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Comparative Severity of Earthquake Mechanisms Japan and Thailand Case

By

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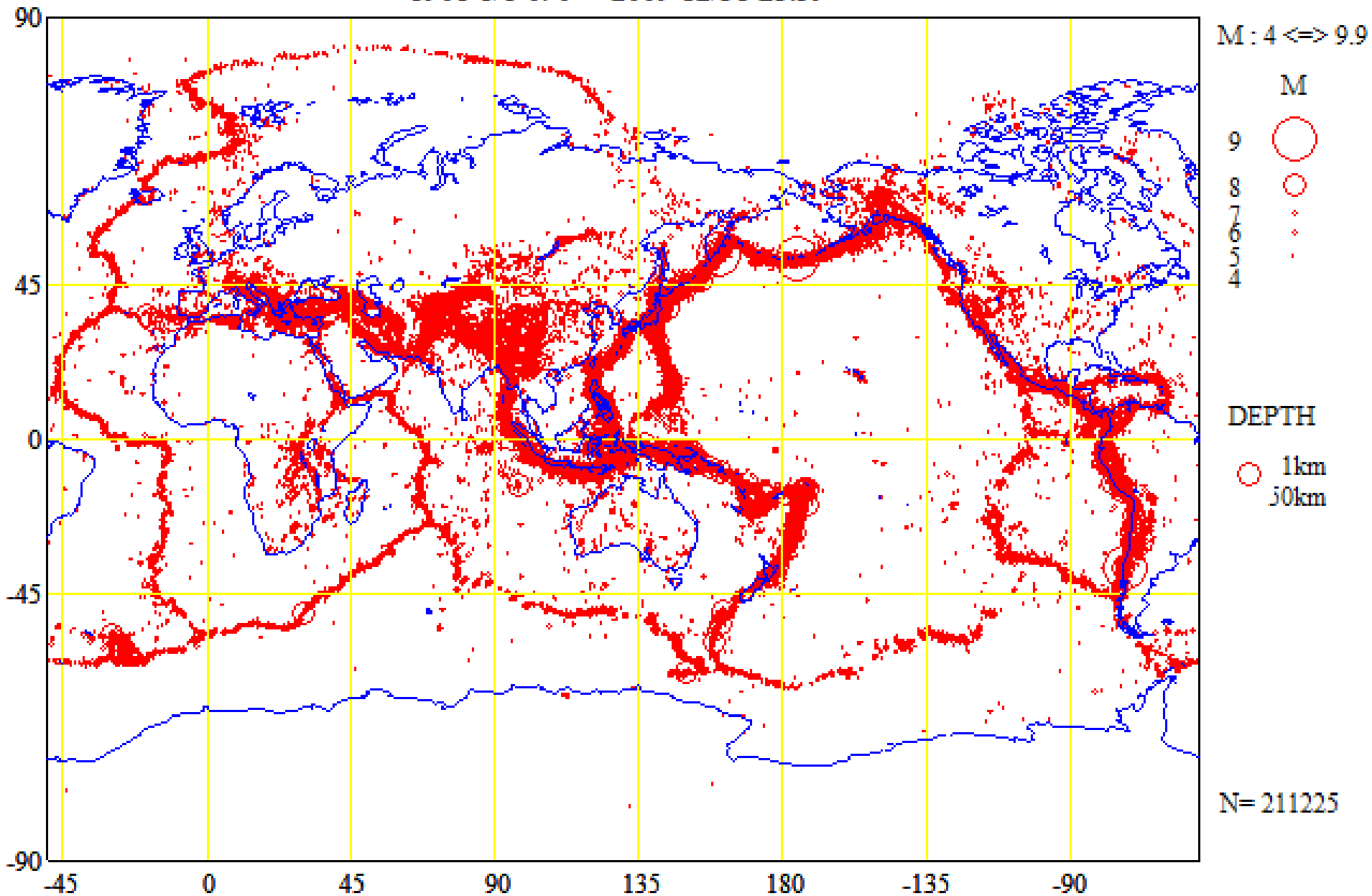


Plate movements on the present earth

- *Many plates are coming away from the Antarctica plate toward north on the present earth.*
- *Such plate movements produces movements which naturally gather to somewhere.*
- *One of the plate convergence area is the Andes,*
- *and another large-scale plate convergence area is an area in Southeast Asia and East Asia.*

Guinness's world record say that big seismic disasters occur in the East Asia.



