

Save this map

Koto City Flooding Storm Surge Booklet



-  **In Koto City**
inundation of flood water
(collapse of embankment along Arakawa River)
 -  **flooding of storm surge**
(storm surge in Tokyo Bay)
- How to protect yourself from!**

When the embankments along Arakawa River collapse due to the water level in the river rising due to a rainstorm, **inundation of flood water** occurs. When low pressure from a typhoon, etc. hits, the sea surface of Tokyo Bay rises high enough to clear the embankment due to the pressure and wind, which may cause **flooding of storm surge**.

In addition to information related to evacuation during flood damage, this booklet features the history of river improvement measures in Koto City and mechanisms behind **inundation of flood water** and **flooding of storm surge**. Read it carefully to prepare yourself in the event that something happens.



State where Keiyo Road is flooded
(Near Kameido)
Kanogawa Taifu on September 26, 1953 (Typhoon Ida)



Oshimagawa Floodgate
Provided by: Tokyo Metropolitan Government Bureau of Construction



Arakawa Lock Gate
Provided by: Arakawa-Karyu River Office, Kanto Regional Development Bureau,
Ministry of Land, Infrastructure, Transport and Tourism

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Hazard map

Check the map!

Check the state of the area in which you live during flooding damage (flood depth/duration)

72 hours prior

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Hazard map

Check the map!

Check the evacuation areas.

48 hours prior



24 hours prior

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9 hours prior

Typhoon and heavy rain arrive



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Sharing information with loved ones

■ Emergency Call and Disaster Emergency Message Dial "171"

Hazard map

Check the map!

Check the major public facilities that you can evacuate to in case you don't have enough time to evacuate to an evacuation area.

Middle photo on cover ■ Oshimagawa Floodgate : (1-7 Eitai, Koto-ku) Floodgate located at the confluence of Oyoko River and Sumida River. When there is a risk of flooding due to a rise in the tide level, this gate closes and functions as a tide embankment.

Bottom photo on cover ■ Arakawa Lock Gate : (1-1 Komatsugawa, Edogawa-ku) A facility that plays a role in monitoring Arakawa River and Kyu-Nakagawa River, two rivers with different water levels, and connects them. During times of disaster, this gate also functions as a disaster prevention base, by supporting recovery activities through the rivers.

History of Koto City / State of Facilities

As groundwater was pumped as part of the industrialization of Koto City from the Taisho era to the Showa era, the subsoil sank, thus causing a broad distribution of land that lies below sea level at high tide. As a result, the Tokyo Metropolitan Government prioritized the construction of embankments, development of interior rivers and development of the sewer system.

In present-day Koto City, river improvement measures are being carried out, such as building tall embankments and adjusting the water level of internal rivers using a pump. Since 1965, there has not been any inundation of flood water or storm surges.

However, in recent years, there has been an increase risk of large-scale flood damages due to enormous typhoons and localized torrential downpours.

To save your own life and your family's lives, and to support the local region and continuity of businesses, use the "Koto City Flooding Storm Surge Booklet", "Koto City Flood Hazard Map" and "Koto City Storm Surge Hazard Map" to prepare for evacuation from inundation of flood water and storm surges. Talk with your family, neighbors and co-workers, and review beforehand the actions that you can take in the event that something happens.

Low-lying Koto City




Due to ground subsidence, there is a broad distribution land that is lower than sea level at high tide.

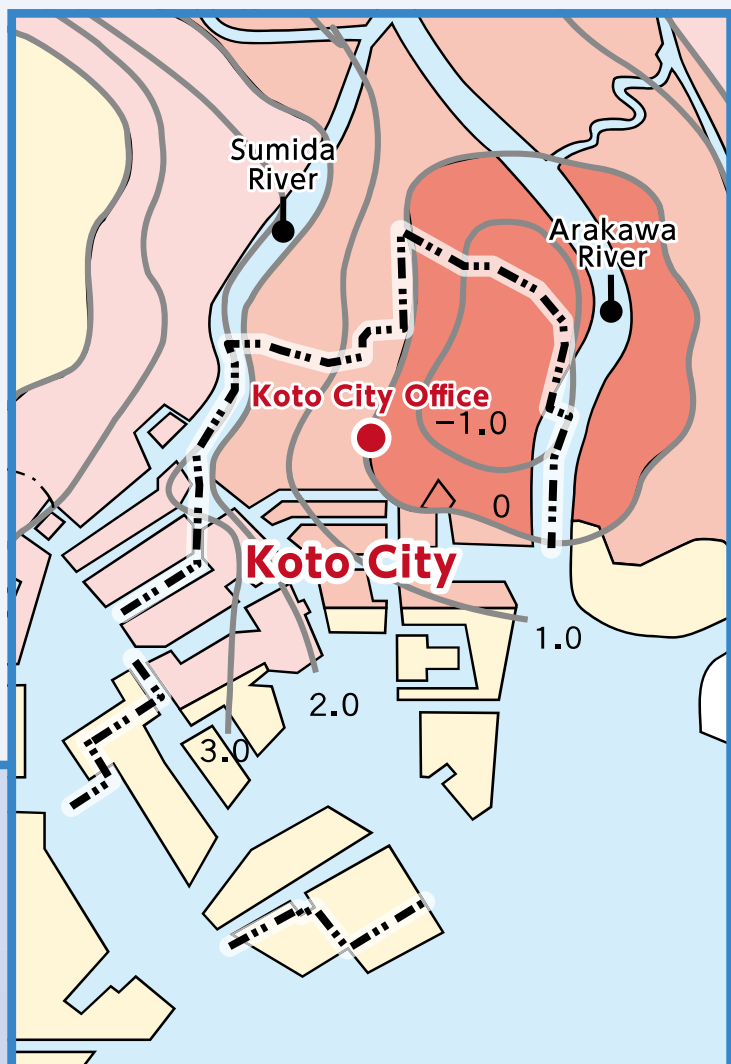
What is A.P. (Arakawa Peil)?

A.P. (Arakawa Peil) refers to the Arakawa standard surface level, where A.P. ± 0 is the approximate height of low-water level. At elevation T.P. ± 0 , A.P. is +1.134m.



Legend

-  Area above high-water level, but with threat of storm surge (A.P. +5.0m)
-  Area below high-water level (A.P. +2.0m)
-  Area below low-water level (A.P. ± 0 m)



Reference: Lowland River Projects in Tokyo (Tokyo Metropolitan Government, Bureau of Construction, River Division)

History of Koto City / State of Facilities

History of flood damages

Let's check the number of damages in past flood damages, as well as past rain conditions.



