

# Speakers discuss advances in seismic technology since Northridge quake

**Teresa Rochester, Ventura County Star, 1-9-14**

LOS ANGELES — After the Northridge earthquake struck in January 1994, creating a map showing the epicenter, magnitude and shaking took two months.

The technology was analog and relied on film from sensors that required collection and processing.

Today, making the information available on the U. S. Geological Survey website takes two to three minutes, according to seismologist Lucy Jones, a science adviser for risk reduction with the federal agency.

On Thursday, Jones, along with Thomas Jordan, director of the Southern California Earthquake Center at USC, and Kate Long, earthquake program manager for the state Office of Emergency Services, discussed how earthquake science has evolved in the past 20 years and how it benefits communities.

Before the Northridge quake hit early Jan. 17, 1994, the blind thrust fault on which it occurred was unknown.

Now, through GPS, sensors and mapping, more blind thrust faults have been charted. Areas with significant thrust faults, such as Ventura, are now designated special fault study areas, Jordan said.

A uniform earthquake rupture forecast has been developed, as has a national seismic map showing in colors the likelihood of high seismic shaking.

While the colors are overlaid on large regions, Jordan said, the goal is to winnow down the areas.

“What we want to do is improve our understanding on a smaller geographic level,” he said.

The key is using science to increase safety and awareness.

Long said previous earthquake study involved the use of “windshield surveys”: Law enforcement and firefighters would radio in damage they witnessed in the field. Now, a shake map captures the damage.

A program also is in place that allows the Federal Emergency Management Agency to estimate losses.

Perhaps the biggest breakthrough in technology involves an early warning system, which could alert people seconds before a quake hits.

That could allow a conductor to stop a train, a family to get into a secure location or a surgeon to pull back before making an incision.

While the technology is in place, the USGS lacks the staff to get it started. The agency, funded by Congress, receives half of what it did in 1980 in real dollars.

“We can save a lot of lives with that,” Jones said.