

Kyoto City Yamashina Ward

Internal Inundation Hazard Map



Flooding on Marutamachi Street south of Kyoto Imperial Palace on July 19, 2022. (33 mm per hour)

Kyoto City Internal Inundation Hazard Map

This map shows the areas and depths of potential flooding if the sewer system or waterways overflow due to the largest conceivable rainfall. It was created to help residents prepare in advance and take appropriate evacuation actions during heavy rain or similar events. Note: This rainfall represents an extremely intense event, occurring approximately once every 1,000 years (147 mm/h). The sewer system is designed to handle rain that occurs about once every 10 years (62 mm/h), so this rainfall far exceeds that standard.

How to Use the Kyoto City Internal Inundation Hazard Map

- 1) Know flood risks near you and your evacuation options.
- 2) Learn how to get disaster information and what actions to take during a flood.
- 3) Understand what preparations you can make in advance to stay safe.

Inquiries about the Map
 Kyoto City Administrative and Financial Affairs Bureau
 Office of Disaster Risk Management Tel: 075-222-3210

Inquiries about Evacuation Sites
 Yamashina Ward Office, Community Empowerment Promotion
 (General Affairs / Disaster Management) Tel: 075-992-3066

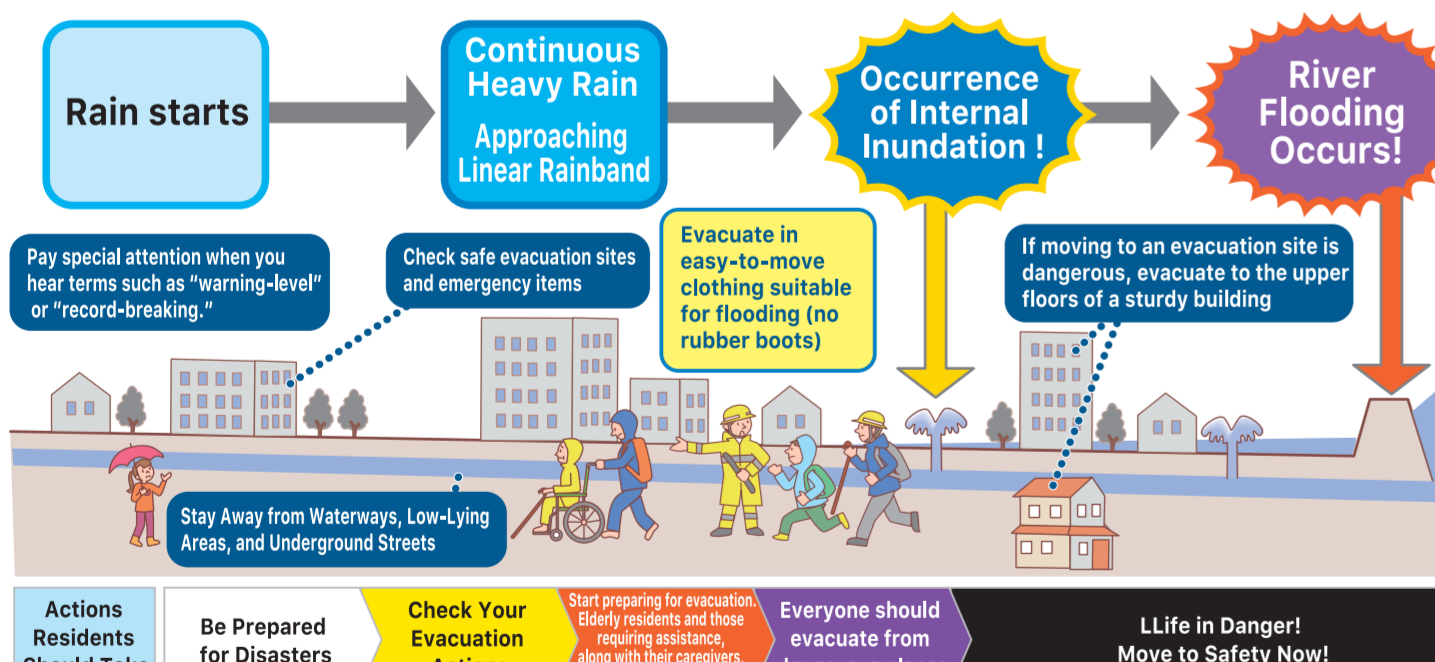
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Evacuation Information and Actions Residents Should Take

