A Big Earth Data Platform for Three Poles

**WATER: Dataset of ground truth measurements synchronizing with Envisat ASAR in the Biandukou foci experimental area (Mar. 14, 2008)**

1、Description

The dataset of ground truth measurements synchronizing with Envisat ASAR was obtained in C1, W2 and B2 of the Biandukou foci experimental area on Mar. 14, 2008, from 23:30 on 14 to 1:00 on 15, to be specific. The ASAR data were in AP mode and VV/VH polarization combinations, and the overpass time was approximately at 23:21 BJT. The wheat stubble land, the deep plowed land and the rape stubble land were chosen for measurements.  
 (1) The surface radiative temperature and the physical temperature were measured by the handheld infrared thermometer. Besides, the land cover type was also recorded. The data can be opened by Microsoft Office.  
 (2) The gravimetric soil moisture (samples from 0-1cm, 1-3cm, 3-5cm, 5-10cm and 10-20cm) was measured by the microwave drying method.   
 (3) The frost depth by the chopstick and the ruler. The soil was considered frozen when it was hard and with ice crystal. The data can be opened by Microsoft Office.  
 Four data files were included, ASAR data, C1, W2 and B2 data.

2、Keywords

Theme：Soil,Depth of soil freezing,Microwave remote sensing,Surface radiation temperature,Earth SurFace Processes,Surface Freeze-thaw Cycle/state Remote Sensing,Soil moisture/Water content  
Discipline：Terrestrial Surface,Cryosphere  
Places：Heihe River Basin, the cold region hydrology experimental area in the upper reaches, closed observation area of Biandoukou  
Time：2008,

3、Data details

1.Scale：None

2.Projection：4326

3.Filesize：164.1MB

4.Data format：

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：38.312 | - |
| west：100.881 | - | east：101.036 |
| - | south：38.192 | - |

5、Time frame:2008-03-26 00:00:00+00:00--2008-03-27 00:00:00+00:00

6、Reference method

References to data:

PAN Jinmei, CHANG Sheng, YIN Xiaojun, ZHANG Zhiyu, LIU Zhigang, REN Huazhong, LIANG Xingtao, ZHENG Yue, ZHAO Shaojie, Zhou Ji, QU Ying, PENG Danqing, Zhao Tianjie, ZHANG Yongpan, LIU Chenzhou, Fang Qian. WATER: Dataset of ground truth measurements synchronizing with Envisat ASAR in the Biandukou foci experimental area (Mar. 14, 2008). A Big Earth Data Platform for Three Poles, doi:10.3972/water973.0026.db2013

References to articles:

7、Supporting project information

The CAS (Chinese Academy of Sciences) Action Plan for West Development Project  
National Program on Key Basic Research Project (973 Program

8、Data resource provider

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