

George E. Brown, Jr. Network for Earthquake Engineering Simulation (NEES) Tsunami Reconnaissance Data Repository



Example of behavioral response in Thailand
[Chris Gregg, East Tennessee State University]

After a disaster such as the Indian Ocean tsunami of Dec. 26, 2004, teams of experts visit the region to collect “perishable” data such as physical measurements of damage, eyewitness accounts, and casualty statistics. This **reconnaissance data** is critical for improving our understanding of tsunamis and their devastating impact on coastal populations. Even more importantly, it will help identify how communities or individuals can prepare for – and safeguard themselves from – future disasters.

With funding from the National Science Foundation, the NEES Program is developing a **centralized repository** for reconnaissance data collected in the aftermath of the Dec. 26th event. It will be hosted at the San Diego Supercomputer Center and will include not only data management capabilities, but also **tools for searching, exploring, analyzing and extracting data**. The Information will be curated by experts, with special functions allowing the broader community to add commentary about the usefulness of data and its application in studying tsunamis and other hazards.

The objectives of the Tsunami Reconnaissance Data Repository are to:

- ✓ **Preserve key data about the Dec. 26th tsunami** that would otherwise be scattered or even lost.
- ✓ **Make data widely accessible via Web interfaces and tools.**
New methods will be developed for searching and presenting data in ways that make sense to non-scientists as well as specialists.
- ✓ **Create methods and tools compatible with emerging standards**, so that tsunami reconnaissance data can be linked and cross analyzed with related information from other sources.

We seek the participation of the international tsunami community by contributing relevant data.

Example of impact caused by tsunami-borne debris in Indonesia [Murat Saatcioglu, University of Ottawa]



Example of scour damage to lifeline system in India [Harry Yeh, Oregon State University]

The Tsunami Reconnaissance Data Repository is just beginning to gather information, such as:

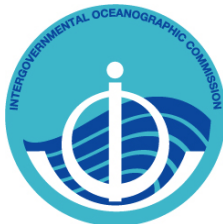


- Maps and satellite imagery
- Topographic and bathymetry data
- Images and videos
- Field measurements (inundation data, beach profiles, scour data, land uplift/subsidence, etc.)
- Post-event questionnaires and surveys
- Recorded tsunami data (e.g., tide gauges)
- Observations of damage to buildings and physical infrastructure
- Eyewitness accounts and personal interviews
- Casualties and other social impact statistics

Example above of structural damage due to scour in India [Harry Yeh, Oregon State University]

If you have data on the Dec. 26th tsunami and are willing to consider contributing it for broader use, please contact veytser@sdsc.edu.

This is a collaborative effort by the San Diego Supercomputer, Oregon State University, and the IOC ITIC. The ITIC and the World Data Center/National Geophysical Data Center are encouraging broad usage of this facility for the archiving of tsunami data from the 26 December 2004 tsunami. Data being compiled by the IUGG Working Groups can be digitally archived by this facility. While the repository is being initially developed to archive the Indian Ocean data, it is being designed so that it can support the multi-media tsunami data preservation needs of all historical and future tsunami events.



This work is supported in part by the George E. Brown, Jr. Network for Earthquake Engineering Simulation (NEES) Program of the National Science Foundation under Award CMS-0402490. Information is being collected with the assistance of the International Tsunami Information Centre, and the website will be mirrored at San Diego Supercomputer Center and the Intergovernmental Oceanographic Commission of UNESCO (Paris).