

Earthquake expert warns of dangers on Great California Shakeout day

Kristina Hernandez, Redlands Daily Facts, 10-16-13

It will take 100 seconds for California to unzip, and three minutes for the state to stop shaking.

That's how Kathleen Springer describes The Big One, and she's the expert.

Springer, a longtime senior curator of geological sciences at the San Bernardino County Museum in Redlands, has devoted much of her career to telling people what to expect when The Big One hits.

"Let's face it: There's an earthquake in your future," Springer cautioned by phone.

Millions are expected to participate Thursday in the Great California ShakeOut, the state's largest earthquake drill.

Hundreds will be a part of the museum's drill with Springer again. She will address a crowd about the program, how it was created and the importance of being prepared and how to survive the large shaker that will rock the region. Her talk is titled, "The Science Behind the ShakeOut."

The scenario describes a hypothetical 7.8 shaker that originates along the San Andreas Fault in Bombay Beach near the Salton Sea and rips all the way into north Los Angeles County to Lake Hughes, a distance of 180 miles.

Cajon Pass — one of the most-traveled areas in Southern California — will be destroyed by the quake, affecting travel and assistance available from other states for a long time.

"It's going to take months to reestablish that, and there could be an aftershock that six months later can sever all the work that had been done to reestablish all these repairs," Springer said.

Buildings will fall. Electricity will be unavailable. And assistance, well, it could take up to several days before emergency personnel could reach those in need.

On average, large quakes occur on the fault every 150 years. But one that big hasn't been felt in the area since 1857. Before that — 1680.

"But what does it mean for you to live here? We don't get tornadoes here, but we do get earthquakes. It may be flat in Nebraska, but it's not flat here. Did you know these mountains are created from earthquake to earthquake? It took a long time ... and they're still rising. And earthquakes are in our future," Springer said.

The idea for the ShakeOut originated — in part — from what Springer has been doing at the museum as officials there began creating the Hall of Geological Wonders — an exhibition that focuses on how quakes developed the region.

She met with Mark Benthien, director of the Southern California Earthquake Center, where she described what the museum was doing.

"(Mark is) 'Mr. ShakeOut' and got all of us people together, and it's all these people literally dedicated to earthquake and tsunami awareness throughout the state of California," Springer said.

That developed into the ShakeOut, and over the years has grown into a global phenomenon with millions participating.

This year alone, more than 9.5 million are registered in California and 24 million worldwide.

At the museum, Springer shares resources and tidbits about the fault line and how scientists are working to establish a forecast for shakers.

There are more than 300 faults in California, including the San Andreas.

California has a 99.7 percent chance of a magnitude 6.7 earthquake or higher hitting the region within 30 years.

The southern section of the San Andreas Fault has the highest probability of a 7.5 magnitude shaker or greater. The probability is 46 percent.

Such a quake is more likely to occur in the southern half of the state — 37 percent in 30 years — than in the northern half — 15 percent chance in 30 years — according to the Southern California Earthquake Center.

Springer — who resides in Claremont with her husband and two children — has traveled around the state and out of the area to meet and speak about the ShakeOut and earthquakes.

Her work has been noticed by several people in the earthquake science community, as well as officials in Washington, D.C.

In early 2012, Springer and her colleagues behind the Earthquake Country Alliance (ECA) — the people behind the ShakeOut — were recognized by the Federal Emergency Management Agency (FEMA) for their efforts.

“Earthquake awareness and motivating people to be prepared emphasizes the ShakeOut,” Springer said. “This is a way for us to communicate to the world the risk to the public. I have been very interested in doing that as a scientist, as an educator to teach how natural science can help build these more resilient societies through science.

“The ShakeOut really had a huge buzz at the beginning, and it never abated. All it has done is grow and grow,” she continued. “I’m the ‘ShakeOut Lady’ at the museum, but there’s ‘ShakeOut People’ who have made this possible.”