A Big Earth Data Platform for Three Poles

**Daily 0.05°×0.05° land surface soil moisture dataset of Qilian Mountain area (2019,SMHiRes,V2)**

1、Description

This dataset contains daily 0.05°×0.05° land surface soil moisture products in Qilian Mountain Area in 2019. The dataset was produced by utilizing the optimized wavelet-coupled-RF downscaling model (RF-OWCM) to downscale the “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)”. The auxiliary datasets participating in the downscaling model include GLASS Albedo/LAI/FVC, Thermal and Reanalysis Integrating Medium-resolution Spatial-seamless LST – Tibetan Plateau (TRIMS LST-TP) by Ji Zhou and Lat/Lon information.

2、Keywords

Theme：soil moisture,Soil,Surface soil moisture,Soil water content,Passive microwave remote sensing,Surface Freeze-thaw Cycle/state Remote Sensing,Statistical learning,Hydrology,Soil hydraulic parameters,Soil moisture/Water content,Terrestrial Surface Remote Sensing  
Discipline：Terrestrial Surface,Cryosphere  
Places：Qinghai-Tibet Plateau, Qilian Mountain  
Time：2019

3、Data details

1.Scale：None

2.Projection：WGS84

3.Filesize：209.0MB

4.Data format：None

4、Space scope

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

5、Time frame:2018-12-31 16:00:00+00:00--2019-12-30 16:00:00+00:00

6、Reference method

References to data:

CHAI Linna, LIU Shaomin, ZHU Zhongli. Daily 0.05°×0.05° land surface soil moisture dataset of Qilian Mountain area (2019,SMHiRes,V2). A Big Earth Data Platform for Three Poles, 2021

References to articles:

Qu, Y., Zhu, Z., Montzka, C., Chai, L., Liu, S., Ge, Y., Liu, J., Lu, Z., He, X., & Zheng, J. (2021). Inter-comparison of several soil moisture downscaling methods over the Qinghai-Tibet Plateau, China. Journal of Hydrology, 592, 125616. (https://doi.org/10.1016/j.jhydrol.2020.125616)  
  
Hu, Z., Chai, L., Crow, W.T., Liu, S., Zhu, Z., Zhou, J., Qu, Y., Liu, J., Yang, S., Lu, Z., 2022. Applying a Wavelet Transform Technique to Optimize General Fitting Models for SM Analysis: A Case Study in Downscaling over the Qinghai–Tibet Plateau. Remote Sensing 14, 3063. https://doi.org/10.3390/rs14133063

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