A Big Earth Data Platform for Three Poles

**WATER: Dataset of automatic meteorological observations at the A'rou freeze/thaw observation station (2007-2015)**

1、Description

The dataset of automatic meteorological observations was obtained at the A'rou freeze/thaw observation station from Jul. 25, 2008 to Dec. 31, 2009, in Wawangtan pasture (E100°28′/N38°03′, 3032.8), Daban, A'rou. The experimental area, situated in the valley highland of south Babaohe river, an upper stream branch of Heihe river, with a flat and open terrain slightly sloping from southeast to southeast and hills and mountains stretching for 3km is ideal for a horizontal homogeneous underlying surface.   
 Observation items included multilayer (2m and 10m) of the wind speed, the air temperature and air humidity, the air pressure, precipitation, four components of radiation, the multilayer soil temperature (10cm, 20cm, 40cm, 80cm, 120cm and 160cm), soil moisture (10cm, 20cm, 40cm, 80cm, 120cm and 160cm), and soil heat flux (5cm & 15cm).   
 The raw data were level0 and the data after basic processes were level1, in which ambiguous ones were marked; the data after strict quality control were defined as Level2. The data files were named as follows: station+datalevel+AMS+datadate. Level2 or above were strongly recommended to domestic users. As for detailed information, please refer to Meteorological and Hydrological Flux Data Guide.

2、Keywords

Theme：Soil,Precipitation,Radiation,Temperature,Winds,Visibility,Soil temperature,Wind direction,Soil moisture/Water content,Air temperature,Pressure,Soil heat flux  
Discipline：Atmosphere,Terrestrial Surface  
Places：Heihe River Basin, the cold region hydrology experimental area in the upper reaches, A'rou flight zone,   
Time：2007-2015

3、Data details

1.Scale：None

2.Projection：4326

3.Filesize：45.8MB

4.Data format：

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：38.04 | - |
| west：100.46 | - | east：100.46 |
| - | south：38.04 | - |

5、Time frame:2007-08-13 08:00:00+00:00--2015-05-16 08:00:00+00:00

6、Reference method

References to data:

TAN Junlei. WATER: Dataset of automatic meteorological observations at the A'rou freeze/thaw observation station (2007-2015). A Big Earth Data Platform for Three Poles, doi:10.3972/water973.0279.db2015

References to articles:

Li, X., Li, X.W., Li, Z.Y., Ma, M.G., Wang, J., Xiao, Q., Liu, Q., Che, T., Chen, E.X., Yan, G.J., Hu, Z.Y., Zhang, L.X., Chu, R.Z., Su, P.X., Liu, Q.H., Liu, S.M., Wang, J.D., Niu, Z., Chen, Y., Jin, R., Wang, W.Z., Ran, Y.H., Xin, X.Z., Ren, H.Z. (2009). Watershed Allied Telemetry Experimental Research. Journal of Geophysical Research, 114(D22103), doi:10.1029/2008JD011590.  
  
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

The CAS (Chinese Academy of Sciences) Action Plan for West Development Project  
National Program on Key Basic Research Project (973 Program

8、Data resource provider

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