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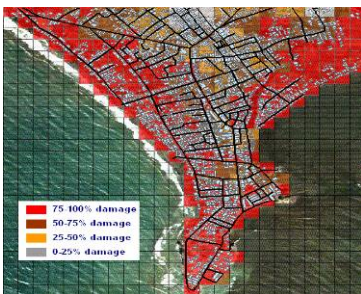
**ASIA**



## US IOTWS Small Grants Program

# Mapping Multi-hazard Risks

STRENGTHENING CAPACITY ON MULTI-HAZARD RISK ASSESSMENT IN TSUNAMI-AFFECTED COUNTRIES (SCRATCH)



Top: Damage to agricultural land in Aceh, Indonesia

Middle: Tsunami damage assessment in Sri Lanka

Bottom: Building damage assessment in Meulaboh, Indonesia

### US IOTWS Small Grants Program

The US Indian Ocean Tsunami Warning System (IOTWS) Program has funded 17 small grants in India, Indonesia, Sri Lanka and Thailand as part of its \$16.6 million two-year effort to support the development of an end-to-end warning system in the region. The grants program catalyzed and promoted pilot activities that contribute to community and bottom-up results in disaster mitigation, preparedness, and response.

### SCRATCH Project

The Strengthening Capacity on Multi-hazard Risk Assessment in Tsunami-Affected Countries (SCRATCH) project was developed in response to the 2004 tsunami, which devastated coastal communities in the South and Southeast Asian region. The project aimed to develop a cadre of professionals in four tsunami-affected countries—India, Indonesia, Sri Lanka, and Thailand—with competence in applying tools such as remote sensing and GIS in multi-hazard risk assessment.

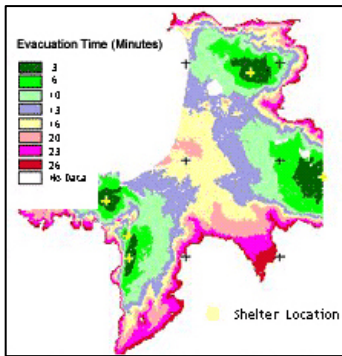
The project targeted staff and faculty members of national organizations, universities, and research institutes. These participating organizations will become nodal agencies for multi-hazard risk assessment, contribute to future capacity building in their respective countries, and ensure that the skills are maintained.

### Project Achievements

The Geoinformatics Center at the Asian Institute of Technology (AIT) worked with eight staff from partner organizations in the four tsunami-affected countries to enhance their technical skills in using state-of-the-art multi-hazard risk assessment tools. Following an intensive hands-on training session, the participants undertook risk assessments in their home countries, focusing on tsunamis. The case studies included the development of tsunami hazard maps, agricultural and building damage maps, and evacuation plans.

Results of these studies have already been used in government initiatives on tsunami preparedness. For example, when the Thai government was planning for one of the largest tsunami evacuation simulations in the region to date, a map produced through the project provided valuable information on the times required to reach safe evacuation points in Kamala Beach in Phuket.

Another important aspect of the grant project was to share this new knowledge and skills within the region. The eight core participants organized four in-country training events to further expand the cadre to include 90 additional scientists and professionals.



Tsunami evacuation map of Kamala Beach, Phuket, Thailand

For more information about this project contact:

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## Lessons Learned

Multi-hazard risk assessment is a complex problem requiring a wide variety of datasets as well as multi-disciplinary knowledge. Hazard scenarios are often unique to local conditions, and local knowledge is essential for carrying out multi-hazard risk assessments, improving preparedness, and creating awareness. Therefore, capacity building is much more effective when trainers thoroughly understand the context. In addition, participants will gain lasting insights when assessing a variety of hazard risks for their communities, something that is more difficult to achieve through short-term workshops and trainings. A long-term, sustained effort is essential for this purpose.

Nevertheless, disaster preparedness and mitigation measures are conceptually similar for various types of disasters and can be adapted for new situations. For example, tsunami evacuation planning carried out in Thailand can be replicated in other countries, as well as adapted for other disasters, such as flash floods.

## Next Steps

The project partners, AIT and ITC, will provide continued support to participating universities and institutions in improving their local and national capacity. For example, exchanging faculty and staff can promote knowledge sharing and capacity building. Short-term courses will be carried out in four countries in collaboration with the project participating universities and institutions

## About the Geoinformatics Center (AIT) and the International Institute for Geo-information Science and Earth Observation

Established in 1959, AIT serves human resource development needs of developing countries in Asia. In response to the December 2004 tsunami, a team of experts from AIT's Geoinformatics Center joined national and international organizations on several missions to visit affected areas in India, Indonesia, Sri Lanka, and Thailand to gain firsthand information on the situation and extent of damages.

AIT's project partner, the International Institute for Geo-information Science and Earth Observation (ITC), focuses on remote sensing and GIS education and training. ITC has recently become an associated institute of the United Nations University (UNU) and has established the UNU-ITC School for Disaster Geo-Information Management (DGIM).

For more information on activities or partnership opportunities with Geoinformatics Center (AIT) and ITC, visit: [www.geoinfo.ait.ac.th](http://www.geoinfo.ait.ac.th) and [www.itc.nl](http://www.itc.nl).

## About the US Indian Ocean Tsunami Warning System (IOTWS) Program

The US IOTWS Program is part of the international effort to develop tsunami warning system capabilities in the Indian Ocean following the December 2004 tsunami disaster. The US program adopts an "end-to-end" approach—addressing regional, national, and local aspects of a truly functional warning system—along with multiple other hazards that threaten communities in the region. In partnership with the international community, national governments, and other partners, the US program offers technology transfer, training, and information resources to strengthen the tsunami warning and preparedness capabilities of national and local stakeholders in the region. For more information please visit [www.us-iotws.gov](http://www.us-iotws.gov).

