



Koto City

# Heavy Rain Inundation Hazard Map

Disaster evacuation map for when flooded due to heavy rain exceeding the treatment capacity of sewers and drainage pump stations (Maximum anticipated scale)

# Flood depth

(Inland Waters)

## Information on evacuation

Koto City will issue the following evacuation information according to the alert level in preparation for storm and flood damage, such as floods as well as floods due to inland waters from the water level of Arakawa, upstream rain, and future prospects.

<b>Emergency Safety Measures</b> Disaster has occurred or will soon occur. Take the best possible action to save your life.	<b>Alert Level 5</b>
<b>Be sure to evacuate by Alert Level 4!</b>	
<b>Evacuation Instruction</b> Evacuate to a place of refuge immediately. If you think it is difficult to head towards an evacuation site, evacuate to a safe location nearby, or to a safer place within your home.	<b>Alert Level 4</b>
<b>Evacuation of the Elderly, Etc.</b> People who require time to evacuate (elderly, disabled persons, infants and small children, etc.) and their helpers should start evacuating. Others should prepare to evacuate.	<b>Alert Level 3</b>
<b>Heavy Rain, Flood, or Storm Surge Advisories</b> In preparation for evacuation, check your own evacuation plan by using hazard maps.	<b>Alert Level 2</b>
<b>Probability of Warnings</b> Increase your preparedness for disasters.	<b>Alert Level 1</b>

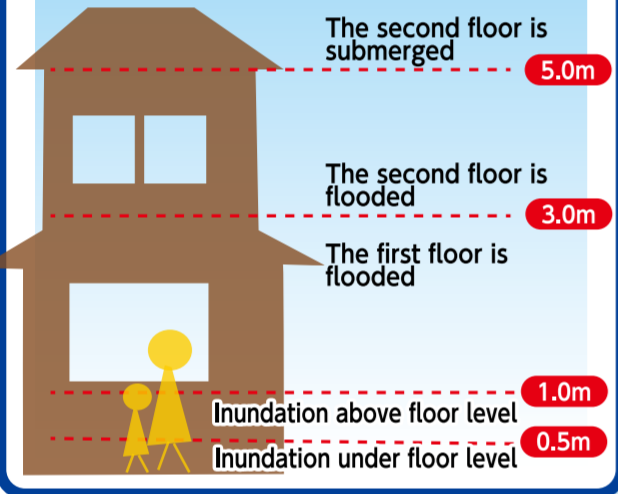
\*When you hear "Equivalent to Alert Level 5 / Equivalent to Alert Level 4 / Equivalent to Alert Level 3", etc. information that contains the word "equivalent" is not information that is communicated by Koto City. Rather, it is information communicated by the national government, mass media, etc., based on water level and warning information. Even if you hear the expression, "Equivalent to Alert Level ○", this does not necessarily mean that the City will announce an evacuation advisory.

Rain and river information will be comprehensively determined and communicated.



Preserved version

## Relationship between flood depth and homes



**Try measuring the approximate distance and time**

← 1000m →

**It takes roughly 15 minutes to walk 1000m.**

It takes roughly 15 minutes to walk 1000m. However, more time may be required if there is a traffic jam, or depending on your physical strength. Measure the approximate distance, know how much time is required, and keep in mind to evacuate with plenty of time.

Koto City tourist mascot "Kotomichi"

## Legend [Heavy Rain Inundation (Inland Waters)]

- Places of refuge
  - Major public facilities
  - Maximum anticipated scale
    - 5.0m or higher
    - 3.0m to below 5.0m
    - 1.0m to below 3.0m
    - 0.5m to below 1.0m
    - 0.1m to below 0.5m
  - Areas that will be especially dangerous during flood damage
    - Underpasses
- \*The colors used here give consideration to people who have difficulty with color vision.  
\*A version with different colors is available on the Koto City homepage.

**Emergency measures to save lives**

**Vertical evacuation**

**Evacuate to a location higher than the anticipated water depth of your own building or nearest public facility (facility indicated by a ● on the map)**

Koto City has designated temporary evacuation facilities to protect people from flooding in an emergency. In addition to the public facilities shown on the map, Koto City also designated facilities provided by private companies through agreements, so please check the official website of Koto City.

