A Big Earth Data Platform for Three Poles

**Network of soil temperature and moisture on the Pali (2015-2021)**

1、Description

The soil temperature and moisture observation network is located south of Tibetan Plateau, with an average elevation of 4,486 meters, providing soil moisture, soil temperature and freeze-thaw measured datasets.

Data content (data file, table name, and observation indicators included) :

(1) Number of sites: 25 observation sites

(2) observation variables: (soil moisture and soil temperature)

(3) Observation depths: (0-5, 10, 20 and 40 cm)

(4) Geographic coverage: 27.7°-28.1°N； 89.1°-89.4°E

(5) Spatial resolution: passive microwave satellite pixel (0.3°)

(6) Temporal resolution: 30 min resolution

(7) Soil moisture measurement accuracy and resolution: ± 2% VWC and 0.1% VWC.

Data content field description:

(1) Variable 1-6: Date (Integer: yyyy-mm-dd-hh-mm-ss; UTC+8)

(2) Variable 7-34: Observational data values at each site (real, missing value: -99.00)

(3) Soil moisture(SM): %vol（m³/m³)

(4) Soil temperature(ST): ℃

Data correction and quality control:

The 30 min resolution temperature data are the direct sampling data after quality control, and the soil moisture volume content is the correction value based on the soil moisture measurement by the drying method.

2、Keywords

Theme：Soil,Soil temperature,land surface temperature,Soil moisture,Terrestrial Surface Remote Sensing
Discipline：Terrestrial Surface
Places：Pali
Time：2015-2021

3、Data details

1.Scale：None

2.Projection：WGS84

3.Filesize：10.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：28.1 | - |
| west：89.1 | - | east：89.4 |
| - | south：27.7 | - |

5、Time frame:2015-06-20 16:00:00+00:00--2021-09-29 16:00:00+00:00

6、Reference method

References to data:

YANG Kun, YANG Kun, ZHOU Xu, QIN Jun , ZHAO Long , LA Zhu , TIAN Jiaxin , JIANG Yaozhi , CHEN Yingying. Network of soil temperature and moisture on the Pali (2015-2021). A Big Earth Data Platform for Three Poles, doi:10.11888/Terre.tpdc.2719182022

References to articles:

Chen, Y., Yang, K., Qin, J., Cui, Q., Lu, H., La, Z., Han, M., & Tang, W. (2017). Evaluation of SMAP, SMOS, and AMSR2 soil moisture retrievals against observations from two networks on the Tibetan Plateau. Journal of Geophysical Research: Atmospheres, 122(11), 5780-5792.

7、Supporting project information

8、Data resource provider

name: CHEN Yingying
unit: Institute of Tibetan Plateau Research, Chinese Academy of Sciences
email: chenyy@itpcas.ac.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: QIN Jun
unit: Institute of Geographical Sciences and Natural Resource Research, CAS
email: qinjun@igsnrr.ac.cn

name: JIANG Yaozhi
unit: Tsinghua University
email: jiangyaozhi16@mails.ucas.ac.cn

name: LA Zhu
unit: Research Center for Ecology, College of Science, Tibet University
email: cirenlazhu@163.com

name: ZHOU Xu
unit: Institute of Tibetan Plateau Research, Chinese Academy of Sciences
email: xuzhou@itpcas.ac.cn

name: TIAN Jiaxin
unit: Department of Earth System Science, Tsinghua University
email: tianjx@tsinghua.edu.cn

name: ZHAO Long
unit: Southwest University
email: zhaol04@swu.edu.cn