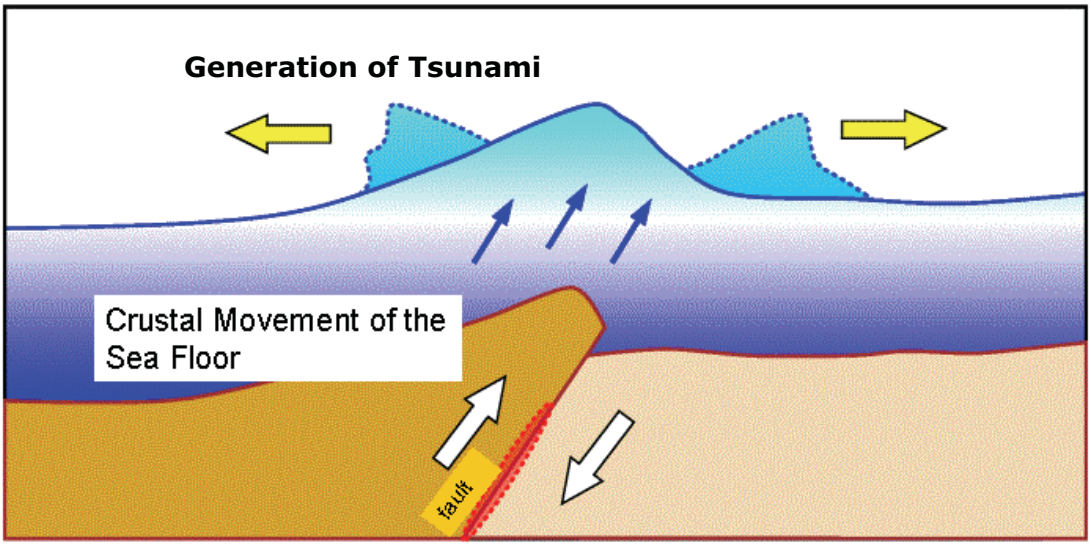
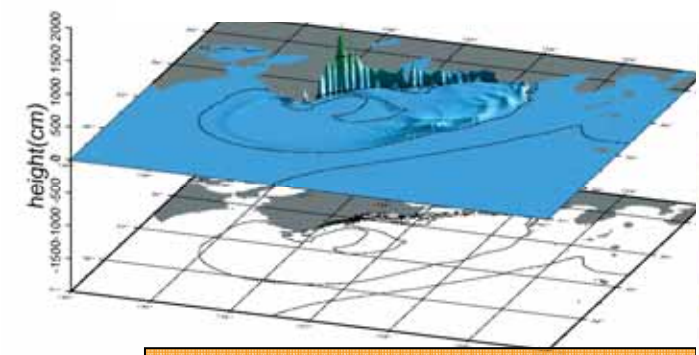
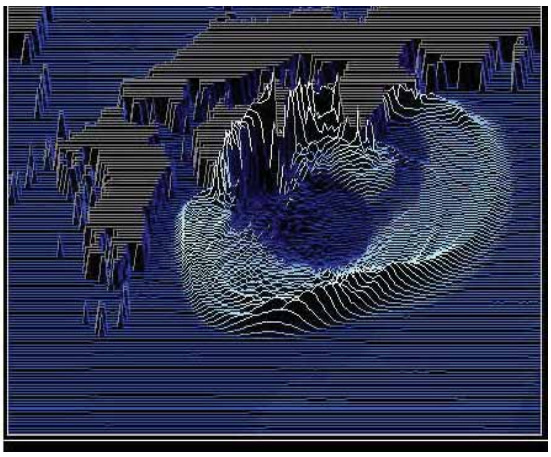
TSUNAMI Warning System in Japan





Propagation of tsunami (by computer simulation)