**Our family's flood countermeasure notes**

Discuss the emergency contact information and evacuation actions between the family members regularly on a daily basis.

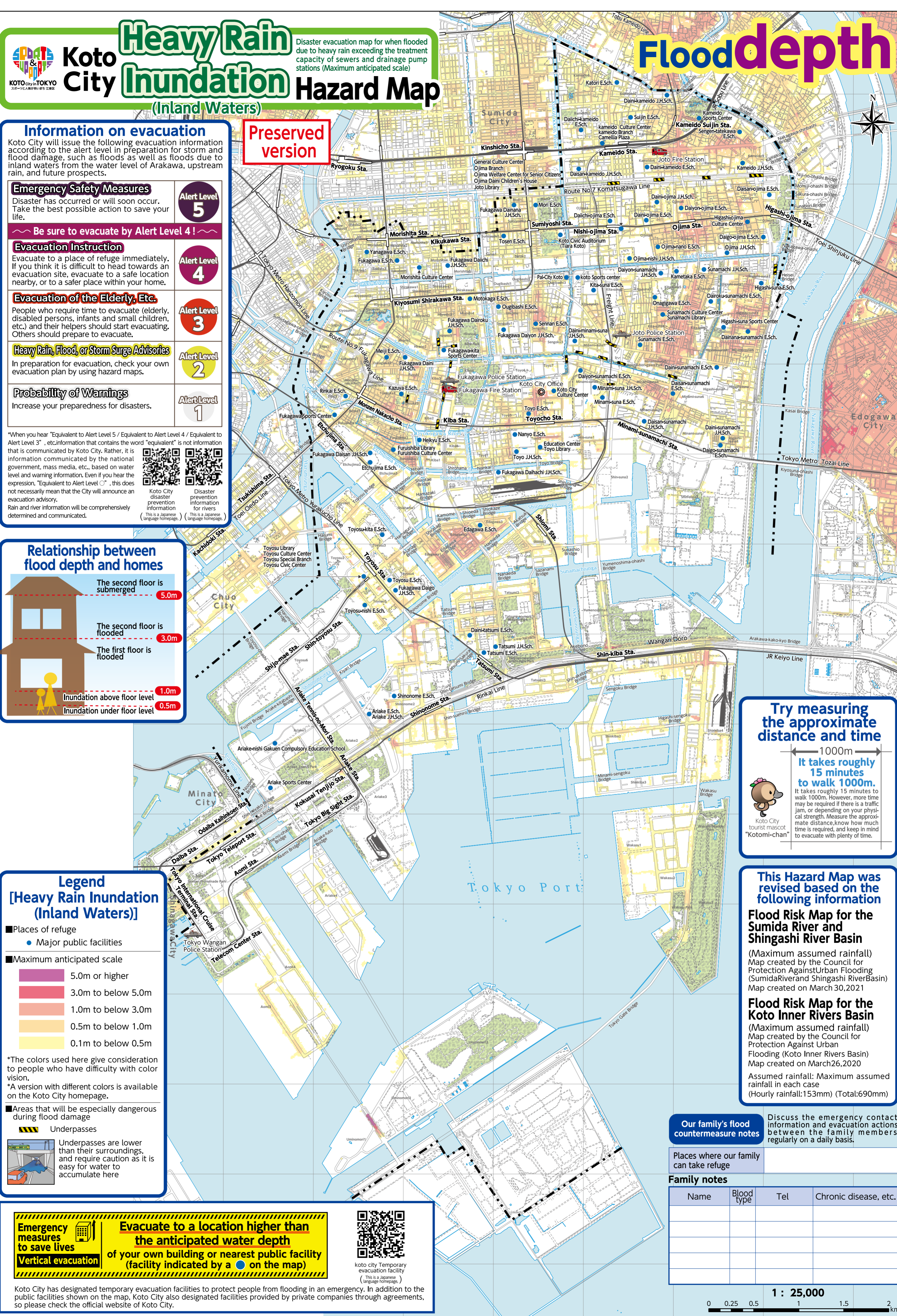
Places where our family can take refuge

**Family notes**

Name	Blood type	Tel	Chronic disease, etc.

