Cooperative program

Seismic Hazard Assessment for Next Generation Map

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National seismic hazard maps for Japan

Long term evaluation

Probability of occurrence, magnitude, location

Strong-motion evaluation

Strong-motion, underground structure

Probabilistic Seismic Hazard Maps

• Showing the strong-motion intensity with a given probability, or the probability with a given intensity.
• Considering all possible earthquakes.

Scenario Earthquake Shaking Maps

• Showing the strong-motion intensity around the fault for a specified earthquake.
“The borderless world of Science” → enabling knowledge data exchange
Trilateral cooperative program enabling knowledge data exchange

Win from Competition → Approved and supported by their domestic financing

New Release →
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Seismic Hazard Assessment for the Next Generation Map

Over 90% of natural disasters have occurred in Asia and millions of people have lost their lives and homes by the recent earthquakes, tsunami and natural disasters. Earthquake prediction is not available in short-term, however, Probabilistic Seismic Hazard Assessment (PSHA) in long-term is considered as a scientific way to define earthquake area/zones and to guide urban planning and engineering management.

A strategic cooperative program (2010-2013) of "Seismic Hazard Assessment for the Next Generation Map" was finally selected after individual examinations by committees of MOST, NRF and JST, in China, Korea and Japan, respectively. The goal of this strategic project is to improve the PSHA methodology for the next generation maps in the three counties. To achieve this goal, the following approaches are planned:

1. to review the data and the methodologies adopted in the current PSHA maps of the three countries and evaluate if there is anything to be improved or added in each of the countries;

2. to compare the data and the methodologies with the state of the art technology and see if anything could be accepted for the next generation maps;

3. to develop a procedure to establish ground motion attenuation relationships for the maps;

4. to combine the probabilistic seismic hazard assessment and the deterministic approach of scenario earthquake for potential large earthquake and to prepare an example map for each country.

This site is a communication forum to deal with theories, methodologies, data and related issues. We encourage people from all over world to exchange their own experiences and individual methods.
The 1st Annual Meeting

The first annual meeting of the strategic project was hosted in Harbin, China from Nov 25-30, 2011. Not only the researchers from China, Korea, and Japan gathered, but also the guests from Taiwan, USA, Russia, Italy, and Canada were invited. The opening speech was given by Dr. Tao Xiaxin, and over 27 presentations were made in the perspectives of PSHA, Seismic observation, Strong ground motion attenuation, Scenario earthquake simulation, Earthquake Early Warning, Geological structures, Earthquake damage, Site amplification, Smart phone application, and other related fields.

The Opening Speech

It is my great honor, as the principal of the Chinese team of this joint project and the host of the first annual meeting of the project, to warmly welcome all of you.

(Read more [PDF/59KB])

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Sharing →
Methodologies, data exchange
Constructing a safer and more secure society with a better peace of mind

People *forget* earthquake disasters after generations.

Tangshan Eq ➔ 32 yr ➔ Wenchuan Eq, in China, 2008
Jogan (869) Eq. ➔ 1200 yr ➔ Tohoku Eq, in Japan, 2011

Action:
Evacuate Immediately or Not?

Our Mission:
PSHM ➔ Social Disaster Awareness,
Education in long term.
Example of display of site amplification factor
(Tokyo station, 250m²)

By changing the transmission rate, background map can be emphasized.
J-SHIS application for smart phone

GPS

3G/WiFi

WMSサービス

RestfulAPI