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## Carbonate growth rings on rocks tell about North America's climate past

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According to a new study published in the Proceedings of the National Academy of Sciences this January, growth rings that record pedogenic (soil) carbonate mineral accumulations on rocks may tell us about weather patterns from thousands of years ago. The new study, conducted by a team of researchers at the University of California, Berkeley, and funded in part by the National Science Foundation, found that soil deposits on rocks, or pedothems, can help determine ancient weather patterns.

During their research, the team used uranium isotopes to date the pedothems and analyzed their oxygen and carbon content to determine precipitation, temperature, and soil respiration at the time the soil deposits accumulated. The team then used the data to draw conclusions about North America's past climate.

The study found that from 70,000 to 55,000 years ago, our predominantly west-to-east weather events were dominated by south-to-north atmospheric flows, causing wetter summers and drier winters. This new paleoclimatic data will help improve the accuracy of modern climate models by providing them with known ancient conditions for improved calibration.

Sources: Proceedings of the National Academy of Sciences; University of California, Berkeley; National Science Foundation

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