A Big Earth Data Platform for Three Poles

**QTP-NDVI30: High spatiotemporal resolution (30-m and 8-d) NDVI time-series data during 2000-2020 for the Qinghai-Tibetan Plateau**

1、Description

Normalized Difference Vegetation Index (NDVI) has been widely used for monitoring vegetation. This dataset employed all available Landsat 5/7/8 data on the Qinghai-Tibetan Plateau (QTP) (> 100,000 scenes), and reconstructed high spatiotemporal NDVI time-series data (30-m and 8-d) during 2000-2020 on the TP (QTP-NDVI30) by using the MODIS-Landsat fusion algorithm (gap filling and Savitzky–Golay filtering；GF-SG). For the details of GF-SG, please refer to Chen et al. (2021).
This dataset has been evaluated carefully. The quantitative assessments show that the reconstructed NDVI images have an average MAE value of 0.02, correlation coefficient of 0.96, and SSIM value of 0.94. We compared the reconstructed images in some typical areas with the PlanetScope 3-m images and found that the spatial details were well preserved by QTP-NDVI30.
The geographic coordinate system of this dataset is GCS\_WGS\_84. The spatial range covers the vegetation area of the QTP, which is defined as the areas with average NDVI during July- September larger than 0.15.

2、Keywords

Theme：Grassland ecosystem,Remote Sensing Product,Vegetation,NDVI,Earth SurFace Processes,vegetation coverage,Land Surface Parameter,Drainage Basin and River System,Remote Sensing Technology,alpine lake,fusion,phenology,Landslide,erosion,Grassland
Discipline：Terrestrial Surface,Remote Sensing Technology
Places：The Qinghai-Tibet Plateau
Time：2000-2020

3、Data details

1.Scale：None

2.Projection：

3.Filesize：12331489.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：40.66 | - |
| west：73.49 | - | east：105.63 |
| - | south：24.66 | - |

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:

SHEN Miaogen , CHEN Yang , CHEN Jin , CAO Ruyin , XU Zichao . QTP-NDVI30: High spatiotemporal resolution (30-m and 8-d) NDVI time-series data during 2000-2020 for the Qinghai-Tibetan Plateau. A Big Earth Data Platform for Three Poles, doi:10.11888/Terre.tpdc.2726812022

References to articles:

Chen, Y., Cao, R., Chen, J., Liu, L., & Matsushita, B. (2021). A practical approach to reconstruct high-quality Landsat NDVI time-series data by gap filling and the Savitzky–Golay filter. ISPRS journal of Photogrammetry and Remote Sensing, 180, 174-190.

Cao, R., Xu, Z., Chen, Y., Chen, J., Shen, M., 2022. Reconstructing High-Spatiotemporal-Resolution (30 m and 8-Days) NDVI Time-Series Data for the Qinghai–Tibetan Plateau from 2000–2020. Remote Sensing, 14, 3648. https://doi.org/10.3390/rs14153648.

7、Supporting project information

Second Tibetan Plateau Scientific Expedition Program

8、Data resource provider

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