A Big Earth Data Platform for Three Poles

**WATER: Dataset of eddy covariance observations at the Dayekou Guantan forest station**

1、Description

The dataset of eddy covariance observations was obtained at the Dayekou Guantan forest station (E100°15′/N38°32′, 2835m), south of Zhangye city, Gansu province, from Dec. 27, 2007 to Dec. 31, 2009. Guantan forest station was dominated by the spruce 15-20m high and the surface was covered by moss 10cm deep. All the vegetation was in good condition.  
 The original observation items included the latitudinal wind speed Ux (m/s), the latitudinal wind speed Uy (m/s), the longitudinal wind speed Uz (m/s), the ultrasonic temperature Ts (°C), co2 consistency (mg/m^3), h2o consistency (g/m^3), air pressure (KPa) and the abnormal ultrasonic signal (diag\_csat). The instrument mount-height was 20.02m, the ultrasound direction was at an azimuth angle of 74°, the distance between Li7500 and CSAT3 was 30cm and sampling frequency was 10HZ.  
 The dataset was distributed at three levels: Level0 were the raw data acquired by instruments; Level1, including the sensible heat flux (Hs), the latent heat flux (LE\_wpl), and co2 flux (Fc\_wpl), were real-time eddy covariance output data and stored in .csv month by month; Level2 were processed data in a 30-minute cycle after outliers elimination, coordinates rotation, frequency response correction, WPL correction and initial quality control. The data were named as follows: station name +data level+data acquisition date. As for detailed information, please refer to Meteorological and Hydrological Flux Data Guide and Eddy Covariance Observation Manual.

2、Keywords

Theme：Latent heat flux,Radiation,Greenhouse Gases,Carbon dioxide flux  
Discipline：Atmosphere  
Places：Heihe River Basin, Dayekou watershed foci experimental areas, Forest and Hydrology Experimental Areas,   
Time：

3、Data details

1.Scale：None

2.Projection：4326

3.Filesize：47.7MB

4.Data format：

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：38.53 | - |
| west：100.25 | - | east：100.25 |
| - | south：38.53 | - |

5、Time frame:2008-07-10 08:00:00+00:00--2012-10-13 08:00:00+00:00

6、Reference method

References to data:

TAN Junlei. WATER: Dataset of eddy covariance observations at the Dayekou Guantan forest station. A Big Earth Data Platform for Three Poles, doi:10.3972/water973.0294.db2015

References to articles:

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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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