Using Google Earth Engine (GEE) to test and correct the model algorithm parameters. The normalized settlement density index (NSDI) is obtained based on random forest algorithm, Landsat TM/ETM+/OLI series satellite images and auxiliary data. The vector boundary of urban built-up area is obtained by density segmentation method after manual interactive interpretation and correction. The NSDI, vegetation coverage index and vector boundary of the Tibetan Plateau are used to produce the original data of urban impervious surface and urban green space fractions in the Tibetan Plateau. After correction and accuracy evaluation, the datasets of urban impervious surface area and green space fractions in the Tibetan Plateau from 2000 to 2020 are generated.   
The resolution of the data product is 30 m, and the coordinate system and storage format of the data files are unified. The geographic coordinate system is WGS84, the projected coordinate system is Albers, and the data storage format is GeoTIFF, the data unit is percentage (the value range is 0~10000), and the scale factor is 0.01.  
In order to quantify the change of urban land cover more accurately, samples from several typical cities are selected to verify the dataset. The specific verification methods and accuracy are shown in the published results.  
The data can be used to analyze and reveal the impact of land cover change and future scenario simulation on the Tibetan Plateau, to provide a scientific basis for building environmentally livable cities and improving the quality of human settlements on the Tibetan Plateau.

2、Keywords

Theme：Urban Impervious Surface area, UIS,Urbanization,Land Resources,Ecological Degradation and Protection,Urban Green Space, UGS  
Discipline：Human-nature Relationship  
Places：Qinghai-Tibet Plateau  
Time：2000, 2020, 2005, 2010, 2015

3、Data details

1.Scale：None

2.Projection：Albers

3.Filesize：2853.2MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：43.4 | - |
| west：74.33 | - | east：104.52 |
| - | south：23.19 | - |

5、Time frame:None--None

6、Reference method

References to data:

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7、Supporting project information

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