A Big Earth Data Platform for Three Poles

**The data of photosynthetic organ level gas exchange measurements of desert plants (2011)**

1、Description

In the middle of July, 2011, 1. Elaeagnus angustifolia, 2. Blister.   
Using Li-6400 portable photosynthesis system (li-cor, USA) and li-3100 leaf area meter, the photosynthetic physiological characteristics of desert plants were observed.   
The symbols in the observation data have the following meanings:  
Obs, number of observations;Photo, net photosynthetic rate, moles of CO2 times m minus 2 times s minus 1;  
Cond, stomatal conductance, mol H2O•m -- 2•s -- 1;Ci, intercellular CO2 concentration, moles of CO2 times mol-1;  
Trmmol, transpiration rate, mmol H2O•m -- 2•s -- 1;Vpdl, water vapor pressure deficit, kPa;  
Area, leaf Area, cm2;Tair, atmospheric temperature, ℃;  
Tleaf, leaf surface temperature, ℃;CO2R, CO2 concentration in the reference chamber, moles of CO2•mol-1;  
CO2S, sample chamber CO2 concentration, moles of CO2•mol-1;H2OR, water in the reference chamber, mmol H2O•mol-1;  
H2OS, sample chamber moisture, mmol H2O•mol-1;PARo, photon flux density, mole •m -- 2•s -- 1;  
Rh-r, reference room air relative humidity, %;Rh-s, relative humidity of air in sample room, %;  
PARi, photosynthetic effective radiation, moles •m -- 2•s -- 1;Press, atmospheric pressure, kPa;  
Others are the state parameters of the instrument at the time of measurement.

2、Keywords

Theme：Photosynthesis,Vegetation,Desert plants  
Discipline：Terrestrial Surface  
Places：Heihe River Basin, Middle and Lower Reaches  
Time：2011

3、Data details

1.Scale：1

2.Projection：4326

3.Filesize：5.0MB

4.Data format：EXCEL

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：42.1147 | - |
| west：99.7528 | - | east：101.2831 |
| - | south：38.7069 | - |

5、Time frame:2011-07-13 10:47:18+00:00--2011-08-13 10:47:18+00:00

6、Reference method

References to data:

SU Peixi. The data of photosynthetic organ level gas exchange measurements of desert plants (2011). A Big Earth Data Platform for Three Poles, doi:10.3972/heihe.082.2013.db2013

References to articles:

高松, 苏培玺, 严巧娣. 荒漠植物梭梭群体和叶片水平气体交换对不同土壤水分的响应[J]. 中国科学:生命科学. 2011(03): 226-237

7、Supporting project information

Water use efficiency and related regulation mechanisms of desert vegetation in different scales

8、Data resource provider

name: SU Peixi  
unit: Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences  
email: supx@lzb.ac.cn