A Big Earth Data Platform for Three Poles

**Oxygen isotope, dust, anion and accumulation data from the Guliya ice core (1992)**

1、Description

This data set contains the oxygen isotope, dust, anion and accumulation data obtained from the deep ice core drilled in 1992 in the Guliya ice cap, which is located in the west Kunlun Mountains on the Tibetan Plateau. The length of the ice core was 308.6 m. The ice core was cut into samples, 12628 of which were used to measure the oxygen isotope values, 12480 of which were used to measure the dust concentrations, and 9681 of which were used to measure the anion concentrations.
Data Resource: National Centers for Environmental Information（http://www.ncdc.noaa.gov/data-access/paleoclimatology-data/datasets/ice-core）.
Processing Method: Average.
The data set contains 4 tables, namely: oxygen isotope, dust and anion data from different depths in the Guliya ice core, 10-year mean data of oxygen isotopes, dust, anions and net accumulation in the Guliya ice core, 400-year mean data of oxygen isotopes, dust and anions in the Guliya ice core, and chlorine-36 data from different depths.
Table 1: Data on oxygen isotopes, dust and anion concentrations at different depths in the Guliya ice core.
a. Name explanation
Field 1: Depth
Field 2: Oxygen isotope value
Field 3: Dust concentration (diameter 0.63 to 20 µm)
Field 4: Cl-
Field 5: SO42-
Field 6: NO3-

b. Dimensions (unit of measure)
Field 1: m
Field 2: ‰
Field 3: particles/mL
Field 4: ppb
Field 5: ppb
Field 6: ppb

Table 2: 10-year mean oxygen isotope, dust, anion and net accumulation data for the Guliya ice core (0-1989)
a. Name explanation
Field 1: Start time
Field 2: End time
Field 3: Oxygen isotope value
Field 4: Dust concentration (diameter 0.63 -20 µm)
Field 5: Cl-
Field 6: SO42-
Field 7: NO3-
Field 8: Net accumulation

b. Dimensions (unit of measure)
Field 1: Dimensionless
Field 2: Dimensionless
Field 3: ‰
Field 4: particles/mL
Field 5: ppb
Field 6: ppb
Field 7: ppb
Field 8: cm/year

Table 3: 400-year mean oxygen isotope, dust and anion data for the Guliya ice core.
a. Name explanation
Field 1: Time
Field 2: Oxygen isotope
Field 3: Dust concentration (diameter 0.63-20 µm)
Field 4: Cl-
Field 5: SO42-
Field 6: NO3-

b. Dimensions (unit of measure)
Field 1: Millennium
Field 2: ‰
Field 3: particles/mL
Field 4: ppb
Field 5: ppb
Field 6: ppb

Table 4: Chlorine-36 data at different depths
a. Name explanation
Field 1: Depth
Field 2: 36Cl
Field 3: 36Cl error
Field 4: Year

b. Dimensions (unit of measure)
Field 1: m
Field 2: 104 atoms g-1
Field 3: %
Field 4: Millennium

2、Keywords

Theme：Isotopes,Ice core,Ice-core,Glacier(Ice Sheet)
Discipline：Palaeoenvironment,Cryosphere
Places：Tibetan Plateau , Guliya
Time：0- 132 KYr, 1992

3、Data details

1.Scale：None

2.Projection：

3.Filesize：0.1MB

4.Data format：EXCEL

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：35.0 | - |
| west：81.0 | - | east：81.0 |
| - | south：35.0 | - |

5、Time frame:1992-01-14 00:00:00+00:00--1993-01-13 00:00:00+00:00

6、Reference method

References to data:

National Centers for Environmental Information (NCEI) . Oxygen isotope, dust, anion and accumulation data from the Guliya ice core (1992). A Big Earth Data Platform for Three Poles, 2018

References to articles:

Thompson, L.G., Mosley-Thompson, E., Brecher, H. Davis, M.E., Leon, B., Les, D.H., Lin, P.N., Mashiotta, T., &Mountain, K. (2006). Abrupt tropical climate change: Past and present. Proceedings of the National Academy of Sciences of the United States of America, 103(28), 10536-10543.

Thompson, L.G., Yao, T.D., Davis, M.E., Henderson, K.A., Mosley-Thompson, E., Lin, P.N., Beer, J., Synal, H.A., Cole-Dai, J., &Bolzan, J.F. (1997). Tropical climate instability: The Last Glacial Cycle from a Qinghai-Tibetan ice core. Science, 276(5320), 1821-1825.

7、Supporting project information

8、Data resource provider

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