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## US IOTWS Small Grants Program

# Using the Past to Predict the Future

TSUNAMI EDUCATION FOR TEACHERS IN SOUTHERN THAILAND COASTAL COMMUNITIES



*Chulalongkorn faculty showing satellite images of Pakarang Cape taken after the 2004 tsunami*

### **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.

### **Tsunami Education for Teachers in Coastal Communities in Southern Thailand**

Although some community members along Thailand's coast ran to safety during the 2004 tsunami after recalling local stories about long-ago disasters, the vast majority lacked this vital knowledge. As part of the process of developing a tsunami early warning system in Thailand, Chulalongkorn University worked with local communities to train teachers—among the most important groups of people in helping to increase public awareness.

The Department of Geology at Chulalongkorn University in Bangkok conducted four three-day workshops targeting elementary and high-school teachers from over 70 schools throughout Phang Nga province. The project provided training on earthquakes, tsunamis, and the appropriate actions to take in case of a tsunami warning. Such information must be given to local residents in order to enhance a community's resilience to natural disasters.

### **Project Achievements**

The project promoted local preparedness for earthquakes and tsunamis by educating school teachers in the coastal communities of Phang Nga, which sustained severe damage from the 2004 tsunami. Teachers will then disseminate this knowledge to students and their parents via classroom activities and community workshops. Prior to the grant project, many teachers lacked basic knowledge in geology and natural hazards, leading to misunderstanding of tsunamis and the elements of risk reduction in local communities.

The workshops, which included two hundred teachers from across Phang Nga's tsunami-affected coastline, provided an opportunity for teachers to learn about hazards in Thailand through presentations and hands-on classroom activities. The teachers gained comprehensive knowledge of the geological causes and effects of tsunamis. As respected members of their communities and playing a significant role in shaping young minds, these 200 teachers now have a wider array of tools, materials, and knowledge to help strengthen local capacity and enhance resilience against disasters.



Teachers at Ban Nam Khem School, Takuapa District, Phang Nga, practice reading maps in a classroom activity on May 3, 2007

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## Lessons Learned

Turning hard facts and highly technical scientific data into fun and comprehensible materials for a diverse audience, ranging from art teachers to members of the education department, was a constant challenge of the project. The key to overcoming this was to use a highly interactive approach throughout the workshop. For example, activities included reading maps and asking groups to locate themselves within the province using hand-held GPS devices. This served the dual purpose of familiarizing the teachers with maps and new technologies, while also encouraging knowledge sharing between the participants.

Developing materials for workshops at the community level requires a balance between the need for highly engaging, participatory resources and creating materials that will be useful “stand-alone” low-tech materials that can be left behind for the teachers to use in their classrooms. PowerPoint presentations, video clips, and CDs with interactive lessons were extremely valuable in the workshops; however, they are sometimes not the most appropriate tools for provincial schools, particularly small ones that may not always have equipment on hand. Instead, the project found that cartoon booklets and workbooks are always useful and functional classroom resources.

This pilot project for tsunami education is one of only many more steps that will be needed to develop the necessary knowledge base in tsunami-vulnerable communities. Unless there is replication and standardization, the lessons of tsunamis—even the devastation of the 2004 tsunami—are all too easily forgotten. Providing this initial series of trainings and materials to educators and encouraging teachers to impart these lessons upon their students is a move in the right direction.

## Next Steps

The Department of Geology will adapt these materials for use in university lectures and make them available on the Chulalongkorn website for other organizations and universities to use. Further development of these tools and the standardization of a national tsunami education curriculum is the clear next step in achieving long-term sustained knowledge of tsunami hazards for the critical “last mile”.

**For more information on activities or partnership opportunities with the Department of Geology, Chulalongkorn University, visit [www.geo.sc.chula.ac.th](http://www.geo.sc.chula.ac.th).**

## 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).

