

TSUNAMI

Tsunamis are surges of water in the ocean that can be generated by earthquakes, volcanic eruptions, landslides or meteorite impacts. Most tsunamis that reach the Australian coastline are too small to have any noticeable effect, or even be seen. On average, a local tsunami occurs once every two years in Western Australia.

The biggest tsunami reported in Western Australia was in August 1977, at Cape Leveque. It reportedly reached ground six metres above sea level. On 26 December 2004, a seafloor earthquake near Indonesia measuring 9 on the Richter Scale generated one of the most devastating tsunamis in living memory. It killed more than 270,000 people and made millions homeless along the coastline of 11 Indian Ocean countries from Africa to Thailand. The physical impact on Western Australia was minimal. Only minor environmental and property damage was reported. However, the event focused community attention on the potential tsunami threat to Western Australia.

The severity of any impact will depend on the nature, intensity, time and location of the event that causes the tsunami and the physical characteristics of the coastal zone in its path. Not only beaches can be affected – bay mouths, tidal flats and the shores of large coastal rivers are especially vulnerable to tsunamis.

As the Hazard Management Agency for tsunamis in Western Australia, we are responsible for community preparation, response and recovery. This includes development of the [State Tsunami Emergency Management Plan](#).

PREPAREDNESS

TSUNAMI MODELLING

As a result of the Indian Ocean tsunami on 26 December 2004, the Australian Government committed funding of \$68.9 million in its 2005-06 budget, to be spent in the next four years, to enhance the [Australian Tsunami Alert System](#) and establish the Australian Tsunami Warning Centre.

This project is based on a partnership between Geoscience Australia and the Bureau of Meteorology (BoM). Geoscience Australia provides the seismic wave (earthquake) detection and analysis, and BoM verifies tsunami existence, determines possible impacts, forecasts wave arrival times and issues alerts to emergency agencies, media and the public.

The enhanced Australian Tsunami Alert System was implemented on 8 November 2006. It will dramatically reduce the time for notification of local communities with tsunami advice and alerts provided to our Communication Centre by the BoM.

We have established a dedicated project manager to lead the tsunami project in Western Australia and work with other States, Emergency Management Australia, Geoscience Australia and the BoM.

During 2006-07, we conducted 34 tsunami awareness briefings in 22 locations across the metropolitan, Mid West Gascoyne, Pilbara and Kimberley regions. The briefings were attended by emergency managers, responders, local governments, industry and other agencies that may be involved in a tsunami response. They provided an overview of the potential impacts of tsunami, an outline of national and State initiatives, and the alert and notification process for the local community.

Briefings were also conducted in the remote indigenous communities of Lombadina and Bidyadanga. These were well-attended and included representatives from other nearby communities. Inundation modeling has been completed for six towns in the Pilbara and Kimberley. This will assist emergency managers and responders in their response planning. Local response planning sessions have commenced in the Pilbara region and regional managers are working together to ensure that tsunami planning is a part of local planning by mid-2009.

Emergency planning is being addressed at the State level with the current review of the [Westplan-Tsunami](#), and at a local level where district managers are assisting local communities with their planning.

Funding has been received as part of the Australian Tsunami Alert System project to produce a tsunami demonstration tank for the FESA Education Centre. This funding will support the production of the Water Hazard exhibit in the interactive gallery.

RESPONSE

On 17 July 2006, a tsunami affected a number of areas from the north of Geraldton to Port Hedland, and inundated and destroyed a camp in the Steep Point area. A family camping there was fortunately able to move quickly to safe ground, or hold onto their vehicle as it was moved 10 metres by the tsunami.