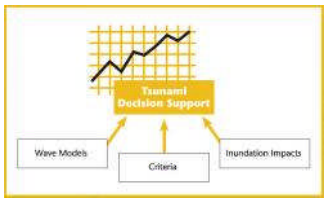
TSUNAMI INUNDATION MODELING



Computer modeling programs help analyze sea-level data to generate forecasts of tsunami wave height and the expected inundation for specific coastal areas. The refinement of initial seismic-based warnings by good computer models can greatly increase the accuracy of the warnings and decrease false alarms. The rapid detection and characterization of tsunami-generating earthquakes by models provide the first indication of a potential tsunami in an end-to-end tsunami warning system. A “community” modeling program is one that is freely available with source code and documentation for use by the scientific community.

US IOTWS Contribution

Under the US IOTWS Program, the National Oceanic and Atmospheric Administration (NOAA) developed the Community Model Interface for Tsunami (ComMIT). The tool allows Indian Ocean nations to run tsunami models through the internet, using data from local or remote databases. This approach has provided several advantages: 1) countries without a significant cadre of trained modelers have built tsunami modeling capability for forecast and hazard assessment; 2) countries with restrictions on sharing geo-spatial data have been able to share their model results; and 3) most significantly, the internet-based approach creates a virtual global community of modelers using the same tools and approaches to understand tsunami threats, all able to share information and insights.

The Intergovernmental Oceanographic Commission, regional partners, and NOAA conducted three training workshops for technical staff from over 15 Indian Ocean countries in Asia and Africa on using the community model. During the workshops, held in Australia, Thailand, and Indonesia, participants took part in hands-on training and produced analyses of potential tsunami inundation using ComMIT.

Next Steps

The International Tsunami Training Institute (ITTI), which is jointly conducted by the Asian Institute of Technology and the University of Washington, will provide training and capacity building on the community model. NOAA will continue to host ComMIT and provide technical support through ITTI and other opportunities.

For Further Information

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- http://nctr.pmel.noaa.gov/tsunami-forecast.html