A Big Earth Data Platform for Three Poles

**Time-lapse observation dataset of soil temperature and humidity on the Tibetan Plateau (2008-2016)**

1、Description

This data set comprises the plateau soil moisture and soil temperature observational data based on the Tibetan Plateau, and it is used to quantify the uncertainty of model products of coarse-resolution satellites, soil moisture and soil temperature. The observation data of soil temperature and moisture on the Tibetan Plateau (Tibet-Obs) are from in situ reference networks at four regional scales, which are the Nagqu network of cold and semiarid climate, the Maqu network of cold and humid climate, and the Ali network of cold and arid climate，and Pali network. These networks provided representative coverage of different climates and surface hydrometeorological conditions on the Tibetan Plateau.
- Temporal resolution: 1hour
- Spatial resolution: point measurement
- Measurement accuracy: soil moisture, 0.00001; soil temperature, 0.1 °C; data set size: soil moisture and temperature measurements at nominal depths of 5, 10, 20, 40
- Unit: soil moisture, cm ^ 3 cm ^ -3; soil temperature, °C

2、Keywords

Theme：Soil,Soil temperature,Soil moisture/Water content
Discipline：Terrestrial Surface
Places：Maqu, Ngari, Pali, Tibetan Plateau, Naqu
Time：2008-2016

3、Data details

1.Scale：None

2.Projection：

3.Filesize：930.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：34.02 | - |
| west：79.62 | - | east：102.6 |
| - | south：27.7 | - |

5、Time frame:None--None

6、Reference method

References to data:

YANG Kun, BOB Su. Time-lapse observation dataset of soil temperature and humidity on the Tibetan Plateau (2008-2016). A Big Earth Data Platform for Three Poles, doi:10.11888/Soil.tpdc.2701102019

References to articles:

Su, Z.B., Wen, J., Dente, L., van der Velde, R., Wang, L.C., Ma, Y.M., Yang, K., & Hu, Z.H. (2011). The Tibetan Plateau observatory of plateau scale soil moisture and soil temperature (Tibet-Obs) for quantifying uncertainties in coarse resolution satellite and model products. Hydrology and Earth System Sciences, 15(7), 2303-2316.

Su, Z.B., Rosnay, P.D., Wen, J.G., Wang, L.C., &Zeng, Y.J. (2013). Evaluation of ECMWF's soil moisture analyses using observations on the Tibetan Plateau. Journal of Geophysical Research, 118(11), 5304-5318.

Dente, L., Vekerdy, Z., Wen, J. &Su, Z.B. (2012). Maqu network for validation of satellite - derived soil moisture products. International Journal of Applied Earth Observation and Geoinformation, 17, 55-65.

van der Velde, R., Su, Z.B., van Oevelen, P., Wen, J., Ma, Y.M., & Salama, M.S. (2012). Soil moisture mapping over the central part of the Tibetan Plateau using a series of ASAR WS images. Remote Sensing of Environment, 120, 175-187.

7、Supporting project information

8、Data resource provider

name: YANG Kun
unit: Institute of Tibetan Plateau Research, Chinese Academy of Sciences
email: yangk@itpcas.ac.cn

name: BOB Su
unit:
email: z.su@utwente.nl