A Big Earth Data Platform for Three Poles

**HiWATER: Dataset of hydrometeorological observation network (automatic weather station of E’bao station, 2015)**

1、Description

The data set contains meteorological observation data of E’bao station upstream of heihe hydrometeorological observation network from January 1, 2015 to December 31, 2015.The station is located in qinghai qilian county E’bao town grassland, the underlying surface is alpine grassland.The latitude and longitude of the observation point are 100.9151E, 37.9492N, and 3294m above sea level.The air temperature and relative humidity sensors are set up at 5m, facing due north.The barometer is installed in an anti-skid box on the ground;The inverted bucket rain gauge is installed at 10m;Wind speed and direction sensors are set at 10m, facing due north;The four-component radiometer is installed at 6m, facing due south;The two infrared thermometers are installed at the position of 6m, facing south, and the probe is facing vertically downward.The soil temperature probe is buried at 0cm on the surface and 4cm, 10cm, 20cm, 40cm, 80cm, 120cm and 160cm underground, in the south due to 2m from the meteorological tower.The soil moisture probe is buried 4cm, 10cm, 20cm, 40cm, 80cm, 120cm and 160cm underground, directly to the south of 2m from the meteorological tower.The soil hot flow plates (3) are successively buried in the ground 6cm, in the south due to 2m from the meteorological tower.  
Observation projects are: air temperature and humidity (Ta\_5m, RH\_5m) (unit: c, percentage), pressure (Press) (unit: hundred mpa), precipitation (Rain) (unit: mm), wind speed (WS\_10m) (unit: m/s), wind (WD\_10m) (unit: degrees), the radiation of four component (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/m2), soil temperature (Ts\_0cm, Ts\_4cm, Ts\_10cm, Ts\_20cm, Ts\_40cm, Ts\_80cm, Ts\_120cm, Ts\_160cm) (unit: Celsius), soil moisture (Ms\_4cm, Ms\_10cm, Ms\_20cm, Ms\_40cm, Ms\_40cm, Ms\_80cm, Ms\_120cm, Ms\_160cm) (unit: volume water content, percentage).  
Processing and quality control of observation data :(1) ensure 144 data per day (every 10min). If data is missing, it will be marked by -6999;The four-component radiation and infrared temperature were between October 11, 2015 and November 05, 2015.11.1-11.5 re-adjustment of observation tower instruments, data missing;(2) eliminate the moments with duplicate records;(3) data that is obviously beyond the physical meaning or the range of the instrument is deleted;(4) the part marked by red letter in the data is the data in question;(5) the format of date and time is uniform, and the date and time are in the same column.For example, the time is: 2015-9-10-10:30;(6) the naming rule is: AWS+ site name.  
Please refer to Liu et al. (2018) for hydrometeorological network or site information, and Liu et al. (2011) for observation data processing.

2、Keywords

Theme：Precipitation,Meteorological element  
Discipline：Atmosphere  
Places：Heihe River Basin, E’bao station, the cold region hydrology experimental area in the upper reaches  
Time：2015, 2015-01-01 to 2015-12-31

3、Data details

1.Scale：None

2.Projection：4326

3.Filesize：16.4MB

4.Data format：文本

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：37.9492 | - |
| west：100.9151 | - | east：100.9151 |
| - | south：37.9492 | - |

5、Time frame:2015-01-11 08:00:00+00:00--2016-01-10 08:00:00+00:00

6、Reference method

References to data:

TAN Junlei, LI Xin, LIU Shaomin, XU Ziwei, CHE Tao, ZHANG Yang. HiWATER: Dataset of hydrometeorological observation network (automatic weather station of E’bao station, 2015). A Big Earth Data Platform for Three Poles, doi:10.3972/hiwater.311.2016.db2016

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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.  
  
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7、Supporting project information

8、Data resource provider

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