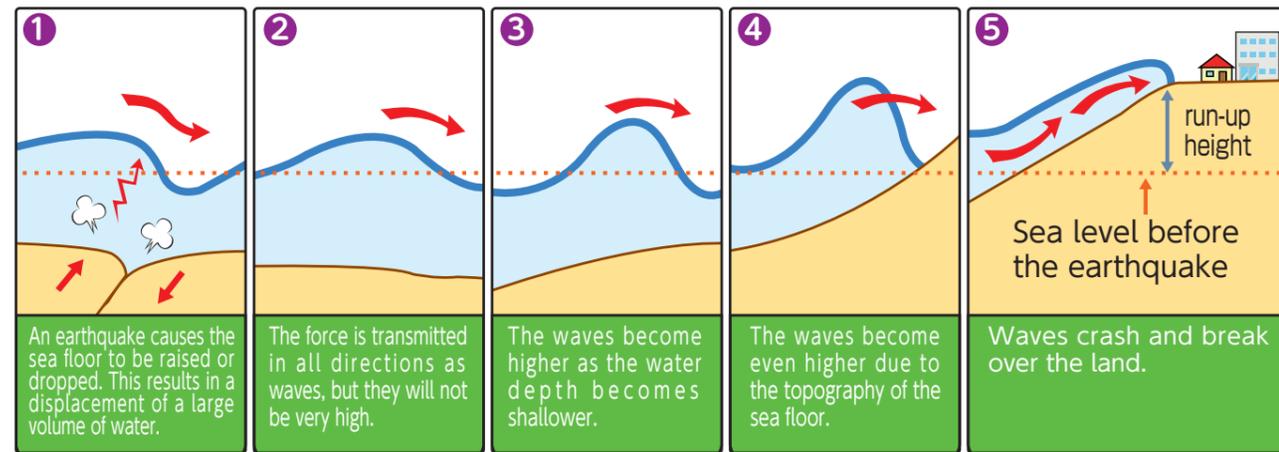


# Preparing for Tsunami

We never know when and where tsunamis may strike. Therefore, acquiring correct information about tsunamis is important for everyone, not just those who live near the coast.

## What Causes Tsunamis



- The "tsunami height" announced by the Japan Meteorological Agency refers to the height of the sea level near the coast.
- When a tsunami runs inland from the coast, it is called a "run-up." This can sometimes reach several tens of meters. This height of a run-up is called the "run-up height."
- Tsunami heights can reach several times higher than the expected height depending on the topography of the coast and bay. Therefore, even if the expected tsunami height is low, it is important to stay alert.

## Tsunami Warning / Advisory and Actions to Be Taken

When a tsunami disaster is expected to occur, the Japan Meteorological Agency will issue a Major Tsunami Warning, Tsunami Warning, or Tsunami Advisory approximately three minutes after an earthquake. After the warning/advisory is issued, information such as the "Estimated Tsunami Height" and "Estimated Arrival Time of Tsunami" will be announced.

If a Tsunami Warning/Advisory is issued for the **Seto Inland Sea coast of Oita Prefecture**, please take immediate action to protect yourself.

Category	Criteria for announcement by the Japan Meteorological Agency	Estimated maximum tsunami heights		Expected damage and actions to be taken
		Quantitative expression (estimated tsunami height classification)	Qualitative expression	
Major Tsunami Warning	When the maximum tsunami height is expected to exceed 3 m.	Over 10 m (10m < estimated height)	Huge	Wooden structures are expected to be completely destroyed and/or washed away; anybody exposed will be caught in tsunami currents. People in the coastal or riverside area should evacuate immediately to a safe location such as an elevated ground or a tsunami evacuation building.
		10m (5m < estimated height ≤ 10m)		
		5m (3m < estimated height ≤ 5m)		
Tsunami Warning	When the maximum tsunami height is expected to exceed 1 m but not exceed 3 m.	3m (1m < estimated height ≤ 3m)	High	Tsunami waves will hit, causing damage to low-lying areas. Buildings will be flooded, and anybody exposed will be caught in tsunami currents. People in the coastal or riverside area should evacuate immediately to a safe location such as an elevated ground or a tsunami evacuation building.
Tsunami Advisory	When the maximum tsunami height is expected to exceed 0.2 m and cause potential damage but not exceed 1 m.	1m (0.2m ≤ estimated height ≤ 1m)	(N/A)	Anybody exposed will be caught in strong tsunami currents in the sea. Fish farming facilities will be washed away, and small vessels may capsize. People in the ocean should immediately get out of the water and stay away from the coast.