Tsunami triggered by the Sanriku Earthquake in 1933

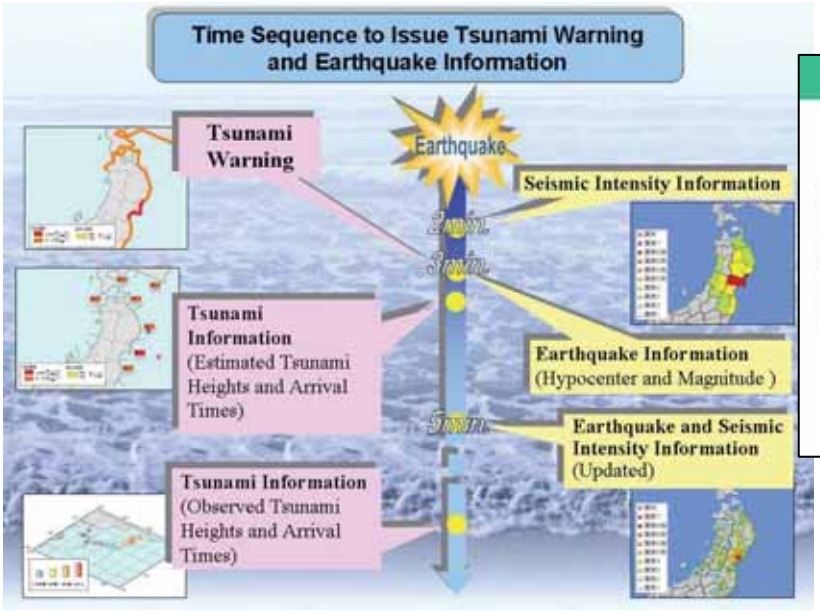
Tsunami triggered by the Hokkaido Nanseioki Earthquake in 1993

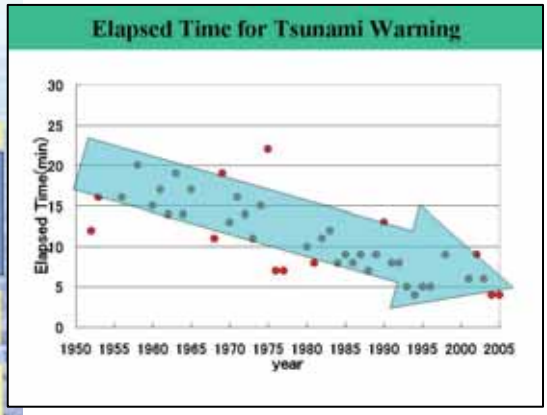
Japan Meteorological Agency

March, 2006

Tsunami and Earthquake Information

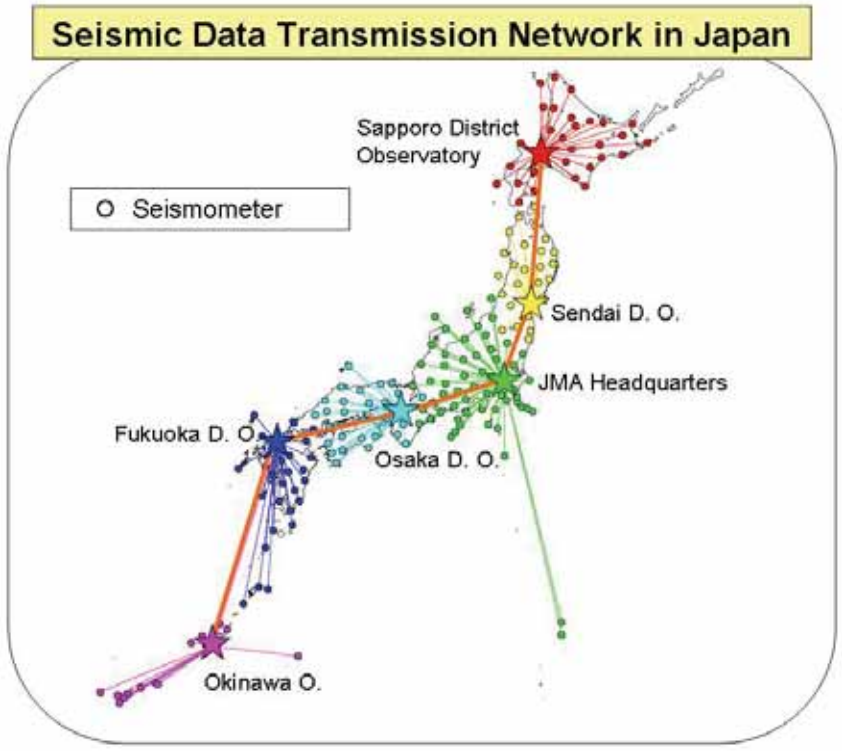
Japan is situated at one of the most seismically active areas in the world. There have been occurring a lot of earthquakes and tsunamis which struck our coasts causing destructive disasters every century. For the prevention of tsunami disasters, JMA issues tsunami warning in about three minutes after the occurrence of earthquakes around Japan. Elapsed time until issuance of tsunami warning has been shortened year by year.





