

Japanese Tsunami Early Warning System and the Information Delivery

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Japan Meteorological Agency (JMA) has conducted computer simulation of tsunamis with around 100,000 earthquake scenarios involving various locations, magnitudes and fault mechanisms, and the results related to tsunami arrival times and heights are stored in a database. When a large earthquake hits, the operation system searches the tsunami database with reference to the source parameters of the earthquake and selects the most closely matching results. JMA then issues Tsunami Warnings/Advisories using the estimated tsunami heights in around 3 minutes.

The information is transmitted to disaster management section of each municipality through the jurisdictional prefecture as well as fire and police department, then delivered to local residents via Municipal Disaster Management Radio Communication Network with household-equipped receivers, speakers and municipal information cars. People can also get the information via the recent "Area-Mail" services of cellphone companies as well as via mass media with TV and radio. The transmission to prefectures has been double-tracked and thus is secured by J-Alert system operated by the Fire and Disaster Management Agency (FDMA) of the Ministry of Internal Affairs and Communications.

JMA also operates the Northwest Pacific Tsunami Advisory Center (NWPTAC), which covers the northwestern Pacific and some of its southwestern part, and on an interim basis, the South China Sea region. NWPTAC monitors earthquakes in the region, and when a large tsunamigenic earthquake occurs, NWPTAC promptly issues tsunami advisories to countries in the region via the Global Telecommunication System (GTS)*, facsimile and email. NWPTAC has been in operation under the framework of the Intergovernmental Coordination Group for the Pacific Tsunami Warning and Mitigation System (ICG/PTWS) and contributes to tsunami disaster mitigation in the region in cooperation with the USA's Pacific Tsunami Warning Center (PTWC) which is responsible for monitoring earthquakes and tsunamis and providing information for the whole Pacific area.

*Global Telecommunication System (GTS) is the communications and data management component implemented and operated by National Meteorological Services of WMO Members and International Organizations.