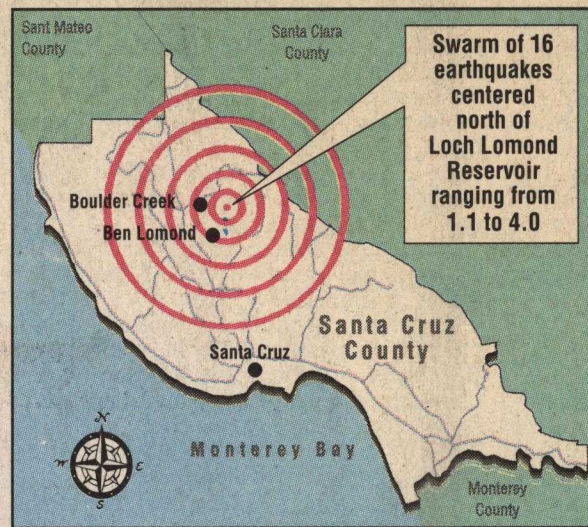


# Shaken up

## Swarm of 16 earthquakes centered near Boulder Creek



Bill Lovejoy/Sentinel

John Fencyk was watching TV at his Bear Creek Road home, near the epicenter, when one of the largest quakes hit.

## Tremors ranged from 1.1 to 4.0 in magnitude

By JOHN SANFORD  
Sentinel staff writer

**BOULDER CREEK** — The series of earthquakes that rattled nerves and bookshelves early Tuesday was out of the ordinary for the Santa Cruz area, according to the experts.

"A swarm of earthquakes is not unusual. A swarm of earthquakes in that particular area is unusual and interesting, but it's not alarming," said Dale Cox, a spokesman for the U.S. Geological Survey.

A swarm is a group of tremors without a prin-

cipal main shock, said Rick Lester of the USGS in Menlo Park.

The 16 tremors struck between 2:01 and 7:17 a.m. and were centered a little more than four miles northeast of Boulder Creek.

The largest was a magnitude 4.0 that hit at 4:38 a.m. The second largest, registering 3.8 in magnitude, occurred three minutes later, according to the USGS.

The 2:01 a.m. measured 3.0. The smallest in the series was a 1.1.

It was considered possible but unlikely that a larger earthquake would follow the swarm.

"There's no way of telling if this is indicative of a larger earthquake to come," said Robert Uhrhammer, a research seismologist at the University of California at Berkeley.

But he added that, in Northern California, there is "less than a 1 percent chance" that a larger quake will follow a series of relative small earthquakes.

The epicenters of Tuesday's quakes were in the Santa Cruz Mountains along Newell Creek, north of Loch Lomond reservoir. Some early

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# Earthquake

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reports put the epicenters in Ben Lomond and Scotts Valley, but that appeared to be based on zip codes, not actual locations.

Seventeen-year-old Jon Francyk, who lives near one of the epicenters, said he was awake sometime after 4 a.m., watching television, when he felt a jolt that knocked pictures off the wall and made the Christmas tree rock.

"The sound was way scarier than the actual shock. I felt the house lift and it sounded like it went right under us," Francyk said.

Others reported feeling the quakes as far north as San Francisco and as far south as Monterey.

In Santa Cruz, about five minor injuries were reported in connection with the earthquakes, said Penny Jacobi, spokeswoman for Dominican Hospital.

One woman fell out of bed and dislocated her shoulder; another woman fell down. Both said they were injured by the quakes that hit after 4:30 a.m. They were treated at Dominican, Jacobi said.

Three other people went to the hospital complaining of dizziness, shortness of breath or headaches, she said.

Two faults — the Ben Lomond fault and Zayante-Vergeles fault — run through the area, but the source of the quakes was uncertain Tuesday.

"We can't pin it down to one or the other," Uhrhammer said.

However, geologists have plotted points of Tuesday's epicenter on the Zayante fault, which starts just west of Ben Lomond and runs east past Loch Lomond before connecting with the San Andreas fault. The fault is about 20- to 25-miles long, Lester said.

Sentinel staff photographer Bill Lovejoy contributed to this report.