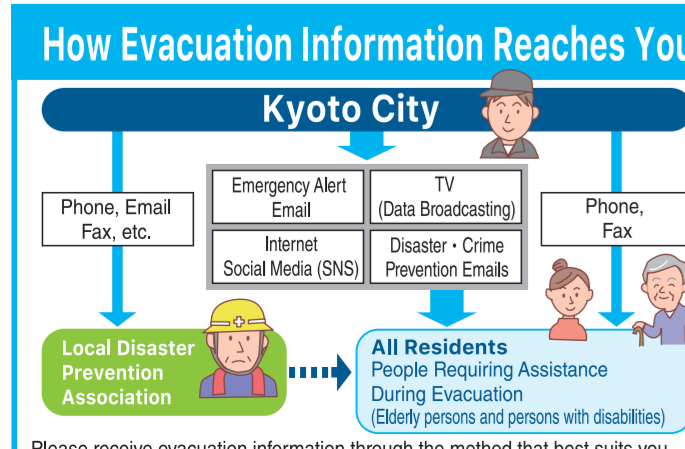
Evacuation information is issued in areas at high risk of flooding. If you are in such an area, evacuate early. However, during sudden heavy rain or rapidly rising floods, evacuation information may not be issued in advance. Even if you feel that the rain is unusual, take action early to protect your safety.

Alert Level	Level 1	Level 2	Level 3	Level 4	Level 5
Situation	Weather May Get Worse	Worsening Weather	Disaster May Occur	High Risk of Disaster	Disaster Occurring or Imminent
Information to Check	Weather Forecast Rain Cloud Movement Early Alert	Heavy Rain Advisory Flood Advisory Information (Flood Advisory Information)	Heavy Rain Warning Flood Warning Information (Flood Warning Information) Evacuation for Elderly and Other Vulnerable People	Heavy Rain Urgent Warning Flood Urgent Warning (Flood Urgent Warning) Evacuation Order	Heavy Rain Emergency Alert Flood Emergency Alert Emergency Safety Measures

*Flood Advisory (Designated Flood Forecast Rivers) and "Flood Advisory Information" (Designated Water Level Notification Rivers) are issued when the water level reaches the Flood Advisory Level.
 *Flood Warning (same as above) and "Flood Alert Information" (same as above) are issued when the water level reaches (or is expected to reach) the Evacuation Decision Level.
 *Severe Flood Warning (same as above) and "Severe Flood Information" (same as above) are issued when the water level reaches (or is expected to reach) the Severe Flood Level.



Evacuation information may not always be issued in the order of the alert levels. If you wait for information, you might be in danger without noticing it and miss the proper time to evacuate. Always stay alert to weather information and the conditions around you and take action promptly.



If You Can't Get to the Evacuation Site

If you are unable to reach an evacuation site, evacuate to a nearby tall and sturdy building.

Please evacuate to a room on the second floor or higher of your home, away from the slope.

Watch Out for Landslide Disasters

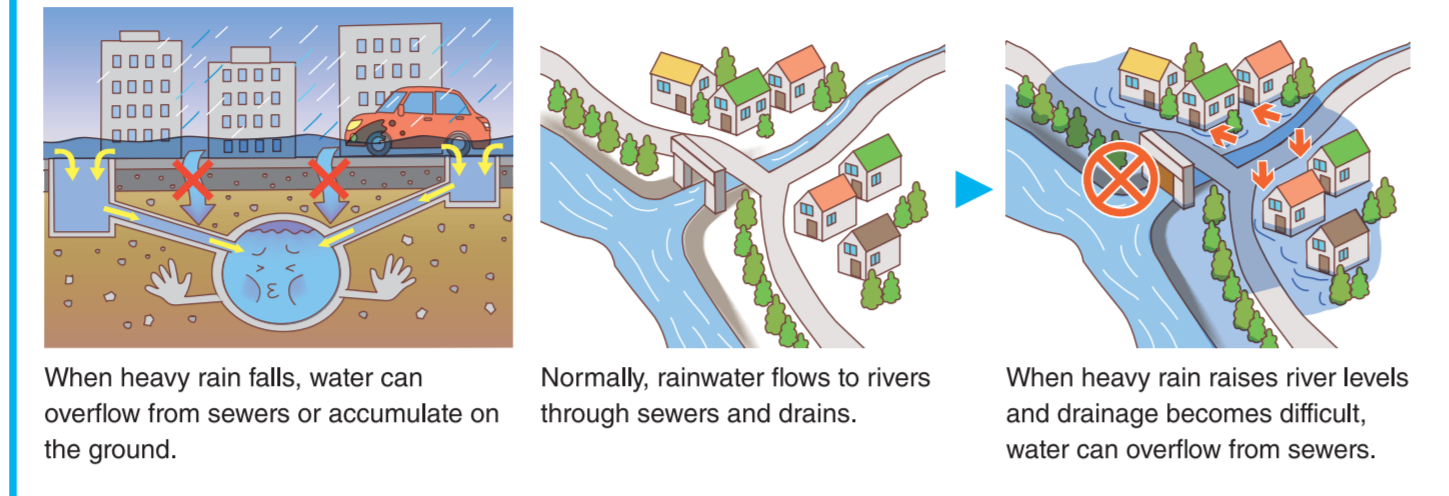
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Learn about flood hazards

