A Big Earth Data Platform for Three Poles

**HiWATER: WATERNET observation dataset in the middle reaches of the Heihe River Basin (2014)**

1、Description

This data set includes the 2014 observation data of 9 water net nodes in the 5.5km × 5.5km observation matrix (red box in the thumbnail) of Yingke / Daman irrigation area in the middle reaches of Heihe River. The nine nodes contain 4cm and 10cm two-layer hydro probe II probes to observe the main variables such as soil moisture, soil temperature, conductivity and complex permittivity; the si-111 infrared temperature probe is set up at 4m height to observe the surface radiation infrared temperature of the underlying surface. The observation time frequency is 5 minutes. This data set can provide spatiotemporal continuous observation data set for remote sensing estimation of key water and heat variables of heterogeneous surface, remote sensing authenticity test, ecological hydrology research, irrigation optimization management and other research.   
Please refer to "2014 middle reaches of Heihe River waternet data document 20141231. Docx" for details

2、Keywords

Theme：Soil,Surface radiation temperature,Soil salinity,Earth SurFace Processes,Soil temperature,Soil moisture/Water content  
Discipline：Terrestrial Surface  
Places：Heihe River Basin, the artificial oasis experimental area in the middle reaches, flux observation matrix  
Time：2014

3、Data details

1.Scale：None

2.Projection：4326

3.Filesize：58.0MB

4.Data format：文本

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：38.9055 | - |
| west：100.3215 | - | east：100.4097 |
| - | south：38.8369 | - |

5、Time frame:2014-05-09 16:00:00+00:00--2014-10-27 16:00:00+00:00

6、Reference method

References to data:

MA Mingguo, LI Xin, KANG Jian. HiWATER: WATERNET observation dataset in the middle reaches of the Heihe River Basin (2014). A Big Earth Data Platform for Three Poles, doi:10.11888/Soil.tpdc.2708942015

References to articles:

Rui Jin, Xin Li, Baoping Yan, Xiuhong Li, Wanmin Luo, Minguo Ma, Jianwen Guo, Jian Kang, Zhongli Zhu. 2014. A Nested Eco-hydrological Wireless Sensor Network for Capturing Surface Heterogeneity in the Middle-reach of Heihe River Basin, China. IEEE Geoscience and Remote Sensing Letters, 11(11):2015-2019, DOI:10.1109/LGRS.2014.2319085  
  
Li, X., Liu, S.M., Xiao, Q., Ma, M.G., Jin, R., Che, T., Wang, W.Z., Hu, X.L., Xu, Z.W., Wen, J.G., Wang, L.X. (2017). A multiscale dataset for understanding complex eco-hydrological processes in a heterogeneous oasis system. Scientific Data, 4, 170083. doi:10.1038/sdata.2017.83.  
  
Rui Jin, Xin Li, Baoping Yan, Xiuhong Li, Wanmin Luo, Minguo Ma, Jianwen Guo, Jian Kang, Zhongli Zhu. 2014. A Nested Eco-hydrological Wireless Sensor Network for Capturing Surface Heterogeneity in the Middle-reach of Heihe River Basin, China. IEEE Geoscience and Remote Sensing Letters, 11(11): 2015-2019, DOI:10.1109/LGRS.2014.2319085

7、Supporting project information

Heihe Watershed Allied Telemetry Experimental Research (HiWATER)  
National High-tech R&D Program of China (863 Program)  
National Development and Reform Commission Project

8、Data resource provider

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