

# Zama City Inland Flooding Hazard Map

Zama City mascot character "Zamarin"

**Inland Flooding Simulation Conditions**  
 Note: Inland flooding simulation is based on the premise that rainwater drainage cannot be discharged into rivers. In addition, flooding due to floods (river breaks or overflows) is not taken into consideration.  
 • Hourly rainfall of 153 mm is set as the expected maximum rainfall stipulated by the Flood Control Act.  
 • Sewerage pipes (stormwater), waterways, and reservoirs as of March 2024 are set as facility conditions.  
 • Manhole pumps are set to be operating normally.  
 • The ground level condition is set to the average ground level of 5-km mesh published by the Geospatial Information Authority of Japan.

Note 1: Depending on the rainfall conditions, the inundation area and water depth may become even larger.  
 Note 2: If it rains enough to cause inland flood, the risk of landslides increases, so do not approach landslide warning areas.

You can also check the Inland Flooding Hazard Map from the Zama City official LINE account.

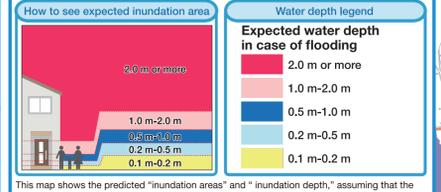
Inundation depth  
 Inundation duration of  
 50 cm  
 or more

**Inundation duration**  
 Less than 24 hrs.  
 24 hrs. or more

Expected area of  
 inland flood with  
 hourly rainfall of  
 153 mm

**Legend**

	Disaster prevention base facilities		Administration radio system for disaster use
	Designated emergency evacuation sites		Dangerous areas (underpasses)
	General hospitals		Water level measurement site
	First evacuation shelters		River surveillance camera
	Second evacuation shelters		JR lines
	First aid station		Private railroad
	Drinking water tanks		City boundary
	Police station, police box		Oaza boundary
	Fire stations		Major roads
	Water surfaces (rivers, reservoirs, etc.)		Landslide warning areas
	Manhole pumps		Landslide emergency warning areas
	Disaster volunteer centers		



**List of designated emergency evacuation sites**

No.	Name	Address	Phone	Description	Location
1	Zama Elementary School	3-3133 Zama	☎ 251-0009		D-3
2	Kurihara Elementary School	6-6-1 Kurihara Chuo	☎ 251-0014		D-6
3	Sagamino Elementary School	1-4-1 Hironodai	☎ 251-0625		B-6
4	Sobudai Higashi Elementary School	1302 Kurihara	☎ 251-6446		B-5
5	Hibarioka Elementary School	4-4-1 Hibarioka	☎ 252-1124		D-7
6	Higashihara Elementary School	2-6-1 Higashihara	☎ 252-0185		D-6
7	Sagamigaoka Elementary School	3-1-1 Sagamigaoka	☎ 254-4202		A-6
8	Tatsunodai Elementary School	1-1-3 Tatsunodai	☎ 254-8100		D-6
9	Iriya Elementary School	5-8-1 Iriya-Nishi	☎ 253-7211		D-4
10	Asahi Elementary School	5-4-1 Hibarioka	☎ 253-2255		C-6
11	Nakamura Elementary School	2-16-1 Nishi Kurihara	☎ 251-3882		E-5
12	Zama Junior High School	4-6-10 Midorigaoka	☎ 251-0135		D-5
13	Nagami Junior High School	5-2-1 Hibarioka	☎ 253-2037		D-6
14	Kurihara Junior High School	6-4-1 Kurihara Chuo	☎ 254-9677		D-6
15	Sagamino Junior High School	6-35-1 Sagamigaoka	☎ 253-2163		B-6
16	Mitsumi Junior High School	5-8-1 Mitsumi Kurihara	☎ 256-0700		E-6
17	Tatsunodai Community Center	3-14-12 Tatsunodai	☎ 253-0815		D-6
18	Komatsubara Community Center	1-45-14 Komatsubara	☎ 257-9640		B-7
19	Higashihara Community Center	4-15-13 Higashihara	☎ 252-6770		E-6
20	Sagamigaoka Community Center	3-26-1 Sagamigaoka	☎ 252-3900		A-6
21	Sobudai Community Center	3-25-18 Sobudai	☎ 253-3001		B-5
22	Hibarioka Community Center	1-48-1 Hibarioka	☎ 252-7988		C-7
23	Kurihara Community Center	3-29-17 Kurihara Chuo	☎ 257-7210		D-6
24	Zama Senior High School	5-11-1 Iriya-Nishi	☎ 253-2011		E-4
25	Zama-Sogo Senior High School	2487 Kurihara	☎ 253-2900		D-5
26	Sagamino Senior High School	3-36-1 Hibarioka	☎ 256-0485		D-7
27	Zama City Community Center	3-25-14 Iriya-Nishi	☎ 253-3131		D-3
28	Kita District Cultural Center	5-30-4 Sagamigaoka	☎ 045-747-3361		A-6
29	Higashi District Cultural Center	3-1-1 Higashihara	☎ 252-0781		E-6
30	Makusel En	6-7-27 Kurihara Chuo	☎ 253-0854		D-6
31	Tsuetsuki Center	2-8-1 Higashihara	☎ 254-2655		D-6

