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., Lu, Z., Liu, S., Qu, Y., Geng, D., & Wang, J. (2019). Evaluation of SMAP, SMOS-IC, FY3B, JAXA, and LPRM soil moisture products over the Qinghai-Tibet Plateau and its surrounding area. Remote Sensing, 11, 792. (https://doi.org/10.3390/rs11070792)

7、Supporting project information

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

8、Data resource provider

name: ZHU Zhongli  
unit:   
email: zhuzl@bnu.edu.cn  
  
name: LIU Shaomin  
unit: Beijing Normal University  
email: smliu@bnu.edu.cn  
  
name: CHAI Linna  
unit:   
email: chai@bnu.edu.cn