Date of disaster	Type of disaster	Number of damages*1	Total amount of rainfall *2	Maximum rainfall per hour *2
Sept. 14, 1947	Typhoon Kathleen	1,771 buildings	166mm	34mm
Sept. 16, 1948	Typhoon Ione	0 buildings	159mm	38mm
Aug. 31, 1949	Typhoon Kitty	30,683 buildings	164mm	34mm
Jul. 23, 1958	Typhoon 11	10,853 buildings	137mm	17mm
Sept. 26, 1958	Kanogawa Taifu (Typhoon Ida)	44,523 buildings	432mm	68mm
Oct. 22, 1981	Typhoon 24	1,425 buildings	218mm	44mm
Aug. 26, 1993	Typhoon 11	104 buildings	294mm	65mm
Aug. 29, 1999	Localized torrential downpour	15 buildings	76mm	50mm
Jul. 4, 2000	Localized torrential downpour	149 buildings	112mm	78mm
Oct. 8 to 9, 2004	Typhoon 22	107 buildings	257mm	61mm
Oct. 19 to 20, 2004	Typhoon 23	9 buildings	202mm	39mm
Aug. 24 to 25, 2007	Localized torrential downpour	50 buildings	121mm	99mm
Sept. 8, 2008	Localized torrential downpour	6 buildings	85mm	41mm
Aug. 19, 2009	Localized torrential downpour	2 buildings	102mm	73mm
Oct. 15 to 16, 2011	Typhoon 26	21 buildings	230mm	44mm
Sept. 10, 2012	Localized torrential downpour	22 buildings	114mm	88mm

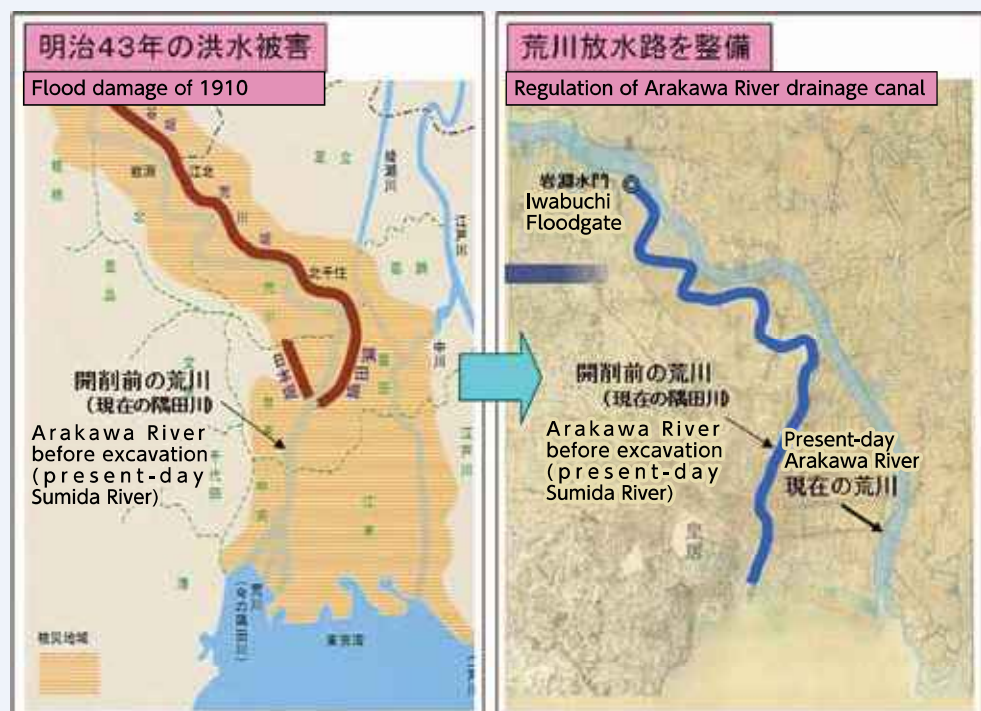
*1 The number of damages is as follows. Numbers prior to 1993 and after 2004 are based on Koto City materials. Numbers for 1999 and 2000 are based on Tokyo Metropolitan Government materials.

*2 The observation points for total amount of rainfall and maximum rainfall per hour are as follows. For 1947 to 2000, Tokyo Observatory. For 2004 to 2013, Koto City Office. For 2014, Kameido Observatory.

Arakawa River, protecting us (drainage canal)

In August 1910, there was heavy flooding in Arakawa River (present-day Sumida River), causing major damages to Asakusa and Fukagawa. Even before that, there were several incidents of inundation of flood water, and by creating a drainage canal (present-day Arakawa River), the safety of this area is protected.

By opening and closing the Iwabuchi Floodgate located in Kita City, the amount of water that flows into Sumida River is regulated, alleviating the danger of inundation of flood water.



Materials provided by: Arakawa-Karyu River Office, Kanto Regional Development Bureau, Ministry of Land, Infrastructure, Transport and Tourism

State of ground subsidence

The surrounding ground is lower than the water level of the river. As a result, the embankment has been raised.



Left: Water in the Onagi River approaching the top of the embankment during high tide.

The left side is the new embankment that was raised. September 30, 1970

Right: Well that was dug in 1938. The current ground level is lower than the originally installed ground level due to subsidence. (Higashi-Shinkoiwa, Katsushika-ku)

Provided by: Tokyo Metropolitan Government 5th Construction Office

Development projects within Koto City

Koto City surrounded by embankments and Floodgates

To protect the city from flooding and storm surges, embankments and Floodgates were built.

Development of sewer system

A sewer system was developed so that flooding does not occur even when heavy rain falls in the City. The mechanism is one where water is discharged to Tokyo Bay and rivers using pumps.

Development of rivers flowing within Koto City

Internal rivers, drainage pump systems, etc. were developed, and rivers are monitored 24 hours per day, such as to make the water level of rivers go down.

To learn more about the history of the Koto City waterside, records of flood damages, development projects, etc., visit the Web site below.



**Koto City
"City of memory
and Future Exhibition"**



🔍 まちのきおくとみらいてん

Search





Information related to evacuation

If inundation of flood water or a storm surge is anticipated, check evacuation information. Check disaster-prevention information from the Ministry of Land, Infrastructure, Transport and Tourism and Japan Meteorological Agency, etc., as well as evacuation information from the Koto City on the TV, radio, emergency broadcast system, etc., and start taking action towards evacuation.

In an emergency where there is a possibility that moving will cause you to suffer damages, evacuate to a location higher than the anticipated water depth in your home or nearest public facility.

How to think about evacuations

Ministry of Land, Infrastructure, Transport and Tourism /
Japan Meteorological Agency / Koto City



Emergency broadcast system,
Koto safety and security e-mail,
early warning e-mail, homepage, TV, radio, SNS, etc.



Start taking action
towards evacuation!

1

Check
weather information
for disaster
prevention



See Pages 11 to 12.

Review voluntary wide-area evacuation!

Check safe places of refuge that will not flood (relatives'/acquaintances' homes, lodging facilities, workplace, etc.) on hazard maps provided by Koto City or other local governments of your places of refuge. Also, keep in mind the service disruption of means of transportation, congestion of traffic, etc. when evacuating, and review evacuation measures to take up until when means of transportation can be secured.



2

Once you hear evacuation information!

Evacuation of the Elderly, Etc.

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.

Alert Level
3

Evacuation Instruction

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.

