

Alert Level and Evacuation Actions

(Protect Your Own Life)

Learn about River Flooding

Alert Level

When the city issues evacuation information such as Evacuation of the Elderly, Etc. (Alert Level 3) or Evacuation Instruction (Alert Level 4), evacuate from dangerous places immediately. Also, when the Japan Meteorological Agency announces weather information equivalent to Alert Level 3 or Level 4, make your own decision to evacuate, even if no Evacuation Instructions have been issued.

Alert Level	Information from the Japan Meteorological Agency, etc.			Evacuation information	Actions to be taken by citizens
	Heavy rain/Landslide	Storm surge	River flooding		
5	Heavy rain emergency warning		Information on potential flood hazards	Emergency Safety Measures Note : It is not information that will always be issued	Danger to life Ensure safety immediately! It is already impossible to evacuate safely, and your life is in danger. Immediately move to a safer place than where you are now.

《 Be sure to evacuate by Alert Level 4! 》

4	Landslide alert information	Storm surge emergency warning Storm surge warning	Information on potential flood hazards	Evacuation Instruction	Everyone should evacuate from dangerous places
3	Heavy rain warning Flood warning	Advisories that are likely to switch to storm surge warnings	Information to provide a warning on flooding	Evacuation of the Elderly, Etc.	Elderly people should evacuate from dangerous places. Those who need time for evacuation should start evacuation.
2	Advisories that are likely to switch to heavy rain warnings Heavy rain advisory Flood advisory	Storm surge advisory	Information to call attention to flooding		Check your own evacuation procedures. Reconfirm the disaster risk of your home and how to obtain evacuation information using disaster prevention maps, etc.
1	Possibility of warnings				Be on higher alert for disasters

About Evacuation Actions

● Points of evacuation

Evacuation is more than simply moving to an evacuation site. The goal of evacuation is to get somewhere safe. Evacuation methods differ depending on the situation and each person. Be aware that "you will protect your own life" and decide how to act on a regular basis.

Evacuation ... Evacuate to a designated evacuation site, a relative's or acquaintance's house, a hotel, an inn, etc.

Shelter indoors ... If the building is safe and it is dangerous to go outside, stay indoors and secure your safety.



● Differences between an evacuation site and an evacuation shelter

Evacuation site ... It is a place to temporarily protect yourself from the dangers of disasters.
Example: Locations that will not be inundated by river floods, storm surges, or tsunamis and that will not be damaged by earthquakes, etc.

Evacuation shelter ... It is a place to evacuate and stay for a certain period of time when you can't stay or return home due to a disaster.



Flood from Rivers and Flood from Inland Waters

When water overflows a river levee or when the levee collapses and buildings and fields are flooded, it is called a flood from rivers. When a flood from rivers occurs, a wide area is inundated, and there is a risk of a major disaster.

On the other hand, buildings, land, and roads may be inundated because rainwater is not drained into rivers even though the levees do not overflow. This phenomenon is called a flood from inland waters. Although the scale of inundation is smaller than that of a flood from rivers, it has the characteristic of being prone to occur everywhere.



Flood from rivers

The collapsed part spreads at once, and the water of the river rushes out to inundate houses and other places.



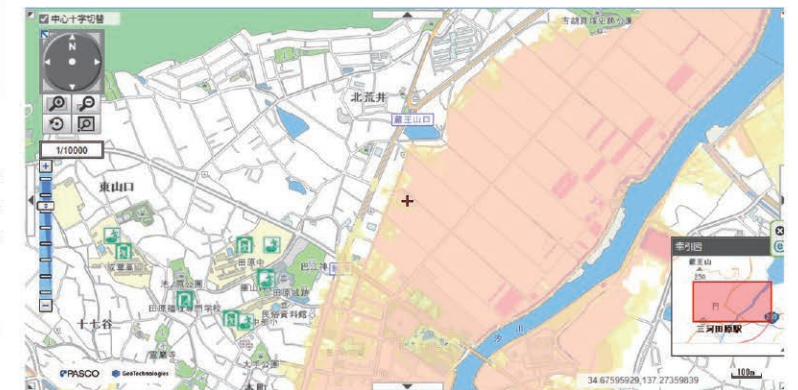
Flood from inland waters

As the water level of rivers rises due to heavy rain, it becomes difficult to drain water, and the drainage channel and sewerage system overflow.

