A Big Earth Data Platform for Three Poles

**WATER: Dataset of ground truth measurement synchronizing with EO-1 Hyperion in the Yingke oasis and Huazhaizi desert steppe foci experimental areas on May 25, 2008**

1、Description

The dataset of ground truth measurement synchronizing with EO-1 Hyperion was obtained in the Yingke oasis and Huazhaizi desert steppe foci experimental areas on May 25, 2008. Observation items included:
 (1) Atmospheric parameters on the ICBC resort office roof by CE318 (produced by CIMEL in France). The total optical depth, aerosol optical depth, Rayleigh scattering coefficient, column water vapor in 936 nm, particle size spectrum and phase function were then retrieved from these observations. The optical depth in 1020nm, 936nm, 870nm, 670nm and 440nm were all acquired by CE318. Those data include the raw data in k7 format and can be opened by ASTPWin. ReadMe.txt is attached for detail. Processed data (after retrieval of the raw data) in Excel format are on optical depth, rayleigh scattering, aerosol optical depth, the horizontal visibility, the near surface air temperature, the solar azimuth, zenith, solar distance correlation factors, and air column mass number.
 (2) Ground object reflectance spectra f new-born rape and the bare land in Biandukou foci experimental area by ASD FieldSpec (350~2500 nm) from BNU. Raw data were binary files direct from ASD (by ViewSpecPro), and pre-processed data on reflectance were in Excel format.
 (3) Soil moisture (0-40cm) by the cutting ring and the soil temperature (0-40cm) by the thermocouple in Huazhaizi desert No. 1 plot and the windbreak forest; and soil moisture and the soil temperature (0-100cm) in Yingke oasis maize field. Data were archived in Excel format.
 (4) LAI. The maximum leaf length and width of each alfalfa and barley were measured. Data were archived in Excel format.
 (5) Coverage of maize and wheat in Yingke oasis maize field, of vegetation (Reaumuria soongorica) in Huazhaizi desert No. 1 and 2 plots by the self-made coverage instrument and the camera (2.5m-3.5m above the ground). Based on the length of the measuring tape and the bamboo pole, the size of the photo can be decided GPS date were also collected and the technology LAB was applied to retrieve the coverage of the green vegetation. Besides, such related information as surroundings environment was also recorded. Data included the primarily measured image and final fraction of vegetation coverage.

2、Keywords

Theme：Soil,Canopy spectrum,Leaf area index,Terrain spectrometer,Vegetation,Soil temperature,Vegetation cover,Soil moisture/Water content,Terrestrial Surface Remote Sensing
Discipline：Terrestrial Surface
Places：Heihe River Basin, Arid Region Hydrology in the Middle Reaches,
Time：2008-05-25, 2008

3、Data details

1.Scale：None

2.Projection：4326

3.Filesize：142.7MB

4.Data format：

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：38.88 | - |
| west：100.289 | - | east：100.46 |
| - | south：38.734 | - |

5、Time frame:2019-05-23 18:50:06.248331+00:00--2019-05-23 18:50:06.248336+00:00

6、Reference method

References to data:

YAN Guangkuo, ZHOU Chunyan, REN Huazhong, XU Zhen, YAN Binyan, WANG Haoxing, LI Li, ZHANG Yang, CHEN Ling, GUANG Jie, YAO Yanjuan, GE Yingchun, SHU Lele, TAO Xin, XIN Xiaozhou, QIAN Yonggang, WANG Jianhua. WATER: Dataset of ground truth measurement synchronizing with EO-1 Hyperion in the Yingke oasis and Huazhaizi desert steppe foci experimental areas on May 25, 2008. A Big Earth Data Platform for Three Poles, doi:10.3972/water973.0122.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

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