A Big Earth Data Platform for Three Poles

**HiWATER: Dataset of soil respiration observed in the middle reaches of the Heihe River Basin**

1、Description

Soil respiration rate was measured at the super station of Daman irrigation district in Zhangye city using the open circuit soil carbon flux measurement system LI-8100 (LI-COR, Lincoln, NE, USA)   
  
1) Objective:  
The aim of soil respiration rate measurement is to explore the diurnal variation characteristics of soil respiration rate and to provide a scientific basis for the assessment of farmland ecosystem carbon cycle and carbon balance.  
2) Measurement instruments and ways  
Measurement instruments: the open type of cold dry soil carbon flux measurement system LI-8100 (LI-COR, Lincoln, NE, USA).  
Measurement means: soil respiration chamber was placed in PVC ring (10 cm of diameter, 5 cm of height), which was inserted into the soil about 1 to 2 cm 1 d before measurement. The observation is automatic with a power supply of solar panels.  
3) Measurement time  
Soil respiration rate was continuously measured mainly in the corn growing season. The time used in this dataset is in UTC+8 Time.   
4) Data processing  
The data was periodically collected from the data collection instrument and saved as \*.81x file, then was converted to text format file using LI-8100 (M) PC Client v2.0.0 software.

2、Keywords

Theme：Soil,Soil respiration  
Discipline：Terrestrial Surface  
Places：Heihe River Basin, the artificial oasis experimental area in the middle reaches, Daman Superstation,   
Time：2012-09-15, 2012, 2012-06-19

3、Data details

1.Scale：None

2.Projection：4326

3.Filesize：108.0MB

4.Data format：文本

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：38.95 | - |
| west：100.35 | - | east：100.7 |
| - | south：38.77 | - |

5、Time frame:2018-11-27 02:48:48+00:00--2018-11-27 02:48:48+00:00

6、Reference method

References to data:

MA Mingguo, LI Xin. HiWATER: Dataset of soil respiration observed in the middle reaches of the Heihe River Basin. A Big Earth Data Platform for Three Poles, doi:10.3972/hiwater.126.2013.db2017

References to articles:

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)  
The CAS (Chinese Academy of Sciences) Action Plan for West Development Project

8、Data resource provider

name: MA Mingguo  
unit: Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences  
email: mmg@lzb.ac.cn  
  
name: LI Xin  
unit:   
email: xinli@itpcas.ac.cn