

## The Big One

- 1 San Francisco, one of the most populous cities in the United States, stands atop one of the world's most active tectonic faults. The San Andreas Fault is formed by the meeting of the Pacific Tectonic Plate and the North American Tectonic Plate. These two giant landmasses often bump into or brush up against each other, resulting in earthquakes.

One of the most powerful earthquakes ever recorded in the area struck San Francisco at 5:12 a.m. of April 18, 1906, beginning with an initial foreshock. No more than 30 seconds later, violent shocks began, lasting 45 to 60 seconds altogether. Though the shocks lasted barely a minute, they were felt from southern Oregon to south of Los Angeles, rupturing 296 miles of the 800-mile San Andreas Fault. The depth of the shift between the plates was approximately a 24 feet slip, about the size of a two-story building. According to Mr. Bacigalupi, a resident of San Francisco, he was startled awake "by a terrific trembling, which acted in the same manner as would a bucking bronco<sup>1</sup>." He added, "My bed was going up and down in all four directions at once, while all about me I heard screams, wails, and crashing of breaking china-ware and nick-knacks."

- 3 The quake happened decades before the development of the Richter scale used to measure the strength of earthquakes. Today, many estimates suggest that the quake likely registered a magnitude between 7.7 and 8.3. This estimate is based on the damage done to the city as well as the changes to the geography of the surrounding area itself. In the city itself, some 3,000 people perished. Between the quake and the resulting fires, over 75% of San Francisco was destroyed.
- 4 Some estimates suggest that approximately 90% of the damage done to San Francisco was due to the fires that resulted from the shocks. When the quake struck, it ruptured gas lines, causing them to explode or catch fire. The fires – over 30 in all – burned through tens of thousands of buildings and hundreds of blocks. Though many of the fires were started as a direct result of the earthquake, many more happened days after the first rumblings. In an attempt to stop fires from spreading from one building to the next, firefighters attempted to create firebreaks by demolishing buildings. The hope was that by sacrificing some buildings, they could stop the fire from consuming thousands more. However, many firefighters were not well trained. In the course of demolishing buildings, some firefighters accidentally started new fires.
- 5 Fire took many important buildings from the city of San Francisco. The Palace Hotel, for example, was a city landmark, and was completely consumed by the blaze. The Metropolitan Opera Company, at the time in San Francisco on tour from New York, lost many sets and costumes to the fires. The fire did not discriminate, taking from the city even knowledge; the California Academy of Science, which housed a large botanical collection, went up in flames.
- 6 Though technically less than a minute long, the quake devastated a vast number of lives. Of the 400,000 San Francisco residents, the quake left about 225,000 homeless. Then-mayor E. E. Schmitz called in 2,500 Army personnel to assist with the aftermath. After helping to douse the fires, they began supplying the newly homeless with clothing. However, after large quantities of Army clothing was passed out, they quickly saw that food and shelter were the main concerns.
- 7 The U.S. House and Senate Appropriations committee quickly sent funds to supply residents with food, water, tents, blankets, and medical supplies. They also offered people daily rations of bread, vegetables and meat. Referred to as "bread lines," residents would wait in long lines that were several blocks long to obtain their ration. However, because of the destruction, chimneys were deemed unsafe and people

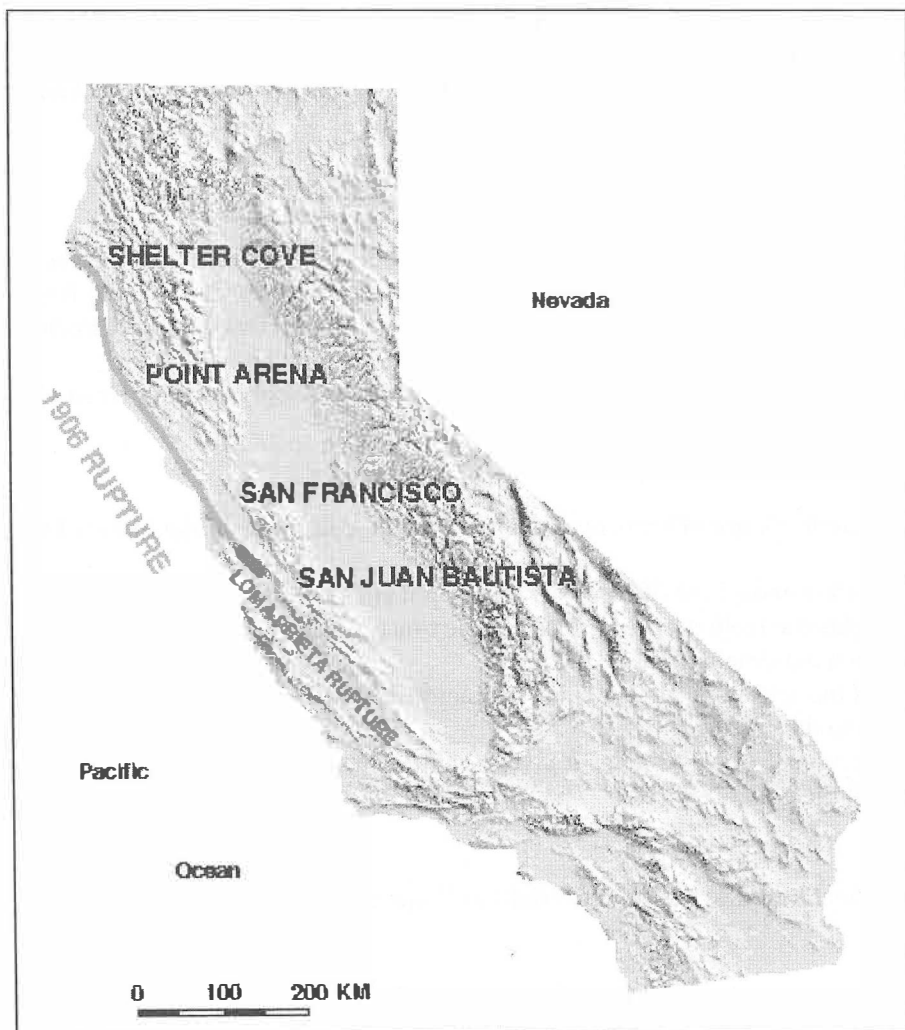
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<sup>1</sup> **bronco**: a wild or half-tamed horse

had to transport their wood stoves to the streets for cooking. Homeless people established neighborhoods of tents in city parks such as the Golden Gate Park. Some of these tent neighborhoods lasted for years after the quake.

- 8 It's hard to fathom that a minute could change lives, infrastructures, and even geography. Though the fires died out and the smoke cleared within a few days, it took several months for San Francisco to reorganize and begin reconstruction of lives and buildings. The city was not fully restored for another few years. In the end, insurance companies estimated losses at over \$200 million, the equivalent of \$6 billion today.
- 9 Eventually, San Francisco recovered from the devastation of 1906, going on to enjoy decades of geological peace.

#### San Andreas Fault – CA



Source: United States Geological Survey