Alert Level
4

~~~~~<Be sure to evacuate by Alert Level 4!>~~~~~

### Emergency Safety Measures

A state in which a disaster is occurring or is imminent.  
Take the best action to guard your life.

Alert Level  
**5**



3

### Evacuation behavior

**Evacuate to**  
listed on hazard maps  
**an evacuation area**

Evacuation areas are



- At high ground
- Areas that do not flood
- Areas with a park or plaza

**If you do not have time to evacuate to an evacuation area**

Emergency means  
to guard your life  
**Vertical evacuation**



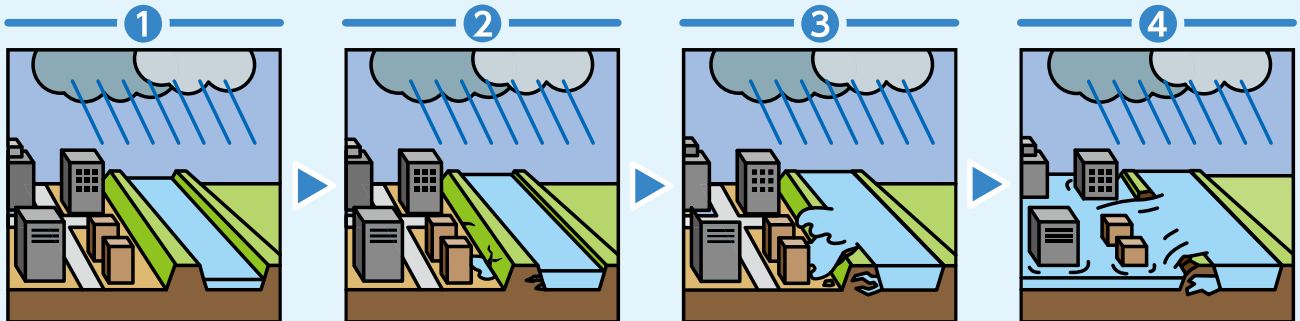
**Evacuate to a location higher than  
the anticipated water depth**  
of your own building or nearest public facility  
(facility indicated by a ● on the map)



# Mechanism behind inundation of flood water and storm surges

Let's check the cause behind why inundation of flood water and storm surges occur.

## Mechanism behind inundation of flood water



Due to heavy rain, the amount of water in rivers increases, and the water level starts rising.

When the amount of water in rivers increases, and the water level continues rising, the water pressure on embankments also becomes larger.

The amount of water in the river increases, and part of the embankment starts collapsing.

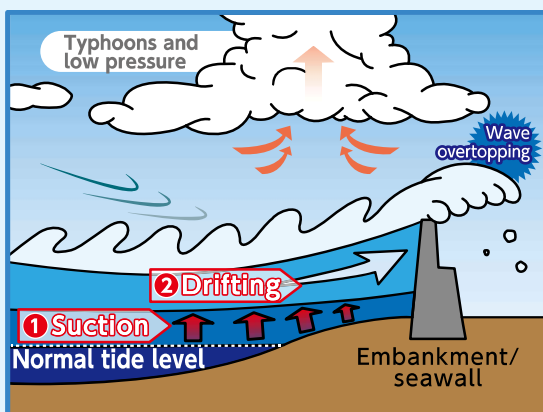
From the part where the embankment collapsed, water gushes out vigorously, and strikes homes, etc.

## Mechanism behind storm surges

When a strong, low pressure such as a typhoon attacks, wave height increases and at the same time, the water level of the sea surface also rises due to atmospheric pressure and the wind. This is referred to as a storm surge.

When a storm surge occurs, the possibility of sea water flowing over embankments and onto land becomes high, and is very dangerous.

### Why do storm surges occur?



#### ① Suction due to a drop in atmospheric pressure

When atmospheric pressure is low, the air acts to suction the sea surface. As a result, when low pressure that has developed, such as a typhoon, attacks, the height of the sea surface (tide level) becomes higher than normal. When the atmospheric pressure drops 1 hPa, the sea surface rises by approximately 1 cm.

#### ② Drifting caused by wind

When strong winds caused by a typhoon blow from offshore to the seashore, the seawater is blown towards the seashore, and the sea surface rises.

Large waves also arise in association with the approach of a typhoon.

Example of Typhoon Kitty (1949) Atmospheric pressure: 986 hPa, tide level (A.P.): 3.15 m

During Typhoon Kitty, a rise in sea surface of a maximum of 1.0 m was recorded, due to suction caused by a drop in atmospheric pressure and drifting caused by the wind.

## Column



### When heavy rain exceeding the sewer treatment capacity falls

Development is being promoted so that the sewer system in Koto City can handle rainfall of 50 mm per hour. However, when heavy rain that cannot be handled by the sewer system falls, there is the risk of flood damages occurring. To learn about the locations where flooding is anticipated as well as the flood depth, check the "Koto City Flood Hazard Map".



Flood Damage Hazard Map (3 types)





# Strength of rain and winds

When rain and winds become strong, there is the possibility of danger during evacuation. To use weather information such as rainfall amount, wind speed, etc. and results of weather forecasting as a reference when evacuating, check the conditions associated with the strength of rain and winds below.

## Strength of rain and winds

The tables below indicate the standards for rain strength and rainfall patterns, as well as wind strength and blowing patterns. Pay attention to rain and wind on a routine basis. It is important to voluntarily evacuate to a safe area or evacuation zone outside of Koto City even before alerts and evacuation instructions are issued, if you determine that there is danger.

### Rain



Amount of rainfall per hour (mm/h) and forecast terminology

| Moderate rain                                            | Strong rain                                        | Heavy rain      | Very heavy rain                               | Torrential downpour                         |
|----------------------------------------------------------|----------------------------------------------------|-----------------|-----------------------------------------------|---------------------------------------------|
| 10mm to 20mm                                             | 20mm to 30mm                                       | 30mm to 50mm    | 50mm to 80mm                                  | 80mm or more                                |
|                                                          |                                                    |                 |                                               |                                             |
| Drenching rain                                           | Downpour                                           | Raining buckets | Raining like waterfalls (torrential rainfall) | Raining with force; stifling rain. Fearful. |
| Rain splashes up from the ground, and your feet get wet. | You get wet even though you are using an umbrella. |                 | Your umbrella is useless.                     |                                             |

You'll start to see flooding on the ground if it rains more than 50 mm per hour



Escape before the roads start to flood!

### Wind



Average wind speed (m/s) per 10 minutes, and forecast terminology

| Moderate wind                                                                | Strong wind                                                                                                                 | Very strong wind                                                                                    | Severe wind                                           |
|------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| 10m to 15m                                                                   | 15m to 20m                                                                                                                  | 20m to 30m                                                                                          | 30m or more                                           |
