Not Dead Yet: Seismic Zone Active in US Midwest

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LOS ANGELES (AP) — The New Madrid fault zone in the nation's midsection is active and could spawn future large earthquakes, scientists reported January 23. 2014.

It's "not dead yet," said U.S. Geological Survey seismologist Susan Hough, who was part of the study published online by the journal *Science*.

Researchers have long debated just how much of a hazard New Madrid (MAD'-rihd) poses. The zone stretches 150 miles, crossing parts of Arkansas, Illinois, Indiana, Kentucky, Mississippi, Missouri and Tennessee.

In 1811 and 1812, it unleashed a trio of powerful jolts — measuring magnitudes 7.5 to 7.7 — that rattled the central Mississippi River valley. Chimneys fell and boats capsized. Farmland sank and turned into swamps. The death toll is unknown, but experts don't believe there were mass casualties because the region was sparsely populated then.

Unlike California's San Andreas and other faults that occur along boundaries of shifting tectonic plates, New Madrid is less understood since it's in the middle of the continent, far from plate boundaries.

Previous studies have suggested that it may be shutting down, based on GPS readings that showed little strain accumulation at the surface. Other research came to the same conclusion by blaming ongoing quake activity on aftershocks from the 1800s, which would essentially relieve strain on the fault.

The latest study suggests otherwise. Hough and USGS geophysicist Morgan Page in Pasadena, CA, analyzed past quakes in the New Madrid region and used computer

modeling to determine that the continuing tremors are not related to the big quakes two centuries ago.

"Our new results tell us that something is going on there, and therefore a repeat of the 1811-1812 sequence is possible," Hough said.

The USGS estimates there's a 7 to 10 percent chance of that happening in the next 50 years.

Arthur Frankel, a seismologist with the USGS in Seattle who had no role in the study, said the latest results seem plausible. His recent field work using GPS shows significant movement of land along the fault in the past decade, indicating a buildup of strain that could lead to potentially dangerous quakes.

Others said this won't end the debate about the hazards on the New Madrid seismic zone.

Andrew Newman, a geophysicist at the Georgia Institute of Technology, said the method used in the study works well for faults along plate boundaries, but he's unsure if it applies to enigmatic faults like New Madrid.

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