A Big Earth Data Platform for Three Poles

**Long time series night time light remote sensing dataset for the Sahel-Sudano-Guinean region of Africa (1992-2020)**

1、Description

This data set includes year-by-year nighttime light annual images (totally 28 images) in Northern Equatorial Africa and Sahel from 1992 to 2020. By establishing the calibration relationship by fitting the median NPP-VIIRS nighttime light radiance and the DMSP-OLS nighttime light DN values, the DMSP-OLS nighttime light stable data from 1992 to 2013 were calibrated, and the synthesized DMSP-OLS data after 2013 are generated based on NPP-VIIRS nighttime light data. The spatial resolution is 0.00833 ° (about 1km); Raster data type is GeoTIFF. The grid pixel value is radiance with unit 10 − 9 w ∙ cm − 2 ∙ sr − 1. This data set can be used for the study on human activities in Northern Equatorial Africa and Sahel, such as the analysis of temporal and spatial changes of human activities.

2、Keywords

Theme：Night light,Human-nature Remote Sensing,Human activity,DMSP-OLS
Discipline：Human-nature Relationship
Places：North African and the Sahel Region
Time：1992-2020

3、Data details

1.Scale：None

2.Projection：WGS84

3.Filesize：117.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：20.0 | - |
| west：-20.0 | - | east：50.0 |
| - | south：0.0 | - |

5、Time frame:None--None

6、Reference method

References to data:

JIANG Min , JIA Li , YUAN Xiaotian . Long time series night time light remote sensing dataset for the Sahel-Sudano-Guinean region of Africa (1992-2020). A Big Earth Data Platform for Three Poles, doi:10.11888/HumanNat.tpdc.2720192022

References to articles:

Yuan, X.T., Jia, L., Menenti, M., Jiang, M. (2022). Constructing Nighttime Light Time Series in 1992 - 2019 for the Northern Equatorial Africa and Sahel Region by Merging DMSP-OLS and NPP-VIIRS Data. Big Earth Data. DOI:10.1080/20964471.2022.2031542

7、Supporting project information

Driving Mechanisms of Land Use and Cover Change in the Sahel: Impacts and Responses

8、Data resource provider

name: JIA Li
unit: Aerospace Information Research Institute, Chinese Academy of Sciences
email: jiali@aircas.ac.cn

name: YUAN Xiaotian
unit: Aerospace Information Research Institute, Chinese Academy of Sciences
email: yuanxt@radi.ac.cn

name: JIANG Min
unit: Aerospace Information Research Institute, Chinese Academy of Sciences
email: jiangmin@aircas.ac.cn