A Big Earth Data Platform for Three Poles

**Dataset of measured aboveground plant biomass and remote sensing net primary productivity in desert sites on theTibet Plateau (2000-2020)**

1、Description

A total of 52 sample sites were selected in the desert belts of Qinghai and Tibet for field sampling of aboveground biomass of vegetation during the vegetation growing season in 2019 and 2020. At the same time, the longitude, latitude and altitude of the experimental site were recorded using handheld GPS devices. The field setting method of the quadrate is as follows: select a section with uniform vegetation. When the vegetation is relatively abundant, the quadrate is set as a 10 m x10 m square plot, and when the vegetation is relatively sparse, the quadrate is set as a 30 m x30 m square plot or a 30 m x90 m rectangular plot. 3-5 small sample boxes (1m x 1m) were randomly thrown into the set sample plot to determine the specific location of the sample. Collect plant samples by sample harvesting method: register plant species, number of plants of each species and other information in sample area of 1 square meter. All kinds of plants in the quadrate were planted and mowed on the ground, and the collected herbaceous plant samples were placed in archives and marked with species, sample site name and number, collection time and other information. They were brought back to the laboratory and dried to a constant weight in a constant temperature drying oven at 65 ℃. The dry weight of the plant samples was measured. Finally, the aboveground biomass of the vegetation was calculated. In addition, two kinds of remote sensing net primary productivity (NPP) data of the 52 sample points were extracted by the longitude and latitude of the sampling points. (1) Enhanced Vegetation Index (EVI) from 2000 to 2018, and calculated the annual Integrated Enhanced Vegetation Index (IEVI). IEVI was highly correlated with net primary productivity (NPP). Can be used as a proxy indicator of net primary productivity (He et al. 2021, Science of The Total Environment). (2) Percentage of remote sensing net primary productivity (NPP) and its quality control (QC) in 2001-2020, NPP remote sensing data from MOD17A3HGF Version 6 product (https://lpdaac.usgs.gov/products/mod17a3hgfv006/), the net photosynthetic value (the total primary productivity - keep breathing) is calculated. In the sample sites with low vegetation coverage, there may be null value (NA) of remote sensing net primary productivity.

2、Keywords

Theme：Desert,Vegetation
Discipline：Terrestrial Surface
Places：Qinghai Tibet Plateau
Time：2000-2020

3、Data details

1.Scale：None

2.Projection：WGS84

3.Filesize：0.25MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：38.47 | - |
| west：83.71 | - | east：101.44 |
| - | south：31.42 | - |

5、Time frame:1999-12-31 16:00:00+00:00--2020-12-30 16:00:00+00:00

6、Reference method

References to data:

YE Jiansheng. Dataset of measured aboveground plant biomass and remote sensing net primary productivity in desert sites on theTibet Plateau (2000-2020). A Big Earth Data Platform for Three Poles, 2021

References to articles:

He, L., Li, Z. L., Wang, X., Xie, Y., & Ye, J. S. (2021). Lagged precipitation effect on plant productivity is influenced collectively by climate and edaphic factors in drylands. Science of The Total Environment, 755, 142506.

7、Supporting project information

Second Tibetan Plateau Scientific Expedition Program

8、Data resource provider

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