

# Tsunami-generating quake possible off Indonesia: scientists

January 17 2010, by Richard Ingham

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Motorists past a damaged road in the Sumatran city of Padang in 2009 after a 7.6-magnitude quake. A huge wave-generating quake capable of killing as many people as in the 2004 Indian Ocean tsunami could strike off the Indonesian island of Sumatra, and the city of Padang is in the firing line, a team of seismologists said on Sunday.

A huge wave-generating quake capable of killing as many people as in the 2004 Indian Ocean tsunami could strike off the Indonesian island of Sumatra, and the city of Padang is in the firing line, a team of seismologists said on Sunday.

The group -- led by a prominent scientist who predicted a 2005 Sumatran [quake](#) with uncanny accuracy -- issued the warning in a letter to the journal *Nature Geoscience*.

The peril comes from a relentless buildup of pressure over the last two centuries on a section of the Sunda Trench, one of the world's most

notorious [earthquake](#) zones, which runs parallel to the western [Sumatra](#) coast, they said.

This section, named after the Mentawai islands, "is near failure," the letter warned bluntly.

"The threat of a great tsunamigenic earthquake with a magnitude of more than 8.5 on the Mentawai patch is unabated. (...) There is potential for loss of life on the scale of the 2004 [Indian Ocean tsunami](#)."

The letter gave no timeframe for this event but warned starkly of the danger for Padang, a city of 850,000 people that lies broadside to the risky segment.

"The threat from such an event is clear and the need for urgent mitigating action remains extremely high," it said.

More than 220,000 people lost their lives in the killer wave of December 26 2004 when a 9.3-magnitude earthquake, occurring farther north on the Sunda Trench, ruptured the boundary where the Australian plate of Earth's crust plunges beneath the Eurasian plate.

The authors of the letter are led by John McCloskey, a professor of the Environmental Sciences Research Institute at the University of Ulster, Northern Ireland.

In March 2005, McCloskey warned that the December 26 2004 quake had built up major stress in an adjoining part of the fault to the south. He declared a temblor in the region of 8.5 magnitude with the capacity to generate a tsunami was imminent and urged the authorities to beef up preparations.

Such predictions are extraordinarily rare in the world of seismology.

Knowledge of where earthquakes strike is extensive but the ability to say when they will occur remains elusive.

But McCloskey was proven right within two weeks. On March 28 2005, a quake measuring 8.6 erupted at Simeulue island, generating a three-metre (10-foot) tsunami.

In the letter to Nature Geoscience, his team explained their calculations for the vulnerable Mentawai segment in the aftermath of a 7.6-magnitude quake that occurred 60 kilometers (37 miles) near Padang on September 30 last year, killing more than 1,000 people.

Despite its size, this event did not ease the pressure on the Mentawai section, especially under the island of Siberut. Stresses there have been accumulating since an 8.7-magnitude quake in 1797 that caused fault slippage of 10 metres (32.5 feet) and unleashed a tsunami that inundated Padang and neighbouring areas.

Under Siberut, the largest of the Mentawai islands, "the megathrust strain-energy budget remains substantially unchanged" after the 2009 quake, McCloskey's team said.

"It is imperative that the Indonesian authorities, with the assistance of the international community and non-governmental organisations, ensure that they complete the relief effort and earthquake-resistant reconstruction following this earthquake, and work with the people in Padang to help prepare them for the next one."

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