Dear President Bush:

We have collected lot of data on the earthquake and volcano project you have assigned to us. We learned that tectonic plates are the cause of all earthquakes. We have also learned the average age of ocean crust is 55 million years. Also, we learned the age of the continental crust is 2.3 billion years old.

At one time the entire planet had only one continent called Pangaea. The tectonic plates are anywhere from 50 to 250 miles thick. There are currently 14 continental and oceanic plates. The plates are the Eurasian plate, Australian-Indian plate, Philippine plate, Pacific plate, Juan de Fuca plate, Nazca plate, Cosco plate, North American plate, Caribbean plate, South American plate, African plate, Arabian plate, the Antarctic plate, and the Scotia plate. The continental crust is 3 billion years old and is about 20 to 80 kilometers thick.

Oceanic crust is about 70 to 100 million years old and the crust is about 10 kilometers thick. The plates move both vertically and horizontally and are made of rock and drift all over the globe. The theory of plate tectonics explains the movement to the Earth's plates and also explains the cause of earthquakes, volcanoes, ocean islands, and mountain range formations.

Three types of plate movement are divergent plate movement, convergent plate movement, and lateral slipping plate movement. Fossil evidence proves that there was once a land bridge between South America, Africa, Australia, and Antarctica. Did you know there are four types of plate boundary zones? Divergent boundaries occur along spreading centers where plates have moved apart and new crust is created by pushing up from the mantle. The best-known of the divergent boundaries is the Mid-Atlantic Ridge. The submerged mountain ridges are splitting the country of Iceland apart. This is why there are so many volcanoes there.

The way Arizona could help California in the event of a large quake is to send doctors, equipment to move rubble, food, clothes, medicine, and money to build new homes for the ones that were lost.

Sincerely,

Matt and Chaz