A Big Earth Data Platform for Three Poles

**A China Dataset of soil hydraulic parameters pedotransfer functions for land surface modeling (1980)**

1、Description

This data uses soil conversion functions to take sand, silt, clay, organic matter, and bulk density as inputs to estimate soil hydrological parameters, including parameters of the Clapp and Hornberger function and van Genuchten and Mualem function, field water holding capacity, and withering coefficient. Median and coefficient of variation (CV) provide estimates.  
The data set is in a raster format with a resolution of 30 arc seconds, and the soil is layered vertically into 7 layers with a maximum thickness of 1.38 meters (ie 0-0.045, 0.045--0.091, 0.091--0.166, 0.166--0.289, 0.289-- 0.493, 0.493--0.829, 0.829--1.383 meters).  
The data is stored in NetCDF format. The data file name and its description are as follows:  
1. THSCH.nc: Saturated water content of FCH  
2. PSI\_S.nc: Saturated capillary potential of FCH  
3. LAMBDA.nc: Pore size distribution index of FCH  
4. K\_SCH.nc: Saturate hydraulic conductivity of FCH  
5. THR.nc: Residual moisture content of FGM  
6. THSGM.nc: Saturated water content of FGM  
7. ALPHA.nc: The inverse of the air-entry value of FGM  
8. N.nc: The shape parameter of FGM  
9. L.nc: The pore-connectivity parameter of FGM  
10. K\_SVG.nc: Saturated hydraulic conductivity of FGM  
11. TH33.nc: Water content at -33 kPa of suction pressure, or field capacity  
12. TH1500.nc: Water content at -1500 kPa of suction pressure, or permanent wilting point

2、Keywords

Theme：Soil,Soil particle size,Soil bulk density,Soil hydraulic parameters  
Discipline：Terrestrial Surface  
Places：China  
Time：At the end of 1980

3、Data details

1.Scale：None

2.Projection：None

3.Filesize：559.0MB

4.Data format：栅格

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：53.3331 | - |
| west：73.7464 | - | east：134.738 |
| - | south：18.2769 | - |

5、Time frame:1980-12-17 16:00:00+00:00--1981-01-18 03:59:59+00:00

6、Reference method

References to data:

SHANGGUAN Wei, DAI Yongjiu. A China Dataset of soil hydraulic parameters pedotransfer functions for land surface modeling (1980). A Big Earth Data Platform for Three Poles, doi:10.11888/Soil.tpdc.2706062013

References to articles:

Dai, Y., W. Shangguan, Q. Duan, B. Liu, S. Fu, G. Niu, (2013). Development of a China Dataset of Soil Hydraulic Parameters Using Pedotransfer Functions for Land Surface Modeling. Journal of Hydrometeorology, doi: 10.1175/JHM-D-12-0149.1

7、Supporting project information

国际科技合作与交流专项项目

8、Data resource provider

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