A Big Earth Data Platform for Three Poles

**WATER: Dataset of ground truth measurement synchronizing with Envisat ASAR in the A'rou foci experimental area on July 5 and July 6, 2008**

1、Description

The dataset of ground truth measurement synchronizing with Envisat ASAR was obtained in No. 1, 2 and 3 quadrates of the A'rou foci experimental area on Jul. 5 and Jul. 6, 2008.
 The Envisat ASAR data were in AP mode and VV/VH polarization combinations, and the overpass time was approximately at 11:14 BJT. The quadrates were divided into 4×4 subsites, with each one spanning a 30×30 m2 plot. Observation items included:
 (1) the quadrate investigation in No. 2 and 3 quadrates: GPS by GARMIN GPS 76, plant species by manual cognition, the plant number by manual work, the height by the measuring tape repeated 4-5 times, phenology by manual work, the coverage by manual work (compartmentalizing 0.5m×0.5m into 100 to see the percentage the stellera takes) and the chlorophyll content by SPAD 502.
 (2) spectrum of stellera and pasture by ASD FieldSpec (350～2 500 nm), with 20% reference board. The preprocessed canopy spectrum was archived.
 (3) BRDF by ASD FieldSpec (350～2 500 nm), with 20% reference board. The processed reflectance and transmittivity were archived as .txt files.
 (4) photosynthesis of stellera and pasture by LI-6400. The data were archived in Excel format.
 (5) soil moisture by WET soil moisture tachometer. Acquisition time, soil moisture (%vol), Ecp (ms/m), Tmp Eb and Ecb (ms/m) of 25 corner points were archived.
 (6) the soil temperature by the handheld infrared thermometer. Acquisition time, the soil temperature measured three times and the land cover types were archived.
 The data included the canopy reflectance on Jul. 5 and 6, photosynthesis on Jul. 5 and 6, BRDF on Jul. 5, photos on Jul. 5, the infrared land surface temperature and soil moisture by WET on Jul. 5, biomass on Jul. 5 and the surface temperature along No. 3 flight on Jul. 6.

2、Keywords

Theme：Soil,Photosynthesis,Surface radiation temperature,Leaf area index,Ground object spectral,Terrain spectrometer,Vegetation,Earth SurFace Processes,Soil temperature,Soil moisture/Water content,Terrestrial Surface Remote Sensing
Discipline：Terrestrial Surface
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：836.5MB

4.Data format：EXCEL

4、Space scope

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

5、Time frame:2008-07-18 00:00:00+00:00--2008-07-19 00:00:00+00:00

6、Reference method

References to data:

GE Yingchun, WANG Yang. WATER: Dataset of ground truth measurement synchronizing with Envisat ASAR in the A'rou foci experimental area on July 5 and July 6, 2008. A Big Earth Data Platform for Three Poles, doi:10.3972/water973.0007.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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