

# Previous water disasters

2018

## Rain storms in July 2018



Due to the rain fronts and Typhoon Prapiroon, record heavy rains fell across the country, mainly affecting western Japan.

They caused river flooding, inundation, landslides, and other disasters, resulting in a large number of deaths and missing people. Important lifelines such as water sources and telephones were also affected, and transportation systems such as trains were temporarily suspended.

2015

## Typhoon Etau in 2015



Typhoon Etau and other low pressure storms in September 2015 caused the record heavy rains, particularly in the Kanto and Tohoku regions.

A delay in the evacuation process left many people stranded. About 4,300 people were rescued, but seven died and fifteen went missing. The rains also damaged homes.

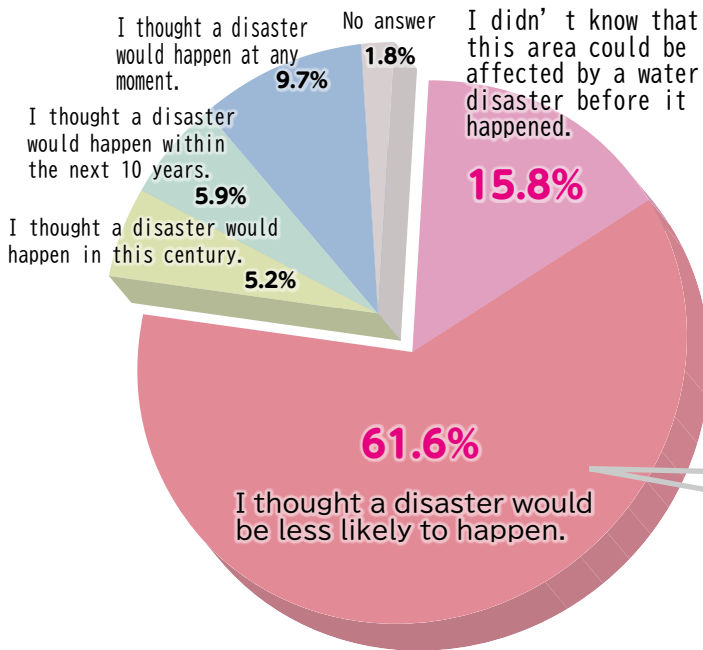
2013

## Typhoon Wipha in 2013

The large and strong Typhoon Wipha, which occurred on October 11, made landfall on the coast of the Kanto region five days later at dawn. Some areas became storm zones (bofuiki) and rainfall exceeding 300 mm was observed in the Kanto and Tokai regions. As a result, in Yashio, 103 buildings were flooded above ground level and 110 buildings were flooded below ground level.

# Disaster Prevention to Save Lives

Some people might not evacuate for various reasons even at the time of a hazardous disaster. The delay in evacuation can result in death.

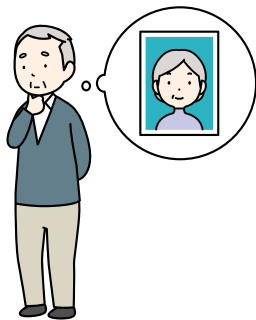


About **77%** of the affected people had believed they would not be affected.

**77.4 %**

- didn't know they would be affected.
- they answered that they would not be affected by water disasters.

## Reasons why some people do not evacuate



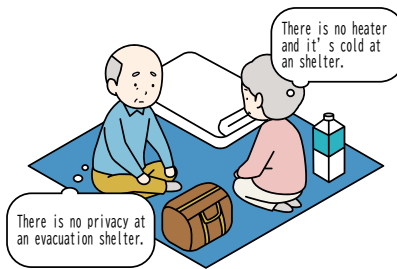
I have valuables and sentimental items at home.



My neighbors are not evacuating and I don't think I live in an area that will be flooded.



I'm not evacuating because I thought moving to the upper floors would be safe enough even if my neighborhood gets flooded.



I have used an evacuation site and I didn't like it.

## If you do not evacuate



You could drown in the water in your home.