|                                                                              |                                                                                                                             |                                                                                                     |                                                       |
| It becomes difficult to walk against the wind. You can't open your umbrella. | You are unable to walk against the wind, and you see people falling over. Working at high elevation is extremely dangerous. | You are unable to stand unless you hold onto something. You might become injured by flying objects. | Any kind of activity outdoors is extremely dangerous. |

You won't be able to walk when the average wind speed is over 15 m/s



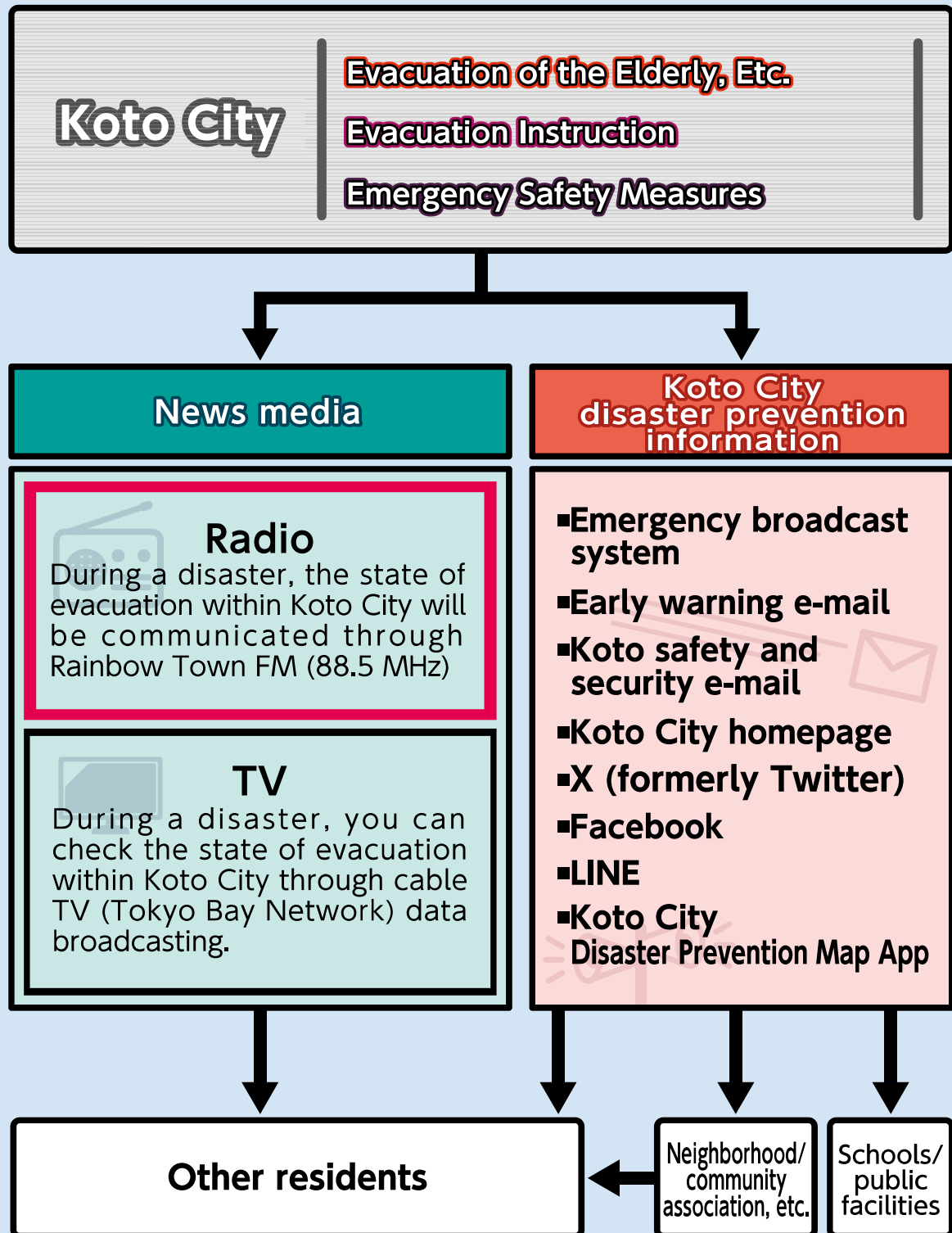
Escape before you get pushed by the wind and can no longer walk!

"Rain Strength and Rainfall Patterns" published on the Japan Meteorological Agency homepage is used as a reference.



## Information communication routes

When the possibility of damages due to inundation of flood water and storm surges increases, evacuation information will be communicated from Koto City. To judge evacuation timing, verify the means of information communication.



Koto City provides evacuation information, such as alert levels and evacuation instructions, through several means of information communication as indicated below. During times of stormy weather, it may not be possible to hear audio. Rather than relying on a single means of information communication, have multiple means for obtaining information.

| Means for information communication                                                                                                                                                                                                                                                                                                        | Characteristics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p><b>Emergency broadcast system</b></p>                                                                                                                                                                                                                 | <p>Outdoor loudspeaker system installed across all areas within the city, such as at schools and parks. In emergencies, emergency information such as evacuation information and special alerts are broadcast from the city. This system is advantageous in that communication can be made at once to many people, and is the most important means by which the city can convey information. However, during heavy rain and storms, it is difficult to hear announcements over the loudspeaker, and so it is important to obtain information from various communication routes, such as by registering for Koto safety and security e-mails.</p>                                                                    |
|  <p><b>Early warning e-mail</b></p> <p>NTT DoCoMo Inc. Early warning e-mail "Area Mail"</p> <p>KDDI Corporation Early warning e-mail</p> <p>SoftBank Corp Early warning e-mail</p> <p>Other telecommunications companies</p> <p>Early warning e-mail</p> | <p>Early warning e-mails alert people that evacuation information and special warnings have been issued, by sending text information to your mobile phone. This system is advantageous in that users can receive these e-mails regardless of the impacts of communication congestion when a disaster occurs, and it is not necessary to register for this service.</p> <p>Please note that early warning e-mails and area mails cannot be received while transmitting data, during a call, or when reception is poor, and they cannot be resent.</p> <p>Check with your mobile phone provider as to whether your device supports this service.</p>                                                                  |
|  <p><b>Koto safety and security e-mail (E-mail delivery service)</b></p>                                                                                             | <p>This is a service that allows you to receive crime prevention information and disaster prevention information related to Koto City, by registering your e-mail address, such as for your mobile phone. As information related to evacuation such as during flooding, weather warnings (announcement/lifting), flood forecasts for designated rivers, broadcast contents in the emergency broadcast system, and other various emergency information related to disaster prevention from Koto City are delivered.</p> <p><a href="https://www.city.koto.lg.jp/056101/bosai/bosai-top/shudan/guide_annzen_annshin.html">https://www.city.koto.lg.jp/056101/bosai/bosai-top/shudan/guide_annzen_annshin.html</a></p> |
| <p><b>Other</b></p>                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>- Rainbow Town FM 88.5 MHz</li> <li>- Tokyo Bay Network Cable TV (Terrestrial Digital Channel 11)</li> <li>- Yahoo! Disaster Prevention Flash Report</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |





## How to gather necessary information during a flood disaster

To make early evacuation preparations and evacuation judgments in advance of inundation of flood water and storm surges, keep in mind to be proactive in obtaining various disaster prevention weather information. Obtain information that can be used in making evacuation judgments, such as rainfall amount, water level, service information for means of transportation, etc., and evacuate early based on your own judgment.

### Different Types of Information

- Gather information on your own!
- Check where to obtain 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 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.



▲ Reserve radio for disasters

Use apps and SNS to gather a 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 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.

