时空三极环境大数据平台

**Global Gross Primary Production (GPP) data by Vegetation Photosynthesis Model**

英文标题：Global Gross Primary Production (GPP) data by Vegetation Photosynthesis Model

1、摘要

Accurate estimation of the gross primary production (GPP) of terrestrial vegetation is vital for understanding the global carbon cycle and predicting future climate change. Multiple GPP products are currently available based on different methods, but their performances vary substantially when validated against GPP estimates from eddy covariance data. This paper provides a new GPP dataset at moderate spatial (500 m) and temporal (8-day) resolutions over the entire globe for 2000–2016. This GPP dataset is based on an improved light use efficiency theory and is driven by satellite data from MODIS and climate data from NCEP Reanalysis II. It also employs a state-of-the-art vegetation index (VI) gap-filling and smoothing algorithm and a separate treatment for C3/C4 photosynthesis pathways. All these improvements aim to solve several critical problems existing in current GPP products. With a satisfactory performance when validated against in situ GPP estimates, this dataset offers an alternative GPP estimate for regional to global carbon cycle studies.

2、关键词

主题关键词：人地遥感,植被,地表过程,碳通量,社会经济,全球初级生产总值,总初级生产力,MODIS(MOD17),总初级生产力,陆地表层遥感
学科关键词：陆地表层,人地关系
地点关键词：global
时间关键词：2000-2019, 8day, monthly

3、数据细节

1.比例尺：None

2.投影：None

3.文件大小：9500.0MB

4.数据格式：None

4、空间范围

|  |  |  |
| --- | --- | --- |
| - | 北：90.0 | - |
| 西：-180.0 | - | 东：180.0 |
| - | 南：-90.0 | - |

5、时间范围2000-02-29 16:00:00+00:00--2019-12-30 16:00:00+00:00

6、引用方式

数据的引用:

张尧. Global Gross Primary Production (GPP) data by Vegetation Photosynthesis Model. 时空三极环境大数据平台, DOI:10.6084/m9.figshare.c.3789814.v1, CSTR:, 2021.[ZHANG Yao. . A Big Earth Data Platform for Three Poles, DOI:10.6084/m9.figshare.c.3789814.v1, CSTR:, 2021]

文章的引用:

Zhang, Y., Xiao, X., Wu, X., Zhou, S., Zhang, G., Qin, Y., & Dong, J. (2015) A global moderate resolution dataset of gross primary production of vegetation for 2000–2016, Scientific Data, 4:170165

7、资助项目信息

8、数据资源提供者

姓名: 张尧
单位: Peking University
电子邮件: zhangyao@pku.edu.cn