A Big Earth Data Platform for Three Poles

**Aerosol optical depth in the polar regions in 2000-2020**

1、Description

The 0.1 º aerosol optical thickness dataset (also known as the "Poles AOD Collection 1.0" aerosol optical thickness (AOD) dataset) in the polar regions from 2000 to 2020 was produced by combining Merra-2 mode data and MODIS satellite sensor AOD. The data covers the period from 2000 to 2020, with a daily time resolution, covering the "tri polar" (Antarctic, Arctic and Qinghai Tibet Plateau) region, and a spatial resolution of 0.1 degree. The verification of the measured stations shows that the relative deviation of the data is within 35%, which can effectively improve the coverage and accuracy of AOD in the polar region.

2、Keywords

Theme：Atmospheric remote sensing products,Aerosol,Aerosol optical depth/Thickness,Atmosphere Remote Sensing  
Discipline：Atmosphere  
Places：Antarctic, Qinghai-Tibet Plateau, Arctic  
Time：20 years, year 2000, Year 2020

3、Data details

1.Scale：None

2.Projection：WGS84

3.Filesize：15000.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：90.0 | - |
| west：-180.0 | - | east：180.0 |
| - | south：-90.0 | - |

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:

GUANG Jie , GUANG Jie. Aerosol optical depth in the polar regions in 2000-2020. A Big Earth Data Platform for Three Poles, doi:10.11888/Atmos.tpdc.2728472022

References to articles:

Zheng, S., et al. (2019). Aerosol Optical Depth over the Arctic Snow-Covered Regions Derived from Dual-Viewing Satellite Observations. Remote Sens, 11(8), 891. https://doi.org/10.3390/rs11080891

7、Supporting project information

CASEarth:Big Earth Data for Three Poles（grant No. XDA19070000）

8、Data resource provider

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