A Big Earth Data Platform for Three Poles

**HiWATER: Simultaneous observation dataset of land surface temperature in the upstream of the Heihe River Basin on Aug. 1, 2012**

1、Description

The aim of the simultaneous observation of river surface temperature is obtaining the land surface temperature in different places be of different kinds of underlying surface, while the sensor of WiDAS go into the experimental areas of the upstream of Heihe river basin. All the land surface temperature data will be used for validation of the retrieved land surface temperature from WiDAS sensor and the analysis of the scale effect of the land surface temperature, and finally serve for the validation of the authenticity of the surface temperature product from remote sensing.  
1. Observation sites and other details  
Six places be of different kinds of underlying surface were chosen to observe surface temperature simultaneous in the upstream of Heihe river basin on 1 August. Self-recording point thermometers (observed once every 6 seconds) were used one place while handheld infrared thermometers (observed continuously during the sensor of WiDAS go into the region) were used in other five places. The main underlying surface including natural grassland, river section, river rapids, gravel.  
2. Instrument parameters and calibration.  
The field of view of the self-recording point thermometer and the handheld infrared thermometer are 10 and 1 degree, respectively. The emissivity of the latter was assumed to be 0.95. All instruments were calibrated on 5 August, 2012 using black body during observation.  
3. Data storage  
All the observation data were stored in excel.

2、Keywords

Theme：Surface radiation temperature,Earth SurFace Processes,Remote Sensing Technology,Wide-angle infrared dual-mode line/Area array scanner  
Discipline：Terrestrial Surface,Remote Sensing Technology  
Places：Heihe River Basin, Zhamashike River Basin, the cold region hydrology experimental area in the upper reaches, Babaohe River Basin  
Time：2012, 2012-08-01

3、Data details

1.Scale：None

2.Projection：4326

3.Filesize：0.0MB

4.Data format：文本

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：38.65 | - |
| west：99.32 | - | east：100.8 |
| - | south：37.96 | - |

5、Time frame:2018-11-23 18:48:30+00:00--2018-11-23 18:48:30+00:00

6、Reference method

References to data:

HiWATER: Simultaneous observation dataset of land surface temperature in the upstream of the Heihe River Basin on Aug. 1, 2012. A Big Earth Data Platform for Three Poles, doi:10.3972/hiwater.033.2013.db2013

References to articles:

Che, T., Li, X., Liu, S., Li, H., Xu, Z., Tan, J., Zhang, Y., Ren, Z., Xiao, L., Deng, J., Jin, R., Ma, M., Wang, J., & Yang, X. (2019). Integrated hydrometeorological, snow and frozen-ground observations in the alpine region of the Heihe River Basin, China. Earth System Science Data, 11, 1483-1499

7、Supporting project information

Heihe Watershed Allied Telemetry Experimental Research (HiWATER)

8、Data resource provider