

# Study: Small earthquakes triggered by snow, spring melt

By Carolyn Wilke, Sacramento Bee

The Sierra Nevada and Coast ranges are pushed down by fractions of an inch each winter by the weight of rain and snow and then rise after melt and runoff, tugging on California's earthquake faults and triggering small temblors, according to a new study by seismologists at UC Berkeley and Bowling Green State University.

The researchers traced the up-and-down motion of the earth's crust using nine years of GPS measurements, which stresses the underlying faults by pushing and pulling on them. The study, published Thursday in *Science* magazine, was able to calculate how much water is stored in the ground and how this weight loss and gain stresses the faults.

When the stresses change, the number of roughly 2.0 magnitude earthquakes grows, the researchers found. California experienced thousands of quakes of that magnitude last year, with most of them going unnoticed by humans.

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