There are two types of flooding covered in this hazard map: "River flooding" and "Internal inundation". These two types of flooding occur in different places and have different causes. By understanding these two types of floods, you can prepare in advance and take the correct evacuation actions when flooding occurs.

How Internal Inundation Occurs

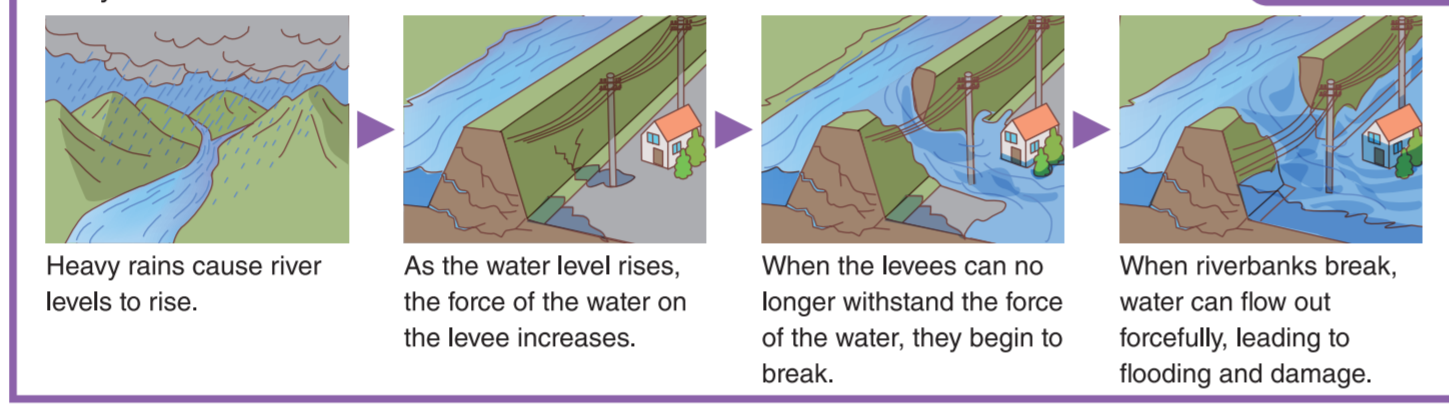
Internal inundation is a type of water-related disaster in which heavy rainfall causes water to overflow from sewer systems and flood surrounding areas. It is more likely to occur when **intense rain falls over a short period of time**. Areas near sewer facilities, **low-lying places such as underpasses, and underground spaces** are particularly prone to internal inundation.



If heavy rain continues, the risk of river flooding will increase.

How River Flooding Happens

River flooding occurs when heavy rain causes a river to overflow and water spreads outside the river, causing flooding in surrounding areas. Overflowing water can break riverbanks and cause serious damage, including homes being damaged or swept away.



When heavy rain continues, both internal inundation and river flooding may occur at the same time. In general, river flooding causes more severe flooding damage. **If you evacuate based only on internal inundation, you may not be able to evacuate safely when river flooding occurs.** In addition, heavy rain increases the risk of landslide disasters. Please also pay attention to landslide disaster warning zones around you and along your evacuation routes.



