A Big Earth Data Platform for Three Poles

**HiWATER: Dataset of soil freeze/thaw experiment observed in the middle reaches of the Heihe River Basin from Nov. 24 to Nov. 25, 2013**

1、Description

This data set includes the continuous observation data set of soil texture, roughness and surface temperature measured by the vehicle borne microwave radiometer and synchronous measurement from November 24-25, 2013 in the desert of Minle County, Zhangye City, Gansu Province. The surface temperature and humidity include four layers of temperature sensor at the soil depth of 1cm, 5cm, 10cm, 20cm, and the observation of soil temperature and soil moisture data at the soil depth of 0-5cm. The time frequency of routine observation of soil temperature and humidity is 5 minutes.   
Data details:   
1. Time: November 24-25, 2013   
2. data:   
Brightness temperature: observed by vehicle mounted multi frequency passive microwave radiometer, including 6.925, 18.7 and 36.5ghz V polarization and H polarization data (10.65ghz band damage, 18.7ghz h polarization damage)   
Soil temperature: use sensor installed on dt80 to measure 1cm, 5cm, 10cm, 20cm soil temperature   
Soil moisture: use h-probe sensor to measure 0-5cm soil moisture, the probe can measure 0-5cm soil temperature at the same time   
Soil texture: soil samples measured in Beijing Normal University   
Soil roughness: measured by roughness meter provided by northeast geography   
3. Data size: 2.3m   
4. Data format:. Xls

2、Keywords

Theme：Soil,Soil temperature,Soil moisture/Water content  
Discipline：Terrestrial Surface  
Places：Heihe River Basin, the artificial oasis experimental area in the middle reaches,   
Time：2013-11-24 to 2013-11-25, 2013

3、Data details

1.Scale：None

2.Projection：4326

3.Filesize：2.3MB

4.Data format：文本

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：39.53 | - |
| west：101.28 | - | east：101.28 |
| - | south：39.53 | - |

5、Time frame:2013-12-09 00:00:00+00:00--2013-12-10 00:00:00+00:00

6、Reference method

References to data:

MA Mingguo, ZHAO Shaojie, YE Qinyu, KOU Xiaokang. HiWATER: Dataset of soil freeze/thaw experiment observed in the middle reaches of the Heihe River Basin from Nov. 24 to Nov. 25, 2013. A Big Earth Data Platform for Three Poles, doi:10.3972/hiwater.272.2015.db2017

References to articles:

Li, X., Liu, S.M., Xiao, Q., Ma, M.G., Jin, R., Che, T., Wang, W.Z., Hu, X.L., Xu, Z.W., Wen, J.G., Wang, L.X. (2017). A multiscale dataset for understanding complex eco-hydrological processes in a heterogeneous oasis system. Scientific Data, 4, 170083. doi:10.1038/sdata.2017.83.

7、Supporting project information

Heihe Watershed Allied Telemetry Experimental Research (HiWATER)

8、Data resource provider

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