Expected River Inundation Area on Hazard Map

Aichi Prefecture simulated the situation of inundation when each river overflows by flooding with the heaviest rain possible. The probability of the expected maximum heavy rain occurring is approximately once every 1,000 years.

Note: As floods due to storm surge and inland waters were not taken into consideration, inundation may occur even in areas not designated as the flood inundation risk area (colored areas on the map).



Points to be Aware of during Floods



Get accurate information through television, radio, the Internet, etc.
If you feel danger, evacuate urgently.



If the water is as deep as your knees, it is difficult for even an adult to walk. Consider evacuating to a higher place inside your building.



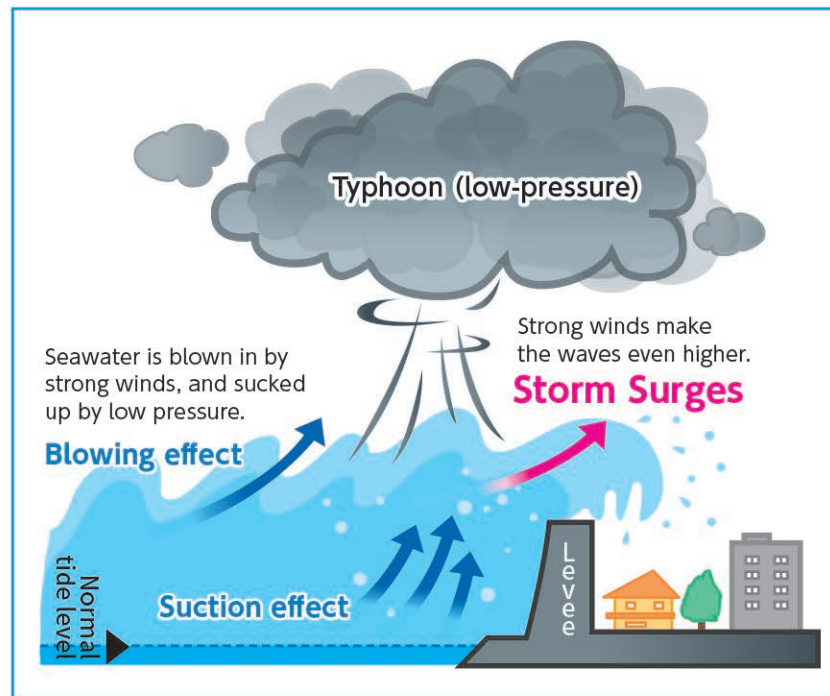
There are many hidden dangers beneath the water surface, such as open manholes, gutters, and steps.
Therefore, use a long stick as a cane and walk while ensuring safety.



Carry your emergency bag on your back and keep both hands free as much as possible.

Mechanism of Storm Surges

When a typhoon approaches or reaches land on the coast, the low-pressure system sucks up the sea surface, causing the water level to rise abnormally. At the same time, storm winds blowing from offshore to the coast push seawater onto the land. This phenomenon is called storm surge. When storm surges coincide with high tides, the damage to land is even greater.



Suction by low pressure

As the pressure is low near the center of a typhoon or low-pressure system, the air in that area pulls up the sea surface. As a result, sea level rises. A one hPa drop in atmospheric pressure will cause the sea level to rise by approximately one cm.

Blown by the wind

When strong winds from typhoons blow from offshore to the coast, seawater is blown toward the coast. As a result, sea level rises. The rise height of sea level is proportional to the square of the wind speed. That is, if the wind speed doubles, the sea level rise will quadruple.

