

Can China's future earthquakes be predicted?

November 18 2008

Ji ShaoCheng of the Université de Montréal's affiliated engineering school École Polytechnique is part of a team studying last May's devastating earthquake in China.

On May 12, 2008, at 2:28 p.m., China's Szechwan province changed forever. In the space of 90 seconds, an earthquake equivalent to 1,200 H-bombs pulverized the earth's crust for more than 280 kilometers. Entire cities disappeared and eight million homes were swallowed up. This resulted in 70,000 deaths and 20,000 missing.

Two months later, ShaoCheng arrived in Szechwan province to study the damage first hand. The extent of the damage was unimaginable: roads and bridges collapsed, schools turned into rubble, and bodies of men and women everywhere.

According to ShaoCheng this tragedy could have been avoided. "There hasn't been an earthquake in Szechwan province for 300 years. Chinese authorities thought the fault was dead," he says.

The problem is that China relied on GPS data, which showed movements of 2 mm per year in certain areas when in reality the shifts were much bigger. "GPS is high-tech, but do we really know how to interpret its data?," he questions.

ShaoCheng was recruited by one of his ex-colleagues with whom he completed his PhD in Montpellier and who now works for the Chinese

Academy of Geological Sciences. His mission is to dig three narrow wells, 3-kilometers deep, into the earth's crust for a whopping \$75 million.

"The drilling will allow us to see the characteristics of the rocks before and after the earthquake. We will also measure their thermal properties and fluid pressure," says ShaoCheng. "One of these wells will have a seismometer and another will be equipped with a device similar to a stethoscope designed to listen to the earth's heartbeat."

It is expected to take five years of hard labour to rebuild the devastated region.

Source: University of Montreal

Citation: Can China's future earthquakes be predicted? (2008, November 18) retrieved 17 April 2024 from <https://phys.org/news/2008-11-china-future-earthquakes.html>

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