A Big Earth Data Platform for Three Poles

**Ecosystem productivity data of Qinghai Tibet Plateau under CO2 enrichment scenario during 2018-2019**

1、Description

The feedback of the biosphere to the atmosphere is one of the core contents of global change research. When the atmospheric CO2 concentration rises, the behavior of the terrestrial ecosystem is the main uncertainty factor to predict this feedback effect. Elevated CO2 concentration (eCO2) can directly stimulate plant growth and ecosystem C absorption by increasing carboxylation and inhibiting photorespiration rate. Through the impact of CO2 fertilization effect (CFE) on photosynthesis and carbon sequestration, the terrestrial ecosystem can buffer the surge of atmospheric CO2 concentration, thereby slowing down climate change. In order to study the impact of CO2 enrichment on vegetation productivity, CO2 enrichment experiments were conducted at Naqu Grassland Station (31 ° 38 ′ 31 ″ N, 92 ° 00 ′ 54 ″ E, 4600m above sea level) in the north of the Qinghai Tibet Plateau. The test is designed in zones, with CO2 as the main treatment factor and N as the secondary treatment factor; A total of four experimental treatments span two CO2 concentration levels [ambient CO2 (aCO2), increased CO2 (eCO2):+100ppm]. Considering the low vegetation height and windy weather in the study area, octagonal open top chambers (OTCs) are used to control the carbon dioxide concentration, rather than the free FACE system. The design height of OTC is 2.5 meters, the length of each side is 1.5 meters, and each OTC occupies 7.7 square meters.

2、Keywords

Theme：Photosynthesis,Vegetation,Carbon cycle,Carbon flux
Discipline：Terrestrial Surface
Places：Nagqu
Time：2018-2019

3、Data details

1.Scale：None

2.Projection：

3.Filesize：0.03MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：31.64 | - |
| west：92.01 | - | east：92.01 |
| - | south：31.64 | - |

5、Time frame:None--None

6、Reference method

References to data:

ZHANG Yangjian. Ecosystem productivity data of Qinghai Tibet Plateau under CO2 enrichment scenario during 2018-2019. A Big Earth Data Platform for Three Poles, doi:10.11888/Terre.tpdc.2728662022

References to articles:

7、Supporting project information

CASEarth:Big Earth Data for Three Poles（grant No. XDA19070000）

8、Data resource provider

name: ZHANG Yangjian
unit: Institute of Geographic Sciences and Natural Resources Research, CAS
email: zhangyj@igsnrr.ac.cn