**1 : 25,000**

0 0.25 0.5 1 1.5 2 km



# Flood risk in Koto City

Let's know the flood risk

Koto Ward developed as an industrial area before the World War II, and the ground subsided due to the pumping of groundwater as industrial water. In particular, Koto City, Sumida City, and parts of Edogawa City are called the Koto Triangle Zone, which is also known as the zero-meter-elevation zone because this zone is lower than the sea level at high tide. At present, Koto City is surrounded by levees, etc., and has flood control measures by adjusting the water level of rivers in the area. However, there are also the risks of floods, such as **flood from rivers** caused by damaged river banks, **flood from inland waters** occurred by sea level rise caused by low air pressure, **storm surge floods** caused by strong winds, and heavy rainfall caused the sewage system and drainage pumping station to be unable to deal with water, which caused water to accumulate on the surface. Flooding due to heavy rainfall has occurred in many areas of Japan, and Koto city has experienced flooding in the past. In order for each of us to protect our own lives and those of our families, as well as to ensure continuity in supporting the business operations of our communities, it is important to consider in advance the necessary actions to take in the event of a disaster. Use this "Koto City Heavy Rain Inundation (Inland Waters) Hazard map" to discuss flooding with your family or people in your community workplace.



July 23, 1958 Typhoon No. 11 damage situation (Joto area) Flooding situation near Asama Elementary School

Let's think about the next time heavy rain situation



# What is flood from inland waters ?

Heavy rainfall in the city area accumulates on the ground surface

In contrast to flooding (flood from rivers) and storm surge flooding, inland flooding occurs when the treatment capacity of sewers cannot keep up with the amount of concentrated heavy rainfall, and rainwater normally treated by sewers and drainage pumping stations accumulates on the ground surface. In cities like Tokyo, flood from inland waters causes more damage than flooding from rivers, etc. so more attention is needed.



## Flooding due to inundation from inland waters

**Localized and short time flooding in the central city and other areas**  
Countermeasures: Construction of pipes and pumping stations to remove and store rainwater from urban areas.

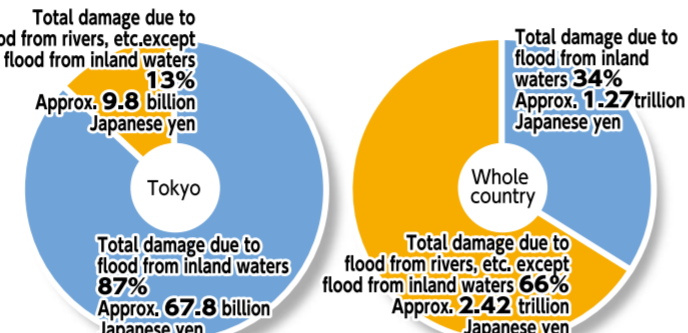


## Flooding due to flood from rivers overflow

**Flooding of a wide area around a river**  
Countermeasures: Build levees to prevent water from overflowing from rivers.

## Percentage of damage caused by flood from rivers and flood from inland waters

(Note) Total for 10 years from 2010 to 2019



Source: Aggregated from Statistical survey on flood damages

# Flood Countermeasure in Koto City

We are taking measures to protect the city

## Structural measures

At present, although the sewage treatment system in Koto City has reached 100%, in order to deal with flood from inland waters caused by concentrated rainfall, the sewage treatment system is being improved. Moreover, drainage pumping stations were built to reduce the rise of water levels in rivers and canals in the city area. In addition, levees, seawall, sluices, and coupeure have been constructed to prevent damage caused by floods (flood from rivers) and storm surges.

If you would like to know more about the history of Koto City's waterfront, records of flood damage, and maintenance projects, etc., please visit the [Memory and Future of the City exhibition].