X  
(formerly Twitter)

Facebook  
LINE

#### ① @koto\_bosai

[Koto City Disaster Prevention-Related Information]

#### ② @city\_koto

[General Koto City Administrative Matters]

@city.koto [Koto City]

@city\_koto [Koto City]

You want to know the sea condition!



Storm surge disaster prevention information

Find out the Tokyo Bay floodgate and sea level situation. In Koto City, check out the Tatsumi floodgate, etc.

You want real-time information on Arakawa River!



Disaster-prevention information for rivers

Check the real-time water level at the Iwabuchi floodgate (upstream) water level observation station, which serves as the basis for announcing information on water level rises of Arakawa River. There is also an observation station near Shinsuna 3-chome, Koto City.

When to look at which page!



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



Other  
operation  
information

#### JR East Japan Operation Information

..... [https://traininfo.jreast.co.jp/train\\_info/kanto.aspx](https://traininfo.jreast.co.jp/train_info/kanto.aspx)

#### Tokyo Metro Operation Information

..... <https://www.tokyometro.jp/index.html>

#### Tokyo Metropolitan Bureau of Transportation Operation Information

..... <https://www.kotsu.metro.tokyo.jp/subway/schedule/>

### ● Complete rain information for the entire Tokyo area

#### Tokyo Amesshu

##### Amesh rain page sewerage [Search](#)

You can check the overall rainfall amount in entire Tokyo metropolitan area, and in the 23 wards in the eastern part of Tokyo. 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

##### Transfer guide japan [Search](#)

You can check operation information for trains (train delays, temporary disruption, resumed operations, etc.). Use it as a reference when using trains during evacuation.

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



### TV's "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 information communicated by the municipality and opening of evacuation sites.

- (1) Set the TV to Channel 1 (NHK General), and press "d button" on your remote control.
- (2) Select "Local disaster-prevention/lifestyle information" and press "OK".
- (3) Select weather information, evacuation information or river level information, and press "OK"
- (4) Select "Koto City" and press "OK".

### I missed hearing the emergency broadcast system!

#### Koto City Disaster-prevention homepage

こうとうくぼうさい [Search](#)

Information is also listed on the Koto City homepage. Check it out.

※This is a Japanese language homepage.

### I want to gather information on evacuation early!

#### Japan Meteorological Agency homepage

Japan Meteorological Agency [Search](#)

You can check the state of weather advisories and warnings related to inundation of flood water and storm surges, heavy rain/typhoon information, movement of rainclouds, rain forecasts, etc., for not only the Koto City but the entire country. This site is effective when checking the state of rain in Okuchichibu and near Kawagoe city, located upstream, which are connected to flooding of Arakawa River.

# Defensive Measures and Points to Keep in Mind when Evacuating

Before inundation of flood water or a storm surge occurs, check what is necessary to evacuate beforehand. Verify what you should be aware of as an individual and what kind of knowledge should be shared with your neighbors, and master the technique of ensuring your personal safety.

## Preliminary preparations and knowledge when evacuating

Prepare sandbags beforehand, use makeshift water bags too



Prepare sandbags and vinyl sheets (or trash bags, etc.) as measures to prevent flooding into buildings. If you didn't prepare sandbags beforehand, create "makeshift water bags" by filling thick vinyl bags with water and prevent flood damage.

Gather information



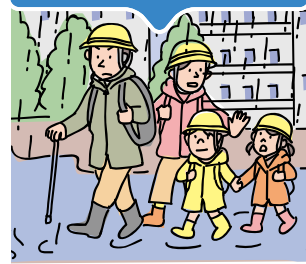
Pay attention to the latest information on the radio, TV and Internet. See Pages 11 to 12 for details on how to obtain information.

Pay attention to calls for evacuation



Pay attention to the emergency broadcast system, early warning e-mails and calls for evacuation from other relevant agencies. See Pages 9 and 10 on means for information communication.

Wear something that you can easily move around in



Evacuate by wearing something that you can easily move around in, including shoes that you are used to wearing.

Evacuate calmly



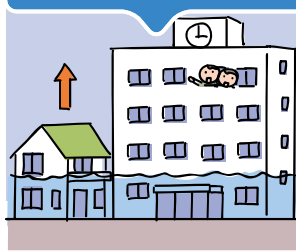
After checking evacuation information, take action calmly. Follow instructions from Koto City, the fire department and police department.

Watch your step!



Due to flooding, it is difficult to tell what dangers lie at your feet. Check the ground carefully when evacuating.

In the event that you are late to evacuate



In the event that you are late to evacuate, escape to a location higher than the anticipated water depth in your home or the nearest public facility.

When going to bed, leave clothes by your bedside.

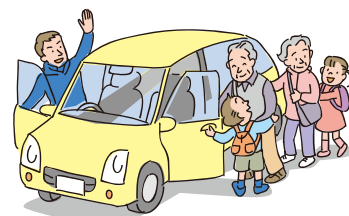


Replace drinking water regularly so that you can drink it at all times.



### Evacuating by car

Those who have difficulty evacuating on their own during disasters are referred to as vulnerable persons. Vulnerable persons are expected to use means such as cars, etc. to evacuate. If a massive amount of people try to evacuate by car, this will cause congestion and evacuation will no longer be possible. The general public should avoid evacuating by car, so that vulnerable persons who need to evacuate by car can do so.





# Areas with long flooding times

In Koto City, if inundation of flood water or storm surge occurs, flooding is assumed to continue for a long period of time.

When flooding occurs, lifelines (telephones, electricity, gas, water and sewerage, etc.) can no longer be used, and it is assumed that deterioration of the living environment will continue for a long period of time.

To be able to lead a refuge life in a better environment, even just by a little, try to evacuate early.

## Conditions after disaster

### Lifelines that are not restored easily

It is assumed that restoration of lifelines (telephones, electricity, gas, water and sewerage, etc.) will take some time.