WHO: Sumatran tsunami

WHEN: December 26, 2004

WHERE: Southeast Asia

WHAT: 300,000 deaths (est.)



The Great Kanto Earthquake

1-9-1923

Location: Kanto Plain, Japan

575,000 buildings destroyed

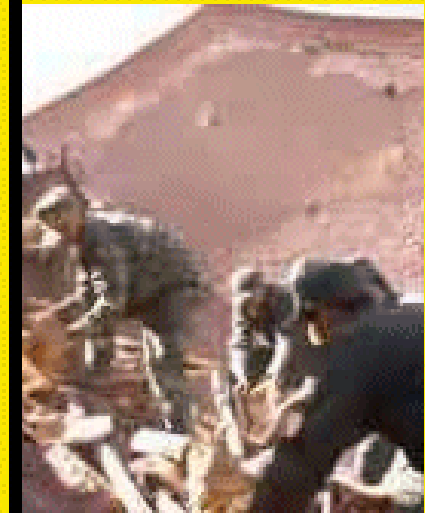


The Great Tangshan Earthquake, 1976

Date: July 27, 1976

Location: China

750,000 deaths



Location: Great Shaanxi Earthquake

Date: January 23, 1556

Location: China

830,000 deaths

Guinness's world record say that big seismic disasters occur in the East Asia.



Ground Shaking Records in 1556, the Shaanxi earthquake claimed the lives of up to 830,000 people in China

Longest earthquake The Sumatra-Andaman Islands earthquake in the Indian Ocean, on 26 December 2004 seismometers all over the world, was measured at between 500 and 600 seconds.

Most powerful earthquake the Chilean earthquake of May 22, 1960 (9.5 Mw.).

Worst devastation due to an earthquake

The greatest physical devastation was in the earthquake on the Kanto plain, Japan, of 1 Sep 1923 575,000 dwellings were destroyed.

Earliest seismograph

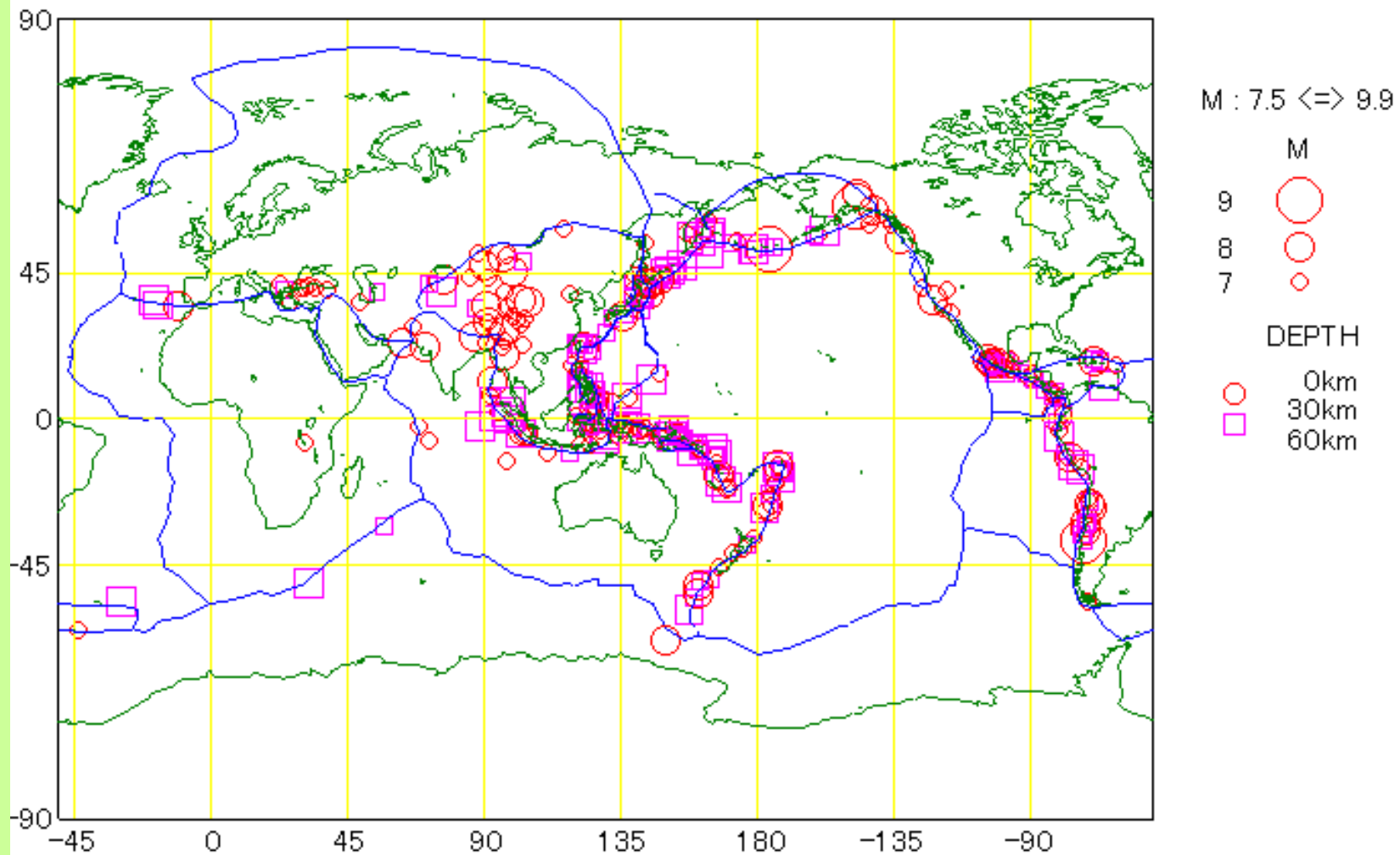
The first modern seismographs were developed in 1848 earthquake-detecting equipment can be traced all the way back to 132 AD Han Dynasty in China. 23 January 2008