Major Storm Surges in the Past

During the Ise Bay Typhoon in 1959, disasters caused by storms and storm surges occurred throughout the Aichi Prefecture, centering on Ise Bay. In our city, 2,317 houses were completely destroyed, 581 houses were partially destroyed or inundated, and 1,979 non-residential buildings were completely or partially destroyed.

Typhoon No. 18 (2009) caused landslides and flood damage in various places due to heavy rain, strong winds, high waves, and storm surges. In our city, one house was completely destroyed, 186 houses were partially damaged, 46 houses were flooded above the floor level, and two port facilities were damaged.

Expected Storm Surge on Hazard Map

Aichi Prefecture simulated the flooding situation caused by the largest possible storm surge. The largest storm surge is assumed to occur when the largest typhoon among typhoons approaching Japan passes through the course of the highest tide level due to the influence of the typhoon at high tide.

The assumptions for the largest typhoon are as follows: A typhoon that passes at a speed of 73 km/h while maintaining the atmospheric pressure (910 hPa) when it landed. (Muroto Typhoon (1934): 911.6 hPa when landed at Cape Muroto, Speed of Ise Bay Typhoon: 73km/h) The probability of the expected largest typhoon occurring is about once every 500 to several thousand years.

We also assume the worst-case scenario, including rising river levels, flooding, and levee breach due to storm surges.

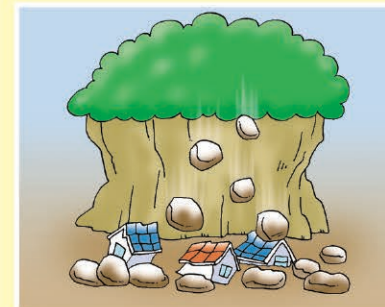
Note : Be very careful as inundation may occur even in areas not designated as the flood inundation risk area (colored areas on the map).

Types of Landslide Disasters

There are three types of landslide disasters: steep slope failure, debris flows, and landslip. It is important to know the characteristics and signs of each disaster to deal with landslide disasters that cause enormous damage.

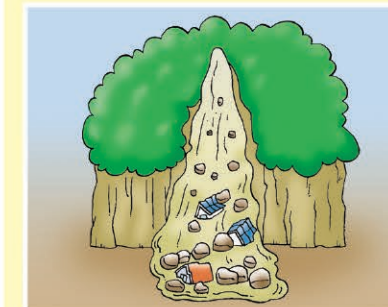
Steep slope failure

It is a phenomenon in which the ground loosens due to rain or earthquakes, and a slope suddenly collapses.



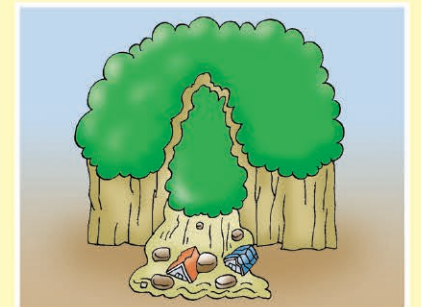
Debris flow

It is a phenomenon in which the earth and sand of the mountains and rivers is flushed violently with a large amount of water due to heavy rain.



Landslip

It is a phenomenon in which the soil mass on the slope slips out below the slope due to the effects of groundwater.



Premonitory phenomena



Pebbles fall apart from the slope (cliff).



Water suddenly springs up from a slope (cliff), or spring water becomes muddy.

Premonitory phenomena



The river is muddy and driftwood flows at once.



The mountain is rumbling or shaking.

Premonitory phenomena



The ground cracks.



Spring water suddenly comes out from the slopes.

Landslide Damage (Special) Danger Zone

Landslide Damage Danger Zone (Yellow Zone)

Areas designated by Aichi Prefecture that may endanger the health and lives of the residents in the event of a landslide disaster. This zone is categorized according to the topography into "collapses on steep slopes (steep slope failure)," "debris flow," "landslip."

Landslide Damage Special Danger Zone (Red Zone)

Areas in the Landslide Damage Danger Zone in which damaged buildings, etc. may significantly endanger the health and lives of the residents. There are restrictions on certain development activities and structural regulations for buildings.

