

We should be prepared for a mighty quake to strike our region

A Valuable Lesson in Monster Earthquakes

By Chris Weygandt Alba

The same week a mammoth 8.8 earthquake struck Chile, California was rocking and rolling as usual. We had 788 earthquakes the week of February 26 to March 4 - 110 of them on a single day.

They were mostly microearthquakes, less than 3.0 in magnitude. Most were either stretched in a neat line along the San Andreas Fault or clustered in the Napa Valley, Mammoth Lake, and Southern California regions.

We had our little swarm of them here—11 that week in the county, primarily between Paso Robles and San Simeon in the Santa Lucia mountains. None of them was over a 3.0. Aftershocks of our 6.5 San Simeon quake, in 2003, are “expected to continue for several years,” says a report by the California Integrated Seismic Network.

Big quakes have dominated the news as 2010 got underway. The massively destructive earthquake in Haiti on Jan. 12 was a 7.0 in magnitude. More than 220,000 people died.

The Feb. 27 quake in Chile, a whopping 8.8, killed about 800 people. Why such a difference in the loss of life?

For one thing, the 8.8 Chilean earthquake was centered 21 miles underground and out in the ocean, 200 miles from the country's largest city. Haiti's quake was much closer to the surface and to Port-au-Prince.

Also, the ground beneath that city was less stable, and the intensity of shaking was classed in the highest levels, as “violent” to “extreme.” Chile's was “severe,” a less intense level, because energy dissipates the farther you are from the epicenter.

And a great many lives in Chile were saved by earthquake-resistant structures, strictly required by government building codes. Haiti has no building codes, and they used a lot of concrete not reinforced by steel.

Chile was prepared for big quakes. The largest recorded earthquake in the world hit that country in 1960. It tipped the Richter scale at 9.5, and its tsunamis caused far-reaching death and damage in Japan, the Philippines, Hawaii, and California.

The western coast of South America is earthquake prone.

As are we.

The West Coast of the North American continent, like Chile, sits on the “Ring of Fire,” shaped like an upside-down horseshoe around the Pacific Ocean.

About 80 percent of the world's largest earthquakes happen here. It stretches from South America, north to Alaska, west along the Asia

quake that struck Paso Robles on Dec. 22, 2003, and a 6.5 temblor 33 miles into the ocean west of Eureka this past January.

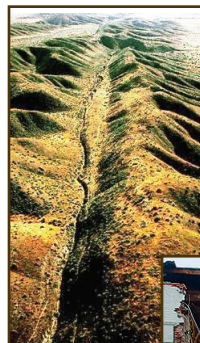


Above: The Haiti earthquake was more devastating for a number of reasons than the much larger earthquake in Chile.

Right: Our neighbor, the San Andreas fault, is shown here in the Carrizo section.



Downtown Paso Robles following the December 2003 quake.



Downtown Paso Robles following the December 2003 quake.



Chile and California have seismic building codes to prevent this.



damage, and those figures are far more powerful. The energy measurement is based on multiples of 32. An increase of one unit is about 32 times the energy. So that 7.0 quake is actually 32 times stronger than a 6.0, and an 8.0 is over 1,024 times stronger (32 times 32).

That's enough math for now. With all this shaking going on, let's look at our future. Can we assume we've had our fair share of large earthquakes?

Since 1700, the West Coast hasn't been hit by a monster quake of magnitude 8 and 9. Elsewhere on the Ring of Fire, giants happen with some regularity: 15 times in the past 100 years.

According to the U.S. Geological Survey, they seem to happen in clusters, with a 50-year cycle. In the last cycle, from 1950 and 1965, seven great quakes between 8.5 and 9.5 hit the Rim of Fire.

The recent cycle of Big Ones began in 2004 with three in Indonesia and one in Chile.

Seismologists say our North American region may be overdue. In California, the long San Andreas fault poses a real threat of at least a magnitude 8.0 earthquake. Both northern and southern California are riddled with faults.

Here in San Luis County, we have seven known fault areas, including the San Andreas. The state's largest earthquake, the magnitude 7.9 Fort Tejon quake in 1857, began its rupture of that fault at Parkfield, 42 miles east of us.

We live near the most-studied fault in the world. The San Andreas Fault Observatory at Depth, just north of Parkfield, was completed three years ago. Recording instruments have been placed in a hole drilled nearly 2.5 miles deep into the fault to study the behavior of that very active portion of the San Andreas.

Someday the data might lead to earthquake prediction, but not now.

For now, we only have a few centuries of recorded history to guide us. Here in Paso Robles we know what a magnitude 6.5 earthquake can do. But the 2003 quake shouldn't make us complacent.

The director of the U.S. Geological Survey told USA Today after the Chilean earthquake, “It's not a matter of if, only of when an event like this strikes the people of the United States. Shame on us if we don't prepare.”

Residents Respond in a Mock Emergency “Earthquake! This is a Drill!”

