A Big Earth Data Platform for Three Poles

**Monthly 0.01°×0.01° Land Surface Soil Moisture Dataset of the Qinghai-Tibet Plateau (2005、2010 and 2015) (SMHiRes, V1)**

1、Description

This dataset contains monthly 0.05°×0.05° land surface soil moisture products in Qilian Mountain Area in 2005, 2010 and 2015. The dataset was produced by utilizing the multivariate statistical regression model 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 multivariate statistical regression include GLASS Albedo/LAI/FVC, 1km all-weather surface temperature data in western China by Ji Zhou 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：2005，2010，2015

3、Data details

1.Scale：None

2.Projection：WGS84

3.Filesize：13.5MB

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. Monthly 0.01°×0.01° Land Surface Soil Moisture Dataset of the Qinghai-Tibet Plateau (2005、2010 and 2015) (SMHiRes, V1). A Big Earth Data Platform for Three Poles, doi:10.11888/Geogra.tpdc.2702302019

References to articles:

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  
  
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)

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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