

EARTHQUAKE CLOUDS AND SHORT TERM PREDICTION

Comment to "Tsunami watch" of *Nature News*

- February 3, 2010 -

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Dear web admin,

I have investigated more than 20 ocean earthquakes for your report "Tsunami watch" on 23 December 2009 and found a few problems. **First**, the M8.7 Sumatra earthquake on 28 March 2005 killed 1313 people (1) and "tsunami alerts were called off"(2). On the contrary, the M9.5 Chile earthquake on 22 May 1960 did not shock Japan, but its tsunami killed 185 people in Honshu one day later (3). The both facts suggest Akapo's success not relying on science, but coincidence.

Furthermore, the M7.0 (1) Papua New Guinea (P.N.G.) earthquake caused a 12-m height tsunami that killed more than 2000 people on 17 July 1998 (4), while the M8.7 Sumatra earthquake did not. Therefore, it is difficult to select a boundary magnitude to divide between a big tsunami and a tiny tsunami. If we select M7.0, a false warning may happen when an earthquake is like the M8.7 Sumatra earthquake. On the other hand, if we select M8.7, a loss may happen when an earthquake is like the M7.0 P.N.G. earthquake. Because of no open database of tsunami predictions, I made an incomplete investigation that has two hits and seven misses. The two hits are for the Solomon tsunami on 1 April 2007 (5) and the Samoa tsunami on 29 September 2009 (6). The seven misses are for the M8.7 Sumatra earthquake on 28 March 2005 (2), the M7.9 Tonga on 3 May 2006 (7, 8), the M7.9 Tonga on 19 March 2009 (9), the M7.6 Indian on 10 August 2009 (10) the M7.0 Java on 2 September 2009 (11), the M7.5 Sumatra on 30 September 2009 (12), and the M7.8 Vanuatu on 7 October 2009 (13). Therefore, the success ratio is only 22.2%, less than half. It implies this success by coincidence, too.

Second, earthquake data error affects tsunami warning. For example, the initial magnitudes of the M9 Sumatra quake on 26 December 2004, the M8.7 Sumatra on 28 March 2005, and the M7.7 Java on 17 July 2006 were reported as 8.0 (14), 8.2 (15) and 6.8 (16) by the USGS respectively. Moreover, the magnitude of the same Sumatra quake on 26 December 2004 was reported from 5.5 to 9.0 by 18 countries (17). All of the eighteen countries claim their data in Rank 'A', but nobody proves its claim. Both systematic error and random error make selecting the boundary magnitude more sophisticated. The above should be two problems of your report.

Sincerely,

Zhonghao Shou

The following link reveals the above message (18)

Response of *Nature News*

The following post you reported has not been hidden by the moderator in accordance with our terms and conditions. ...

Nature News editors (19)

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