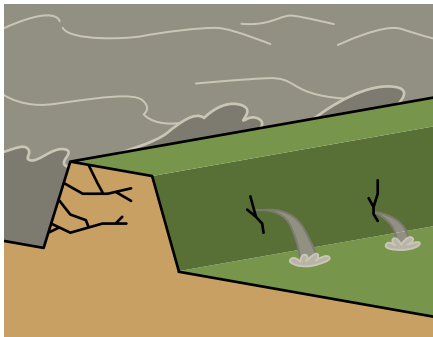
You might get trapped in the building until the water level goes down.

# Types of water disasters that cause flooding

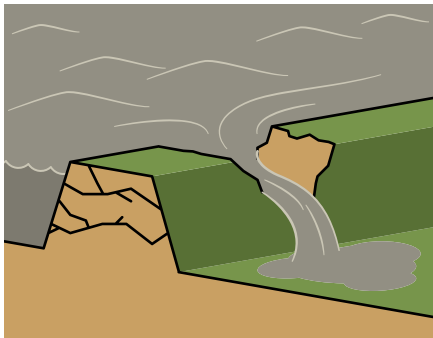
## External Flood



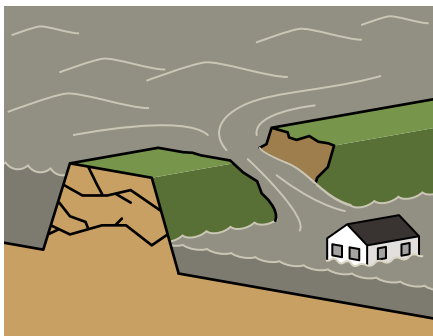
A heavy rain increases the river flow and causes the water level to rise.



Once the water level reaches the height of a levee, the water begins pushing over the levee itself.

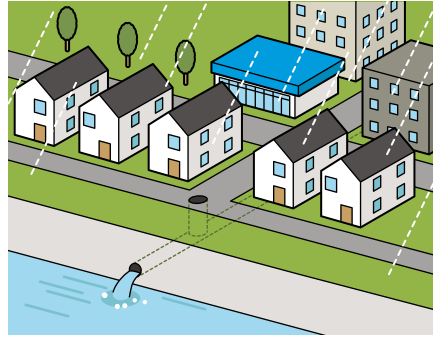


If the water flow increases and intensifies the pressure, parts of the levee starts to collapse.

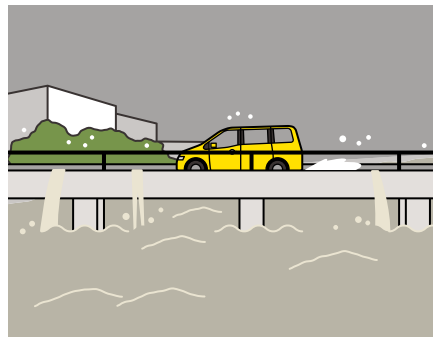


The water then starts to escape through the cracks in the levee.

## Internal Flood



Rainwater in cities flows through gutters and waterways and eventually reaches rivers.



The higher the water level of the rivers gets, the harder it becomes for water to get drained in waterways.



Because of heavy rain, waterways become overloaded and roads start to get flooded.



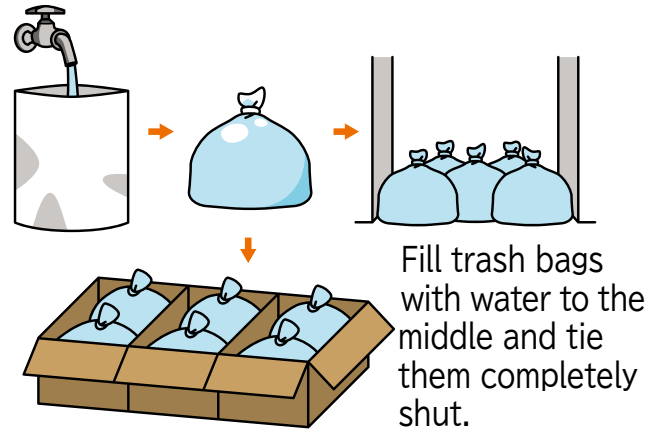
The overflowing water causes flooding in homes and roads.