In particular, it is anticipated that electricity will remain out of service for a long period of time.



### Koto City, flooded in water for a long time

If the maximum anticipated inundation of flood water or storm surge occurs, Koto City will be flooded for a long period of time, since there are many areas where the water level is lower than that of Arakawa River and Tokyo Bay.

If you remain at home, it will become difficult to live there afterwards. Make an effort to evacuate early.

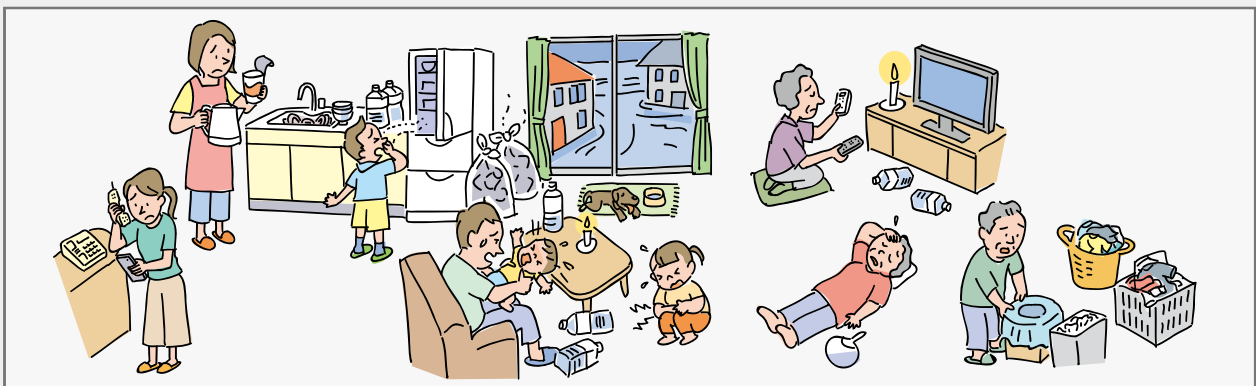


Area with flooding time of more than 2 weeks due to inundation of flood water

### Prolonged refuge life

In areas where flooding is prolonged, it will become difficult to remain there and continue refuge life, even if you are living in a high-rise building, for example.

Due to prolonged flooding, the actual circumstances may be such that you won't be able to return to your home for awhile from your evacuation destination. Have evacuation materials (valuables, daily commodities, etc.) ready nearby on a regular basis, so that you can take them with you at any moment.



## Column



### Tokyo My Timeline

"Tokyo My Timeline" is a tool for checking evacuation action beforehand to protect yourself from typhoons, prolonged heavy rain and sudden torrential downpours. For details, check the Tokyo Metropolitan Government's Disaster Prevention Information page.



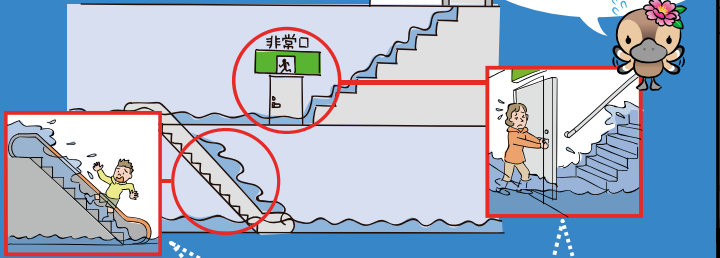
Tokyo  
Metropolitan  
Government  
Disaster Prevention  
Information page

# Underground Facilities to Pay Special Attention To/ Sharing Information with Loved Ones

During inundation of flood water, storm surge or even heavy rain, underground facilities and paths that are lower than the surroundings (underpasses) can flood in an instant. When evacuating, take sufficient precautions. In addition, verify means of contacting loved ones on a regular basis, so that you can alert them, contact them and confirm their safety.

## Particularly dangerous places during floods

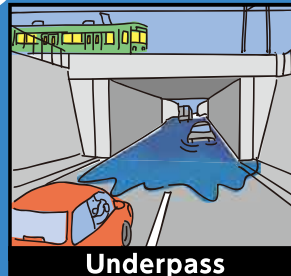
### ! Danger of underground facilities



Water will flood down stairs and escalators, making them impossible to climb.

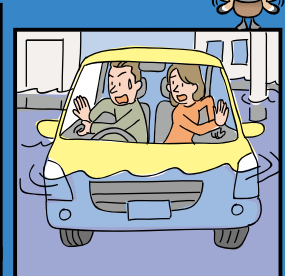
Doors of underground facilities will no longer open due to water pressure.

### ! Danger on roads



Underpass

Water will accumulate on roads that are lower than their surroundings, making it impossible to drive.



When car doors become flooded with water, they will no longer open due to water pressure.

Before  
a disaster

## Emergency Call

Obtain the various apps here



◀ **NHK Disaster Prevention app**

**Yahoo! Disaster Prevention Flash Report**



◀ **KDDI**  
• Registered area damage  
• Evacuation information e-mails

1 Download the app  
Register your area

2 Push notifications for disaster prevention information

3 Phone call to alert of evacuation  
**Emergency Call**

4 Evacuate to a safe place after receiving a phone call

"Emergency Call" is a call for evacuation action for family members who are in imminent danger, such as an elderly family member who lives far away, by directly telephoning them and alerting them to evacuation action. Download this app and call for evacuation to protect your beloved family members and grandparents.

Reference URL → <https://www.mlit.go.jp/river/risp/policy/33nigecall.html>

When  
a disaster occurs

## Disaster Emergency Message Dial "171"

Disaster Emergency Message Dial "171" is a "voice message board" where you can check safety information, etc. during disasters by voice. You can dial this number from general phones, public phones and mobile phones across Japan.

Remember this

Disaster  
Emergency  
Message Dial  
**"171"**

How to  
**record**  
a message

How to  
**play**  
a message

**1 7 1**  
**Dial 171**  
You will hear guidance

Record:  
Press **1**

Play:  
Press **2**

For those in afflicted areas, dial your home phone number. For those in other areas, dial the phone number of the afflicted area starting with the area code. (XXX) XXX-XXXX

# Temporary Evacuation Facilities (Emergency Evacuation to Guard Your Life)

To urgently guard yourself from inundation of flood water or storm surge, Koto City has designated temporary evacuation facilities with cooperation from private companies. Check these facilities also when there is an emergency evacuation, such as during flooding.

If you do not have time to evacuate to an evacuation area

Emergency means to guard your life



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)**

If you have no time at all

If you do not have time to evacuate to an evacuation area, or to evacuate to your nearest public facility, you can evacuate to the following temporary evacuation facilities in an emergency.

| Facility name                                     | Address                                    | Evacuation space, etc.                                                                                                                                                                                   |
|---------------------------------------------------|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 株式会社 IHI<br>IHI Corporation                       | 3-1-1 Toyosu                               | <ul style="list-style-type: none"> <li>Reception area on 3F or shared conference rooms on 12F of company building</li> <li>Can only be used when a disaster occurs during office hours</li> </ul>        |
| 株式会社竹中工務店東京本店<br>TAKENAKA CORPORATION             | 1-1-1 Shin-suna                            | <ul style="list-style-type: none"> <li>Conference rooms on 5F of company building</li> <li>Can only be used when a disaster occurs during office hours</li> </ul>                                        |
| 日本ヒューレット・パッカード合同会社<br>Hewlett-Packard Japan, G.K. | 2-2-1 Ojima                                | <ul style="list-style-type: none"> <li>3F or higher, or 5F or higher of company building</li> <li>Can only be used when a disaster occurs during office hours</li> </ul>                                 |