Earthquakes with 50,000 or More Deaths(>=70,000 here)
Most Destructive Known Earthquakes on Record in the World
Listed in order of greatest number of deaths

Date UTC	Location	Deaths	Magnitude
•1556 01 23	Shaanxi (Shensi), China	830,000	~8
•1976 07 27	Tangshan, China	255,000(official)	7.5
•1138 08 09	Syria, Aleppo	230,000	
•2004 12 26	Sumatra	227,898	9.1
•2010 01 12	Haiti region	222,570	7.0
• 856 12 22	Iran, Damghan	200,000	
•1920 12 16	Haiyuan, Ningxia (Ning-hsia), China	200,000	7.8
• 893 03 23	Iran, Ardabil	150,000	
•1923 09 01	Kanto (Kwanto), Japan	142,800	7.9
•1948 10 05	Ashgabat (Ashkhabad), Turkmenistan	110,000	7.3
•1290 09 27	China, Chihli	100,000	
•2008 05 12	Eastern Sichuan, China	87,587	7.9
•2005 10 08	Pakistan	86,000	7.6
•1667 11	Caucasia, Shemakha	80,000	
•1727 11 18	Iran, Tabriz	77,000	
•1908 12 28	Messina, Italy	72,000	7.2
•1970 05 31	Chimbote, Peru	70,000	7.9
•1755 11 01	Portugal, Lisbon	70,000	8.7

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World seismicity



SEIS-PC By Yuzo Ishikawa

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CERTIFICATE

...the highest eruption in the world ...
...the highest eruption in the world ...
...the highest eruption in the world ...
...the highest eruption in the world ...
...the highest eruption in the world ...
...the highest eruption in the world ...
...the highest eruption in the world ...
...the highest eruption in the world ...



Guinness's world record say that big eruption of active volcanoes occur in the Southeast Asia.

WHO: Krakatoa

WHEN: August 27, 1883

WHERE: Between Sumatra and Java

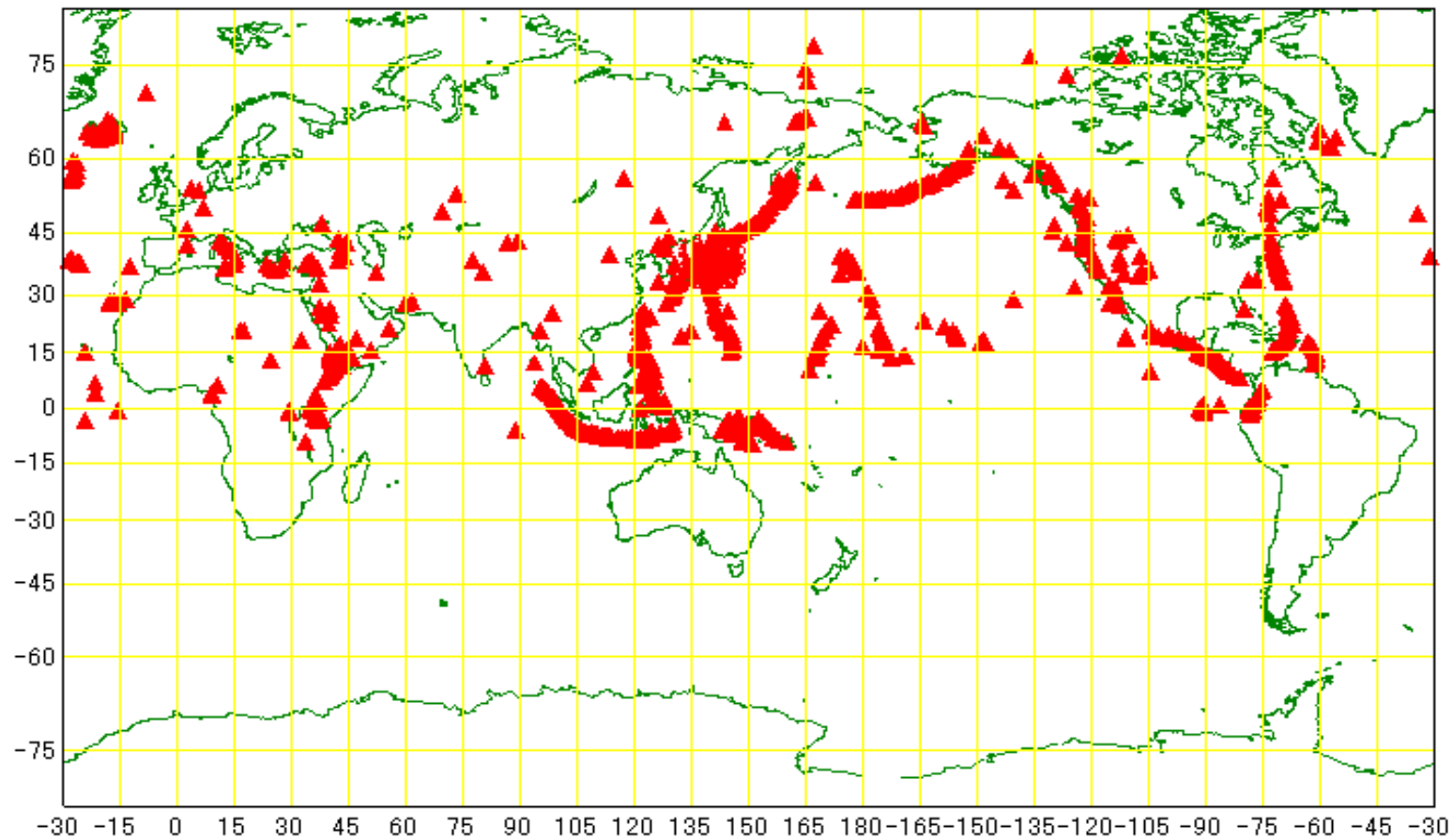
WHAT: N/A

The Tambora eruption of 1815

April 10, 1815

Indonesia

92,000 deaths



Distribution of active volcanoes in the world



*Mt. Shinmoe,
Kirishima geopark
Jan. 26, 2011
Level 3*



Shinmoedake, Kirishima



Guinness's world record say that big flood occur in Asia.



WHO: Huang He (Yellow River)

WHEN: October 1887

WHERE: China

WHAT: 900,000 deaths

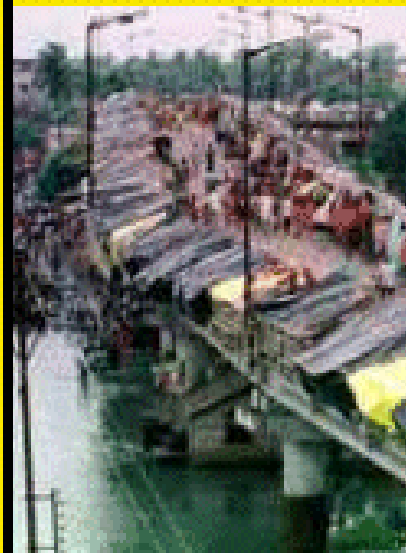


Hwai and Yangtze rivers

August 1950

China

890,000 dwellings



India

September, 1978

South Asia

15 million people made homeless



WHO: Thailand

WHEN: From Sept to Dec 1983

WHERE: South East Asia

WHAT: 10,000 deaths

Deep sea



WHO: Lake Baikal

WHEN: N/A

WHERE: Siberia, Russia

WHAT: 1,637 m (5,371 ft)



The Marianas Trench

N/A

The Pacific Ocean

10,911 m (35,797 ft)

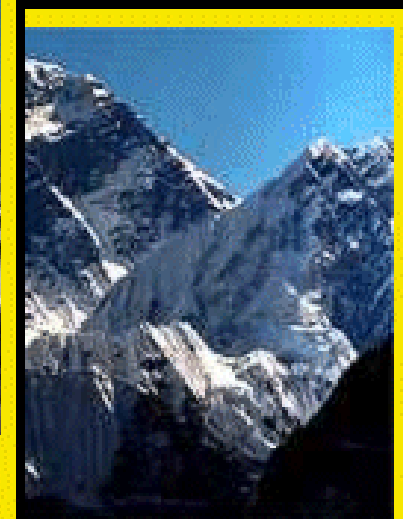


WHO: Himalayas

WHEN: 1996

WHERE: Asia

WHAT: 96 peaks over 7,315 m (24,000 ft)



