A Big Earth Data Platform for Three Poles

**HiWATER: Dataset of hydrometeorological observation network (an automatic weather station of Sidaoqiao populus forest station, 2014)**

1、Description

This data set contains meteorological element observation data of Euphrates poplar forest station downstream of heihe hydrometeorological observation network from January 1, 2014 to December 31, 2014.The station is located in Inner Mongolia ejin banner dalaihubu town four road bridge, under the surface is hu Yang Lin and tamarix.The longitude and latitude of the observation point are 101.1239e, 41.9932n and 876m above sea level.The air temperature and relative humidity sensors are located at 28m, facing due north.The wind speed sensor is located at 28m, facing due north.Two four-component radiometers were installed at 6m and 24m respectively, facing due south;Two infrared thermometers are installed at 24m, facing due south and the probe facing vertically downward.Two photosynthetically active radiators were installed at a position of 24m, facing due south, with one probe vertically upward and one probe vertically downward.The soil temperature probe is buried at 0cm on the surface and 2cm and 4cm underground, 2m to the south of the meteorological tower.The soil moisture sensor (installed on March 15, 2014) was buried 2cm and 4cm underground, located 2m to the south of the meteorological tower.The soil heat flow plates (3 pieces) are buried in the ground 6cm underground, 2m to the south of the meteorological tower.
Observation projects are: air temperature and humidity (Ta\_28m, RH\_28m) (unit: c, percentage), wind speed (WS\_28m) (unit: m/s), the radiation of 24 m four component (DR\_1 UR\_1 DLR\_Cor\_1 ULR\_Cor\_1 Rn\_1) (unit: watts per square meter), the radiation of 6 m four component (DR\_2 UR\_2 DLR\_Cor\_2 ULR\_Cor\_2 Rn\_2) (unit: watts per square meter), the surface radiation temperature (IRT\_1, IRT\_2) (unit:Degrees Celsius), soil heat flux (Gs\_1, Gs\_2, Gs\_3) (unit: watts per square meter), soil temperature (Ts\_0cm Ts\_2cm Ts\_4cm) (unit: c), soil moisture (Ms\_2cm, Ms\_4cm) (unit: volumetric water content, percentage), up and down photosynthetic active radiation (PAR\_up, PAR\_down) (unit: second micromoles/m2).
Processing and quality control of observed data :(1) ensure 144 pieces of data every day (every 10min), and mark by -6999 in case of data missing;(2) excluding the time with duplicate records;(3) data that obviously exceeds the physical significance or the range of the instrument is deleted;(4) the part marked with red letter in the data is the data in question;(5) date and time have the same format, and date and time are in the same column.For example, the time is: September 10, 2014, 10:30;(6) the naming rule is: AWS+ site name.
For information of hydrometeorological network or station, please refer to Li et al.(2013), and for observation data processing, please refer to Liu et al.(2011).

2、Keywords

Theme：Precipitation,Meteorological element
Discipline：Atmosphere
Places：Heihe River Basin, populus forest station, the natural oasis eco-hydrology experimental area in the lower reaches
Time：2014, 2014-01-01 to 2014-12-31

3、Data details

1.Scale：None

2.Projection：4326

3.Filesize：4.44MB

4.Data format：文本

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：41.9932 | - |
| west：101.1239 | - | east：101.1239 |
| - | south：41.9932 | - |

5、Time frame:2014-01-10 00:00:00+00:00--2015-01-09 00:00:00+00:00

6、Reference method

References to data:

TAN Junlei, LI Xin, LIU Shaomin, XU Ziwei, CHE Tao, REN Zhiguo. HiWATER: Dataset of hydrometeorological observation network (an automatic weather station of Sidaoqiao populus forest station, 2014). A Big Earth Data Platform for Three Poles, doi:10.3972/hiwater.260.2015.db2016

References to articles:

Liu, S.M., Xu, Z.W., Wang, W.Z., Bai, J., Jia, Z., Zhu, M., & Wang, J.M. (2011). A comparison of eddy-covariance and large aperture scintillometer measurements with respect to the energy balance closure problem. Hydrology and Earth System Sciences, 15(4), 1291-1306.

Liu, S.M., Li, X., Xu, Z.W., Che, T., Xiao, Q., Ma, M.G., Liu, Q.H., Jin, R., Guo, J.W., Wang, L.X., Wang, W.Z., Qi, Y., Li, H.Y., Xu, T.R., Ran, Y.H., Hu, X.L., Shi, S.J., Zhu, Z.L., Tan, J.L., Zhang, Y., & Ren, Z.G. (2018). The Heihe Integrated Observatory Network: A Basin-Scale Land Surface Processes Observatory in China. Vadose Zone Journal, 17(1), 180072. doi:10.2136/vzj2018.04.0072.

7、Supporting project information

National Natural Science Foundation of China

8、Data resource provider

name: XU Ziwei
unit: Beijing Normal University
email: xuzw@bnu.edu.cn

name: TAN Junlei
unit:
email: tanjunlei@163.com

name: REN Zhiguo
unit: Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences
email:

name: LI Xin
unit:
email: xinli@itpcas.ac.cn

name: LIU Shaomin
unit: Beijing Normal University
email: smliu@bnu.edu.cn

name: CHE Tao
unit:
email: chetao@lzb.ac.cn