Check Flood Risks and Evacuation Actions

Check Flood Risks and Evacuation Sites

- Check expected flood depths and proper evacuation actions in your area using this hazard map.
- Check safe evacuation sites and the routes from your home. Knowing several evacuation sites, not just one, increases your safety during evacuation.
- Depending on flood conditions, the evacuation information issued by the city and the evacuation shelters that are opened may differ. Confirm the situation on the city website before evacuating.

Check appropriate evacuation actions

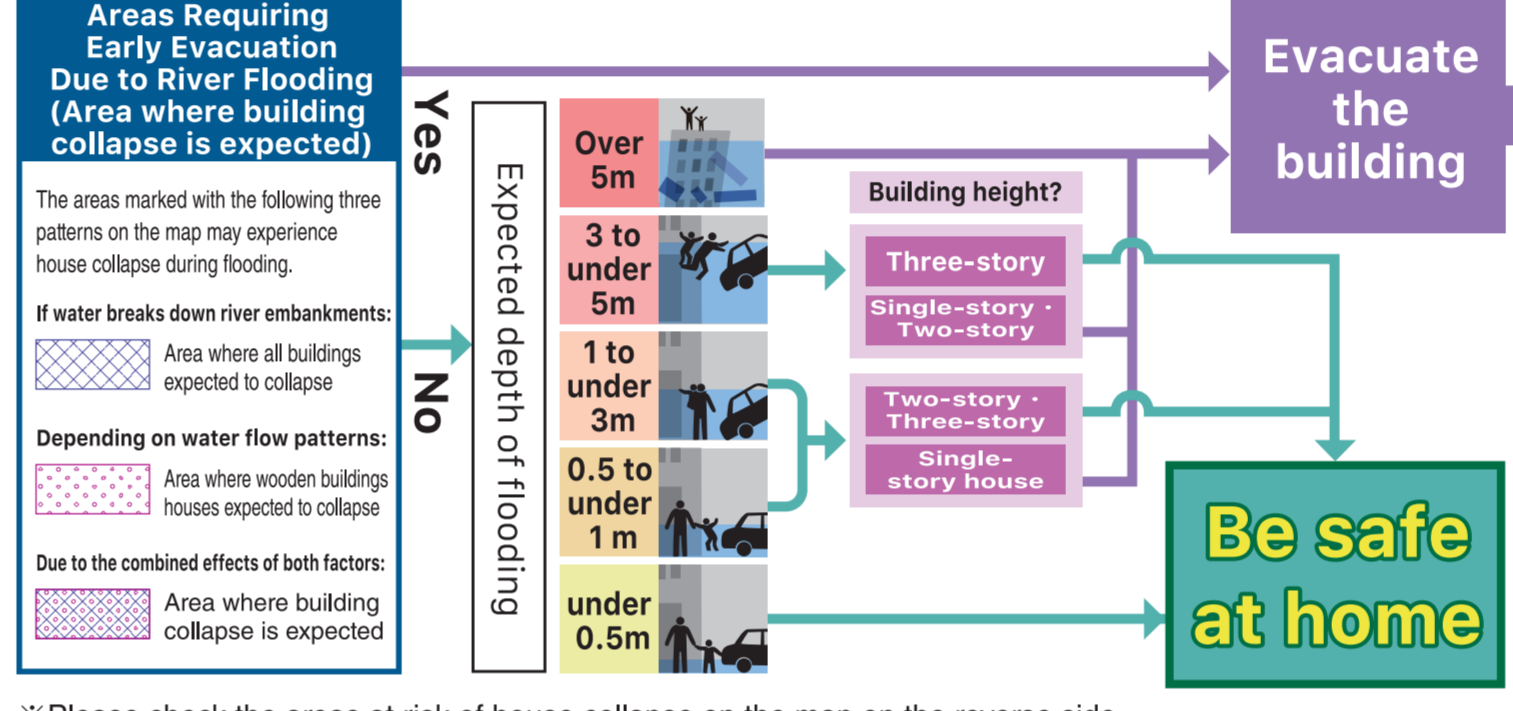
The correct evacuation actions vary depending on the expected water depth and the location and height of buildings. Know the right evacuation actions for you.