| 株式会社産学協同センター<br>Sangaku Kyoudou center            | 3-1-11 Ojima                               | <ul style="list-style-type: none"> <li>Large hall on 4F, or 5F of company building</li> <li>Can only be used when a disaster occurs during office hours</li> </ul>                                       |
| 株式会社ヤマタネ<br>Yamatane Corporation                  | 1-1-1 Etchujima                            | <ul style="list-style-type: none"> <li>Rooftop of No. 600 warehouse</li> <li>Can be used 24 hours/day, 365 days/year</li> </ul>                                                                          |
| 株式会社大和総研<br>Daiwa Institute of Research Ltd.      | 15-6 Fuyuki                                | <ul style="list-style-type: none"> <li>10F cafeteria</li> <li>Can only be used when a disaster occurs during office hours</li> </ul>                                                                     |
| イトーヨーカドー木場店<br>Ito-Yokado Kiba                    | 1-5-30 Kiba                                | <ul style="list-style-type: none"> <li>Ito-Yokado Kiba Store (1-5-30 Kiba) parking structure 4F and 5F</li> <li>Fukagawa Galleria (1-5-60 Kiba) 3F or higher of West Parking Structure</li> </ul>        |
| 深川ギャザリア<br>Fukakawa Gatharia                      | 1-5-60 Kiba                                | <ul style="list-style-type: none"> <li>Both facilities can only be used when a disaster occurs during business hours</li> </ul>                                                                          |
| アリオ北砂<br>Ario Kitasuna                            | 2-17-1 Kita-suna                           | <ul style="list-style-type: none"> <li>Ario Kitasuna Zone 1 parking structure (2-17-1 Kitasuna) 4F or higher</li> <li>Can only be used when a disaster occurs during business hours</li> </ul>           |
| 株式会社久米設計<br>KUME SEKKEI Co., Ltd.                 | 2-1-22 Shiomi                              | <ul style="list-style-type: none"> <li>Elevator halls on 3F to 6F, and 6F Salon</li> <li>Can only be used when a disaster occurs during office hours</li> </ul>                                          |
| トピレックプラザイオン館<br>Topyrec Plaza Aeon Building       | 6-7-15 Minami-suna                         | <ul style="list-style-type: none"> <li>Topyrec Plaza Aeon Building parking structure 4F or higher</li> <li>Can only be used when a disaster occurs during business hours of the Aeon Building</li> </ul> |
| 佐川急便株式会社<br>SAGAWA EXPRESS CO.,LTD.               | 2-2-11 Shin-suna<br>(Chiyoda Sales Office) | <ul style="list-style-type: none"> <li>Rooftop parking of Chiyoda Office (2-2-11 Shinsuna)</li> <li>Can be used 24 hours/day, 365 days/year</li> </ul>                                                   |
| 錦糸町プライムタワー<br>Kinshicho Prime Tower               | 1-5-7 Kameido                              | <ul style="list-style-type: none"> <li>Elevator halls on 8F to 17F</li> <li>Can only be used when a disaster occurs while the facilities are open</li> </ul>                                             |
| 前田道路株式会社<br>MAEDA ROAD CONSTRUCTION Co.,Ltd       | 2-13-1 Edagawa                             | <ul style="list-style-type: none"> <li>3F and 5F elevator halls and conference rooms</li> <li>Can only be used when a disaster occurs during office hours</li> </ul>                                     |

\*Koto City is always looking for partners who will enter into a temporary evacuation facility agreement. For details, please contact the Disaster Prevention Section.

| Apartment complex<br>Apartment building                               | Facility name                                                               | Address                                                                                                                                                           | Facility name                                   | Address        |
|-----------------------------------------------------------------------|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|----------------|
|                                                                       | UR Ojima 4-chome Apartment Complex                                          | 4-1 Ojima                                                                                                                                                         | UR City Court Ojima                             | 6-14 Ojima     |
|                                                                       | UR Ojima 6-chome Apartment Complex                                          | 6-1 Ojima                                                                                                                                                         | UR Ojima 7-chome Apartment Complex              | 7-28 Ojima     |
|                                                                       | UR Kitasuna 5-chome Apartment Complex                                       | 5-20 Kita-suna                                                                                                                                                    | UR Higashi-Ojima Ekimae Heights                 | 7-39 Ojima     |
|                                                                       | UR Kameido 2-chome Apartment Complex (Buildings 1 to 5: Rental buildings)   | 2-6 Kameido                                                                                                                                                       | Municipally-managed Ogibashi 1-chome Apartments | 1-20 Ougibashi |
|                                                                       | Kameido 2-chome Apartment Complex (Buildings 6 to 9: Condominium buildings) | 2-6 Kameido                                                                                                                                                       |                                                 |                |
| Evacuation space, etc. in Apartment complexes and apartment buildings |                                                                             | <ul style="list-style-type: none"> <li>Shared space on 3F or higher (corridors, elevator halls, etc.)</li> <li>Can be used 24 hours/day, 365 days/year</li> </ul> |                                                 |                |

