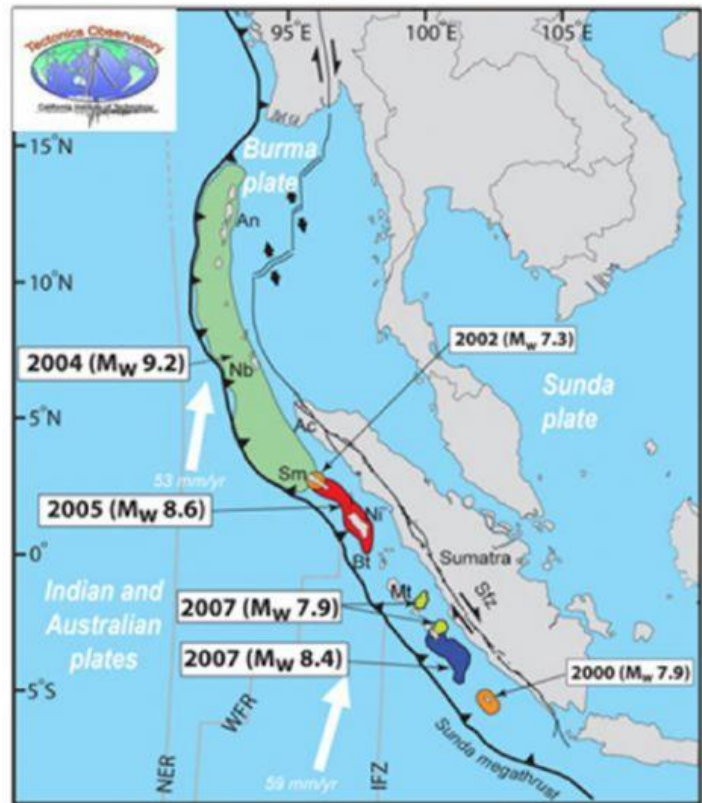


EP6 Science
Natural Disaster Reading

The giant 2004 Sumatra earthquake broke the largest tectonic plate piece in history. The piece was a distance of 1,500 km from north to south, almost as long as the country of Thailand. The earthquake was magnitude 9.1 and is the third most powerful earthquake ever recorded. The focus was about 50 km below the surface. The breaking started beneath the epicenter on the south end of the piece and moved north along the fault at 2 km/sec or 7,200 km/hr. It was a reverse fault and the west side of the tectonic piece pushed up about 6-10 meters, raising islands higher out of the sea. The mainshock lasted about 10 minutes and there were thousands of small aftershocks in the days after.



The earthquake started a tsunami that traveled all the way across the Indian Ocean and into the Atlantic and Pacific. More than 230,000 people died in 14 countries in Southeast Asia, South Asia, and as far away as Africa. On the west coast of Thailand, six main waves arrived two hours after the quake; the highest wave was 20 meters. Over 8,000 people were confirmed killed and thousands more were missing and presumed dead.

Most of the victims were taken by surprise as there was no warning that the tsunami was coming. Waves 30 meters high (similar to the 1960 tsunami) were observed in some countries and seawater came inland about 2 km. Satellite video studied afterward showed deep-water waves only about 60 cm high. It was the first time this type of wave had been recorded by satellite before.

