

Quakes fuel fears of 'Big One' coming

Sumatra's series of five tremblers doesn't look good, says geologist

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THE earthquakes that rocked the region in the last few days have left geologists further convinced that an extremely powerful earthquake could strike some time in the near future.

"It does not look good," geologist Kerry Sieh from the California Institute of Technology, a visiting professor at the Nanyang Technological University, told The Straits Times yesterday.

His team has studied the failing Sumatra fault for more than a decade.

The latest string of tremblers is from the Mentawai patch, an area of strong resistance just south-west of Sumatra's provincial capital, Padang.

"Significant pieces are starting to break. But whether that means a magnitude-9 tomorrow or 20 years from now, we cannot tell. Still, these earthquakes are clearly driving the Sunda megathrust closer to failure, accelerating things," Prof Sieh said.

The Sunda megathrust is a 2,000km stretch under the Indian Ocean where the Indian Oceanic and Australian plates are pushing into and beneath the Sunda plate below Sumatra.

Ruptures along a segment of the Sunda megathrust had caused the Aceh tsunami of 2004 and the Nias quake of 2005.

At least five earthquakes measuring above 6 on the Richter scale have struck in the same area in the last

week, according to the US Geological Survey.

Indonesia's Meteorology and Geophysics Agency has picked up even more rumblings - at least six measuring more than magnitude-5 since Monday's 7.3-magnitude trembler.

Indonesia suffers frequent quakes as it lies on the Pacific Ring of Fire, an area of intense seismic activity.

Following the most recent quakes, tsunami warnings were issued even though the risk was low, because the country lacked the technology to gauge the risk, said the head of its earthquake unit, Mr Suhardjono.

Prof Sieh likened the multiple quakes to a tug of war between an elephant and a team of 10 men.

"One by one, they are letting go of the rope, leading the remaining men to take the strain. And we don't know how long the others will hold on...Eventually, they may all let go at once.

Then you have your great earthquake," he said.

Prof Sieh as well as NTU's Professor Li Bing are leading teams that are now reviewing data that had been picked up by earthquake sensors.

But Mr Suhardjono was quick to head off talk of a mega-quake, saying that "distorted information" may spark "mass panic".

He added that the multiple quakes were normal, as part of a process to "restore equilibrium" at other parts of the plate.

"I think the tendency now is that we have lower-magnitude quakes at more rapid frequency, instead of big ones," he said, adding that the tremblers ranged between six and seven on the Richter scale.

He said there was "no way to prove" the mega-quake theory.

But standing by his theory, Prof Sieh said even multiple quakes are highly unlikely

to help relieve all the stress along the fault, and to help prevent a mega-quake in the near future.

"There would have to be thousands of quakes to help relieve that strain, sparking a decade of terror. There's been no such precedent," he said.

He added that Indonesia's quakes - big or small - are highly unlikely to ever affect Singapore, echoing reassurances that have often come from the authorities.

Singapore is located far away from fault lines - the two nearest are 400km and 700km away - so seismic waves are dulled long before they get here.

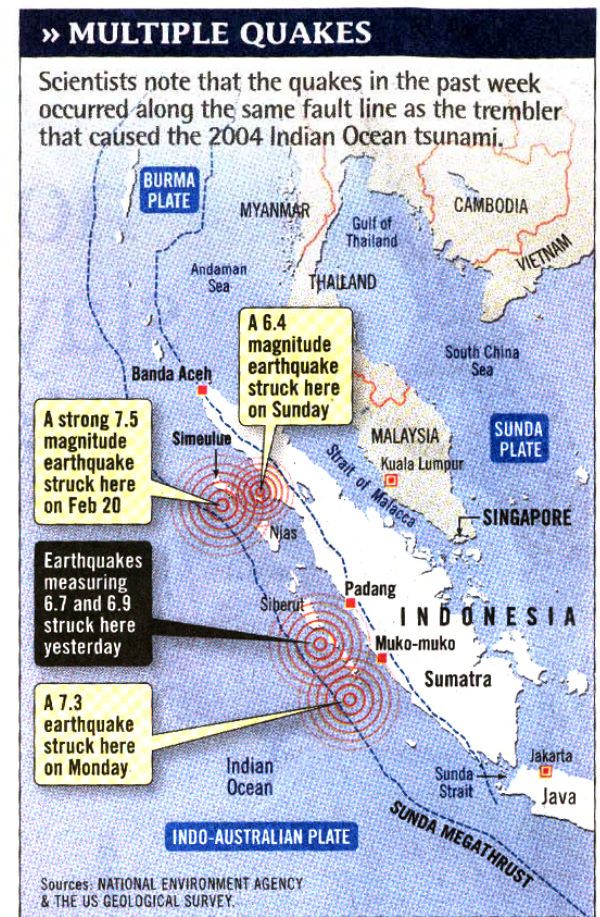
Furthermore, those fault lines lie in a direction that is in Singapore's favour, sending pressure away.

Strict local building codes also mean that buildings are made to withstand some swaying.

A large enough earthquake triggers alarms to both the Building and Construction Authority and the Singapore Civil Defence Force, which do the necessary checks. But no buildings have yet been found to be damaged.

"Tectonically, Singapore's possibly one of the safest places on Earth," said Prof Sieh.

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