**About evacuation sites**  
 Zama City will notify you of evacuation sites that will be set up in the event of heavy rain via registered email, administration radio system for disaster use, voice automatic response service (0120-673-379), etc.  
 Note that evacuation destinations are not designated, so check the evacuation sites that have been set up at the time and evacuate to the nearest evacuation shelter via a safe route.

# Inland Flooding Hazard Map

## What is an Inland Flooding Hazard Map?

Zama City has established a policy for its sewerage system (stormwater) based on the Zama City Stormwater Management Comprehensive Plan. However, due to recent climate change, the frequency of heavy rains and the amount of precipitation have increased, so it is unclear when flood damage will occur in the future. The inundation areas and inundation depths illustrated on the Inland Flooding Hazard Map are simulation-based predictions of flooding conditions that are expected when rainwater overflows from sewer pipes during the heaviest expected rainfall (153 mm per hour). Use this map, along with the published "Zama City Disaster Prevention Hazard Map," as an information sharing tool to prepare for flooding, such as by considering evacuation routes in the event of rainfall.

## How to use the Inland Flooding Hazard Map

### (1) How to check the Inland Flooding Hazard Map

The Inland Flooding Hazard Map predicts where and how deeply the overflowing rainwater will accumulate when it rains more than the capacity of road facilities and sewerage facilities (stormwater). The approximate water depth is shown in the figure on the right. Use this map to check the predicted flooding situation in your area and to plan your route to evacuation sites.

### (2) Check evacuation sites

Visibility is poor during heavy rain and at night, so be sure to check with your family in advance to determine safe routes and the nearest evacuation sites. It is dangerous to cross areas that are expected to be flooded, so take a detour. Be careful on slopes and in low-lying areas, as water flowing on the road may cause you to trip or cause water to accumulate.

### (3) Share information among family members

Write down evacuation sites for your family and flood risks around your home in a Disaster Prevention Memo, and share this information with your family members.

### (4) Check your belongings when evacuating

Referring to "Your Belongings When Evacuating", prepare in advance on a routine basis so that you can take things with you quickly.

For inquiries about the Inland Flooding Hazard Map / reporting flood damage from sewerage pipes, etc.: contact the Sewerage Facilities Division, Water and Sewerage Bureau, **Phone: 046-252-8629**

# Sharing Information among Family Members

## How to contact in case of emergency

The Disaster Emergency Message Dial "171" and Disaster Message Board are effective ways to check the safety of people during a disaster.

Use the Disaster Emergency Message Dial "171"

**How to Record Messages**

Dial **171** → When recording: **1** → Fixed-line phone number\*, cell-phone number, IP phone number

**How to Play Back Messages**

Dial **171** → When playing back: **2** → Fixed-line phone number\*, cell-phone number, IP phone number

Voice guidance will be played. Note: For fixed-line phones, dial from the area code onward.

