

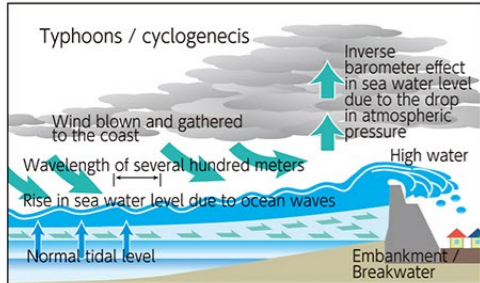
High water

What is high water?

Due to a typhoon or cyclogenesis etc. passing by, a rise in sea water levels may be seen. This phenomenon is called "high water".

The mechanism of high water

The mechanism of high water

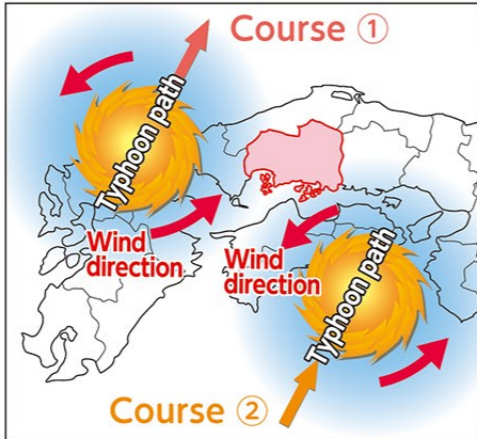


A phenomenon where the sea level rises extraordinarily high due to:

- ① Effect of cyclogenesis due to typhoon approach
- ② Wind blown and gathered from offshore to the coast
- ③ Strong wind

The size of high water depends highly on the size of the typhoon as well as the course it takes.

Risks of high water outbreak depending on typhoon



In case of course ①

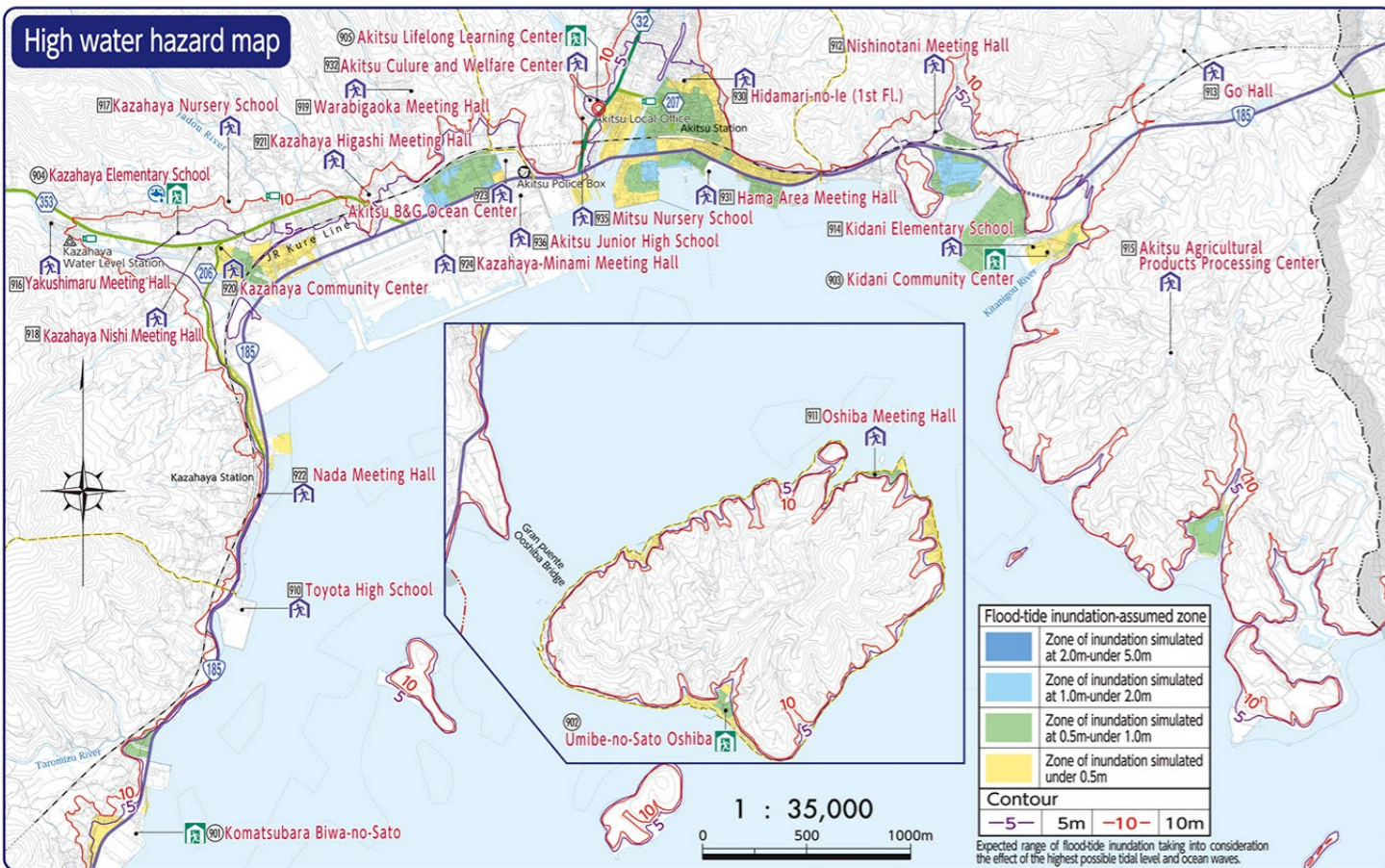
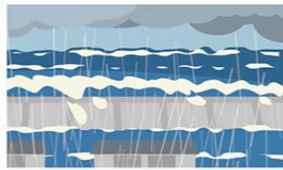
If the typhoon goes through the west side of Higashihiroshima City, the wind blows to the same direction as its path, which accelerates the wind and the risks of high water will be higher than course ②.

