Upper Yangtze River Scientific Data Center

**Data set of 0.05 ° continuous sunlight induced chlorophyll fluorescence (CSIF) in the upper reaches of the Yangtze River, China (2000-2020)**

1、Description

The sun induced chlorophyll fluorescence (SIF) retrieved by satellite shows great potential for monitoring the photosynthetic activity of terrestrial ecosystems. However, some problems, including the low spatial and temporal resolution of the grid dataset and the high uncertainty of single retrieval, limit the application of SIF. In addition, the inconsistency of the measured footprints also hinders the direct comparison between the total primary production (GPP) of the eddy covariance (EC) magnetic flux tower and the SIF retrieved by satellite. This data set is a global space continuous SIF data set generated by training the neural network (NN) with medium resolution imaging spectrometer surface reflectance and the surface reflectance factor of orbital carbon observatory 2 (OCO-2). The clear sky instantaneous CSIF (CSIF clear inst) shows a high accuracy for the clear sky OCO-2 SIF, and has a small deviation for the biota type. Continuous SIF data sets and derived GPP-SIF relationships can better understand the spatial and temporal changes of GPP in biological communities and climate. This dataset is a 4-day time resolution sunlight induced chlorophyll fluorescence dataset in the upper reaches of the Yangtze River in China.

2、Keywords

Theme：SIF,Terrestrial Surface Remote Sensing
Discipline：Terrestrial Surface
Places：1
Time：2000-2020

3、Data details

1.Scale：None

2.Projection：

3.Filesize：707.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：36.5 | - |
| west：89.0 | - | east：112.0 |
| - | south：24.0 | - |

5、Time frame:None--None

6、Reference method

References to data:

ZHANG Yao . Data set of 0.05 ° continuous sunlight induced chlorophyll fluorescence (CSIF) in the upper reaches of the Yangtze River, China (2000-2020). Upper Yangtze River Scientific Data Center, doi:https://doi.org/10.5194/bg-15-5779-20182022

References to articles:

7、Supporting project information

8、Data resource provider

name: ZHANG Yao
unit: Department of Earth and Environmental Engineering, Columbia University
email: zy2309@columbia.edu