

New record from stalagmites shows climate history in Central Asia

January 31 2012

The climate in Central Asia, currently a semiarid region, has varied over the past 500,000 years. An accurate record of the past climate can help scientists understand current climate and better predict how the climate may change in the future. Previous studies with paleoclimate records, such as lake sediments and ice cores, show changes in moisture in the region, but climate history in the region is debated, as some of those records are not high resolution or not well dated.

Cheng et al. describe a new high-resolution, well-dated record of [oxygen isotopes](#) in stalagmites from the Kesang cave in western China. The researchers dated the stalagmites using radioactive thorium dating and then looked at the oxygen isotope record, which provides information on past [atmospheric circulation](#) and precipitation.

The record shows how climate in the region varies with cyclical changes in the Earth's orbit over the past 500,000 years. The authors find that there were some wetter periods in the past, which the authors suggest were caused by moisture carried from the Indian Ocean or other Asian monsoon regions. Currently, moisture to the region mainly comes with westerly winds from the Atlantic Ocean and the Mediterranean and Caspian seas, not from Asian monsoons. These new observations contrast with interpretations based on nearby, but higher-elevation, ice core records. The authors suggest that based on their record, unless anthropogenic effects supersede natural processes, an arid climate will prevail in the region for the next several thousand years.

More information: The climatic cyclicity in semiarid-arid central Asia over the past 500,000 years, H. Cheng et al, *Geophysical Research Letters*, [doi:10.1029/2011GL050202](https://doi.org/10.1029/2011GL050202) , 2012

Provided by American Geophysical Union

Citation: New record from stalagmites shows climate history in Central Asia (2012, January 31) retrieved 18 June 2024 from <https://phys.org/news/2012-01-stalagmites-climate-history-central-asia.html>

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