Observation Network

JMA's seismological network consists of about 180 seismic stations. The seismic data are transmitted on a real time basis by the dedicated telephone lines to the JMA headquarters and centers in each District Observatory.



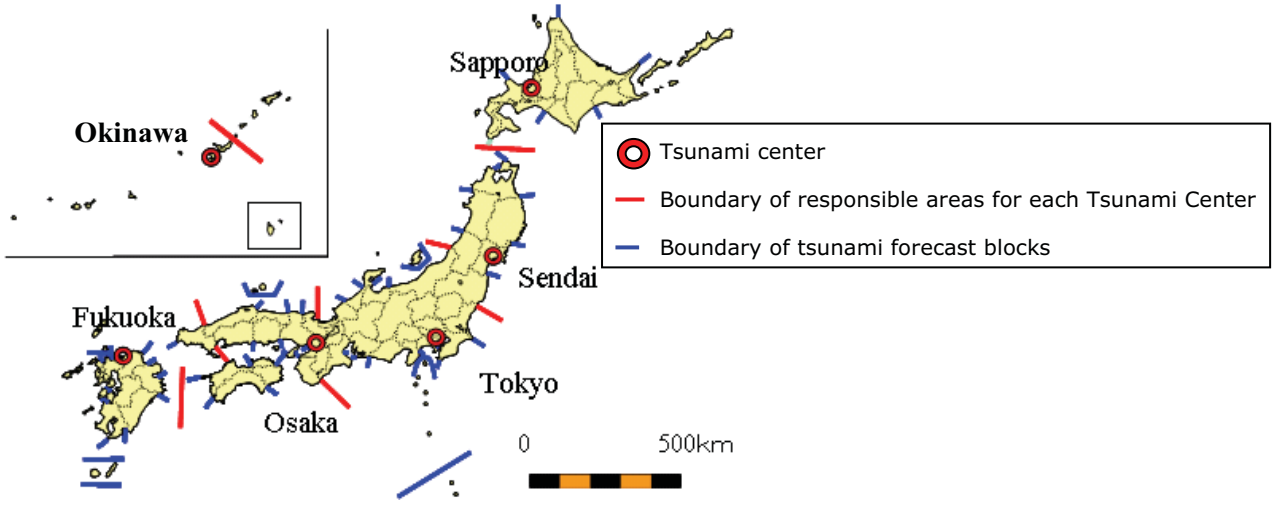
Transmission lines are connected between neighboring centers to share the earthquake data. This network allows for continued monitoring and analyzing of earthquakes, even if part of the network would be damaged by a large earthquake.

By using the seismic network and processing computers, earthquake location and magnitude are determined quickly after detection of the earthquake.

