A Big Earth Data Platform for Three Poles

**WATER: Dataset of LST (land surface temperature) observations in the Yingke oasis and Huazhaizi desert steppe foci experimental areas**

1、Description

The dataset of Land Surface Temperature (LST) observations was obtained in the Yingke oasis and Huazhaizi desert steppe foci experimental areas.  
 (1) The time-continuous surface radiative temperature by the automatic thermometer (FOV: 10°; six from BNU with emissivity 0.95; two from Institute of Remote Sensing Applications with emissivity 1.00, observing at nadir at an intervals of one second.   
 The maize canopy, the bare land and the wheat canopy in Yingke oasis maize field, the wheat canopy in Yingke oasis wheat field, the maize canopy in Huazhaizi desert maize field, vegetation and the bare land in Huazhaizi desert No. 1 and 2 plots and three intensive plots (Huazhaizi desert No. 3 plot, the barley field and the maize field near the resort) were measured on May 20, 24, 28, 30 and 31, Jun. 1, 3, 4, 16, 29 and 30, Jul. 1, 7, 9 and 11, 2008.  
 The dataset of ground truth measurement was synchronizing with WiDAS (Wide-angle Infrared Dual-mode line/area Array Scanner), OMIS-II, TM, ASTER, MODIS, Hyperion and CHRIS. Diurnal variation in the radiative temperature was recorded as well. Raw data, blackbody calibrated data and processed data were archived in Excel format.  
 (2) the surface radiative temperature by the handheld infrared thermometer (FOV:1°; accuracy: 0.1°C) in Yingke oasis maize field and wheat field, Huazhaizi desert maize field, No. 1 and 2 plots, and the maize field at the resort on May 20, 28, 30 and 31, Jun. 1, 4, 16 and 29, Jul. 4, 7 and 11, 2008. Besides, the four component temperature was also measured in Yingke oasis maize field and wheat field, Huazhaizi desert maize field. Raw data and processed data on the surface radiative temperature were archived.

2、Keywords

Theme：Surface radiation temperature,Earth SurFace Processes  
Discipline：Terrestrial Surface  
Places：Heihe River Basin, Arid Region Hydrology in the Middle Reaches,   
Time：2008-07-04, 2008,

3、Data details

1.Scale：None

2.Projection：4326

3.Filesize：1013.1MB

4.Data format：

4、Space scope

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

5、Time frame:2008-06-03 16:00:00+00:00--2008-07-25 16:00:00+00:00

6、Reference method

References to data:

XIA Chuanfu, SHU Lele. WATER: Dataset of LST (land surface temperature) observations in the Yingke oasis and Huazhaizi desert steppe foci experimental areas. A Big Earth Data Platform for Three Poles, doi:10.3972/water973.0144.db2013

References to articles:

康国婷, 阎广建, 任华忠, 王颢星, 钱永刚. 田块尺度作物辐射温度获取方法对比研究. 地球科学进展, 2009, 24(7): 784-792.

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

name: SHU Lele  
unit:   
email:   
  
name: XIA Chuanfu  
unit:   
email: