A Big Earth Data Platform for Three Poles

**Multi-scale surface flux and meteorological elements observation dataset in the Hai River Basin (Miyun site-automatic weather station) (2008-2010)**

1、Description

The data set contains observations from the automatic weather station as at 1 solstice, January 2008, on 29 December 2010.The site is located in xinchengzi town, miyun county, Beijing, with orchards (plums and apple trees), corn/bare land, and towns.The latitude and longitude of the observation point is 117.3233E, 40.6308N, and the altitude is 350m.
The acquisition frequency of the automatic weather station is 10s, and the output of 10min is once.The observation factors include air temperature and relative humidity (30.56m, 10.66m), and the direction is due to the north.Wind speed (30.56m, 10.66m), wind direction (30.56m), heading due north;Air pressure (installed in waterproof box);Rainfall (31.46m);The four-component radiation (30.76m) is oriented due to the south.Infrared surface temperature (30.76m), the arm is facing south, the probe is facing vertically downward;The soil temperature and humidity probe was buried 2m south of the meteorological tower. The buried depth of the soil temperature probe was 0cm, 5cm, 10cm, 20cm, 40cm, 60cm, 80cm and 100cm. The buried depth of the soil water sensor was 2cm, 5cm, 10cm, 20cm, 40cm, 60cm and 100cm.Two hot plates (2) are buried 2cm underground, one in the ground where the sun can penetrate the fruit trees, and the other in the shadow of the fruit trees.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;(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 format of date and time is unified, and the date and time are in the same column.For example, the time is: June 10, 2010 at 10:30.
Data released by the automatic weather station include:Date/Time for the Date/Time, and the air temperature humidity observation (Ta\_10. 66 m, RH\_10. 66 m, Ta\_30. 56 m, RH\_30. 56 m) (℃, %), wind speed (Ws\_10. 66 m, Ws\_30. 56 m) (m/s), wind (WD) (°), pressure (Press) (hpa), precipitation (Rain) (mm), four component radiation (DR, UR, DLR, ULR, Rn) (W/m2), the surface radiation temperature (IRT\_1, IRT\_2) (℃),Soil heat flux (Gs\_1, Gs\_2) (W/m2), multi-layer soil moisture (Ms\_2cm, Ms\_5cm, Ms\_10cm, Ms\_20cm, Ms\_40cm, Ms\_60cm, Ms\_100cm) (%) and multi-layer soil temperature (Ts\_0cm, Ts\_5cm, Ts\_10cm, Ts\_20cm, Ts\_40cm, Ts\_60cm, Ts\_80cm, Ts\_100cm) (℃).
Please refer to Jia et al,(2012) for information of observation test or site, and Liu et al,(2013) for data processing.

2、Keywords

Theme：Precipitation,Meteorological element
Discipline：Atmosphere
Places：Mi yun, Beijing, Haihe river basin
Time：2008-2010

3、Data details

1.Scale：None

2.Projection：None

3.Filesize：37.0MB

4.Data format：EXCEL

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：40.6308 | - |
| west：117.323 | - | east：117.323 |
| - | south：40.6308 | - |

5、Time frame:2008-01-11 07:00:00+00:00--2011-01-08 07:00:00+00:00

6、Reference method

References to data:

LIU Shaomin, XU Ziwei. Multi-scale surface flux and meteorological elements observation dataset in the Hai River Basin (Miyun site-automatic weather station) (2008-2010). A Big Earth Data Platform for Three Poles, doi:10.3972/haihe.001.2013.db2016

References to articles:

Liu, S.M., Xu, Z.W., Zhu, Z.L., Jia, Z.Z., & Zhu, M.J. (2013). Measurements of evapotranspiration from eddy-covariance systems and large aperture scintillometers in the Hai River Basin, China. Journal of Hydrology, 487, 24-38.

Jia, Z.Z., Liu, S.M., Xu, Z.W,, Chen, Y.J., & Zhu, M.J. (2012). Validation of remotely sensed evapotranspiration over the Hai River Basin, China. Journal of Geophysical Research, 117(D13).

7、Supporting project information

8、Data resource provider

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