Mt Everest

N/A

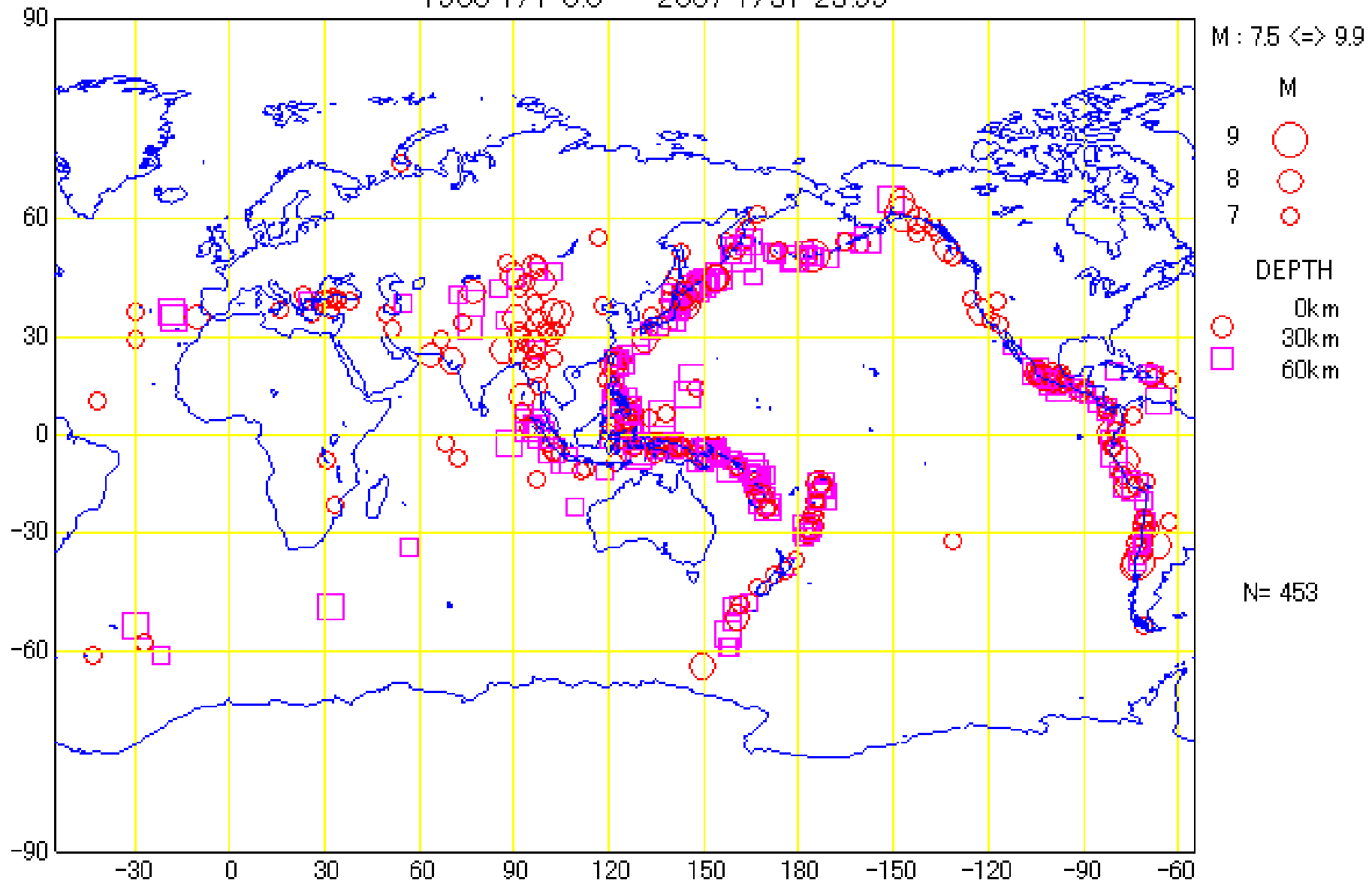
Himalayas

8,848 m (29,028.8 ft)

High mountain

World Seismicity, Large Earthquakes $M \geq 7.5$

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Kazuo OIKE, Kyoto University

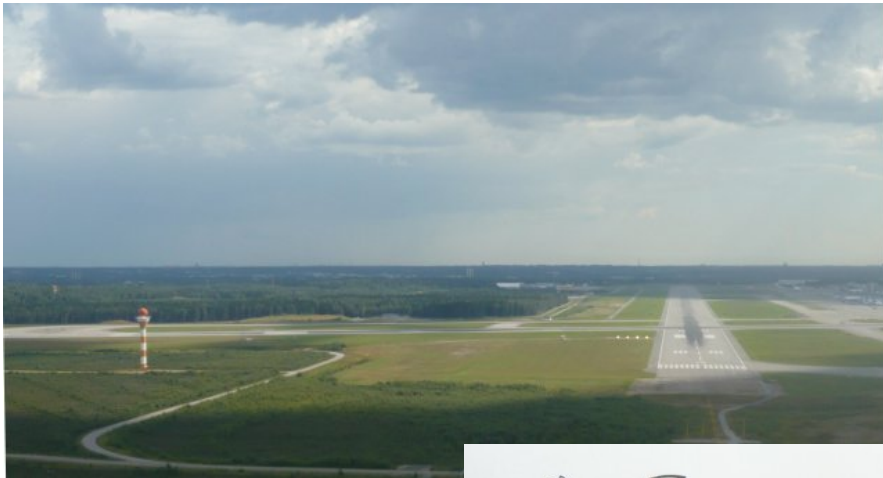
|| SEIS-PC || By Yuzo Ishikawa

Stable continent and the deformation belt

- *Japan was born to the islands produced by the compressive stress in the plate convergence region in the East Asia.*
- *According to the stress in which a huge base rock pushes one another, a deformation belt is formed,*
- *folding belt progresses, big earthquake, volcano eruptions and Tsunami occur.*
- *The feature of the atmosphere that a tropical typhoon comes.*
- *Flood damage by local severe rain or the typhoon.*

*Roland of Britain consists of
quiet ups and downs and the
flat ground*





Helsinki



*Firm base rocks everywhere on the street in Stockholm
Background that the Nobel Prize was born here.*





TheRocks

The name of The Rocks no doubt comes from the rocky coast on the west side of Sydney Cove.





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