A Big Earth Data Platform for Three Poles

**HiWATER: Simultaneous observation dataset of river surface temperature in the middle reaches of the Heihe River Basin on Jul. 3 and Jul. 4, 2012**

1、Description

The aim of the simultaneous observation of river surface temperature is obtaining the river surface temperature of different places, while the sensor of thermal infrared go into the experimental areas of artificial oases eco-hydrology on the middle stream. All the river surface temperature data will be used for validation of the retrieved river surface temperature from thermal infrared sensor and the analysis of the scale effect of the river surface temperature, and finally serve for the validation of the plausibility checks of the surface temperature product from remote sensing.
1. Observation sites and other details
Ten river sections were chosen to observe surface temperature simultaneously in the midstream of Heihe River Basin on 3 July and 4 July, 2012, including Sunan Bridge, Binhe new area, Heihe Bridge, Railway Bridge, Wujiang Bridge, Gaoya Hydrologic Station, Banqiao, Pingchuan Bridge, Yi’s Village, Liu’s Bridge. Self-recording point thermometers (observed once every 6 seconds) were used in Railway Bridge and Gaoya Hydrologic Station while handheld infrared thermometers (observed once of the river section temperature for every 15 minutes) were used in other eight places.
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 6 July, 2012 using black body during observation.
3. Data storage
All the observation data were stored in excel.

2、Keywords

Theme：Soil,Water,Land Use/Land Cover,TASI,Soil temperature,Terrestrial Surface Remote Sensing
Discipline：Terrestrial Surface
Places：Heihe River Basin, the artificial oasis experimental area in the middle reaches,
Time：2012, 2012-07-04, 2012-07-03

3、Data details

1.Scale：None

2.Projection：4326

3.Filesize：0.0MB

4.Data format：文本

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：39.31 | - |
| west：99.9 | - | east：100.5 |
| - | south：38.9 | - |

5、Time frame:2018-11-30 10:47:13+00:00--2018-11-30 10:47:13+00:00

6、Reference method

References to data:

HiWATER: Simultaneous observation dataset of river surface temperature in the middle reaches of the Heihe River Basin on Jul. 3 and Jul. 4, 2012. A Big Earth Data Platform for Three Poles, doi:10.3972/hiwater.032.2013.db2017

References to articles:

Li, X., Liu, S.M., Xiao, Q., Ma, M.G., Jin, R., Che, T., Wang, W.Z., Hu, X.L., Xu, Z.W., Wen, J.G., Wang, L.X. (2017). A multiscale dataset for understanding complex eco-hydrological processes in a heterogeneous oasis system. Scientific Data, 4, 170083. doi:10.1038/sdata.2017.83.

7、Supporting project information

Heihe Watershed Allied Telemetry Experimental Research (HiWATER)

8、Data resource provider