A Big Earth Data Platform for Three Poles

**Dataset of ice core-snow black carbon content on the Tibetan Plateau (1950-2006)**

1、Description

The data set of ice core-snow black carbon content on the Tibetan plateau (1950-2006) contains five (5) tables: 1 Xu et al. 2006 AG, 2 Xu et al. 2009 PNAS\_Conc., 3 Xu et al. 2009 PNAS\_flux, 4 Xu et al. 2012 ERL, 5 Wang et al. 2015 ACP.
The data collection sites include the Meikuang glacier, Dongkemadi, Qiangyong, Kangwure, Naimona’nyi, Muztagata, Rongbuk, Tanggula Mountain, Ningjin Gangsang, Zuoqipu, and Glacier No. 1 at the headwaters of the Ürüqi River. The latitudes and longitudes of the collection locations, elevations and other information are marked in the data.
The main indicators of the data are location, time, organic carbon (OC), elemental carbon (EC), black carbon (BC) content and flux.
Location: latitude and longitude
Time: year or date
OC: organic carbon
EC: elemental carbon
BC: Black carbon
Conc.: content, unit: ng g-1
Flux: flux, unit: mg m-2a-1
The data come from the following subjects.
1. National Program on Key Basic Research Project (973 Program)：Temporal and Spatial Characteristics and Remote Sensing Modeling of Global Change Sensitive Factors; Person in charge: Baiqing Xu; Unit: Institute of Tibetan Plateau Research, Chinese Academy of Sciences; Supported by the Ministry of Science and Technology.
2. National Key Basic Research Program: The Response of Formation and Evolution on the Tibetan Plateau to Global Changes and Adaptation Strategy; Person in charge: Tandong Yao; Unit: Institute of Tibetan Plateau Research, Chinese Academy of Sciences; Supported by the Ministry of Science and Technology.
3. The General Program of National Natural Science Foundation of China: High-resolution Carbon Black Recording in Snow Ice of the Tibetan Plateau; Person in charge: Baiqing Xu; Unit: Institute of Tibetan Plateau Research, Chinese Academy of Sciences; Supported by the National Natural Science Foundation of China (NSFC).
4. The General Program of the National Natural Science Foundation of China: Extraction of Climate and Environment Information from Ice Core Encapsulated Gas on the Tibetan Plateau; Person in charge: Baiqing Xu; Unit: Institute of Tibetan Plateau Research, Chinese Academy of Sciences; Supported by the National Natural Science Foundation of China (NSFC).
5. National Natural Science Foundation of China for Distinguished Young Scholars: Snow and Ice-Atmospheric Chemistry and Environmental Changes on the Tibetan Plateau; Person in charge: Baiqing Xu; Unit: Institute of Tibetan Plateau Research, Chinese Academy of Sciences; Supported by the National Natural Science Foundation of China (NSFC).
6. National Natural Science Foundation of China for Distinguished Young Scholars: Study on the Changes of Aerosol Emissions and Combustion in Human Activities in South Asia in the Past 100 Years; Person in charge: Mo Wang; Unit: Institute of Tibetan Plateau Research, Chinese Academy of Sciences; Supported by the National Natural Science Foundation of China (NSFC).
Observation methods: two-step heating method, thermal/optical carbon analysis method, and single-particle black carbon aerosol photometer.

2、Keywords

Theme：Isotopes,Ice core,Snow,Carbon content,Ice-core,Carbon flux,Glacier(Ice Sheet)
Discipline：Palaeoenvironment,Cryosphere
Places：Tibetan Plateau
Time：1950-2006

3、Data details

1.Scale：None

2.Projection：

3.Filesize：0.23MB

4.Data format：EXCEL

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：40.0 | - |
| west：75.0 | - | east：98.0 |
| - | south：30.0 | - |

5、Time frame:1950-01-11 00:00:00+00:00--2007-01-10 00:00:00+00:00

6、Reference method

References to data:

XU Baiqing. Dataset of ice core-snow black carbon content on the Tibetan Plateau (1950-2006). A Big Earth Data Platform for Three Poles, doi:10.11888/AtmosphericEnvironment.tpe.249434.file2018

References to articles:

Xu, B.Q., Yao, T., Liu, X., & Wang, N. (2006). Elemental and organic carbon measurements with a two-step heating–gas chromatography system in snow samples from the tibetan plateau. Annals of Glaciology, 43(1), 257-262.

Xu, B.Q., Wang, M., DR (Joswiak, Daniel R.), JJ (Cao, & Yao, T. D., et al. (2009). Deposition of anthropogenic aerosols in a southeastern Tibetan glacier. Journal of Geophysical Research: Atmospheres (1984–2012).

Xu, B.Q., Cao, J., Joswiak, D. R., Liu, X., Zhao, H., & He, J. (2012). Post-depositional enrichment of black soot in snow-pack and accelerated melting of tibetan glaciers. Environmental Research Letters, 7(1), 014022.

Wang, M., Xu, B., Kaspari, S.D., Gleixner, G., Schwab, V.F., Zhao, H., et al. (2015). Century-long record of black carbon in an ice core from the Eastern Pamirs: Estimated contributions from biomass burning. Atmospheric Environment, 115, 79-88. doi:10.1016/j.atmosenv.2015.05.034.

7、Supporting project information

8、Data resource provider

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