A Big Earth Data Platform for Three Poles

**China meteorological assimilation datasets for the SWAT model - soil temperature version 1.0 (2009-2013)**

1、Description

CMADS (The China Meteorological Assimilation Driving Datasets for The SWAT model) The soil temperature component (hereinafter referred to as cmads-st) USES The China Meteorological Administration Land Data Assimilation System [CLDAS] to force The common Land surface model3.5 [CLM3.5]) (Community Land model, numerical simulation of Land surface, circulation 10 spin - up simulation, get basic stability model initial field, and obtain high space-time resolution of soil temperature data sets, eventually hierarchical data model is utilized to extract, quality control, a nested loop, re-sampling, and a variety of technologies such as bilinear interpolation method is finally established.

Cmads-st series data set space covers the whole east Asia (0 ° n-65 ° N, 60 ° e-160 ° E), the spatial resolution is respectively cmads-st V1.0 version: 1/3 °, cmads-st V1.1 version: 1/4 °, cmads-st V1.2 version: 1/8 ° and cmads-st V1.3 version:The above resolutions are daily (the basic resolution of the soil temperature component output in CLM3.5 mode is 1/16°, which ensures the highest resolution of the cmads-st data set is 1/16°). The time scale is 2009-2013.The data set published on this page is the cmads-st V1.0 data set (spatial resolution :1/3°).Temporal resolution: daily.Space coverage: east Asia (0 ° n-65 ° N, 60 ° e-160 ° E).Number of stations: 58,500.Supply factors: the average daily soil temperature of 10 layers (the depth of node hierarchy is in order: the first layer :0.00710063521m; the second layer :0.0279249996m; the third layer :0.0622585751m; the fourth layer :0.118865065m; the fifth layer :0.2121934m; the sixth layer :0.3660658m; the seventh layer :0.619758487m; the eighth layer :1.03802705m; the ninth layer :1.72763526m;Floor 10 :2.8646071m).Provide data format: TXT.
The path of the cmads-st V1.0 soil temperature data set is:
CMADS - ST - V1.0\2009 \ layer1 V1.0\2009 \ layer10 to CMADS - ST
CMADS - ST - V1.0\2010 \ layer1 V1.0\2010 \ layer10 to CMADS - ST
CMADS - ST - V1.0\2011 \ layer1 V1.0\2011 \ layer10 to CMADS - ST
CMADS - ST - V1.0\2012 \ layer1 V1.0\2012 \ layer10 to CMADS - ST
CMADS - ST - V1.0\2013 \ layer1 V1.0\2013 \ layer10 to CMADS - ST

Cmads-st V1.0 subset file path and file name description
Where, daily soil temperature (ten layers) is shown in layer1-layer10\.Are located in the following directories (take 2009 as an example):
\2009\layer1\ 2009 layer1 (0.00710063521m) soil temperature directory
\2009\layer2\ 2009 layer2 (0.0279249996m) soil temperature directory
\2009\layer3\ 2009 layer3 (0.0622585751m) soil temperature catalogue
\2009\layer4\ 2009 layer4 (0.118865065m) soil temperature catalogue
\2009\layer5\ 2009 layer5 (0.2121934m) soil temperature catalogue
\2009\layer6\ 2009 layer6 (0.3660658m) soil temperature catalogue
\2009\layer7\ 2009 layer7 (0.619758487m) soil temperature directory
\2009\layer8\ 2009 layer8 (1.03802705m) soil temperature catalogue
\2009\layer9\ 2009 layer9 (1.72763526m) soil temperature catalogue
\2009\layer10\ 2009 10th layer (2.8646071m) soil temperature catalogue

2、Keywords

Theme：Soil,Soil temperature
Discipline：Terrestrial Surface
Places：Southeast Asia, East Asia
Time：2009-2013

3、Data details

1.Scale：None

2.Projection：None

3.Filesize：12000.0MB

4.Data format：数字文档

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：65.0 | - |
| west：60.0 | - | east：160.0 |
| - | south：0.0 | - |

5、Time frame:2009-01-10 08:00:00+00:00--2014-01-09 08:00:00+00:00

6、Reference method

References to data:

Wang Hao, Meng Xianyong. China meteorological assimilation datasets for the SWAT model - soil temperature version 1.0 (2009-2013). A Big Earth Data Platform for Three Poles, doi:10.3972/westdc.004.2017.db2018

References to articles:

Meng, X., Wang, H., Cai, S.; Zhang, X. et al. (2017). The China Meteorological Assimilation Driving Datasets for the SWAT Model (CMADS) Application in China: A Case Study in Heihe River Basin. Preprints. 2016120091 (doi:10.20944/preprints201612.0091.v2).

Meng, X.Y., Wang, H. et al. (2017). Hydrological Modeling in the Manas River Basin Using Soil and Water Assessment Tool Driven by CMADS. Tehnicki Vjesnik-Technical Gazette, 24, (2), 525-534. doi:10.17559/TV-20170108133334.

孟现勇, 师春香, 刘时银, 王浩, 等. (2016). CMADS数据集及其在流域水文模型中的驱动作用——以黑河流域为例[J]. 人民珠江, 37(7), 1-19.

Shi, C.X., Xie, Z.H., Qian, H., et al. (2011). China land soil moisture EnKF data assimilation based on satellite remote sensing data. Sci China Earth Sci, doi:10.1007/s11430-010-4160-3.

7、Supporting project information

8、Data resource provider

name: Meng Xianyong
unit: College of Resources and Environment Sciences, China Agricultural University
email: xymeng@cau.edu.cn

name: Wang Hao
unit: China Institute of Water Resources and Hydropower Research
email: None