# How to reduce damage by floods

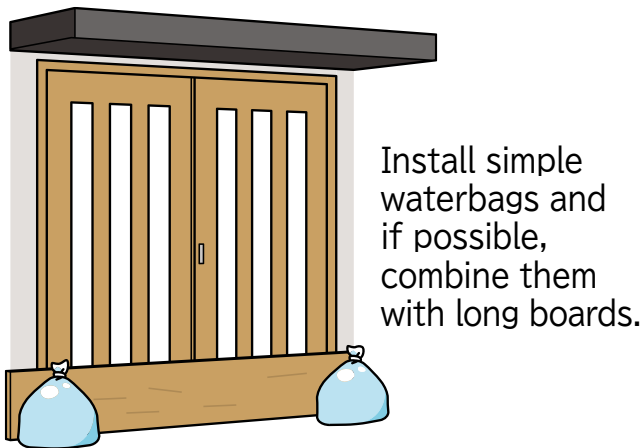
## Clean roads and gutters



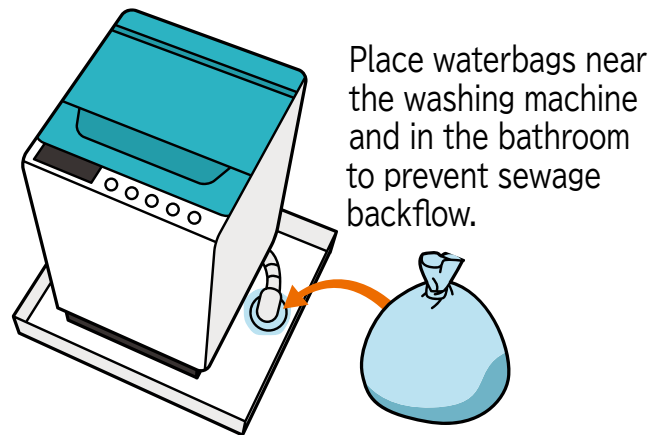
## How to make waterbags



## How to prevent floods outside



## How to prevent floods inside



## Move necessary items to the second floor



Move furniture, electronics, and other valuables to the second floor or above.

## Prepare a backpack with emergency kits



Place the backpack somewhere convenient so that you can evacuate at any moment.

# Different ways to ensure your safety

You can either leave your home or remain inside your home. If the damage caused by a flood is minor, you can remain safely at home. If the damage becomes serious, it will be necessary to evacuate to a designated site before the water reaches the second floor.

## Evacuation



Evacuate to a designated site, a higher level of a nearby building, or other safer places.

## Ensuring safety inside



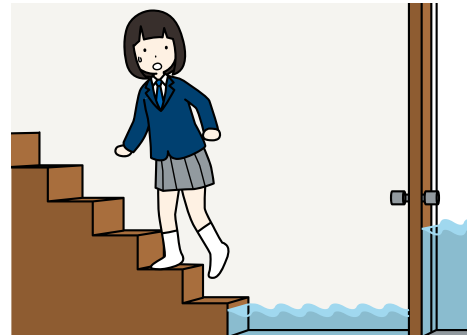
Go to an upper floor above the second floor and wait for help.

## Remain inside a building



Prepare water, food, and other necessary materials for the coming week or two.

## Evacuate to the second floor or above



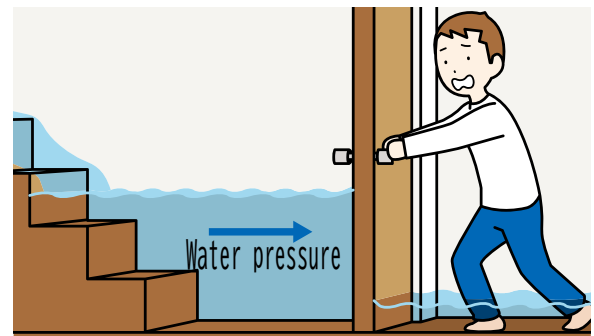
If it's dangerous to go to an evacuation shelter, move to the second floor or above at home or in a nearby building.