- When heavy rain is forecast to end in a short time, it may be safer to evacuate to the upper floors of a building even if flooding occurs (vertical evacuation).

Be safe at home (vertical evacuation)

During inland inundation, evacuating to upper floors may be safe even if flooding occurs. Check the map on the back to see how deep flooding may be in your area. Even if the floodwater is below knee level, strong currents can make walking difficult. Do not go outside unnecessarily; evacuate vertically to the upper floors of the building you are in. In addition, for single-story houses, evacuate early to the nearest tall and sturdy building.

- If heavy rain is forecast to last for a long time, the risk of river flooding increases and evacuation information may be issued. As during a flood, people living in areas where houses may collapse should evacuate early to outdoor shelters (evacuate the building).



※Please check the areas at risk of house collapse on the map on the reverse side.

Check Disaster prevention and Weather Information

Disaster prevention and weather information is provided by local authorities. This information can be received automatically (push type) or checked by yourself (pull type). Check how to gather information appropriate for the situation.

Receive information (push type)

Emergency Alert Email
 Disaster prevention information will be delivered to your mobile phone.

Disaster and Crime Prevention Information Email (Kyoto Prefecture)
 We will send disaster prevention information and other alerts by email. Prior registration is required to use it.

Look up yourself (pull type)

Kyoto City Disaster Prevention Portal site
 In addition to hazard maps and disaster prevention information, you can also access useful everyday information.

Kyoto City Disaster Prevention Portal site (Former Twitter) account
 Follow to receive disaster prevention information.

Kyoto Prefecture River Disaster Prevention Information
 You can check river water levels, rainfall, and flood forecasts for Kyoto Prefecture. River camera footage is also available.

Kyoto City Disaster & Weather Info (JMA)
 Check Kyoto City warnings, rain cloud movement, and rainfall.

Inundation Risk Distribution KIKIKURU (JMA)
 You can see the risk of flooding during heavy rain.

Watch TV and listen to the radio
 Press the "d" button on your TV to view disaster and weather information.

Enhance the safety of evacuation actions through information gathering

Internal inundation and small river floods caused by heavy rain, such as concentrated downpours from linear rainbands, which are difficult to predict accurately, are becoming more frequent. Check the latest situation using **KIKIKURU, rain cloud radar, and river cameras**, and evacuate immediately if you think it is dangerous. (In case of internal inundation, please check the Flood Risk Distribution (KIKIKURU)).

Flooding Damage
 Inundation Risk Distribution (KIKIKURU)

Flooding
 Flood Risk Distribution (KIKIKURU)

Landslide Disaster
 Landslide Risk Distribution (KIKIKURU)

You can check the location of linear rainbands using the **rain cloud radar**.

River cameras allow you to check the conditions of not only large rivers but also small rivers.

Learn about flood prevention measures

Developing a rain-resilient city

Kyoto City is promoting "rain-resilient city" to protect lives and valuable property by reducing water-related damage through both infrastructure (hard measures) and regulations and information (soft measures).

- 1 Drain Water**
 Safely drain rainwater through river works. Rainwater retention ponds capture rainwater to prevent overflowing onto roads. By improving the sewer system, we are increasing the capacity to "drain" and "store" rainwater.
- 2 Store Water / Absorb Water**
 Rainwater storage tank. Store and absorb rainwater to prevent sudden runoff from buildings. Allows rainwater to seep into the ground. By protecting forest water sources, rainwater is "stored" and "infiltrated," and then slowly "released."
- 3 Pump Out**
 Pumping station. Heavy rain raises the water level of the main river. Pump stations in place to prevent water from accumulating in the city.
- 4 Inform / Evacuate**
 A system that gathers disaster-prevention information in various ways and shares it so everyone can evacuate safely and correctly. Disaster Information Team. Creation of hazard maps.
- 5 Prepare / Protect**
 Gather disaster supplies to "prepare". Train together to "prepare" and "protect".

Create Your "My Timeline"

A "My Timeline" is a plan you make in advance about what you will do during a disaster.

- Making a "My Timeline" for unexpected floods helps you evacuate safely and protect yourself and your family.
- Go to the Kyoto City website and make your My Timeline!

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Avoid areas at high risk of flooding

Flooding of low-lying areas
 Road underpasses beneath railways or rivers are prone to water accumulation during heavy rain and are extremely dangerous. The map on the back shows locations where water is likely to accumulate.

