A Big Earth Data Platform for Three Poles

**Hydrogen isotope data set of leaf wax from Lugu Lake, Southwest China since the last glacial maximum**

1、Description

This study selected Lugu Lake in Southwest China to reconstruct the continuous precipitation isotope data in Indian monsoon region since the past 28 Ka based on the long-chain n-alkane hydrogen isotope. The results show that the precipitation hydrogen isotope is gradually positive in 28-15 Ka, negative in 15-10 Ka, and gradually positive again after 10 Ka. Three Millennium scale (H2, H1 and YD) isotope bias events were recorded. The reconstructed results of hydrogen isotope of precipitation in this study are very consistent with the variation of oxygen isotope of stalagmites in Indian monsoon region and East Asian monsoon region, which indicates that the physical process of precipitation isotope variation since the last glacial maximum in Asian monsoon region should be similar. By comparing the results of trace21ka model, it is concluded that the precipitation isotope in monsoon region is controlled by the intensity of monsoon trough, which provides a specific physical explanation for the monsoon intensity.

2、Keywords

Theme：Macrofossils,Isotopes,Paleoclimate Reconstruction,Lake sediments
Discipline：Palaeoenvironment
Places：Southwest China, Lugu Lake
Time：After the last ice age

3、Data details

1.Scale：None

2.Projection：None

3.Filesize：0.02MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：26.5 | - |
| west：100.12 | - | east：100.12 |
| - | south：26.5 | - |

5、Time frame:None--None

6、Reference method

References to data:

ZHAO Cheng. Hydrogen isotope data set of leaf wax from Lugu Lake, Southwest China since the last glacial maximum. A Big Earth Data Platform for Three Poles, doi:10.1029/2021GL0924602021

References to articles:

Zhao, C., Cheng, J., Wang, J., Yan, H., Leng, C., Zhang, C., et al. (2021). Paleoclimate significance of reconstructed rainfall isotope changes in Asian monsoon region. Geophysical Research Letters, 48, e2021GL092460.
 https://doi.org/10.1029/2021GL092460

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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