A Big Earth Data Platform for Three Poles

**Light absorption data sets of precipitation and water-soluble organic carbon and black carbon in aerosols at Ranwu (2018-2021), Namco (2013-2016), Everest (2013-2016), Lulang Station (2015-2016)**

1、Description

This data set includes the light absorption data of carbon components in the atmosphere and precipitation at typical stations on the Tibetan Plateau (Ranwu (2018-2021), Namco (2013-2016), Everest (2013-2016), Lulang (2015-2016)). All samples were collected on the spot from various sampling points. The concentrations of black carbon and water-soluble organic carbon, as well as the light absorption data were measured, using the index (MAC value) representing the light absorption capacity, The MAC values of light absorption of water-soluble organic carbon and black carbon are calculated. This data is of great significance for evaluating the radiative forcing of carbon particles in the atmosphere, and is an important basic data input for model simulation.

2、Keywords

Theme：Carbonaceous aerosols,Aerosol,DOC,light absorption,Glacier(Ice Sheet)  
Discipline：Atmosphere,Cryosphere  
Places：Tibet Plateau  
Time：2021, 2013, 2016, 2015, 2014, 2018, 2019, 2020

3、Data details

1.Scale：None

2.Projection：

3.Filesize：0.02MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：35.0 | - |
| west：80.0 | - | east：100.0 |
| - | south：25.0 | - |

5、Time frame:2013-03-16 16:00:00+00:00--2021-03-23 16:00:00+00:00

6、Reference method

References to data:

LI Chaoliu . Light absorption data sets of precipitation and water-soluble organic carbon and black carbon in aerosols at Ranwu (2018-2021), Namco (2013-2016), Everest (2013-2016), Lulang Station (2015-2016). A Big Earth Data Platform for Three Poles, doi:10.11888/Atmos.tpdc.2729402022

References to articles:

Li, C., Yan, F., Kang, S., Chen, P., Hu, Z., Gao, S., Qu, B., & Sillanpää, M. (2016). Light absorption characteristics of carbonaceous aerosols in two remote stations of the southern fringe of the Tibetan Plateau, China. Atmospheric Environment, 143, 79-85.  
  
Li, C.L., Yan, F.P., Kang, S.C., Chen, P.F., Hu, Z.F., Han, X.W., Zhang, G.S., Gao, S.P., Qu, B., & Sillanpaa, M. (2017). Deposition and light absorption characteristics of precipitation dissolved organic carbon (DOC) at three remote stations in the Himalayas and Tibetan Plateau, China. Science of The Total Environment, 605, 1039-1046.  
  
Zhang, C., Chen, M., Kang, S., Yan, F., Han, X., Gautam, S., Hu, Z., Zheng, H., Chen, P., Gao, S., Wang, P., & Li, C. (2021). Light absorption and fluorescence characteristics of water-soluble organic compounds in carbonaceous particles at a typical remote site in the southeastern Himalayas and Tibetan Plateau. Environmental Pollution, 272, 116000.  
  
Li, Y.W., Yan, F.P., Kang, S.C., Zhang, C., Chen, P.F., Hu, Z.F., & Li, C.L. (2021). Sources and light absorption characteristics of water-soluble organic carbon (WSOC) of atmospheric particles at a remote area in inner Himalayas and Tibetan Plateau. Atmospheric Research, 253.

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: LI Chaoliu   
unit: Northwest Institute of Eco-Environment and Resources, Chinese Academy of Sciences  
email: lichaoliu@nieer.ac.cn