## Wait in a safe place.



Refrain from going outside unnecessarily and remain in a safe place such as an office building or a school.

## Avoid evacuating to any basements

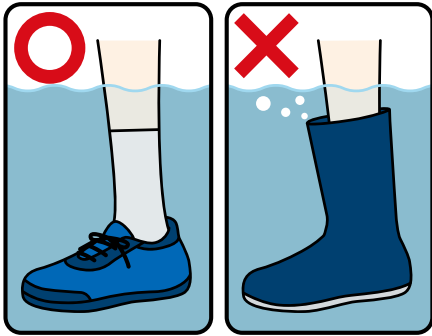


Since it gets harder to evacuate from the basement in case of a flood, it's important to evacuate to an upper floor in your current building.



# Start evacuating.

## Put on sneakers



Sneakers are more suitable than rain boots.

## Call neighbors



Call neighbors and evacuate in a group.

## Check on the water level in gutters



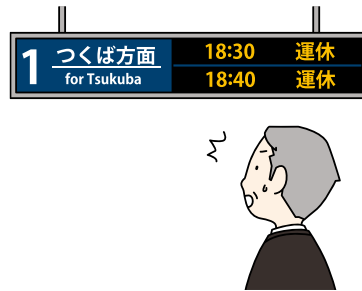
Check for the gutters using a long stick and try to find a safer path to walk on.

## Evacuate by train



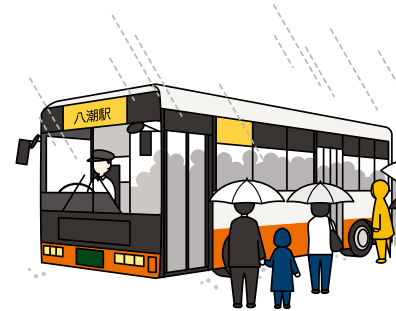
Check the status of the trains and start evacuating as early as possible.

## Train suspension



Severe weather conditions might cause delays or suspension of trains.

## Evacuate by bus or taxi



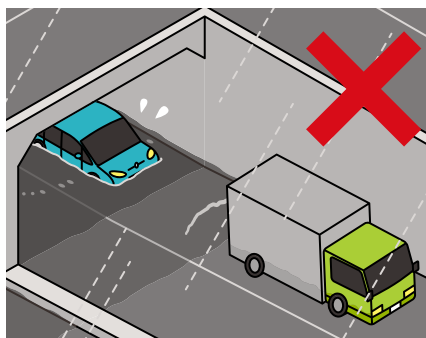
Delays and suspension of public transportation, in addition to the increased number of users, are expected.

## A mass evacuation might cause confusion



Since evacuees are expected to gather at stations and bridges, the confusion might result in accidents.

## Avoid going underground



Avoid passing through underpasses or underground roads due to the higher chance of flooding.

## Be careful of rivers and waterways



Refrain from going near rivers or checking on the water level.

# Evacuation according to the caution level

## Level 1

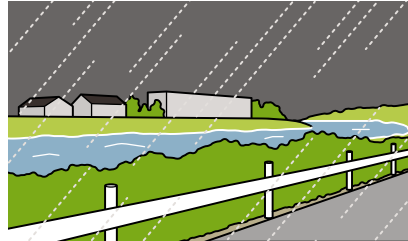
## Level 2

## Level 3

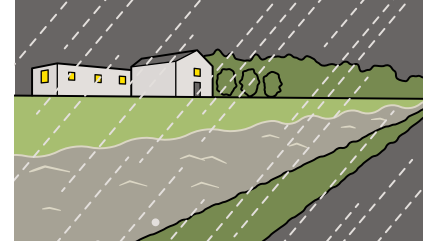
Situation outside



The rain has not started yet, but a warning is expected for the next day.



