A Big Earth Data Platform for Three Poles

**Analysis data set of climate change in the middle and lower reaches of Shiyang River Based on Lake Sediment Records**

1、Description

This data is the sediment record of Qingtu Lake in the middle and lower reaches of Shiyang River Basin, including sediment indicators of qth01 and qth02 Lake profiles. Shiyang River Basin is located in 100 ° 57'~ 104 ° 57' e, 37 ° 02'~ 39 ° 17' n, with a total length of more than 300 kilometers and a total area of 4.16 × 104km2。 The basin is located in the transitional zone between the northwest arid region and the eastern monsoon region, and has a unique climate model. Modern climatological research shows that the hydrological changes in this region are intense, the ecosystem is fragile, and it is very sensitive to global climate change. The two profiles qth01 and qth02 involved in this data have geographical coordinates of 39 ° 03 ′ n 103 ° 40 ′ E and an altitude of 1309m. The depth of the profile is 692cm (qth01) and 736cm (qth02) respectively. AMS14C radiocarbon dating was carried out in the dating Laboratory of Peking University and pretreated in the pretreatment Laboratory of Lanzhou University. The dating samples should try to avoid the layers and sand layers with more plant roots. Radiocarbon 14C dates were calibrated using oxcal v4.4.2 and intcal20 atmospheric profiles. The mineral composition of sediment was determined by x'pert Pro MPD, and the particle size of sediment was determined by Mastersizer 2000 laser diffraction particle size analyzer. The above experiments were completed in the key experiment of the Ministry of western environmental education of Lanzhou University. Grain size data qth01 and qth02 profiles are sampled and measured at 2cm intervals, mineral data qth01 is sampled and measured at 10cm intervals, and qth02 is sampled and measured at 20cm intervals. The fluctuation of grain size and mineral content shows the significant climate change since the Holocene in the middle and lower reaches of Shiyang River, and the climate was relatively dry in the early Holocene (11.0 - 7.4 cal. kyr BP); The middle Holocene (7.4 - 4.7 cal. kyr BP) was in a climate suitable period; In the late Holocene (4.7 - 0 cal. kyr BP), the trend of aridity was obvious, and this aridity became intensified after 1.6 cal. kyr BP.

2、Keywords

Theme：Minerals,Lacustrine Sediments
Discipline：Palaeoenvironment
Places：Shiyang River Basin
Time：Holocene

3、Data details

1.Scale：None

2.Projection：

3.Filesize：1.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：39.1 | - |
| west：103.62 | - | east：103.67 |
| - | south：39.05 | - |

5、Time frame:None--None

6、Reference method

References to data:

LI Yu . Analysis data set of climate change in the middle and lower reaches of Shiyang River Based on Lake Sediment Records. A Big Earth Data Platform for Three Poles, doi:10.11888/Paleoenv.tpdc.2724012021

References to articles:

7、Supporting project information

8、Data resource provider

name: LI Yu
unit: Lanzhou University
email: liyu@lzu.edu.cn