## Non-structural measures

Various types of risk information are available to the public in order to protect lives in the event of a disaster. The hazard map prepared by Koto City is also one of the risk information. In order to evacuate quickly in case of emergency, let's collect and study information on a daily basis.

- **River Information**  
The Ministry of Land, Infrastructure, Transport and Tourism (MLIT) provides "Disaster Information for Rivers".
- **Weather information**  
The Japan Meteorological Agency (JMA) provides "Nowcast (rain cloud movement, thunder, tornado)" and "kikikuru (danger level distribution)".
- **Disaster Prevention Information**  
"Flood Hazard Map" provided by Koto City is available. Please refer to the official website of Koto City for hazard maps for floods, storm surges, and heavy rains and flooding (inland water).

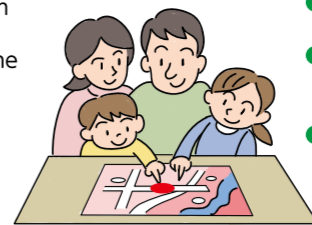
# How to use Hazard Maps

Let's check three pieces of information

## 1 Check if your home or workplace is within the flood range

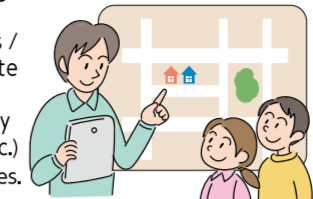
- Compare the expected inundation depth with the height of the living room.
- If the inundation depth is deeper than the living room, you need to evacuate.

\* In the event of an actual disaster, not only flood from inland waters but also flooding and storm surge inundation are expected. There is a possibility that the inundation depth will be deeper than expected, so consider measures according to the situation.



## 2 Confirm the evacuation site

- If your home is safe, secure, and you have enough food, evacuation at home is also an option.
- You can also consider evacuating to a relative's / acquaintance's / friend's house or a private accommodation facilities such as hotels.
- Consider evacuating to the nearest public facility (Municipal elementary school, junior high school, etc.)



## 3 Confirm the route to the evacuation site.

- In principle, evacuate on foot in the event of a disaster.
- If there is a dangerous place such as an underpass on the route, consider another route.
- Walk the route in advance to see if there are any dangerous things.



## What is evacuation

Evacuation is "avoiding" from "danger". Going to an evacuation site is not the only way to evacuate. If your home is safe, sheltering at home is also an option.

# Preparing for a disaster

Let's check what we can do from today

## Self-help / Mutual Support / Public support

When considering disaster preparedness, it can be divided into three categories: Self-help, Mutual Support and Public support. [Self-help] refers to the act of protecting yourself and your family first in the event of a disaster. It also includes preparations such as preventing furniture from falling down. In order to be prepared for emergencies, do what you can in your daily life is self-help. [Mutual Support] refers to helping each other in cooperation with people around the area or community. [Public support] refers to help and assistance provided by public authorities such as the City government, fire department, police, and self-defense forces etc.

## Contents of emergency bag (example)

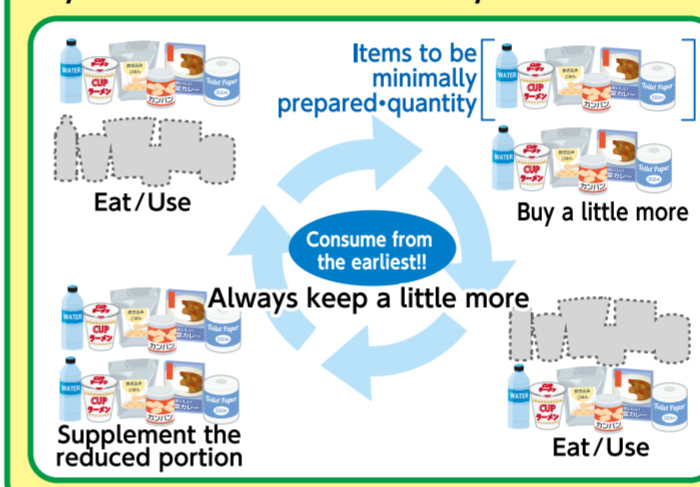
- Drinking water (about 3 liters per person per day)
- Emergency food (no cooking required)
- First aid kits  Medicine  Rope
- Valuables  Clothing and underwear
- Helmet  Disaster prevention hood
- Water supply polyethylene tank
- Paper plate/Paper cup/Chopsticks
- Can opener, Plastic wrap
- Toiletries, Disposable body warmer
- Mask, Rubbing alcohol

