A Big Earth Data Platform for Three Poles

**Dataset of black carbon concentration at Mt. Everest Station from May 2015 to May 2017**

1、Description

Black carbon(BC) is a carbonaceous aerosol that mainly emitted from the incomplete combustion of fossil fuels or biomass. As fine particles in the atmosphere with light-absorbing characteristic, BC can significantly reduce the surface albedo when deposits on snow and ice and accelerate the melting of glaciers and snow cover. New Aethalometer model AE-33 acquires the real-time BC concentration according to the light absorption and attenuation characteristics from the different wavelengths. In addition, AE-33 uses dual-spot measurements, which can compensate for the “spot loading effect” and obtain high-quality BC concentrations. By using the real-time observation data measured by AE-33 at Mt. Everest Station, we analyzed the seasonal and diurnal variations of BC and its sources and transport processes, and we also investigated the transport mechanisms of serious polluted episodes. That can provide basis for future works on assessment of climate effects caused by BC in this region.

2、Keywords

Theme：Carbonaceous aerosols,Aerosol
Discipline：Atmosphere
Places：Qomolangma
Time：2015-2017

3、Data details

1.Scale：None

2.Projection：None

3.Filesize：0.029MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：28.36 | - |
| west：86.95 | - | east：86.95 |
| - | south：28.36 | - |

5、Time frame:2015-05-21 08:00:00+00:00--2017-06-06 08:00:00+00:00

6、Reference method

References to data:

KANG Shichang. Dataset of black carbon concentration at Mt. Everest Station from May 2015 to May 2017. A Big Earth Data Platform for Three Poles, doi:10.11888/Meteoro.tpdc.2702192019

References to articles:

Chen, X.T., Kang, S.C., Cong, Z.Y., Yang, J.H., & Ma, Y.M. (2018). Concentration, temporal variation, and sources of black carbon in the Mt. Everest region retrieved by real-time observation and simulation. Atmospheric Chemistry and Physics, 18(17), 12859-12875.

7、Supporting project information

Pan-Third Pole Environment Study for a Green Silk Road-A CAS Strategic Priority A Program

8、Data resource provider

name: KANG Shichang
unit: Northwest Institute of Eco-Environment and Resources, CAS
email: shichang.kang@lzb.ac.cn