



Waves of the tsunami hit residences in Miyagi prefecture, Japan. As soon as the alert was sounded, residents moved to higher ground. Because the tsunami was larger than expected, however, some found themselves still affected. In many places in the Japanese islands, waves were 30 feet or more high and struck within an hour of the earthquake. However, in Miyako – in Iwate prefecture – the water reached as high as 133 feet. ASSOCIATED PRESS

# EARTHQUAKE

By Charles Apple | THE SPOKESMAN-REVIEW

Ten years ago, a 9.1-magnitude earthquake – and the titanic tsunami it generated – struck Japan. Japan is still struggling with the aftermath.

The earthquake struck at 2:46 p.m. local time on March 11, 2011.

Within moments, the entire island of Honshu – the main Japanese island – shifted eight feet to the east. The Earth shifted as much as four to 10 inches on its axis. Enough energy was released to power Los Angeles for an entire year. It was the fourth largest earthquake since modern record-keeping began in 1900.

Homes sank as the ground below them liquified. More devastating than the earthquake itself was a tsunami created by the sudden release of so much energy. A wall of water spread out from the epicenter of the quake, which was off the coast of the island. Entire towns were swallowed whole. Even the West Coast of the U.S. saw waves up to 8 feet high.

Japan had prepared for earthquakes

and tsunamis but the country simply wasn't ready for something of this enormity. The flooding knocked equipment at the Fukushima Daiichi Nuclear Plant offline. Residents within



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Smoke rises from Unit 3 at Fukushima Daiichi Nuclear Plant 10 days after the earthquake.

a 6.2-mile radius were evacuated. The next day, a series of nuclear meltdowns began in three of the plant's four reactors. The resulting emergency ranks as the second-largest nuclear disaster ever.

Recovery from the earthquake and its aftermath has been slow. As of last year, about 48,000 evacuees were still waiting for new permanent housing. The Tokyo Electric Power Company says it'll take another 30 or 40 years before its damaged nuclear plants can be fully decommissioned.

Debris continues to wash up along shores around the Pacific Ocean. Scientists monitor the area around Fukushima for continued radiation of seawater and ocean life.

On Feb. 14 of this year, a 7.1-magnitude earthquake struck the same region. It was an aftershock of the quake 10 years ago, geologists said.

15,899 People killed

332,395 Buildings destroyed

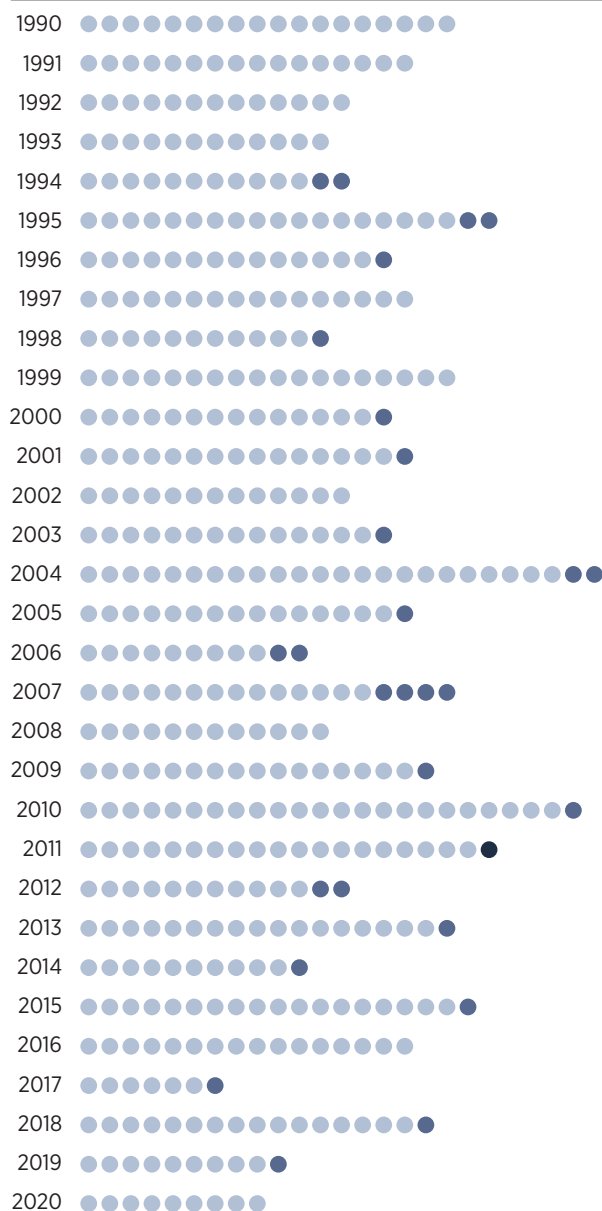
228,863 People displaced

\$360B Damage done (in U.S. dollars)

## Major earthquakes by year

Earthquakes per year greater than magnitude 7.0, according to the U.S. Geological Survey.

● Magnitude 7-7.9  
● Magnitude 8+



## World's largest earthquakes

The 20 largest earthquakes since 1900 ranked by magnitude, according to the U.S. Geological Survey. All 20 occurred in a ring around the Pacific Ocean basin – an area geologists call “the Ring of Fire.”