## Preparing for floods in advance

In order to respond to evacuation in an emergency, it is necessary to prepare the items in the [emergency bag], and prepare daily food for evacuation at home. Let's prepare for evacuation at home in the event of a disaster with "Rolling Stock" method, which prepares a little more things that you use at home on a daily basis.

## The concept of rolling stock

Buy a little more food and daily necessities, consume in daily life



- Homes with infants and the elderly**  
Diapers, medicine, etc.
- For women**  
Sanitary products, etc.

## Items especially needed in case of emergency

- Cassette stove
- Rubber gloves
- Flashlight
- Spare battery for mobile phones
- Emergency Toilet
- Radios for disaster preparedness

## My timeline

My timeline is an action plan designated by each district resident.

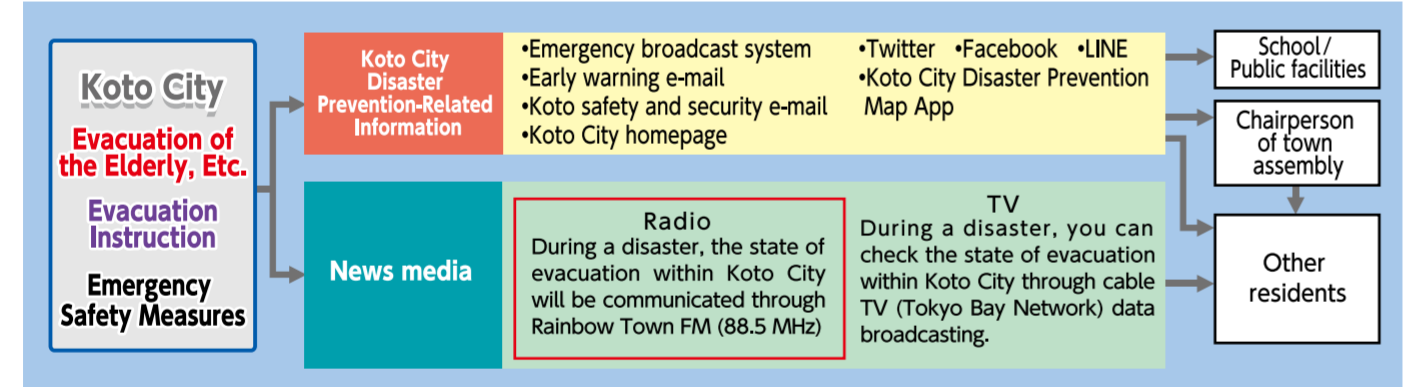
It is designed to organize a chronological summary of the standard disaster preparedness actions we should take in the event of an increasing risk of flooding. The plan serves as a checklist of actions to take in the event of a flood and as a decision support with the goal of achieving "zero escape delays". Develop My timeline based on your own and your family's situation.

