A Big Earth Data Platform for Three Poles

**Stable Isotope Dataset of the Sediment Core Retrieved from Lop Nor in the Tarim Basin/Dataset of field investigation and field photos of the Tibetan Plateau**

1、Description

This dataset includes stable carbon and oxygen isotopes of carbonates in a 180 m-long sediment core retrieved from Lop Nor, Tarim Basin. Sedimentary carbon and oxygen isotopes from carbonates are two of the most commonly used proxies in paleoclimatic studies, as they have the potential to record past variations in hydrology and vegetation. The sediment samples were grounded and sieved through a 100 mesh screen, and then directly analyzed using an isotope ratio mass spectrometer (MAT-252) with an automated carbonate preparation device (Kiel Ⅱ). Typical analytical errors are within ±0.06‰ and ±0.08‰ for carbon isotope and oxygen isotope, respectively. Based on the high-resolution stable carbon and oxygen isotope data of core Lop Nor, the evolution history of arid environment in the Taklimakan Desert since the Pleistocene can be reconstructed, allowing further exploring of trends, variability and mechanisms of regional climate change. Field photos dataset of the Tibetan Plateau include photos of the stratigraphic profiles.

2、Keywords

Theme：Geochemistry,Environmental geochemistry  
Discipline：Solid earth  
Places：Tarim Basin, Lop Nur, Tibetan Plateau  
Time：2018

3、Data details

1.Scale：None

2.Projection：

3.Filesize：64.2MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：40.0 | - |
| west：87.0 | - | east：88.0 |
| - | south：39.0 | - |

5、Time frame:2019-07-06 00:00:00+00:00--2019-07-07 00:00:00+00:00

6、Reference method

References to data:

LIU Weiguo. Stable Isotope Dataset of the Sediment Core Retrieved from Lop Nor in the Tarim Basin/Dataset of field investigation and field photos of the Tibetan Plateau. A Big Earth Data Platform for Three Poles, doi:10.11888/Geo.tpdc.2704852019

References to articles:

Liu, W.G., Liu, Z.H., AN, Z.S., Sun, J.M., Chang, H., Dong, J.B., Wang, H.Y. (2014). Late Miocene Episodic Lakes in the Arid Tarim Basin, Western China. Proceedings of the National Academy of Sciences, 111(46), 16292-16296.

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: LIU Weiguo  
unit: Institute of Earth Environment, Chinese Academy of Sciences  
email: liuwg@loess.llqg.ac.cn