A Big Earth Data Platform for Three Poles

**Quantitative reconstruction of Holocene precipitation over Qinghai Tibet Plateau Based on sporopollen data**

1、Description

The surface palynological data in this dataset are from the East Asian palynological database（ http://eapd.sysu.edu.cn/database/ And the surface pollen data of the northeastern margin of the Qinghai Tibet Plateau. The precipitation data of surface soil palynological points were obtained from the annual average precipitation data of 126 meteorological stations in the Qinghai Tibet Plateau and its surrounding areas (Xinjiang, Gansu, Sichuan) from 1950 to 1980 (the data came from China Meteorological Science Data Sharing Service Network) http://www.data.ac.cn/xiazai/ ）Because topography has a great impact on climate change, Therefore, in ArcGIS, the uneven distribution of annual precipitation data of meteorological stations is transformed into grid data on the surface of the Qinghai Tibet Plateau by Kriging spatial interpolation method, and the precipitation grid data of the surface palynological point can be regarded as the actual precipitation data of the point. By using the method of transformation function, the representative surface palynological types are selected, and the linear regression between them and modern climate is established. The fossil Palynological Assemblages are substituted into the regression equation to obtain paleoclimate parameters. Using the modern analogy method (MAT), assuming that the relationship between vegetation types and climate in the past is corresponding, we can compare the sporopollen spectrum of the strata indicating vegetation types with that of the present representative soil to reveal the similarity between them. Then we can get the corresponding precipitation data of the strata sporopollen by matrix operation with the modern precipitation data of the corresponding points.

2、Keywords

Theme：Paleoclimate Reconstruction
Discipline：Palaeoenvironment
Places：Qinghai-Tibetan plateau
Time：12,000 years ago - 1,500 years ago

3、Data details

1.Scale：None

2.Projection：

3.Filesize：0.636MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：34.05 | - |
| west：102.1 | - | east：103.55 |
| - | south：32.2 | - |

5、Time frame:None--None

6、Reference method

References to data:

HOU Guangliang. Quantitative reconstruction of Holocene precipitation over Qinghai Tibet Plateau Based on sporopollen data. A Big Earth Data Platform for Three Poles, 2021

References to articles:

7、Supporting project information

Responses of human activities to environmental changes in the Tibetan Plateau during the Holocene
Prehistoric culture regionalization, communication routes and environment on the Qinghai-Tibet Plateau
Qinghai Provincial Key Laboratory of Geospatial Information Technology and Application Foundation Project

8、Data resource provider

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