

Big quakes don't set off others far away

Malcolm Ritter, Associated Press, 3-28-11

Here's some good news in the wake of Japan's disaster: A new study says big earthquakes don't set off other dangerous ones around the globe. Big quakes do trigger local aftershocks, but researchers found no sign of setting off moderate-sized events beyond about 600 miles away.

That won't surprise most experts, said lead study author Tom Parsons. But it's different from his prior research, which did find a global effect for setting off small quakes, said Parsons, of the U.S. Geological Survey in Menlo Park, Calif.

Parsons and Aaron Velasco of the University of Texas at El Paso reported the work online Sunday in the journal *Nature Geoscience*.

They looked at worldwide earthquake records for the 30 years ending in 2009. There were 205 big earthquakes, with magnitude of 7 or more, and 25,222 moderate ones with magnitudes between 5 and 7.

Then the researchers looked at the timing of these events for evidence that the larger quakes triggered the moderate ones. They checked for delays of up to 24 hours, long enough to let the seismic waves from the big quakes peter out.

They did find an increase in moderate quakes, but only within about 600 miles of the initial event, and nearly all within 375 miles. At distances beyond 600 miles, the number of moderate quakes after a big event was no higher than normal.

While the study didn't look at whether big quakes trigger other big quakes far away, the new data suggest they do not, Parsons said. Anyway, since the world averages only about seven quakes at magnitude 7 or above per year, any such effect would have been noticed already, he said.

The new result agrees with what most seismologists believe just from experience, said Klaus Jacob of Columbia University's Lamont-Doherty Earth Observatory. "It's nice to see it confirmed with a thorough study," Jacob said.

Parsons said that after the magnitude-9 Japan event on March 11 he watched the global map of earthquakes to look for any distant effect. He saw none.

"It appears to fall in line with what we've seen before," Parsons said.