A Big Earth Data Platform for Three Poles

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

1、Description

The dataset of ground truth measurements synchronizing with the airborne WiDAS mission was obtained in No. 1 and No. 3 quadrates of the A'rou 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 surface soil moisture.
 The surface radiative temperature (emissivity: 1.0) was measured by the automatic thermometer at intervals of 0.05s, and the data were archived as .txt files (.dat format). The first seven rows were the header file, including acquisition date, time, and intervals; besides, Time (starting time), TObj (target temperature), Tint (the interior temperature of the probe), TBox (the temperature of the box) and Tact (the actual temperature calculated from the given emissivity) were also listed.
 Soil moisture (0-12cm and 0-20cm) was measured by TDR. The data including the soil temperature, soil complex permittivity and soil conductivity, were archived in Excel format.

2、Keywords

Theme：Soil,Surface radiation temperature,Thermal imager,Earth SurFace Processes,Remote Sensing Technology,Wide-angle infrared dual-mode line/Area array scanner,Soil moisture/Water content,CCD
Discipline：Terrestrial Surface,Remote Sensing Technology
Places：Heihe River Basin, the cold region hydrology experimental area in the upper reaches, A'rou flight zone
Time：2008,

3、Data details

1.Scale：None

2.Projection：4326

3.Filesize：10.5MB

4.Data format：EXCEL

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：38.078 | - |
| west：100.411 | - | east：100.55 |
| - | south：38.015 | - |

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

6、Reference method

References to data:

XIN Xiaozhou, ZHOU Mengwei, GE Chunmei. WATER: Dataset of ground truth measurements synchronizing with the airborne WiDAS mission in the A'rou foci experimental area on May 31, 2008. A Big Earth Data Platform for Three Poles, doi:10.3972/water973.0016.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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