By Millie Drum

For one hour on March 11, the residents of Traditions kicked in to crisis mode with the news of a 7.0 earthquake - Epicenter, the Paso Robles airport. After months of planning, Drill Coordinator Larry Brown guided the volunteers through a simulated disaster involving the close-knit community of over 350 residents...most of whom are retired.

The Command Center was set up in the Community Center with computers and communication equipment. Neon striped vests, flags and radios were readied for distribution to the volunteer “responders and controllers” assigned to a “field zone” of responsibility, ready to evaluate damage, injuries and order possible evacuation.



With scripts of various scenarios, the responders spoke to the Incident Commander through remote equipment. “I have an older woman down and unconscious.” “A 65 year old male is injured.” “I’m going in to turn off the power and gas!” “I have a homeowner outside their home requesting assistance.” The Incident Commander (IC) responded by saying, “THIS IS A DRILL” and answered the call with assistance. The IC continued to dispatch responders to exact addresses, posted each incident/injury on a master map, and directed the call for emergency services. A volunteer acted as the scribe to create a database.

The forceful purpose of preparedness and atmosphere of urgency made me feel like I was witnessing an actual emergency... honest. We’ve heard the dreadful news from Haiti, Chile and Thailand. In 2003, the

North County came through the San Simeon 6.5 quake unscathed in comparison. If there ever was a model to follow for Earthquake Preparedness, it is the Traditions community...neighbors caring for neighbors.



EARTHQUAKE: HOW TO PREPARE IN YOUR HOME

Maintain at least a three-day supply of emergency food, water and medical basics (see checklist). Store in water-proof plastic tubs or trash can. Place near an exit. Rotate food and water every six months.

Identify safe spots in each room – under sturdy furniture or against interior walls. Clear hallways are safer than kitchens or garages. Know the danger spots – windows, mirrors, fireplaces, hanging objects, tall furniture, overhead kitchen cabinets. Show your children both safe and danger areas, plus exits in each room. Show family members how to turn off gas, water & electricity. Strap water heater and secure appliances that

could move and rupture utility lines. Keep breakable and heavy objects on lower shelves. Bolt tall furniture to wall studs. Don’t place heavy pictures, shelves or mirrors over beds. Secure them elsewhere by screwing hooks into studs. Close drapes or shades over windows at night. Keep sturdy shoes and flashlights on the floor beside beds. Keep flammable or hazardous chemicals (cleaning products, pest sprays, paint) secured in cabinets near floor level. Practice protecting yourself during an earthquake: DROP, COVER, and HOLD ON.

OUTSIDE THE HOME Decide how and where your family will reunite if separat-

ed. Choose an out-of-state relative to be called by separated family members. Make sure every family member has that phone number at all times. Keep a backpack with emergency food, water, extra cash, sturdy shoes, and medical kit in your car’s trunk.

Identify neighbors who might need special assistance or who have special skills to share, such as CPR or firefighting. Know your child’s school earthquake preparedness plans, and share it with your child. Have your child keep an earthquake kit at school, containing emergency phone numbers, family photo, spare clothing, bottled water, snacks, etc.

EMERGENCY SUPPLY CHECKLIST

SURVIVAL

- Water – One gallon per person per day
- Food-ready-to-eat canned goods, freeze-dried meals, peanut butter, crackers, energy bars, nuts
- Manual can opener,
- Medical kit – include many bandage types, scissors, antiseptic, antibiotic ointment, pain relievers, thermometer, basic first-aid guide
- Sleeping bags or blankets
- Portable or crank radio, flashlight, spare batteries
- Essential medication, spare glasses
- Fire extinguisher
- Food and water for pets
- Cash (ATMs will not work)
- Prepaid phone card (cell phones might not work)

SANITATION

- Large plastic trash bags for trash
- Household bleach
- Antibacterial soap, liquid detergent, shampoo
- Toothpaste, brushes
- Feminine and infant supplies
- Toilet paper

SAFETY & COMFORT

- Sturdy shoes
- Heavy gloves for clearing debris
- Propane lantern
- Change of clothing
- Utility knife or razor blades
- List of important phone numbers
- Written instructions to turn off utilities if necessary
- Tent
- Family photos, Bible

COOKING

- Camp stove, barbecue pit
- Cooking pot
- Fuel (propane, charcoal)
- Matches
- Plastic utensils, paper plates, cups
- Paper towels, moist towelettes
- Heavy-duty aluminum foil

TOOLS & SUPPLIES

- Ax, shovel, pick, broom, crowbar
- Crescent wrench for turning off gas
- Screwdriver, pliers, hammer, nails, screws
- Coil of 1/2” rope
- Dust mask / safety glasses
- Plastic sheeting, duct tape

MORE INFORMATION

www.fema.gov/hazard/earthquake
www.earthquakecountry.info (booklet)
www.WhatHappensNow.com