A Big Earth Data Platform for Three Poles

**Aerosol datasets over the Tibetan Plateau (2006-2019)**

1、Description

There are two types of aerosol data in the Tibetan Plateau.
Aerosol type data products are the results of aerosol type data fusion by using Meera 2 assimilation data and active satellite CALIPSO products through a series of data preprocessing, quality control, statistical analysis and comparative analysis. The key of the algorithm is to judge the CALIPSO aerosol type. According to CALIPSO aerosol types and quality control, and referring to merra 2 aerosol types, the final aerosol type data (12 kinds) and quality control results were obtained. Considering the vertical and spatial distribution of aerosols, it has high spatial resolution (0.625 ° × 0.5 °) and temporal resolution (month).
Aerosol optical depth (AOD) is a visible band remote sensing inversion method developed by ourselves, combined with merra-2 model data and NASA's official product mod04. The data coverage time is from 2000 to 2019, with daily temporal resolution and spatial resolution of 0.1 degree. The retrieval method mainly uses the self-developed APRs algorithm to retrieve the aerosol optical depth over the ice and snow. The algorithm takes into account the BRDF characteristics of the ice and snow surface, and is suitable for the inversion of aerosol optical thickness on the ice and snow. The results show that the relative deviation of the data is less than 35%, which can effectively improve the coverage and accuracy of the polar AOD.

2、Keywords

Theme：Aerosol,Aerosol optical depth/Thickness
Discipline：Atmosphere
Places：Qinghai-Tibet Plateau
Time：2006-2019

3、Data details

1.Scale：None

2.Projection：

3.Filesize：273.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：29.0 | - |
| west：100.0 | - | east：78.0 |
| - | south：40.0 | - |

5、Time frame:2006-01-13 08:00:00+00:00--2020-01-12 08:00:00+00:00

6、Reference method

References to data:

ZHAO Chuanfeng, GUANG Jie. Aerosol datasets over the Tibetan Plateau (2006-2019). A Big Earth Data Platform for Three Poles, 2020

References to articles:

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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