Flooding into underground areas
 Underground areas are dangerous because it is difficult to see outside conditions. Water may flow in from above ground, power outages may occur, and water pressure can prevent doors from opening. When evacuating, avoid going through underground areas.

Check the city's underground facilities on the website.
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Things to keep in mind for safe evacuation

- 1 Evacuate before flooding starts**
 Evacuate Early!
- 2 Stay Away from Rivers and Bridges!**
- 3 Watch out for Drains and Manholes!**
- 4 Do not evacuate by car!**
- 5 Help Elderly and Disabled Evacuate!**
- 6 Don't Evacuate Alone, Call Out to Others!**
- 7 Evacuate in easy-to-move clothing!**
 ● Gather your things and keep one hand free.
 ● No rubber boots allowed!
 ● Check your footing with a cane or umbrella!

Confirm your evacuation location

- Check the map on the back to locate nearby evacuation sites and areas safe from flooding.
- Before flooding occurs, evacuate to city-designated evacuation sites, safe areas that won't flood, or nearby tall buildings.
- Heavy rain may cause river flooding, so check the flood hazard map and confirm safe evacuation routes and shelters in advance.

Your School District Emergency Evacuation Site

Places considered safe, such as friends' or relatives' homes in low-risk flood and landslide areas

Make a note of where you will evacuate

Emergency evacuation sites in your residential school district

○ ○ Elementary School

Places considered safe, such as friends' or relatives' homes in low-risk flood and landslide areas.

Fill-in space

Be prepared in advance

Check Your Emergency Kit and Supplies

- Keep evacuation items ready in advance for quick access.
- Choose only what you need and pack it all in a single backpack.
- Prepare for home evacuation: keep extra food and water and regularly use and restock them so they are available whenever needed.

Disaster Grab-and-Go Items List

General Stockpile List (Individual Stockpile List)	Disaster Grab-and-Go Items List
<input type="checkbox"/> Drinking Water (Including water for cooking, 3 liters per person per day is recommended.)	<input type="checkbox"/> Food (for ___ days)
<input type="checkbox"/> Staple Food (rice, bread, instant noodles, etc.)	<input type="checkbox"/> Spare suction device
<input type="checkbox"/> Non-perishable pouch foods, canned foods, etc.	<input type="checkbox"/> Spare suction tube
<input type="checkbox"/> Size caps (colored caps, assented, knifed, etc.)	<input type="checkbox"/> Disposable diaper
<input type="checkbox"/> Other items (Sweets, chocolates, biscuits, candies, etc.)	<input type="checkbox"/> Urine pad
<input type="checkbox"/> Regular Medications	<input type="checkbox"/> Flashlight
<input type="checkbox"/> Nutritional Supplements	<input type="checkbox"/> Disposable gloves
<input type="checkbox"/> Generator	<input type="checkbox"/> Toilet paper
<input type="checkbox"/>	<input type="checkbox"/> Blankets
<input type="checkbox"/>	<input type="checkbox"/> Portable Toilet (Cougiant, etc.)
<input type="checkbox"/>	<input type="checkbox"/> First Aid Kit
<input type="checkbox"/>	<input type="checkbox"/> Hygiene Supplies
<input type="checkbox"/>	<input type="checkbox"/> Other Items

※ This list shows general examples. Prepare the supplies you need and decide what to take during a disaster.
 ※ Keep at least three days' worth of food, and if possible, enough for a week.
 ※ Keep your disaster items ready in a backpack for quick evacuation.

Prepare for Flooding

Prevent Damage with Simple Actions Around You

- Keep drains and gutters clean to prevent them from clogging with trash and leaves. Do not place objects such as blocks on top of drain or gutter covers.
- Put water bags in a line and cover them with a sheet to keep water out.
- During heavy rain, sewage can backflow from toilets, bathrooms, and washing machine drains. Seal drains with water bags.

How to make a water bag: Use two 45-liter garbage bags, stack them, and fill them about halfway with water.

Participate in Evacuation Drills

In Kyoto City, the city government and residents conduct disaster drills together. Join the drills to increase your disaster preparedness.

Help Each Other in the Community (Mutual Aid)

Check on and help elderly people, those with disabilities, families with young children, pregnant individuals, and foreigners in your community.