A Big Earth Data Platform for Three Poles

**Natural changes and human impacts of typical karst environments in historical periods: pooled data from stalagmite records**

1、Description

Natural changes and human impacts of typical karst environments in historical periods: stalagmite recording project is a major research program of "Environmental and Ecological Science in Western China" sponsored by the National Natural Science Foundation of China. The person in charge is Tan Ming, a researcher at the Institute of Geology and Geophysics, Chinese Academy of Sciences. The project runs from January 2002 to December 2009.
The temperature data of Beijing hot months (May, June, July and August) in 2650 (665 B.C.-A.D. 1985) are the results of the project. The data are reconstructed according to the correlation between the annual thickness of stalagmites in Shihua Cave in Beijing and meteorological observation data. The temperature signals reflected by soil carbon dioxide and cave dripping are amplified by the soil-organic matter-carbon dioxide system and recorded by the annual sequence of stalagmites. Although the general trend of temperature has decreased in recent thousands of years, the reconstructed temperature reveals that the climate has experienced repeated rapid warming on a century scale. This result is related to other records in the northern hemisphere, indicating that there is a hemispheric influence on the periodic changes of temperature in the sub-millennium scale.
The data contains a txt file with attribute fields such as yr.AD, layer number, original thickness (um), maximum error in um (+-), sedimentary trend, detrended thickness (um), reconstructed temperature, maximum error in degree C (+ -), temperature anomaly, temperature anomaly + error, temperature anomaly-error, maximum error in age (yr. +-).

2、Keywords

Theme：Cave deposits,Stalagmite records,Speleothem,Paleoclimate Reconstruction
Discipline：Palaeoenvironment,Solid earth
Places：Beijing
Time：665 B.C. - A.D. 1985

3、Data details

1.Scale：None

2.Projection：None

3.Filesize：0.4MB

4.Data format：文本

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：41.2 | - |
| west：115.3 | - | east：117.5 |
| - | south：39.3 | - |

5、Time frame:None--None

6、Reference method

References to data:

TAN Ming, ZHANG Hucai, LI Tieying. Natural changes and human impacts of typical karst environments in historical periods: pooled data from stalagmite records. A Big Earth Data Platform for Three Poles, doi:10.11888/Paleoenv.tpdc.2705772013

References to articles:

Tan, M., et al., 2003,2650-Year Beijing Stalagmite Layer Thickness and Temperature Reconstruction,IGBP PAGES/World Data Center for Paleoclimatology,Data Contribution Series # 2003-050.NOAA/NGDC Paleoclimatology Program, Boulder CO, USA.

7、Supporting project information

8、Data resource provider

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