A Big Earth Data Platform for Three Poles

**HiWATER: Dataset of infrared temperature in Zhanye Airport desert**

1、Description

Zhanye Airport desert observation system can offer in situ calibration data for TASI, WiDAS and L band sensor used in aerospace experiment.  
Observation Site: This point is located in a large, homogeneous and flatten desert near by Zhangye Airport. The main vegetation type is Sparse and low shrub. The coordinates of this site: 38°4′41.30" N, 100°41′48.10" E.  
Observation Instrument: The observation system consists of two SI-111 infrared radiometers (Campbell, USA), one installed vertically downward to land surface, another face to south of zenith angle 35°. SI-111 sensor installed at 4.0 m height.  
Observation Time: This site operates from 10 June, 2012 to today. 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: Land surface infrared temperature (by SI-111), sky infrared temperature (by SI-111) 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, land surface infrared temperature @ 4.0 m height; SBT\_Sur, body temperature of SI-111 sensor (℃) measured land surface.  
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,Earth SurFace Processes  
Discipline：Terrestrial Surface  
Places：Heihe River Basin, the artificial oasis experimental area in the middle reaches, Zhanye Airport  
Time：2012, 2012-09-27, 2012-06-10

3、Data details

1.Scale：None

2.Projection：4326

3.Filesize：50.0MB

4.Data format：文本, \*.dat后缀

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：38.77813889 | - |
| west：100.6966944 | - | east：100.6966944 |
| - | south：38.77813889 | - |

5、Time frame:2018-11-26 18:49:44+00:00--2018-11-26 18:49:44+00:00

6、Reference method

References to data:

MA Mingguo. HiWATER: Dataset of infrared temperature in Zhanye Airport desert. A Big Earth Data Platform for Three Poles, doi:10.3972/hiwater.028.2013.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

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