A Big Earth Data Platform for Three Poles

**WATER: Dataset of ground truth measurements synchronizing with the airborne WiDAS mission in the Biandukou foci experimental area on May 31, 2008**

1、Description

The dataset of ground truth measurements synchronizing with the airborne WiDAS mission was obtained in 5 quadrates (30 m×30 m) the Biandukou foci experimental area on May 31, 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 were the surface radiative temperature and soil moisture. The quadrates were covered with wheat, rape and bare land. The radiative temperature of 25 corner points (located in No. 2, 3, 4 and 5 quadrates) were acquired.   
 (1) the surface radiative temperature by the handheld infrared thermometer; the quadrate of 30 m×30 m was divided into 21 corner points and each point was measured three times; two for the bare land and one for the vegetation if the two coexist. The data included raw data, recorded data and the blackbody calibrated data.  
 (2) soil moisture (0-5cm) by TDR; 16 center points of the subplot (7.5m×7.5m) were measured three times and the data were archived as Excel files.  
 (3) the time-continuous surface radiative temperature by the fixed automatic thermometer (FOV: 10°; emissivity: 0.95), observing straight downwards at intervals of 1s. Raw data, blackbody calibrated data and processed data were archived as Excel files.  
 Four data files were included, the fixed point temperature in No. 2, 3, 4 and 5 quadrates, the radiative temperature by the handheld infrared thermometer, calibration data and the time-continuous data.

2、Keywords

Theme：Soil,Surface radiation temperature,Earth SurFace Processes,Terrestrial Surface Remote Sensing,Soil respiration,Ground verification information  
Discipline：Terrestrial Surface  
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：6.73MB

4.Data format：

4、Space scope

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

5、Time frame:2008-06-11 08:00:00+00:00--2008-06-11 08:00:00+00:00

6、Reference method

References to data:

LUO Zhen, WANG Haoxing. WATER: Dataset of ground truth measurements synchronizing with the airborne WiDAS mission in the Biandukou foci experimental area on May 31, 2008. A Big Earth Data Platform for Three Poles, doi:10.3972/water973.0031.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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