

Hoodoos—key to earthquakes?

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In the absence of long-term instrumental data, fragile rock formations, called hoodoos, may be key to understanding seismic hazard risk. In this study, researchers consider two hoodoos in Red Rock Canyon region to put limits on expected intensity of ground motion from earthquakes along the Garlock fault.

Hoodoos can be found in desert regions and are highly susceptible to erosion that makes their age uncertain. Despite that uncertainty, existing unfractured hoodoos, tall spires of [sedimentary rock](#), may help put limits on [ground motion](#) associated with recent events by understanding the minimal force necessary to break the shafts made primarily of relatively soft sandstone.

The Garlock fault region features an active strike-slip fault. Anooosheepoor, et al., estimated the tensile strength of two hoodoos and considered previously published physical evidence of fault offsets that suggest at least one large earthquake, resulting in seven meters (23 feet) of slip, in the last 550 years. And yet, the hoodoos are still intact, suggesting median or low level of ground motion associated with the large quakes in this region.

While the age of the hoodoos cannot be exactly ascertained, the authors argue that these rocks can still serve as a valuable tool in constraining ground motion and thus contribute to the development of probabilistic [seismic hazard](#) assessments in the area.

More information: "Constraints on Ground Accelerations Inferred

from Unfractured Hoodoos near the Garlock Fault, California," *Bulletin of the Seismological Society of America* 103:1; Rasool Anoooshehpoor, U.S. Nuclear Regulatory Commission; James N. Brune, Jaak Daemen and Matthew D. Purvance of University of Nevada, Reno.

Provided by Seismological Society of America

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