A Big Earth Data Platform for Three Poles

**WATER: Dataset of ground truth measurements synchronizing with Envisat ASAR in the Biandukou foci experimental area on Oct. 17, 2007 during the pre-observation period**

1、Description

The dataset of ground truth measurements synchronizing with Envisat ASAR was obtained in No. 1 and 2 quadrates of the Biandukou foci experimental area on Oct. 17, 2007 during the pre-observation period.   
 The ASAR data were in AP mode and VV/VH polarization combinations, and the overpass time was approximately at 23:04 BJT. Both the quadrates were divided into 3×3 subsites, with each one spanning a 30×30 m2 plot. 25 sampling points were chosen, including centers and corners.  
 Simultaneous with the satellite overpass, numerous ground data were collected: the soil temperature , volumetric soil moisture (cm^3/cm^3), soil salinity (s/m), soil conductivity (s/m) by the Hydra probe, the surface radiative temperature by the handheld infrared thermometer, gravimetric soil moisture, volumetric soil moisture, and soil bulk density by drying soil samples from the cutting ring (100cm^3). Meanwhile, vegetation parameters as height, coverage and water content were also observed.   
 Those provide reliable ground data for the development and validation of soil moisture, soil freeze/thaw algorithms and the forward model from active remote sensing approaches.

2、Keywords

Theme：Electrical conductivity,Soil,Microwave remote sensing,Surface radiation temperature,Earth SurFace Processes,Soil temperature,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：2007,

3、Data details

1.Scale：None

2.Projection：4326

3.Filesize：42.1MB

4.Data format：EXCEL

4、Space scope

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

5、Time frame:2008-04-30 00:00:00+00:00--2008-04-30 00:00:00+00:00

6、Reference method

References to data:

LI Xin, CAO Yongpan, BAI Yunjie, WANG Xufeng, Wang Weizhen. WATER: Dataset of ground truth measurements synchronizing with Envisat ASAR in the Biandukou foci experimental area on Oct. 17, 2007 during the pre-observation period. A Big Earth Data Platform for Three Poles, doi:10.3972/water973.0189.db2014

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

name: WANG Xufeng  
unit: Cold and Arid Regions Environmental and Engineering Research Institute, CAS  
email: wangxufeng@lzb.ac.cn  
  
name: Wang Weizhen  
unit:   
email: weizhen@lzb.ac.cn  
  
name: LI Xin  
unit:   
email: xinli@itpcas.ac.cn  
  
name: CAO Yongpan  
unit:   
email:   
  
name: BAI Yunjie  
unit:   
email: baiyj27@163.com