	Preparing for Heavy Rain	Things to check before evacuating	Things to keep in mind during evacuation
<b>Situation</b>	This typhoon is supposed to be a big one. It seems to be approaching Kanto, the information need to be collected.	At this rate, the typhoon will hit directly. We have to prepare and check because our house is expected to be flooded.	An evacuation alert has been issued by Koto City. Let's get out of here.
<b>Information about evacuation etc.</b>	<b>Alert Level 1</b>	<b>Alert Level 2</b>	<b>Alert Level 3</b> 4 5
<b>Examples of action</b>	<ul style="list-style-type: none"> <li>&lt;Prepare for disasters&gt;</li> <li>• Check the risk of your home using hazard maps.</li> <li>• Confirm how to obtain evacuation information, etc.</li> <li>• Confirm the path of the typhoon and the time of rainfall.</li> <li>• Check the schedule of family activities.</li> <li>• Charge cell phones.</li> <li>• Check and buy food.</li> <li>• Prepare for strong winds.</li> <li>• Prepare sandbags and watertight boards.</li> </ul>	<ul style="list-style-type: none"> <li>&lt;Confirmation of evacuation action&gt;</li> <li>• Consideration of evacuation.</li> <li>• Confirmation of evacuation method.</li> <li>• Prepare an emergency bag.</li> <li>• Move important items.</li> </ul>	<ul style="list-style-type: none"> <li>&lt;Evacuate as soon as possible&gt;</li> <li>• Those who need time to evacuate, such as the elderly.</li> <li>• Those who feel they are in danger, such as who are in underground facilities or living near rivers.</li> <li>• In the event of a disaster&gt;</li> <li>• Evacuate to a safe place and take the best action to protect your life.</li> <li>• Immediately secure your safety. [Horizontal evacuation]</li> <li>• Appeal to those who require support nearby.</li> <li>• Move to the nearest public facility.</li> <li>• Move to a relative's or friend's house located in a safe place. [Vertical evacuation]</li> <li>• Move to a safe place, such as the upper floor of your house.</li> </ul>

# Where to get information during a disaster

Let's decide the timing of evacuation

In the event of a disaster, you will need to gather information and make decisions about evacuation. It is important that you need to gather the necessary information from the relevant authorities to help you make a judgment and evacuate as soon as possible. Koto City will also issue evacuation information, so please check how to get this information.



## About various information

- Gather information on your own!
- Check where to get information from on a regular basis!

**I want detailed information on Koto City**  
**I want to learn detailed conditions in Koto City**

**FM radio/Cable TV**  
Rainbow Town FM (88.5 MHz) broadcasts evacuation information from the city as well as conditions within the city. In cable TV (Tokyo Bay Network) data broadcasting, it is possible to check the broadcast contents of the emergency broadcast system. As well as the contents of Koto safety and security e-mails that were sent. Radios for disaster preparedness had been distributed to all households registered as residents in Koto City by March 1, 2020.

**I want information on areas other than Koto City**  
**I want the latest information such as planned mass transit suspension**

**Complete rain information for the entire Tokyo area**  
**Tokyo Amesh**  
You can check the status of rain clouds and the intensity of rainfall for the entire Tokyo area. You can also check changes over the last 2 hours as well as advisories and warnings.  
**Check service status of various train and subway routes**  
**Yahoo! Japan Route Information Operation Information**  
**Yahoo Japan route**

**I want to use apps and SNS to gather large information and make judgments on evacuation**

**Disaster Preparedness Tokyo App**  
Push delivery of weather information, evacuation information, etc. You can rapidly check necessary information during a disaster. In addition, this app also functions as a disaster prevention map and as a phrase book, safety contact / registration for when seeking help in different languages.  
**Koto City Disaster Prevention Map App**  
In addition to being able to check various hazard maps, the app can also be used to check whether evacuation sites are open as well as route guidance to evacuation sites.

**We want to gather information from TV**  
**Easily understandable information would be nice**

**TV remote "d" button (terrestrial digital broadcasting)**  
Through data broadcasting on TV, it is possible to be one of the first to view weather information, rainfall information, water level information, evacuation advisories communicated by the municipality and opening of evacuation sites.  
① Set the TV to NHK General, and press "d button" on your remote control.  
② Select "Local disaster-prevention/lifestyle information"

- Twitter**  
@koto\_bosai [Koto City Disaster Prevention-Related Information]  
@city\_koto [General Koto City Administrative Matters]
- Facebook**  
@city.koto [Koto City]
- LINE**  
@city\_koto [Koto City]

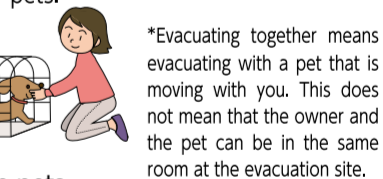
**Collecting information on a daily basis**

## Countermeasures against infectious diseases when evacuating to a shelter

If you evacuate to an evacuation sites, please cooperate with the following in consideration of the risk of infectious diseases. Also, prepare items related to countermeasures against infectious diseases as a daily stockpile from normal times.  
● Please check your own health before going to the evacuation sites.  
● Wear a mask and disinfect your hands frequently.  
● Keep a certain physical distance as much as possible.  
● Use common facilities such as restrooms in a clean manner.  
● If you have a fever or other symptoms, please contact the shelter staff or janitor.

