A Big Earth Data Platform for Three Poles

**WATER: Dataset of ground truth measurements synchronizing with the airborne WiDAS mission in the Linze station foci experimental area on May 30, 2008**

1、Description

The dataset of ground truth measurements synchronizing with the airborne WiDAS mission was obtained in the Linze station foci experimental area on May 30, 2008. WiDAS, composed of four CCD cameras, one mid-infrared thermal imager (AGEMA 550), and one infrared thermal imager (S60), can acquire CCD, MIR and TIR band data. The simultaneous ground data included:  
 (1) soil moisture (0-5cm) measured nine times by the cutting ring method (50cm^3) along LY07 and LY08 quadrates, and once by the cutting ring method and once by ML2X Soil Moisture Tachometer in the six points of Wulidun farmland quadrates. The preprocessed soil volumetric moisture data were archived as Excel files.  
 (2) surface radiative temperature measured by two handheld infrared thermometer (5# and 6# from Cold and Arid Regions Environmental and Engineering Research Institute which were both calibrated) in the LY07 and LY08 quadrates (98 sample points and repeated three times) and the Wulidun farmland quadrates (various points and repeated three times). Data were archived as Excel files.  
 (3) spectrum of maize, soil and soil with known moisture measured by ASD Spectroradiometer (350～2 500 nm) from BNU,and the 40% reference board in Wulidun farmland quadrate and the desert transit zone strips. Raw spectral data were archived as binary files, which were recorded daily in detail, and pre-processed data on reflectance were archived as Excel files.   
 (4) maize BRDF measured by ASD Spectroradiometer (350～2 500 nm) from BNU, the 40% reference board, two observation platforms of BNU make and one of Institute of Remote Sensing Applications make in Wulidun farmland quadrate and the desert transit zone strips. Raw spectral data were archived as binary files , which were recorded daily in detail, and pre-processed data on reflectance and transmittivity (read by ViewSpecPro) were archived as text files (.txt).  
 (5) LAI of maize, poplar and the desert scrub measured by the fisheye camera (CANON EOS40D with a lens of EF15/28), shooting straight downwards, with exceptions of higher plants, which were shot upwards in Wulidun farmland quadrate I, the desert transit zone and the poplar forest. Data included original photos (.JPG) and those processed by can\_eye5.0 (in excel).   
 (6) LAI measured by the ruler and the set square in D and H quadrates of the Wulidun farmland. Part of the samples were also measured by LI-3100 and compared with those by manual work for further correction. Data were archived as Excel files.  
 See the metadata record “WATER: Dataset of setting of the sampling plots and stripes in the Linze station foci experimental area” for more information of the quadrate locations.

2、Keywords

Theme：Soil,Surface radiation temperature,Leaf area index,Terrain spectrometer,Vegetation,Earth SurFace Processes,Soil moisture/Water content,Spectral measurement,Terrestrial Surface Remote Sensing  
Discipline：Terrestrial Surface  
Places：Heihe River Basin, Arid Region Hydrology in the Middle Reaches, Closed observation area of Linze station  
Time：2008,

3、Data details

1.Scale：None

2.Projection：4326

3.Filesize：6902.2MB

4.Data format：文本

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：39.379 | - |
| west：100.11 | - | east：100.201 |
| - | south：39.311 | - |

5、Time frame:2008-06-08 16:00:00+00:00--2008-06-08 16:00:00+00:00

6、Reference method

References to data:

ZHU Shijie, Qu Yonghua. WATER: Dataset of ground truth measurements synchronizing with the airborne WiDAS mission in the Linze station foci experimental area on May 30, 2008. A Big Earth Data Platform for Three Poles, doi:10.3972/water973.0100.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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