Source: Japan Meteorological Agency Website

## Characteristics of Tsunamis and Evacuation Reminders

- Quickly move away from the waterfront.** Waterfront is dangerous even in the case of a Tsunami Advisory. Immediately move away from the coast and riverside.
- Tsunamis move quickly.** Tsunamis travel so fast that it is too late to evacuate after seeing them physically.
- Once you've evacuated, don't go back.** Even when the estimated arrival time of the wave has passed and even after the initial wave has subsided, keep evacuating until the Tsunami Warning/Advisory is lifted and safety is assured.
- Tsunamis come repeatedly.** Tsunamis come not only once but multiple times, and later waves may be higher.
- Tsunamis are higher depending on the location.** Tsunamis drastically become higher when they are closer to the coast and when water depth is shallower. They may also get higher in certain places due to geographical features such as a V-shaped bay or at the tip of a cape.
- Tsunamis also come from afar.** Tsunamis may be caused by an earthquake or other factors in faraway locations. It's important to pay attention to Tsunami Warnings/Advisories that will not be caused by earthquakes in oceans near Japan as well.

## Elevation Signs



### Elevation Signs

They are displayed on utility poles, etc., less than 16 meters above sea level. They indicate the elevation of that location and also act as a sign for tsunami evacuation sites.



### Tsunami Evacuation Building Signs

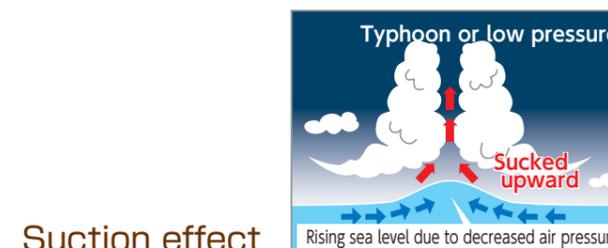
They are posted on buildings that can be used as temporary or emergency evacuation buildings when a tsunami is approaching. Please evacuate to **the 4th floor of the building or higher**. \*See P.68 for the list of Tsunami Evacuation Buildings.

## Preparing for Storm Surge

In coastal areas, be aware of storm surges during typhoons. If a storm surge is predicted, evacuate early.

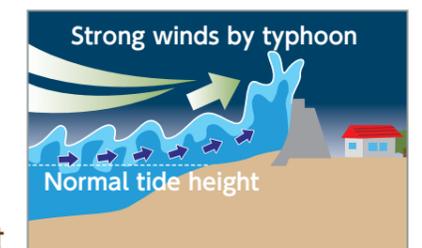
## How storm surges form

A storm surge is a phenomenon that occurs when the sea level becomes unusually high during the approach of a typhoon or a developed low pressure. When a storm surge occurs and strong winds and waves agitate high tide, seawater levels may exceed the levee and flood the inland area behind them. If there are rivers flowing into the sea where a storm surge is occurring, the high tide level and wind waves block the river flow. Rivers are flooded as a result, and they overflow into riverside areas, causing damage even in inland locations away from the coast.



### Suction effect

When the center of a typhoon or a developed low pressure approaches, the air pressure near the center gets low, and the sea surface is sucked upward and raised. As the atmospheric pressure lowers by 1 hPa, the sea level rises by 1 cm. For example, when a typhoon of 950 hPa approaches, the sea level goes up by 50 cm from the time of 1000 hPa.



### Wind-drift effect

When strong winds caused by a typhoon continue to blow against the coast for a long time, the seawater is blown and drift toward the coast, raising the sea level near the coast unusually high. The wind-drift effect varies greatly depending on the wind speed and coastal features. It becomes higher in the interior of a V-shaped bay.