A Big Earth Data Platform for Three Poles

**HiWATER: Dataset of surface temperature of water body in Er’ba Reservoir**

1、Description

Er’ba Reservoir surface temperature of water body can offer in situ calibration data for TASI, WiDAS and L band sensor used in aerospace experiment.  
Observation Site:  
This site is 14 KM away from East of ZhangYe city. It’s located in Er’ba village, JianTan town, ZhangYe city. The coordinates of this site: 38°54′57.14" N, 100°36′57.39" E.  
Observation Instrument:  
The observation system consists of two SI-111 infrared radiometers (Campbell, USA) and two 109SS temperature probes (Campbell, USA). Two SI-111 sensors, one installed vertically downward to water surface, another face to south of zenith angle 35°. Temperature probes float under water surface at 0 cm. SI-111 sensor installed at 3.0 m height, 3.4 m away from water edge.  
Observation Time:  
This site operates from 27 May, 2012 to 27 September, 2012. Observation data laagered by every 5 seconds uninterrupted. Output data contained sample data of every 5 seconds and mean data of 1 minute.  
Accessory data：  
Water surface infrared temperature (by SI-111), sky infrared temperature (by SI-111), water surface temperature (by 109ss) can be obtained. Dataset is stored in \*.dat file, which can be read by Microsoft excel or other text processing software (UltraEdit, et. al). Table heads meaning: TarT\_Atm, Sky infrared temperature (℃) @ facing south of zenith angle 35°; SBT\_Atm, body temperature of SI-111 sensor (℃) measured sky; TarT\_Sur, water surface infrared temperature @ 3.0 m height; SBT\_Sur, body temperature of SI-111 sensor (℃) measured water surface; WaterT\_1, WaterT\_2, water surface temperature (℃) measured by 109SS temperature probes.  
Dataset is stored day by day, named as: data format + site name + interval time + date + time. The detailed information about data item showed in data header introduction in dataset.

2、Keywords

Theme：Surface radiation temperature,Water,Land Use/Land Cover,Earth SurFace Processes  
Discipline：Terrestrial Surface  
Places：Heihe River Basin, the artificial oasis experimental area in the middle reaches, Er’ba Reservoir  
Time：2012-05-27 to 2012-09-27, 2012

3、Data details

1.Scale：None

2.Projection：4326

3.Filesize：0.0MB

4.Data format：文本, \*.dat后缀

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：38.915872 | - |
| west：100.615942 | - | east：100.615942 |
| - | south：38.915872 | - |

5、Time frame:2012-06-04 15:41:00+00:00--2012-10-05 15:42:00+00:00

6、Reference method

References to data:

MA Mingguo. HiWATER: Dataset of surface temperature of water body in Er’ba Reservoir. A Big Earth Data Platform for Three Poles, doi:10.3972/hiwater.027.2013.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

name: MA Mingguo  
unit: Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences  
email: mmg@lzb.ac.cn