Tree rings document ancient Western megadrought

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Researchers say they have found new evidence of prolonged drought in parts of the West, suggesting megadroughts are not the rarity Westerners would like them to be.

Analyzing corings taken from ancient living and dead bristlecone pines in the San Juan Mountains of Colorado, University of Arizona scientists found signs of extreme drought in the 2nd century that matches or exceeds the better-known droughts of the medieval period.

The composite tree-ring chronology, extending from 268 BC to AD 2009, shows that the longest dry periods in the entire record occurred during the first four centuries AD. The most pronounced drought lasted for about five decades in the second century.

Comparing their findings with two other tree-ring studies, the researchers concluded that the 2nd century drought was regional, extending from southern New Mexico north and west into Idaho.

Paleoclimatologist Connie Woodhouse, a co-author of the study that will be published in the journal Geophysical Research Letters, said scientists have wondered if the severe Western droughts that occurred between 900 and 1400 were unique.

The new tree ring record indicates they weren't - and could occur again. "There is no good reason that we shouldn't expect to have those," Woodhouse said.

She added that researchers are not sure of the causes of the megadroughts but speculate that above-average temperatures and persistent La Nina ocean conditions may have contributed to them.