

Earthquakes

See EENS page 2

H. Stephen Glenn

Where not to be when the next earthquake hits

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The Pajaro Valley/Watsonville lowlands and the San Lorenzo River area of Santa Cruz are among the most dangerous places to be in Santa Cruz County during an earthquake.

That's because those areas are most subject to liquefaction, meaning the soil would assume a jellylike consistency as a result of heavy shaking during a major quake, said Gary Griggs, a UC-Santa Cruz professor of earth sciences and acknowledged authority on geologic conditions, at a luncheon meeting in Santa Cruz yesterday.

Hill slopes are another area to avoid, Griggs said, because of the landslides earthquakes can trigger. The infamous 1906 earthquake that destroyed much of San Francisco caused hundreds of landslides, he said.

Stringent building codes as a result of earthquake safety measures, however, have reduced the dangers, Griggs said to the gathering, which was sponsored by the UCSC Alumni Association.

According to a school of thought Griggs dubbed "the bathtub school of seismic safety" and attributed to such people as real estate agents, "more Americans die in bathtubs than die in earthquakes."

The country's average death



Gary Griggs

toll from earthquakes during this century is 15 people a year, Griggs said, compared to 18,000 people each year worldwide.

Then there's the "what if I'm right" school of thought, he said, held by structural engineers and emergency-preparedness and civil-defense officials.

Warnings that a major quake could follow within several days of the temblor felt in this area a couple of months ago, Griggs said, were based on the knowledge that sometimes a major quake has followed a quake

See QUAKEs page 2 ▶

QUAKES

▶ From page 1

measuring 5 or 6 on the Richter scale.

Griggs illustrated his talk with a slide show of the damage an earthquake like the 1906 temblor can render. The slides depicted shifted streets in downtown Watsonville, damage at Chittenden Pass, "when a railroad trestle slid partly into the river bottom," and a damaged Cooper House; a cupola at the top of the Cooper House, which was the county courthouse at the time, fell through to the basement during the 1906 quake.

Griggs said, however, that California's historical earthquake records are only between 150 and 200 years old.

"We haven't had enough earthquake history in California to know when the next one will occur," he said.

China, on the other hand, has a well-recorded history dating back 3,000 years. It includes a 300- to 400-year period during which almost no earthquake activity occurred in a large area of the country, Griggs said, so it's difficult to conclude from California's

short recorded history whether the state is in a period of low, moderate or high earthquake activity.

The last major shift occurring in the Santa Cruz Mountains as a result of earthquake activity was in 1906, he said.

"Since then," he said, "it's been essentially locked; there's been no movement."

Griggs recommended that anyone worried about earthquakes read a book written by a structural engineer entitled "Peace of Mind in Earthquake Country," which describes what to do to survive an earthquake, along with such useful information as how to secure a water heater.

However, Griggs said he thought the real future of earthquake preparedness lies in planning the location and structure of buildings, rather than in the "first-aid, shovel and band-aid" survivalist-tactics approach.

In answer to an audience member's query as to why building was allowed in unsafe areas, such as Love Creek, in which landslides during the 1982 storms killed 10 people, Griggs said that is no longer the case.