A Big Earth Data Platform for Three Poles

**Plant functional types map in China (1 km)**

1、Description

Plant functional types (PFT) is a combination of large plant species according to the ecosystem function and resource utilization mode of plant species. Each planting functional type shares similar plant attributes, which simplifies the diversity of plant species into the diversity of plant function and structure.The concept of plant-functional has been advocated by ecologists especially ecosystem modelers.The basic assumption is that globally important ecosystem dynamics can be expressed and simulated through limited plant functional types.At present, vegetation-functional model has been widely used in biogeographic model, biogeochemical model, land surface process model and global dynamic vegetation model. For example, the land surface process model of the national center for atmospheric research (NCAR) in the United States has changed the original land cover information into the applied plant-functional map (Bonan et al., 2002).Functional plant has been used in the dynamic global vegetation model (DGVM) to predict the changes of ecosystem structure and function under the global change scenario.  
1. Functional classification system of Plant  
1 Needleleaf evergreen tree, temperate  
2 Needleleaf evergreen tree, boreal  
3 Needleleaf deciduous tree  
4 Broadleaf evergreen tree, tropical  
5 Broadleaf evergreen tree, temperate  
6 Broadleaf deciduous tree, tropical  
7 Broadleaf deciduous tree, temperate  
8 Broadleaf deciduous tree, boreal  
9 Broadleaf evergreen shrub, temperate  
10 Broadleaf deciduous shrub, temperate  
11 Broadleaf deciduous shrub, boreal  
12 C3 grass, arctic  
13 C3 grass  
14 C4 grass  
15 Crop  
16 Permanent wetlands  
17 Urban and built-up lands  
18 Snow and ice  
19 Barren or sparsely vegetated lands  
20 Bodies of water  
  
2. Drawing method  
China's 1km plant function map is based on the climate rules of land cover and plant function conversion proposed by Bonan et al. (Bonan et al., 2002).Ran et al., 2012).MICLCover land cover map is a blend of 1:100000 data of land use in China in 2000, the Chinese atlas (1:10 00000) the type of vegetation, China 1:100000 glacier map, China 1:10 00000 marshes and MODIS land cover 2001 products (MOD12Q1) released the latest land cover data, using IGBP land cover classification system.The evaluation shows that it may be the most accurate land cover map on the scale of 1km in China.Climate data is China's atmospheric driven data with spatial resolution of 0.1 and temporal resolution of 3 hours from 1981 to 2008 developed by he jie et al. (2010).The data incorporates Princeton land-surface model driven data (Sheffield et al., 2006), gewex-srb radiation data (Pinker et al., 2003), TRMM 3B42 and APHRODITE precipitation data, and observations from 740 meteorological stations and stations under the China meteorological administration.According to the evaluation results of RanYouhua et al. (2010), GLC2000 has a relatively high accuracy in the current global land cover data set, and there is no mixed forest in its classification system. Therefore, the mixed forest in the MICLCover land cover diagram USES GLC2000 (Bartholome and Belward, 2005).The information in xu wenting et al., 2005) was replaced.The data can be used in land surface process model and other related researches.

2、Keywords

Theme：Vegetation,vegetation species/Classification,Vegetation cover  
Discipline：Terrestrial Surface  
Places：China  
Time：2000

3、Data details

1.Scale：None

2.Projection：

3.Filesize：12.6MB

4.Data format：None

4、Space scope

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

5、Time frame:None--None

6、Reference method

References to data:

LI Xin, RAN Youhua. Plant functional types map in China (1 km). A Big Earth Data Platform for Three Poles, doi:10.11888/Ecolo.tpdc.2701012019

References to articles:

冉有华,&马瀚青.(2016).中国2000年1km植物功能型分布图.遥感技术与应用,31(4),827-832  
  
Ran, Y. H. , Li, X. , Lu, L. , & Li, Z. Y. . (2012). Large-scale land cover mapping with the integration of multi-source information based on the dempster–shafer theory. International Journal of Geographical Information Science, 26(1), 169-191.

7、Supporting project information

CASEarth:Big Earth Data for Three Poles（grant No. XDA19070000）  
Pan-Third Pole Environment Study for a Green Silk Road-A CAS Strategic Priority A Program

8、Data resource provider

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