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# Tsunami Forecasting: The 10 August 2009 Andaman tsunami Demonstrates Progress

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The 10 August 2009 Andaman non-destructive tsunami in the Indian Ocean demonstrated advances in creating a tsunami-resilient global society. Following the Indian Ocean tsunami on 26 December 2004, scientists at the National Oceanic and Atmospheric Administration Center for Tsunami Research (NCTR) at the Pacific Marine Environmental Laboratory (PMEL) developed an interface for its validated and verified tsunami numerical model Method of Splitting Tsunamis (MOST). MOST has been benchmarked substantially through analytical solutions, experimental results and field measurements (Synolakis et al., 2008). MOST and its interface the Community Model Interface for Tsunami (ComMIT) are distributed through extensive capacity-building sessions for the Indian Ocean nations using UNESCO/Intergovernmental Oceanographic Commission (IOC), AusAID, and USAID funding. Over one hundred-sixty scientists have been trained in tsunami inundation mapping, leading to the first generation of inundation models for many Indian Ocean shorelines.

During the 10 August 2009 Andaman tsunami event, NCTR scientists exercised the forecast system in research mode using the first generation inundation models developed during ComMIT trainings. Assimilating key data from a Kingdom of Thailand tsunameter, coastal tsunami amplitudes were predicted in Indonesia, Thailand, and India coastlines, before the first tsunami arrival, using models developed by ComMIT trainees. Since its first test in 2003, one more time, NCTR's forecasting methodology proved the effectiveness of operational tsunami forecasting using real-time deep-ocean data assimilated into forecast models (Wei et al., 2008 and Titov, 2009). The 2009 Andaman tsunami demonstrated that operational tsunami forecasting tools are now available and coupled with inundation mapping tools can be effective and can reduce false alarms. International collaboration is required to fully utilize this technology's potential. Enhanced educational efforts both at government and community levels are necessary to further reduce risk.

References

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