A Big Earth Data Platform for Three Poles

**HiWATER: WATERNET observation dataset in 2015 in the midstream of the Heihe River Basin**

1、Description

This data set includes the 2015 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.

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：2015

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:2015-04-14 00:00:00+00:00--2015-10-25 00:00:00+00:00

6、Reference method

References to data:

MA Mingguo, LI Xin, KANG Jian. HiWATER: WATERNET observation dataset in 2015 in the midstream of the Heihe River Basin. A Big Earth Data Platform for Three Poles, doi:10.3972/hiwater.223.2015.db2016

References to articles:

1、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； 2、Kang, J.; Li, X.; Jin, R., et al. Hybrid optimal design of the eco-hydrological wireless sensor network in the middle reach of the Heihe River Basin, China. Sensors, 2014, 14(10): 19095-19114

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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.

7、Supporting project information

8、Data resource provider

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