A Big Earth Data Platform for Three Poles

**Data set of 1 km resolution vegetation net primary productivity on the Qinghai Tibet Plateau (2000-2018)**

1、Description

As the basis of ecosystem material and energy cycle, net primary productivity (NPP) of vegetation can reflect the carbon sequestration capacity of vegetation at regional and global scales. It is an important indicator to evaluate the quality of terrestrial ecosystem. Aiming at the production of net primary productivity products of vegetation, based on the principle of light energy utilization model and coupling remote sensing, meteorological, vegetation and soil type data, the modeling of ecosystem productivity in national barrier area was studied. In terms of parameter selection, the photosynthetic effective radiation (APAR) is calculated from the spot/veg etation NDVI satellite remote sensing data, China's vegetation map, total solar radiation and temperature data; Compared with the soil water molecular model, the regional evapotranspiration model can simplify the parameters and enhance the operability of the model. Taking photosynthetic effective radiation and actual light energy utilization as input variables of CASA (Carnegie Ames Stanford approach) model, the net primary productivity of land vegetation on the Qinghai Tibet Plateau with a resolution of 1km from 2000 to 2018 was estimated based on the parametric model.

2、Keywords

Theme：Gross primary productivity(NPP),Terrestrial Surface Remote Sensing
Discipline：Terrestrial Surface
Places：Qinghai-Tibet Plateau
Time：2000-2018

3、Data details

1.Scale：None

2.Projection：Albers

3.Filesize：101.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：39.78 | - |
| west：73.48 | - | east：104.63 |
| - | south：25.99 | - |

5、Time frame:None--None

6、Reference method

References to data:

WANG Xiaofeng. Data set of 1 km resolution vegetation net primary productivity on the Qinghai Tibet Plateau (2000-2018). A Big Earth Data Platform for Three Poles, doi:10.11888/Terre.tpdc.2723082022

References to articles:

张镱锂, 祁威, 周才平, 丁明军, 刘林山, 高俊刚, 摆万奇, 王兆锋, 郑度. (2013). 青藏高原高寒草地净初级生产力(NPP)时空分异. 地理学报, 68(9), 1197-1211.

Zheng, Z.T., Zhu, W.Q., & Zhang, Y.J. (2020). Seasonally and spatially varied controls of climatic factors on net primary productivity in alpine grasslands on the Tibetan Plateau. Global Ecology and Conservation, 21, e00814.

Field, C.B. (1998). Primary Production of the Biosphere: Integrating Terrestrial and Oceanic Components. Science, 281(5374), 237-240.

7、Supporting project information

Pan-Third Pole Environment Study for a Green Silk Road-A CAS Strategic Priority A Program

8、Data resource provider

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