

New system estimates tsunami flooding and potential damage following large earthquakes

- Jointly developed by Tohoku University, Osaka University, NEC Corporation, Kokusai Kogyo Co., Ltd. and A2 Corporation for Japan's Cabinet Office -

May 25, 2017 - Tohoku University, Osaka University, NEC Corporation, Kokusai Kogyo Co., Ltd. and A2 Corporation have announced the joint development of a system which estimates tsunami flooding and damage. It is to be adopted as part of the Integrated Disaster Prevention Information System operated by Japan's Cabinet Office.

The system is designed to perform tsunami simulations immediately after an earthquake occurs and then estimate the potential damage. It uses NEC's SX-ACE supercomputer to create detailed estimates of tsunami damage within 30 minutes of an earthquake taking place.

These estimates are provided in grids of 30 meters for coastal areas of the Pacific Ocean spanning a total distance of 6,000 kilometers for regions surrounding the Nankai Trough, a deep ocean fault line where earthquakes frequently occur.

In order to improve fault tolerance, the system deploys NEC's SX-ACE supercomputer at two sites, Tohoku University (Sendai) and Osaka University (Osaka), helping to ensure reliable operations 24 hours a day, 365 days a year.

"We are proud to be working with multiple universities and private businesses to help strengthen disaster response capabilities," said Professor Shunichi Koshimura of the International Institute for Disaster Science at Tohoku University. "Together we will develop, build and operate one of the world's most advanced disaster prevention systems that will quickly provide vital information on flooding and damage from earthquake-induced tsunamis."

The system is expected to be operational in November 2017.

About Tohoku University

Tohoku University was established in 1907 as Japan's third national university, and has consistently ranked high among the country's leading academic institutions. The university has a diverse community of more

than 18,000 students across academic fields that include engineering, medicine, life sciences and the liberal arts. With a strong history of innovation, Tohoku University is also home to leading, groundbreaking research - most notably in materials science, physics and chemistry - and actively encourages academic - industry - government cooperation.

About Osaka University

<http://www.osaka-u.ac.jp/en>

About NEC Corporation

NEC Corporation is a leader in the integration of IT and network technologies that benefit businesses and people around the world. By providing a combination of products and solutions that cross utilize the company's experience and global resources, NEC's advanced technologies meet the complex and ever-changing needs of its customers. NEC brings more than 100 years of expertise in technological innovation to empower people, businesses and society. For more information, visit NEC at <http://www.nec.com>

About Kokusai Kogyo Co., Ltd.

Kokusai Kogyo, as a leading company of geospatial information technologies, has been contributing to public services improvement for the past 70 years — using the most advanced measurement technologies and offering a wide range of consulting services.

Kokusai Kogyo is supporting the development of Green Communities — offering safe and secure community development and building low-carbon societies responding to new government policies and evolving world needs. Kokusai Kogyo is committed to make a change — utilizing its worldwide long-term experience of advanced analysis of geospatial information, using geographic information system (GIS), and low-carbon community-building.

<http://www.kkc.co.jp/english>

Kokusai Kogyo is a subsidiary of Japan Asia Group Limited (3751: Tokyo).

About A2 Corporation

A2 Corporation is a private company, established in 1989. A2 develops, produces, sells and manages their network telecommunication devices, systems and services. Putting effort into disaster prevention businesses, A2 offers the JMA-based Early Earthquake Warning Service and original earthquake detection service using their algorithm co-developed with the National Research Institute for Earth Science and Disaster Resilience.

A2 also sells network telephony systems with various interfaces to many enterprises and local governments.

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