A Big Earth Data Platform for Three Poles

**Long time series ecological function map of Qinghai Tibet Plateau (1990-2020)**

1、Description

1) Data content: the modified universal soil and water loss equation (RUSLE) is used to estimate the soil water erosion modulus at the plot scale. The soil conservation is used to measure the ability of the ecosystem to reduce soil erosion caused by precipitation, and to characterize the amount of water erosion reduction caused by vegetation, that is, the difference between the amount of soil water erosion under actual surface coverage and extreme degradation. Based on the above process, a 30-year (every five years from 1990 to 2020) ecological function map of the Qinghai Tibet Plateau is made, including two parts of water conservation and soil conservation data sets.  
2) Data source and processing method: Based on ecosystem type data, MODIS NDVI products, 1:1 million soil attribute data, meteorological interpolation and elevation data, the atlas uses the precipitation storage method to estimate the water conservation of forest and grassland ecosystems, and measures its water conservation capacity by the hydrological regulation effect of ecosystem, that is, the increment of water conservation compared with bare land.  
3) Data quality: the data has a temporal resolution of 5 years and a spatial resolution of 1000m, which can meet the needs of high-precision Ecosystem Assessment on the Qinghai Tibet Plateau.  
4) Data application achievements and prospects: the statistical results show that in recent 30 years, the spatial distribution of water conservation work energy on the Qinghai Tibet Plateau has shown an overall distribution pattern of high in the southeast and low in the northwest, and gradually decreasing from the southeast to the northwest. The overall amount of soil conservation showed an increasing trend in fluctuation, and the amount of soil conservation function showed a decreasing trend in most areas of the West and south, of which the decreasing trend was obvious in the South and the increasing trend in the East.

2、Keywords

Theme：Water conservation,Terrestrial Surface Remote Sensing,Soil conservation  
Discipline：Terrestrial Surface  
Places：Tibetan Plateau  
Time：1990-2020

3、Data details

1.Scale：100000

2.Projection：Albers

3.Filesize：298.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：40.0 | - |
| west：73.0 | - | east：105.0 |
| - | south：24.0 | - |

5、Time frame:1989-12-31 16:00:00+00:00--2020-12-30 16:00:00+00:00

6、Reference method

References to data:

CAO Wei, HUANG Lin. Long time series ecological function map of Qinghai Tibet Plateau (1990-2020). A Big Earth Data Platform for Three Poles, doi:10.11888/Terre.tpdc.2718992021

References to articles:

7、Supporting project information

Second Tibetan Plateau Scientific Expedition Program

8、Data resource provider

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