A Big Earth Data Platform for Three Poles

**A China soil characteristics dataset（2010）**

1、Description

A multi-layer soil particle-size distribution dataset (sand, silt and clay content), based on USDA (United States Department of Agriculture) standard for regional land and climate modelling in China. was developed The 1:1,000,000 scale soil map of China and 8595 soil profiles from the Second National Soil Survey served as the starting point for this work. We reclassified the inconsistent soil profiles into the proper soil type of the map as much as possible because the soil classification names of the map units and profiles were not quite the same.
The sand, silt and clay maps were derived using the polygon linkage method, which linked soil profiles and map polygons considering the distance between them, the sample sizes of the profiles, and soil classification information. For comparison, a soil type linkage was also generated by linking the map units and soil profiles with the same soil type. The quality of the derived soil fractions was reliable. Overall, the map polygon linkage offered better results than the soil type linkage or the Harmonized World Soil Database. The dataset, with a 1-km resolution, can be applied to land and climate modelling at a regional scale.
Data characteristics：
projection：projection
Coverage: China
Resolution: 0.00833 (about 1 km)
Data format: FLT, TIFF
Value range: 0%-100%
Document describing：
Floating point raster files include:
Sand1. FLT, clay1. FLT -- surface (0-30cm) sand, clay content.
Sand2. FLT, clay2. FLT -- content of sand and clay in the bottom layer (30-100cm).
PSD. HDR -- header file:
Ncols - the number of columns
Nrows- rows
Xllcorner - latitude in the lower left corner
Yllcorner - longitude of the lower left corner
Cellsize - cellsize
NODATA\_value - a null value
byteorder - LSBFIRST, Least Significant Bit First
TIFF raster files include:
Sand1. Tif, clay1. Tif - surface (0-30cm) sand, clay content.
Sand2. Tif, clay2. Tif - bottom layer (30-100cm) sand, clay content.

2、Keywords

Theme：Soil,Soil texture,Soil classification
Discipline：Terrestrial Surface
Places：China
Time：2010

3、Data details

1.Scale：None

2.Projection：

3.Filesize：993.0MB

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:

SHANGGUAN Wei, DAI Yongjiu. A China soil characteristics dataset（2010）. A Big Earth Data Platform for Three Poles, doi:10.11888/Soil.tpdc.2704662019

References to articles:

Shangguan, W., Dai, Y., Liu, B., Ye, A., and Yuan, H., (2012). A soil particle-size distribution dataset for regional land and climate modelling in China, Geoderma, 171-172, 85-91.

7、Supporting project information

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

8、Data resource provider

name: SHANGGUAN Wei
unit:
email: shanggv@hotmail.com

name: DAI Yongjiu
unit:
email: yongjiudai@bnu.edu.cn