

# Emergency Warning System

- A New Service to Protect Life -



Great East Japan Earthquake (2011)

Miyakejima volcanic  
eruption (2000)



Typhoon Talas  
(2011)

Massive damage is caused by natural phenomena of extraordinary magnitude in Japan, as exemplified by the major tsunami caused by the 2011 Great East Japan Earthquake and heavy rain caused by Typhoon Talas in the same year.

In response to these natural hazards, the Japan Meteorological Agency (JMA) issued warnings and various other messages. However, in some cases there was no effective means of informing municipalities and residents of a significant risk of imminent fatal disaster in association with natural phenomena on a scale far exceeding the regular warning criteria, and existing warnings and other information did not prompt residents to evacuate urgently. Based on these experiences, JMA introduced a system of Emergency Warnings on 30 August, 2013, to highlight such hazards.

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About Emergency Warning: [http://www.jma.go.jp/jma/en/Emergency\\_Warning/ew\\_index.html](http://www.jma.go.jp/jma/en/Emergency_Warning/ew_index.html)

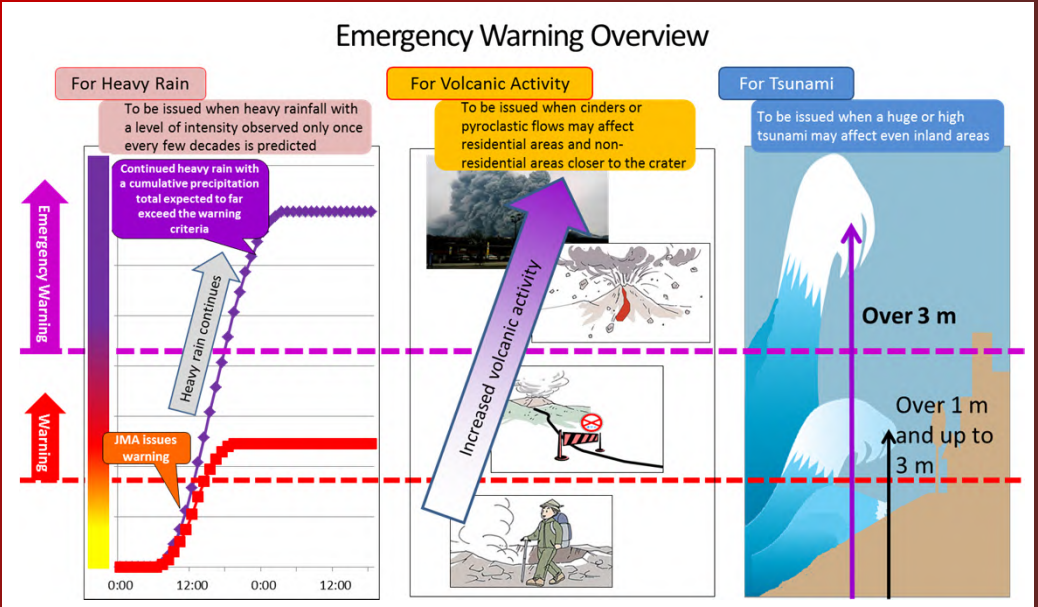


# Emergency Warnings are issued to alert people to the significant likelihood of catastrophes in association with natural phenomena of extraordinary magnitude.

If an Emergency Warning is issued:

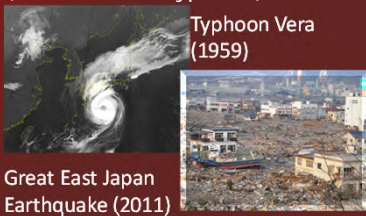
- An extraordinary phenomenon of a magnitude never experienced by local residents is likely to occur.
- The possibility of a catastrophe is significant.
- Immediate action should be taken to protect life.

## Emergency Warning Overview



## Examples of Catastrophes to which Emergency Warnings would apply

Emergency Warnings are issued if a phenomenon is expected to be of a scale that will far exceed the relevant warning criteria, such as the 2011 Great East Japan Earthquake and Typhoon Vera (a.k.a. Ise-wan Typhoon) in 1959.



Severe weather	Kyushu-Hokubu heavy rain (July 2012) Typhoon Talas heavy rain (2011) Typhoon Vera (a.k.a. Ise-wan Typhoon) heavy rain, storm, storm surge, high waves (1959) Muroto Typhoon heavy rain, storm, storm surge, high waves (1934)	32 people killed or missing 98 people killed or missing More than 5,000 people killed or missing  More than 3,000 people killed or missing
Earthquake (Victim numbers include those killed or missing as a result of tsunami)	Great East Japan Earthquake (2011) Iwate-Miyagi Nairiku Earthquake (2008) Niigataken Chuetsu-oki Earthquake (2007) Mid Niigata Prefecture Earthquake (2004) Great Hanshin-Awaji Earthquake (1995)	More than 18,000 people killed or missing 23 people killed or missing 15 people killed 68 people killed 6,437 people killed or missing
Tsunami (Victim numbers include those killed or missing as a result of earthquakes)	Great East Japan Earthquake (2011) Earthquake off the Southwest Coast of Hokkaido (1993) Central Sea of Japan Earthquake (1983)	More than 18,000 people killed or missing 230 people killed or missing  104 people killed or missing
Volcanic activity	Miyakejima volcanic eruption (2000) Usuzan volcanic eruption (2000) Mt. Unzen volcanic eruption (1991)	All island residents evacuated More than 15,000 people evacuated 43 people killed or missing

