

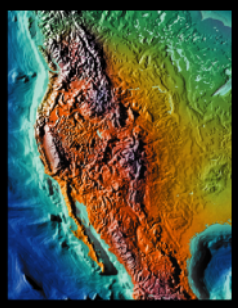


Co-sponsored by
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Frontiers in Geoscience Colloquium

Monday, April 11, 2016
3:00pm – 4:00pm
Physics Auditorium (TA-3, Bldg 215)

People, Forests & Fires in the Jemez Mountains & Southwest: Multi-Century Perspectives from Tree Rings, Fire Scars and Archaeology

Thomas W. Swetnam
Regents' Professor of Dendrochronology, Emeritus
Laboratory of Tree-Ring Research, University of Arizona

Climate variations have been important drivers of wildfire occurrence in ponderosa pine forests across western North America for at least 400 years, but at finer scales of mountain ranges and landscapes human land uses overrides climate influences. In recent decades, extreme droughts and wildfires have resulted in stunning examples of landscape-scale ecological changes driven by complex interactions of humans and the environment.

Using tree rings, paleoecology and archaeology we reconstructed and analyzed the effects of high human population densities in forests of the Jemez Mountains, New Mexico from circa 1300 CE to Present. Our findings indicate that the Jemez people maintained many dozens of large and small villages for hundreds of years within fire prone forests by utilizing wood resources and also by setting many small fires. These same areas are now experiencing very large, high severity wildfires that would have destroyed those villages if they had occurred in the past. The past provides imperfect but useful lessons on how we might proceed in the present and future to live sustainably within forest environments as the climate warms.

For more info and nice video clips of Dr Swetnam's work, go to
http://www.treeringscar.org/misc-links.html

Host Richard Middleton (EES-16, rsm@lanl.gov, 5-8332).
If you wish to meet with the speaker, please contact Dr. Middleton

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