A Big Earth Data Platform for Three Poles

**HiWATER: Dataset of hydrometeorological observation network (an automatic weather station of Sidaoqiao barren-land station, 2015)**

1、Description

This data set contains the meteorological element observation system data from January 1, 2015 to December 31, 2015 of the naked earth station downstream of heihe hydrometeorological observation network.The station is located in Inner Mongolia ejin banner dalaihubu town four road bridge, the underlying surface is bare ground.The longitude and latitude of the observation point are 101.1326e, 41.9993n and 878m above sea level.The four-component radiometer is installed at 6m, facing due south;Two infrared surface thermometers are installed at 6m, facing due south, and the probe facing 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 is buried 2cm and 4cm underground, 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.  
Radiation observation projects are: four components (DR, UR, DLR\_Cor, ULR\_Cor, Rn) (unit: watts per square meter), the surface radiation temperature (IRT\_1, IRT\_2) (unit: c), soil heat flux (Gs\_1, Gs\_2, Gs\_3) (unit: watts per square meter), soil moisture (Ms\_2cm, Ms\_4cm) (unit: volumetric water content, percentage), soil temperature (Ts\_0cm Ts\_2cm Ts\_4cm) (unit: degrees c).  
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;The four-component long-wave radiation occurred between April and July 26, 2015 due to sensor problems, data was missing;The soil heat flux was adjusted on June 5 and then decreased.(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, 2015, 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, barren-land station, the natural oasis eco-hydrology experimental area in the lower reaches  
Time：2015, 2015-01-01 to 2015-12-31

3、Data details

1.Scale：None

2.Projection：4326

3.Filesize：15.0MB

4.Data format：文本

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：41.9903 | - |
| west：101.1326 | - | east：101.1326 |
| - | south：41.9903 | - |

5、Time frame:2015-01-12 00:00:00+00:00--2016-01-11 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 barren-land station, 2015). A Big Earth Data Platform for Three Poles, doi:10.3972/hiwater.319.2016.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

8、Data resource provider

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