March, 2006

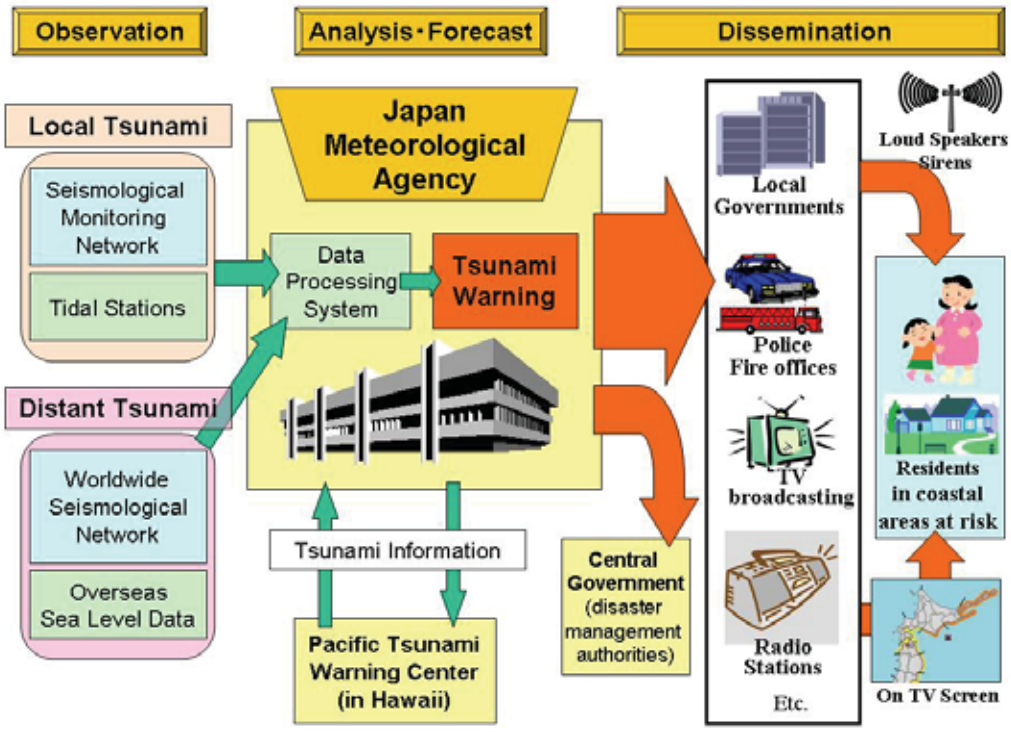
Quantitative Tsunami Forecast System

A database of the relationship between earthquake occurrence and tsunami arrival based on about 100,000 cases of computer simulation is prepared for tsunami forecast around Japan (the quantitative tsunami forecast system).



When a large earthquake occurs, the database is searched using the location and magnitude of the earthquake as indices, and the stored heights and arrival times of tsunami along the coasts are read out, for the issuance of tsunami warning for individual 66 tsunami forecast blocks in the Japanese coastal area.

Transmission of Tsunami Warning



In case of an earthquake occurrence, JMA analyzes the earthquake observational data and quickly issues tsunami warning, if necessary. The warning is automatically transmitted to disaster management authorities and broadcasting media. The earthquake and tsunami information including tsunami warning is used as a trigger of evacuation and urgent operation for rescue and mitigation of disasters.

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Knowledge about Tsunami in Japan

1. Leave the seashore immediately and take shelter to the place of safety, when a strong shake or a weak but long time slow shake has been felt.

2. Leave the seashore immediately and take shelter to the place of safety, when a tsunami warning has been issued.

3. Acquire correct information on the television, the radio, and via the internet, etc.

4. Do not go to the seashore for bathing or fishing when a tsunami advisory or a tsunami warning is issued.

5. Do not feel relieved until the warning is canceled because tsunami may attack repeatedly.

Japan Meteorological Agency
Website : http://www.jma.go.jp/

March, 2006