Due to the rain and the increased river flow, it's necessary to be cautious of the water-level rise.



The heavy rain has increased the river flow and the water level is expected to rise.

### Early Alert

### Heavy Rain and Flood Alert

### Heavy Rain and Flood Warning

Weather Information

### Flood Alert Information

### Flood Warning Information

Evacuation Information

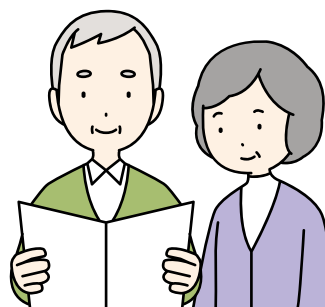
### Evacuation Preparation and Evacuation of the Elderly

Those who might need more time to begin evacuating

The elderly and people with special needs



Check the weather forecast on TV and radio.



Reconfirm your evacuation sites, routes, and timing.



Start evacuating to an evacuation shelter.

People who can evacuate immediately



Check the weather forecast on TV and radio.



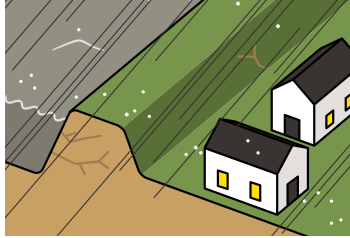
Reconfirm your evacuation sites, routes, and timing.



Keep your evacuation plans in mind as you prepare for evacuation.

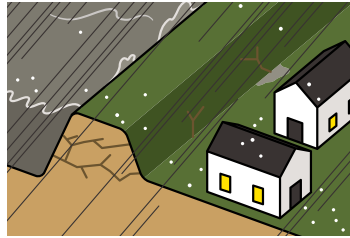
Check for the caution level and evacuation information frequently.

### Level 4



High chances of a river flood.

### Level 4



Extremely high chances of a river flood.

### Level 5



After a levee breach, the water has begun damaging buildings.

## Special Heavy Rain Warning

### River Flood Hazards Information

### Flood Information

### Evacuation Warning, Evacuation Order (Emergency)

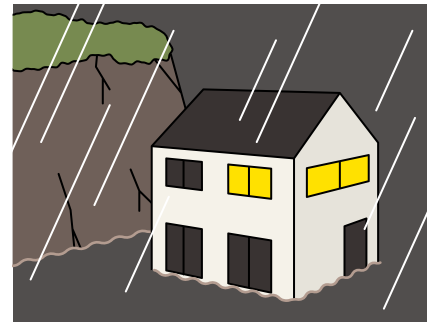
### Disaster Information



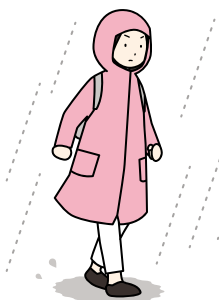
Stay inside an evacuation shelter until safety is guaranteed.



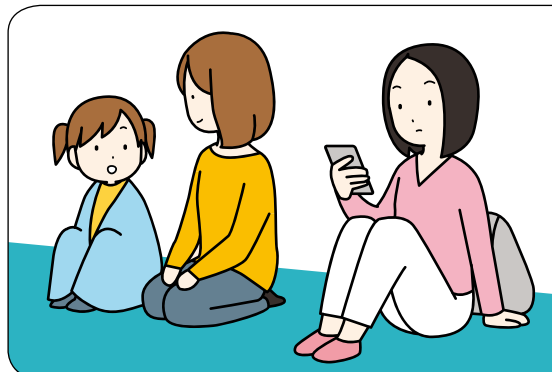
Relocate to a safer evacuation site in the area or move to a safer space inside the building.



Do the best you can do to save your life as a disaster has already occurred.



Start evacuating to an evacuation shelter.



Stay inside an evacuation shelter until safety is guaranteed.