A Big Earth Data Platform for Three Poles

**Quantitative temperature and monsoon precipitation data sets for the past 5000 years in northern China**

1、Description

In this study, the beilianchi lake of Liupanshan in the Loess Plateau of northern China was selected to quantitatively reconstruct the high resolution (~ 30yr) warm season temperature series of northern China in the past 5000 years based on the gdgts index and the fitting equation established by reanalysis of global lake surface sediment gdgts data. In the past 5000 years, the overall temperature in northern China showed a downward trend, in which the temperature of 3000 bc-200 ad decreased slowly by ~ 0.5 ℃ and then decreased rapidly by ~ 4 ℃ after 200 ad, accompanied by four Millennium scale cold events of 2-3 ℃. At the same time, we reconstructed the monsoon precipitation changes since the middle late Holocene by using the single hydrogen isotope in the same borehole sediments. The monsoon precipitation in northern China showed a downward trend in the past 5000 years, accompanied by three obvious 100 year scale strong precipitation drought fluctuations.

2、Keywords

Theme：Macrofossils,Paleoclimate Reconstruction,Lake sediments
Discipline：Palaeoenvironment
Places：Loess Plateau, Northern China, Beilianchi Lake
Time：Holocene, the past 5000 cal yr BP

3、Data details

1.Scale：None

2.Projection：

3.Filesize：0.02MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：35.73 | - |
| west：106.17 | - | east：106.17 |
| - | south：35.73 | - |

5、Time frame:None--None

6、Reference method

References to data:

ZHANG Can. Quantitative temperature and monsoon precipitation data sets for the past 5000 years in northern China. A Big Earth Data Platform for Three Poles, doi:10.1016/j.quascirev.2021.1068192021

References to articles:

Zhang, C., Zhao, C., Zhou, A., Zhang, H., Liu, W., Feng, X., Sun, X., Yan, T., Leng, C., Shen, J., & Chen, F. (2021). Quantification of temperature and precipitation changes in northern China during the “5000-year” Chinese History. Quaternary Science Reviews, 255, 106819. https://doi.org/10.1016/j.quascirev.2021.106819

Zhang, C., Zhao, C., Yu, Z., Zhang, H., Zhou, A., Zhang, X., et al. (2020). Western Pacific
Ocean influences on monsoon precipitation in the southwestern Chinese Loess
Plateau since the mid-Holocene. Clim. Dyn 54, 3121e3134. https://doi.org/
10.1007/s00382-020-05159-9.

7、Supporting project information

Pan-Third Pole Environment Study for a Green Silk Road-A CAS Strategic Priority A Program

8、Data resource provider

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