

# Private homes sought for earthquake monitors

Mark Muckenfuss, Riverside Press-Enterprise, 10-28-10

The U.S. Geological Survey is looking for a few good garages.

To improve its ability to map ground movement during an earthquake, officials want to place 35 tackle-box-sized sensors in Southern California homes, including some along the Interstate 15 corridor in the Murrieta/Temecula area. They want homeowners willing to place the sensors in their homes.

The program, called NetQuakes, was started last year in the San Francisco and Seattle areas. Financed by federal stimulus money, 90 Swiss-made GeoSIG units are scattered around the Bay Area. An additional 45 are connected to a network in the Seattle region.

The agency paid just over \$4,000 apiece for the 35 sensors it wants to place in Southern California, said Doug Givens, project chief for USGS Southern California earthquake monitoring, speaking from his office at Caltech in Pasadena.

"Our hope is, as we get those out, we'll find additional funding for more," Givens said. Eventually, he would like to have hundreds scattered across Southern California.

The blue units will be tied into a sensor network via the Internet. They have to be bolted to a concrete foundation.

"Their primary purpose isn't to locate or determine the magnitude of earthquakes," he said. "They're really to help us characterize the pattern of ground shaking during damaging earthquakes."

Despite careful modeling, Givens said, geologists can't always determine what areas are going to be most affected by a strong quake. For instance, he said, in the 1994 Northridge Earthquake, the greatest surface movement took place north of the quake's epicenter and in Santa Monica to the south.

"You can do your best based on what you know about the earthquake source, but it's really best to measure what's going on," he said. The NetQuake sensors will do just that, he added. The USGS plans to place them in regions of Southern California that don't have the same density of sensors as some other areas.

Besides the Murrieta/Temecula area, the sensors will be placed in southern Orange and northern San Diego counties.

Knowing the actual ground movement in the aftermath of a large quake has practical implications, Givens said. Emergency personnel can be sent to the areas where the hardest shaking took place, since that is where the greater damage is likely to be.

The relatively cheap cost of the units, compared to more sophisticated sensors, makes them attractive, as does their sensitivity.

"We can pick up earthquakes that you would not feel," Givens said.

Givens wants to distribute the units soon.

"Depending on the response," he said, "we'll have them all installed by the end of the year."