A Big Earth Data Platform for Three Poles

**Global Soil Texture Datasets Optimized from Satellite-Observed Wilting Point**

1、Description

This dataset provides global soil texture data optimized by remote sensing estimation of wilting coefficient, with a spatial resolution of 0.25 degree. The dataset incorporates remote sensing-based (e.g., SMAP satellite) estimation of soil wilting point and uses the SCE-UA algorithm to optimize two prevalently used soil texture datasets (i.e., GSDE (Shangguan et al. 2014) and HWSD (Fischer et al., 2008)). Comparison results with in-situ observations (44 stations in North America) show that, the soil moisture and evaporative fraction simulation from the Noah-MP land surface model by using the optimized soil texture have been significantly improved.

2、Keywords

Theme：Soil,Clay,Evaporation,SMAP,Land Surface Parameter,Soil,soil geography,Soil sand,digital soil mapping,Terrestrial Surface Remote Sensing,soil organic carbon stock,soil property  
Discipline：Terrestrial Surface  
Places：global  
Time：static data

3、Data details

1.Scale：None

2.Projection：

3.Filesize：180.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：89.95 | - |
| west：179.95 | - | east：179.95 |
| - | south：89.95 | - |

5、Time frame:None--None

6、Reference method

References to data:

YANG Kun, YANG Kun, LU Hui, SHI Jiancheng, ZHOU Jianhong , HE Qing . Global Soil Texture Datasets Optimized from Satellite-Observed Wilting Point. A Big Earth Data Platform for Three Poles, doi:10.11888/Terre.tpdc.2724842022

References to articles:

7、Supporting project information

Second Tibetan Plateau Scientific Expedition Program

8、Data resource provider

name: SHI Jiancheng  
unit:   
email: shijc@radi.ac.cn  
  
name: LU Hui  
unit: Tsinghua University  
email: luhui@tsinghua.edu.cn  
  
name: YANG Kun  
unit:   
email: yangk@tsinghua.edu.cn  
  
name: YANG Kun  
unit: Tsinghua University  
email: yangk@tsinghua.edu.cn  
  
name: 阳坤  
unit:   
email: yangk@tsinghua.edu.cn  
  
name: YANG Kun  
unit:   
email: yangk@tsinghua.edu.cn  
  
name: HE Qing   
unit: Tsinghua University  
email: heq16@mails.tsinghua.edu.cn  
  
name: ZHOU Jianhong   
unit: Tsinghua University  
email: zhoujianhong@mail.tsinghua.edu.cn