

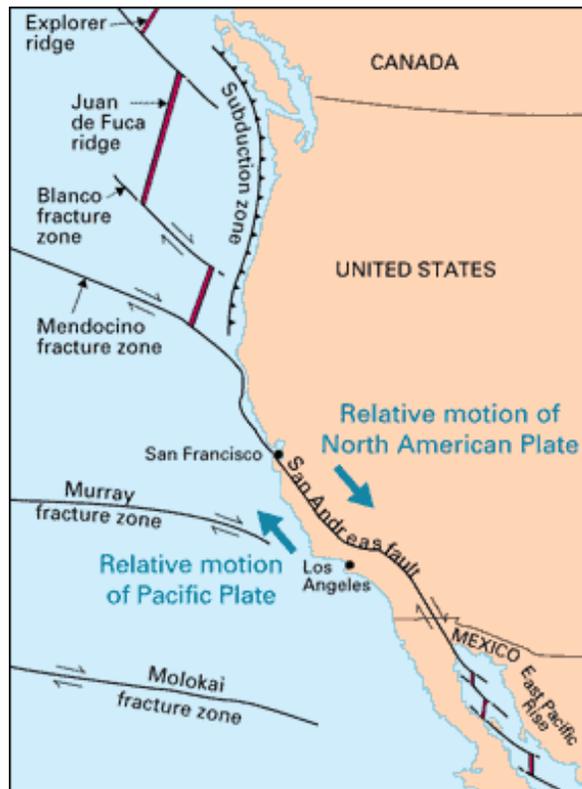
## Behind the quake

By Mark Wheeler / Hi-Desert Star

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Since the identification of the San Andreas Fault by geologist Andrew Lawson in 1893, much has been learned about faults, and about plate tectonics. The latter is the study of the bedrock movements over the surface of the planet.

In these parts, the Pacific Ocean lies over one plate that is moving generally northwesterly. The



North American continent rests on another plate which moves generally south. These two meet in a zone of faults dominated by the San Andreas, and they travel past one another at about 1.3 inches per year.

The plates have traveled at different rates at different stages of their existence. This has been determined by studying the earthen stratification in trenches dug along the fault's course. In his book "A Land In Motion," Collier calculates that over 16 million years, the displacement between the two plates, as measured along the San Andreas, is 458 miles.

That is a significant amount of travel, and it has an effect, even at much smaller distances - inches, in fact, or so says current theory. The effect is called "strain," and it is stored in the earth adjacent to the plate movements.

Fault lines run through this earth and constitute weaknesses in the landmass' structure. When the strain reaches a certain point, something has to give, and it gives in the joint between two contiguous land surfaces where the weakness is: in a fault. Trenches dug into the SAF have uncovered visual evidence that it has given under the strain many times in the past.

With all the data collected these days for plate movement, strain increase, historic fault activity and daily seismic recordings, it's not unreasonable, at least in the opinion of some researchers, to think that if the right information is assembled in the right way, local, short-term earthquake prediction should be possible.

It's an old dream for humans, to foretell these sometimes devastating events in advance. Folk-prediction efforts for earthquakes have existed for over 2,000 years. Most of the traditional methods were and still are based on the interpretation of animal behavior which appears abnormal.

In China, a network of observation posts was established for the collection and collation of just this kind of information, and it seemed to succeed in 1975 when alerts evacuated people in the Haicheng area just before a 7.3 magnitude shocker hit. Sadly, though, the same network was utterly silent a year later when, in Tangshan, a wholly unexpected quake ripped through that region, leaving more than 300,000 dead.