A Big Earth Data Platform for Three Poles

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

1、Description

This dataset include soil moisture and soil temperature observations of 50 SoilNET Nodes during June 2012~March 2013 (UTC+8), which located in a MODIS pixel in the observation matrix of the HiWATER artificial oasis eco-hydrology experimental area, and aim to capture the spatial-temporal variance at the ~100 m scale. Each SoilNET node observe the soil moisture and soil temperature at 4 cm, 10 cm, 20 cm and 40 cm depth using the SPADE sensor with 10 minutes interval. This dataset can be used in the estimation of surface hydrothermal variables and their validation, eco-hydrological research, irrigation management and so on.   
The detail description please refers to "SoilNET\_data\_document.docx".

2、Keywords

Theme：Soil,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：2012, 2012-06-22 to 2013-03-16

3、Data details

1.Scale：None

2.Projection：4326

3.Filesize：240.0MB

4.Data format：文本

4、Space scope

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

5、Time frame:2012-07-08 17:18:00+00:00--2013-04-01 00:00:00+00:00

6、Reference method

References to data:

MA Mingguo, LI Xin, Dong Cunhui, Li Dazhi. HiWATER: SoilNET observation dataset in the midstream of the Heihe River Basin. A Big Earth Data Platform for Three Poles, doi:10.3972/hiwater.120.2013.db2014

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), DOI:10.1109/LGRS.2014.2319085  
  
Jin, R., Li, X., Yan, B.P., Li, X.H., Luo, W.M., Ma, M.G., Guo, J.W., Kang, J., Zhu, Z.L. (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  
  
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.  
  
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

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

8、Data resource provider

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