In case of course ②

If the typhoon goes through the east side of Higashihiroshima City, the wind blows to the opposite direction as its path, which cancels out the wind and the risks of high water will be lower than course ①.

Areas hazardous to high water

- Zero-meter areas Zero-meter areas have high risks of inundation damages caused by high water.
- Closed-off section of the bay The sea water does not escape outside the bay easily and therefore causes the rise in the bay water level.
- Natural terrain (V-shaped valley, etc. in the mountains) The waves concentrate easily and water levels rise locally.
- Natural terrain (steep submarine terrain) The waves become drastically high on the coast.
- Natural terrain (river mouth) Risks of both high water and flood.



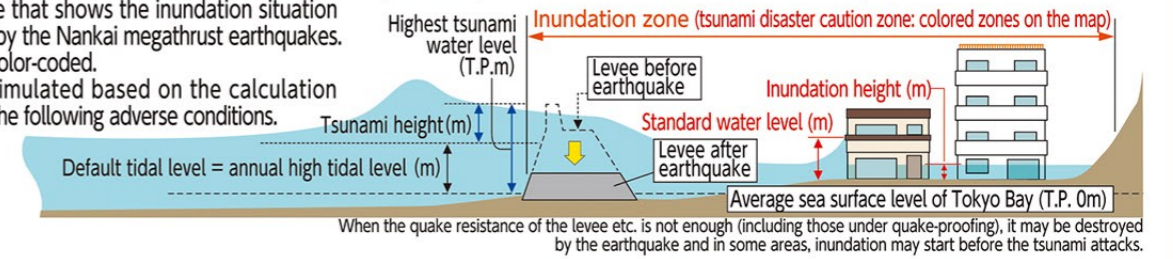
Tsunami

Simulation of inundation by Tsunami

Tsunami inundation-assumed zones are made based on the information provided by Hiroshima Prefecture that shows the inundation situation simulated for the tsunami caused by the Nankai megathrust earthquakes. Simulated inundation heights are color-coded. In addition, the inundation is simulated based on the calculation condition set with the premise of the following adverse conditions.

Adverse conditions

- ◆ Default tidal level is set at annual high.
- ◆ Subsidence by earthquake is taken into consideration.
- ◆ As for structures, it is set that shore protection and breakwaters are not functioning and the levee subsides to 25% of the height prior to the earthquake. The levee is simulated to be destroyed if the tsunami overflows.



- ◆ Inundation zone: Zone where the tsunami is simulated to run from the coastline to the land area
- ◆ Tsunami disaster caution zone: Zone where there is a risk of danger to the lives and bodies of residents, etc. at an outbreak of a maximum level of tsunami, and where a precautionary evacuation system should especially be established in order to prevent tsunami disasters
- ◆ Inundation height: Height from ground to sea surfaces when the water level reaches the highest position at various land points
- ◆ Standard water level: Water level combining the inundation height and the elevation (surge) of tsunami water surface crashing to buildings, etc.
- ◆ T.P.: Height from the average sea surface level of Tokyo Bay; same as altitude and above sea level
- ◆ 5m above sea level contour: Just an indication of altitude. Not to imply that people who are higher than 5m do not have to evacuate.

Standards of issuance of major tsunami warning / tsunami warning / tsunami advisory

Type	Expected height of tsunami			Expression in case of megaquake	Simulated damages and moves to make
	Forecast category	Announcement by number			
Major tsunami warning	10m	Over 10m		Giant	Wooden houses are totally destroyed or washed away. People get caught up in the stream caused by the tsunami. Those who are at the coastline or by the river should evacuate immediately to a safe place, such as a high ground, or a robust building that has 3 stories or more.
	5~10m	10m			
Tsunami warning	1~3m	3m		None	Tsunami attacks and causes inundation damage at places of low altitude. Evacuate immediately to a safe place, such as a higher ground, or a robust building that has 3 stories or more.
Tsunami advisory	0.2~1m	1m		High	In the sea, people get caught up in the fast stream. Also, farming rafts are washed away and small vessels overturn. Those who are in the sea should immediately get ashore and get away from the coast.

Things to keep in mind when you evacuate

When you feel the earthquake near the coast, escape immediately to a higher place! When you feel a strong earthquake (intensity 4 and higher) or a long-lasting quake, escape immediately from the coast and rush to a higher place such as a high ground.

Tsunami repeats itself!

Sometimes the 2nd or 3rd waves are higher than the 1st wave. Do not go home to pick up your belongings to go close to the coast to see what is going on.

Stay alert even the quake is small!

Small quake does not mean no tsunami. Gather correct information such as the epicenter, tsunami advisory, etc.

