Upper Yangtze River Scientific Data Center

**Soil Moisture Data Set of the Upper Yangtze River in China (2002-2018)**

1、Description

The data set includes the data of land soil moisture in China from 2002 to 2018, in m ³/ m ³， The temporal resolution is month, and the spatial resolution is 0.05 °. It is made of three passive microwave remote sensing products: Level 3 soil moisture data of AMSR-E and Level 3 soil moisture data of AMSR2 from JAXA, and soil moisture data of SMOS products developed by INRA and CESBIO. In order to cope with the low spatial resolution of passive microwave soil moisture products, researchers have established a spatial weight decomposition (SWD) model based on the Temperature Vegetation Drought Index (TVDI), in which TVDI is calculated from the surface temperature (LST) MYD11C3 data of MODIS and the normalized vegetation index (NDVI) MYD13C2 data. On the whole, the downscale soil moisture product is consistent with the field measurement results (R>0.78), and the root mean square error is low (ubRMSE<0.05 m ³/ m ³）， This shows that the data has good accuracy in the whole time series. Data sets can be widely used in hydrological and drought monitoring, and can be used as important input parameters of ecological and other geophysical models. This data set is tailored on the basis of metadata set to obtain soil moisture data in the upper reaches of the Yangtze River.

2、Keywords

Theme：Soil,Soil moisture,Terrestrial Surface Remote Sensing,Soil Moisture Product
Discipline：Terrestrial Surface
Places：Upper Yangtze River
Time：2002-2018

3、Data details

1.Scale：None

2.Projection：WGS84

3.Filesize：850.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：36.0 | - |
| west：96.0 | - | east：112.0 |
| - | south：24.0 | - |

5、Time frame:None--None

6、Reference method

References to data:

MAO Kebiao. Soil Moisture Data Set of the Upper Yangtze River in China (2002-2018). Upper Yangtze River Scientific Data Center, 2022

References to articles:

Meng, X., Mao, K., Meng, F., Shi, J., Zeng, J., Shen, X., Cui, Y., Jiang, L., & Guo, Z. (2021). A fine-resolution soil moisture dataset for China in 2002–2018. Earth System Science Data, 13(7), 3239–3261. https://doi.org/10.5194/essd-13-3239-2021

7、Supporting project information

8、Data resource provider

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