## Evacuating with pets

When evacuating with pets together in the event of a disaster, owners need to be responsible and prepared for any eventuality in order to take care of their pets.  
● Basic discipline  
● Health care  
● Identification such as stray tags  
● Stockpiling pet supplies  
● Checking where to leave pets and where to evacuate.



## Training implementation status

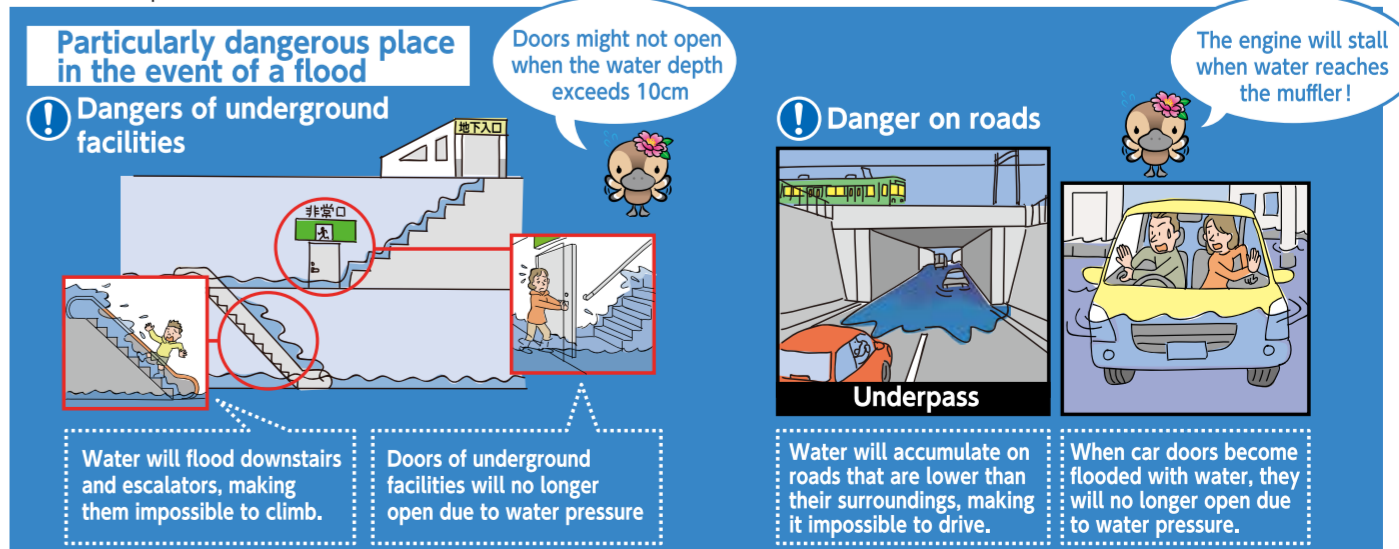
Every year, Koto City holds a large-scale training to cope with flood disasters jointly by the City government, fire department, fire brigade, national government, Tokyo Metropolitan Government and other related organizations. The drill includes sandbag construction methods as well as water rescue, and are open to the public.  
Flood control training in FY2022 (Tokyo Metropolitan Kiba Park)



# Precautions when using the underground mall

Let's know the dangerous place in case of flood

During heavy rain, underground facilities and paths that are lower than the surroundings (underpasses) can flood in an instant. When evacuating, take sufficient precautions.



Please note that the flooding conditions of underground facilities may be deeper than ground.