A Big Earth Data Platform for Three Poles

**AMSR-E and AMSR2 TB-based SMAP time-expanded daily 0.25°×0.25° land surface soil moisture dataset in Qilian Mountain Area (SMsmapTE, V1)**

1、Description

This dataset contains SMAP time-expanded daily 0.25°×0.25° land surface soil moisture products in Qilian Mountain Area from June 19, 2002 to Dec 31, 2021. The dataset was produced based on Random Forest method by utilizing AMSR-E and AMSR2 brightness temperature from 6.925 GHz V/H, 10.65 GHz V/H and 36.5 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：Passive microwave remote sensing,Surface Freeze-thaw Cycle/state Remote Sensing  
Discipline：Ocean,Cryosphere  
Places：Qilian Mountain Area  
Time：2002-2018

3、Data details

1.Scale：None

2.Projection：

3.Filesize：146.0MB

4.Data format：None

4、Space scope

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

5、Time frame:2002-06-30 00:00:00+00:00--2019-01-10 00:00:00+00:00

6、Reference method

References to data:

CHAI Linna, LIU Shaomin, ZHU Zhongli. AMSR-E and AMSR2 TB-based SMAP time-expanded daily 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.2702352019

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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