

Feds to trigger underground explosions to see what makes earthquakes tick

Colin Atagi, Palm Springs Desert Sun, 3-10-10

Scientists will detonate explosives underground to find out whether the Coachella Valley's soil makes earthquakes shake more violently, it was announced during a government meeting Monday.

“We're sitting on something that'll trap seismic energy and shake like hell in an earthquake,” said Gary Fuis, a United States Geological Survey geophysicist.

According to the USGS, nearly 2,000 people would die in a 7-magnitude scenario on the San Andreas fault with some 50,000 injured and more than \$200 billion in damage.

Fuis gave a presentation to the Coachella Valley Association of Governments on Monday about the planned Salton Seismic Imaging Project in February and March 2011.

Three thousand seismographs “the size of beer cans” will be buried with explosives between Palm Springs and southwest Arizona, he said.

The seismographs will be placed 100 yards apart in “city limits, out in the boondocks and the mountains,” Fuis said. “If these cities and houses want to be protected, we have to know what's under (buildings).”

Exact locations were not disclosed. Earthquake officials are meeting with property owners to get permission to conduct the experiment on their land.

According to Fuis, the explosions will cause the equivalent to a 1.5- to 2-magnitude earthquake as seismographs record and create images of underground structures, such as fault lines.

Experts also will study the sedimentary basins common in the Coachella Valley, which contain sand, silt and clay — and amplify earthquakes.

Seismic energy from earthquakes travel at a slower pace through sediments, becomes trapped and allows amplitudes to build up.

The seismographs will be buried about six inches deep while commercial ammonium nitrate explosives will be buried 60 to 120 feet underground.

Officials don't expect the explosions to be visible or audible on the surface, but they may be felt a few hundred feet away.

The project is paid for by the USGS and National Science Foundation, and other sources of funding are being sought.

Data will be released to the public about a year later and final results will come out about a year after that.

“The more information those seismologists can give us, the better,” said Rancho Mirage resident Dennis Mileti, a professor emeritus of the University of Colorado and expert on earthquake preparedness.

Earthquake experts encourage residents and community leaders to prepare for a 7.8-magnitude quake, which they think may happen any day.

“One thing that you can count on is the fault will eventually move. It's not going to stay stuck forever,” Mileti said.