Based on Agreement for Peace of Mind on Use as Temporary Evacuation Facilities during Flood Damage, such as from Tsunamis, etc. as of October 2023. (For the latest information, check the Koto City homepage. Enter "temporary evacuation facilities" in the Search box.)





# Past Typhoons and Records as Indicated on a Water Level Board

Koto City has installed water level boards at elementary schools and parks. The water level boards indicate the mean high water and water levels recorded in major typhoons.

Past high water levels  
indicated on  
water level board



Kameido  
Station Park

Past high water levels

- 1917 High tide A.P. +4.21 m
- Revetment height around this area A.P. +3.60 m
- Typhoon No. 20 of 1979 A.P. +3.30 m
- Typhoon Kitty of 1949 A.P. +3.15 m
- Typhoon No. 11 of 1958 A.P. +2.89 m



Legend

- Water level board
- Mean high water (A.P. +2.00 m)

Sengen-tatekawa  
E.Sch.

Sengen-tatekawa  
E.Sch.

Kameido  
Station Park

Tosen E.Sch.

Daigo-ojima E.Sch.

Higashi-suna E.Sch.

Fukagawa Dairoku  
J.H.Sch.

Ogibashi Park

Rinkai Park

Fukagawa Park

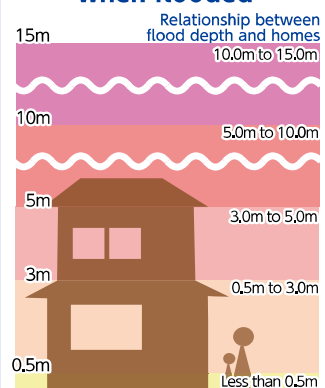
Koto City Office

Toyo Park

Minamisuna  
3-chome Park

Daigo-sunamachi  
E.Sch.

Anticipated water depths  
when flooded



\*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.



Koto City Office



Minamisuna  
3-chome Park



Higashi-suna  
E.Sch.

\*Displays flood depth at high tide

Flood depths differ depending on ground levels

The maps used in this booklet were created using a topographic map of a reduced scale of 1/2500 of the Tokyo metropolitan area, with approval from the Governor of Tokyo.

(承認番号) 31 都市基交審第 160 号、(承認番号) 31 都市基交審第 216 号



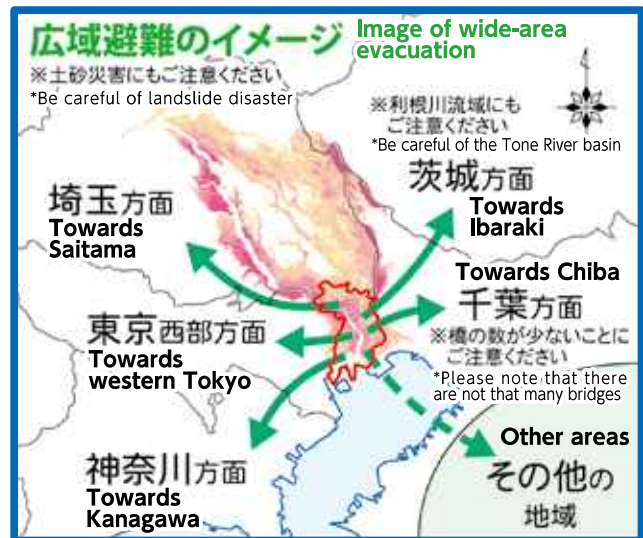
# Wide-area Evacuation

If there is inundation of Arakawa River due to flood water, or if there is inundation due to a storm surge, it is anticipated that the 5 Koto districts, including Koto City, will flood over a wide area for a long period of time.

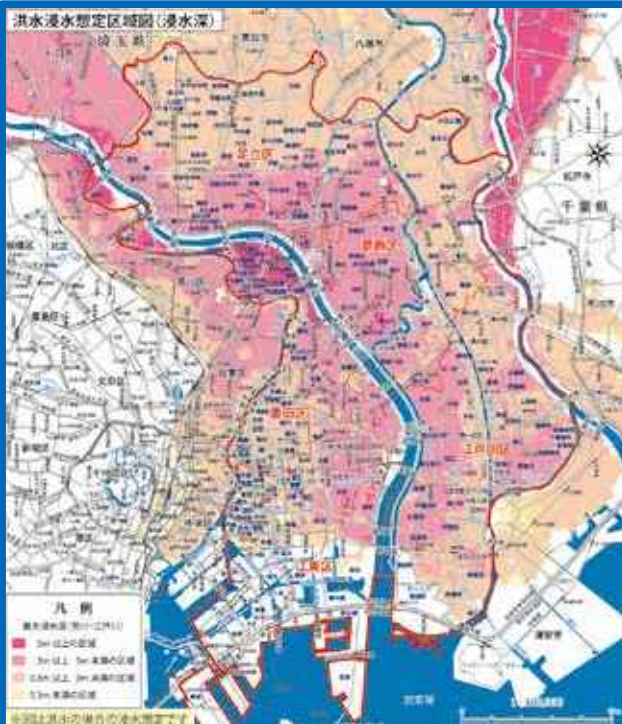
More than 2.5 million live in the anticipated flood area, and while lifelines cannot be used, it is possible that flooding will continue for more than 2 weeks due to this area being low-lying land.

In the 5 Koto districts, reviews on wide-area evacuation destinations and evacuation methods are being carried out with cooperation from the national government and the Tokyo Metropolitan Government. As of the current point in time, however, there are no concrete steps.

As a result, consider evacuating early to homes of relatives and acquaintances, lodging facilities and workplaces in areas that will not flood.

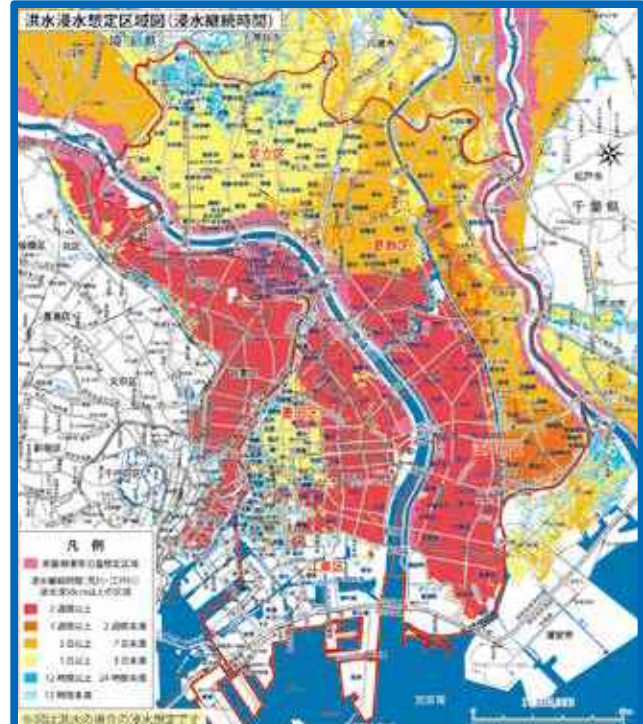


flood prone areas map(Flood depth)



Map of flood prone areas in a storm surge(Flood depth)

flood prone areas map(Flooding duration)



Map of Areas with Risk of Flooding due to Storm Surge(Flooding duration)



\*The anticipated flood areas map on this page anticipates a situation where Arakawa River and Edogawa River become flooded. For details, check "Koto 5 districts Large-Scale Flood Hazard Map" and "Koto 5 districts Large-scale Flood Wide Area Refuge Project".



## The importance of neighbors helping each other in anticipation of large-scale disasters

There are many residents living in Koto City—539,108 people as of January 1, 2024. As a result, when a crisis is imminent, it may be difficult for everyone to evacuate at once. In an emergency, there may also be cases where there is not enough time to evacuate. In high-rise condominiums, consider vertical evacuation by mutual assistance in an emergency.

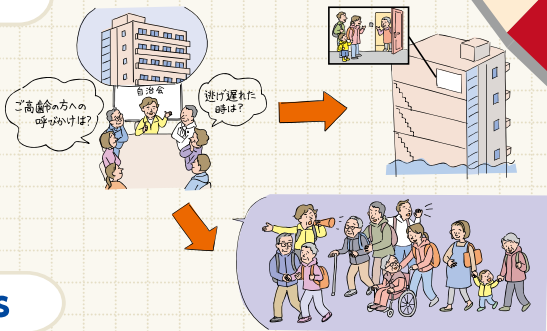
First, build face-to-face relationships such as with your local association and condoning community association, and review vertical evacuation in emergencies of those living on the first floor or second floor, which will flood, within the local association. It is important to take action based on this to save your own lives as a final means.

While discussing evacuation measures with the local association, it is also important to talk about evacuation support for the elderly, disabled, and children and infants, who require special considerations during disasters.

### Secure emergency evacuation places in the event of a flood!

In preparation for large-scale floods, agreements are concluded in advance among neighborhood associations, private condominiums, and Koto City so that people may temporarily evacuate to nearby condominiums in an emergency.

For details, please contact the Disaster Prevention Section.



### Protect the community! Disaster Teams

Voluntary disaster prevention organizations that take action while cooperating with Koto City and relevant agencies, such as fire-fighting organizations, are referred to as "Disaster Teams". They carry out activities and subsidize purchases of equipment. As of December 2023, there are 330 units, with the parent bodies being town associations / local associations and condominium community associations.

For details, check the Koto City homepage [<https://www.city.koto.lg.jp>].

Or, contact the Koto City Disaster Prevention Section Disaster Measures Group [03 (3647) 9587].

## During a disaster, listen to Rainbow Town FM (88.5 MHz).

\*Evacuation information and the conditions within the Koto City are communicated in cooperation with the Koto City.

### Readout of hazard maps

Koto City posts and distributes readouts of its flood hazard maps for the visually impaired and other people who have difficulty obtaining information visually or recognizing text. The readouts contain information in the flood hazard maps, including flood depth by area and evacuation information in case of flooding.



Readout of Koto City's flood hazard maps



This booklet uses an easy-to-read universal design font so that appropriate information can be conveyed to as many people as possible, based on the concept of Universal Design (UD).

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