A Big Earth Data Platform for Three Poles

**SMMR, SSM/I and SSMI/S TB-based SMAP time-expanded monthly 0.25°×0.25° land surface soil moisture dataset in Qilian Mountain area (SMsmapTE,V1)**

1、Description

This dataset contains SMAP time-expanded monthly 0.25°×0.25° land surface soil moisture products in Qilian Mountain Area of 1980, 1985, 1990, 1995 and 2000. The dataset was produced based on Random Forest method by utilizing SMMR, SSM/I and SSMIS brightness temperature from 19 GHz V/H and 37 GHz V channels along with some auxiliary datasets. The auxiliary datasets participating in the RF training include IGBP land cover type, GTOPO30 DEM and Lat/Lon information.

2、Keywords

Theme：Soil,Surface soil moisture,Passive microwave remote sensing,Surface Freeze-thaw Cycle/state Remote Sensing,Soil moisture/Water content,Terrestrial Surface Remote Sensing
Discipline：Terrestrial Surface,Cryosphere
Places：Qilian Mountain Area
Time：1980，1985，1990，1995，2000

3、Data details

1.Scale：None

2.Projection：

3.Filesize：2.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：45.0 | - |
| west：89.0 | - | east：107.0 |
| - | south：34.0 | - |

5、Time frame:None--None

6、Reference method

References to data:

CHAI Linna, LIU Shaomin, ZHU Zhongli. SMMR, SSM/I and SSMI/S TB-based SMAP time-expanded monthly 0.25°×0.25° land surface soil moisture dataset in Qilian Mountain area (SMsmapTE,V1). A Big Earth Data Platform for Three Poles, doi:10.11888/Geogra.tpdc.2702312019

References to articles:

Qu, Y.Q., Zhu, Z.L., Chai, L.N., Liu, S.M., Montzka, C., Liu, J., Yang, X.F., Lu, Z., Jin, R., Li, X., Guo, Z.X., &Zheng, J. (2019). Rebuilding a Microwave Soil Moisture Product Using Random Forest Adopting AMSR-E/AMSR2 Brightness Temperature and SMAP over the Qinghai–Tibet Plateau, China. Remote Sensing, 11(6), 683.

Liu, J., Chai, L.N., Lu, Z., Liu, S.M., Qu, Y.Q., Geng, D.Y., Song, Y.Z., Guan, Y.B., Guo, Z.X., Wang, J., &Zhu, Z.L. (2019). Evaluation of SMAP, SMOS-IC, FY3B, JAXA, and LPRM Soil Moisture Products over the Qinghai-Tibet Plateau and Its Surrounding Areas. Remote Sensing, 11(7), 792.

7、Supporting project information

Pan-Third Pole Environment Study for a Green Silk Road-A CAS Strategic Priority A Program

8、Data resource provider

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