Earthquake risk

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Recent major earthquakes in Haiti and South America have shown people all over the world how dangerous it can be to live and build in a seismic zone. Americans living on the West Coast have been forced to adapt to the active fault lines running beneath their homes and businesses, but how prepared for a severe quake is the rest of the continental US?

Considering Searcy’s proximity to the New Madrid fault, the historically violent seismic zone that once changed the course of the Mississippi River, how prepared is Harding?

According to experts, officials and seismic enthusiasts associated with Harding, the campus would likely shrug off a major earthquake along the New Madrid fault.

Searcy’s distance from the actual seismic zone, which stretches 150 miles along the border between Missouri, Tennessee and Arkansas, is its biggest saving grace. Dr. David Cole, chair of Harding’s chemistry department and a professor of geology, said that a 7.2 magnitude earthquake at the southern end of the New Madrid fault would register in White County as a 6 or 7 on the Mercalli intensity scale. That translates into moderate damage to brick buildings and some cracked or crumbled chimneys, but few buildings would be completely destroyed.

When asked if Searcy was built to survive a direct hit from a major quake, Cole replied, “Oh shoot no, absolutely not.”

Thankfully, he said, the chances of that happening were “extremely remote.” Chief of Public Safety Craig Russell, who also operates Harding’s Emergency Management Committee, offered a similar risk assessment, but said the university still has a detailed earthquake response plan.

According to Russell, in the event of a tremor the immediate response should be to find shelter under something sturdy, like a desk or a doorframe, to protect against falling debris. If you are outside, he said, then stay outside and away from buildings. Once the shaking stops, the emergency plan would go into effect, and all buildings on campus would be completely evacuated. Only after a building is inspected and cleared by the Physical Resources department would anyone be allowed back in.

If a building like a dormitory was deemed unsafe, Russell said the contingency plan included several temporary shelters that displaced residents could use. As the entity responsible for residents and dormitories, the Office of Student Life would be charged with locating all of the students and accounting for the injured or worse.

Russell said it would be impossible to say how long accounting for every student might take, as everything depends on the intensity of the natural disaster.

“Anybody that does emergency planning will tell you, if somebody is telling you a specific time table, they’re probably lying to you because they don’t know either,” he said.

While some of Searcy’s structures might not have been built with fault lines in mind, architect Mike Steelman said any Arkansas building designed or significantly renovated in the past 20 years must, by law, incorporate “earthquake resistant design.” The design is determined by three factors: proximity to known fault zones, soil conditions at the building site and how many occupants the building plans to hold. Each of the buildings built or renovated on Harding’s campus since 1991 meet these requirements, Steelman said, and as the architect behind several of those renovations, he would know.

Steelman’s faith in the older structures on campus is just as sturdy, he said. Even before the current building laws were written, buildings like Patti Cobb Hall and the Olen Hendrix building were designed using quality materials and criteria that was “quite stringent by world standards.”

“I would be able to sleep soundly in any of [the buildings], dorm room and classroom alike,” Steelman said.

Though Searcy and Harding’s campus would likely be spared, the city of Memphis is located near the center of the seismic zone. A 2009 report from the US Geological Survey said Memphis would be “severely impacted” by a New Madrid earthquake. Aging buildings and infrastructure would be highly vulnerable, and the two bridges over the Mississippi River that connect Memphis to Arkansas might collapse. Such a collapse could have a significant impact on the Harding student body, especially among students from states east of the river.

The University of Memphis Center for Earthquake Research and Information could not be reached for comment on the integrity of the Mississippi River bridges.