# Routine preparedness and early action for natural hazards saves lives.

## Responses advised to protect life (for heavy rain)

On a routine basis **Check weather bulletins and look out for changes in the weather.**

Onset of rain

If the rain gets heavier,

Advisory

If heavy rain continues

Warning

If heavy rain continues,

**EMERGENCY!**


Emergency Warning

Cool-headed decisions are important because evacuation requirements depend on the location/structure of domiciles and whether inundation has already occurred. Advance consideration of action to be taken is key in protecting life.



**Nuts and Bolts**

- Check whether you're ready for an impending hazard.



**Pay attention to the latest bulletins and prepare for disaster conditions. Early action is recommended for people in areas vulnerable to rain/wind-related disasters and people needing assistance to evacuate.**

- ✓ Be aware of hazardous places such as lower areas prone to flooding
- ✓ Check emergency supplies
- ✓ Check evacuation routes and centers
- ✓ Check the security of windows and storm shutters
- ✓ Monitor weather bulletins on TV, radio and JMA's website




**Pay attention to evacuation orders/advisories and other related information issued by municipalities, and start voluntary and early evacuation as needed.**



**Nuts and Bolts**

- Take early action even if no Emergency Warning is in effect!




**Take immediate action to protect life.**

**Head to an evacuation center in accordance with evacuation advisories/orders and other related information. If it is dangerous to go outside, evacuate to a safer place within the building.**

**Nuts and Bolts**

- Stay calm.
- Respond flexibly depending on the situation.
- Be aware of the extreme danger of evacuation once inundation has occurred.



- Remember that catastrophes may occur even if no Emergency Warning is in effect.
- Take early action with reference to Warnings, Advisories and relevant bulletins.
- Check evacuation routes and centers constantly.

# For Severe Weather

## Emergency Warnings are issued if heavy rain or other phenomena on a scale observed only once every few decades is predicted.

### Criteria for Emergency Warnings

Phenomenon	Criteria
Heavy rain	<ul style="list-style-type: none"> <li>Heavy rainfall with a level of intensity observed only once every few decades is predicted in association with a typhoon or similar.</li> </ul> Or: <ul style="list-style-type: none"> <li>Heavy rainfall is predicted in association with a typhoon expected to have a level of intensity observed only once every few decades or an extratropical cyclone with comparable intensity.</li> </ul>
Storm	A Storm is predicted
Storm surge	A storm surge is predicted
High waves	High waves are predicted
	in association with a typhoon expected to have a level of intensity observed only once every few decades or an extratropical cyclone with comparable intensity.
Snowstorm	A snowstorm is predicted in association with an extratropical cyclone expected to have a level of intensity observed only once every few decades.
Heavy snow	Heavy snowfall with a level of intensity observed only once every few decades is predicted.

JMA's website provides objective criteria for variables such as rainfall amounts used for the definition of a level of intensity observed only once every few decades.

# For Earthquakes, Tsunami and Volcanic eruptions

## Major Tsunami Warnings and certain other warnings are issued in the classification of Emergency Warnings#.

Phenomenon	Criteria
Earthquake	Seismic intensity of 6-lower or more is expected. (Earthquake Early Warnings incorporating prediction of tremors measuring 6-lower or more on JMA's seismic intensity scale are issued in the classification of Emergency Warnings#.)
Tsunami	Tsunami height is expected to be greater than 3 meters. (Major Tsunami Warnings are issued in the classification of Emergency Warnings#.)
Volcanic eruptions	Eruption or possibility of eruption that may cause serious damage in residential areas and non-residential areas nearer the crater (Volcanic Warning (Level 4 and 5) and Volcanic Warning (residential areas)* are issued in the classification of Emergency Warnings#.)

# In regard to earthquakes, tsunami and volcanic eruptions, JMA maintains the system of warning nomenclature used until 29 August, 2013. As of 30 August, 2013, messages that meet one of the above criteria for high-risk conditions are issued in the new classification of Emergency Warnings.

\* When residential areas are not defined, residential areas is replaced with foot-of-mountain areas.

## Pay attention to the latest bulletins and follow municipal evacuation advisories and orders in order to protect your life

Emergency Warnings are disseminated through administrative organs and wide variety of media. Residents should look out for relevant messages.