## Our Family's Disaster Prevention Memo

	Name	Phone number	Memo
Contact information of family members			
Family evacuation site	Evacuation site		
	Meeting place		
Our home's flooding risk	Expected inundation area	<input type="checkbox"/> Inside expected inundation area <input type="checkbox"/> Outside expected inundation area	
	Inundation depth	<input type="checkbox"/> 0.1 m to less than 0.2 m <input type="checkbox"/> 0.2 m to less than 0.5 m <input type="checkbox"/> 0.5 m to less than 1.0 m <input type="checkbox"/> 1.0 m to less than 2.0 m <input type="checkbox"/> 2.0 m and above	
How to evacuate		<input type="checkbox"/> Evacuate (horizontal evacuation) <input type="checkbox"/> Shelter indoors (vertical evacuation) Evacuate to the _____ floor	
Expiration date of emergency food and drinking water	Product name		Expiration date

# Disasters Caused by Heavy Rain

## ① Mechanism of flooding

**Inland Flooding Hazard Map**

**Zama City Disaster Prevention Hazard Map (flood-prone areas)**

Rainfall above the drainage capacity of the sewerage system

Rainfall above the drainage capacity of the sewerage system Cannot be discharged into the river

Flooding due to overflowing water from rivers and sewerage system

If rivers overflow or levees break, refer to the inundation areas on the Zama City Disaster Prevention Hazard Map (flood-prone areas).

- If the river has not overflowed or the levees have not collapsed → See Inland Flooding Hazard Map
- If the river has overflowed or the levees have collapsed → See the Zama City Disaster Prevention Hazard Map (flood-prone areas).

## ② Disasters predicted on the Inland Flooding Hazard Map

Road gutters get clogged with garbage and other items, causing water to accumulate on the road.

Rainwater accumulates in low areas of the road.

Water may come in through basement vents or stairs.

Rising river water levels prevent drainage and cause flooding.

You are at increased risk of falling into gutters and manholes.

You will not be able to open the door due to flooding.

Quoted from the Ministry of Land, Infrastructure, Transport and Tourism's "Guidelines for Creating Inland Flooding Hazard Maps (Draft)"

# Precipitation Amount, Meteorological Information and Their Collection

## ① Intensity of rainfall and how it rains

Precipitation amount per hour	10 mm to less than 20 mm	20 mm to less than 30 mm	30 mm to less than 50 mm	50 mm to less than 80 mm	80mm or more
	Slightly heavy rain	Heavy rain	Intense rain	Extremely intense rain	Storm
Outdoor conditions					
How it rains	Pouring rain: your feet will get wet.	Downpours: you will get wet even with an umbrella.	Torrential rain	Pours like a waterfall.	Gives a stifling sense of oppression, causing a sense of fear
Expected flooding conditions	If it looks like it's going to rain for a long time, you should be careful.	There is concern of flooding of sewers and small rivers, or landslides. Pay attention to future rain conditions on TV or radio, and prepare to evacuate.	Mountains and cliff collapses are likely to occur. Since the roads become like rivers, traffic restrictions can also be implemented.	There is a risk of water flowing into basements and underground shopping malls.	The occurrence of large-scale disaster is highly likely, and a close watch and vigilance is required. Evacuate to a higher part of a building.

## ② Meteorological information and evacuation information that requires special attention

(1) Meteorological information

Name	Description
Heavy Rain Advisory	The Japan Meteorological Agency issues an advisory when there is a risk of a disaster occurring due to heavy rain or flooding.
Flood Advisory	
Heavy Rain Warning	The Japan Meteorological Agency issues a warning when there is a risk of a more serious disaster occurring due to heavy rain or flooding.
Flood Warning	

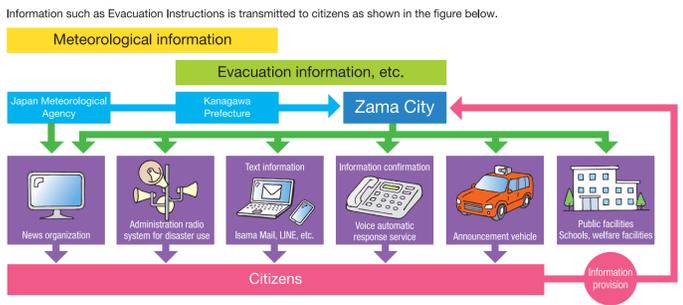
## (2) Evacuation information

Alert Level	Status	Evacuation Information
5	Disaster occurrence / Disaster impending	Emergency Safety Measures*1
<b>Be sure to evacuate by Alert Level 4!</b>		
4	High risk of disaster	Evacuation Instructions*2
3	Risk of disaster	Evacuation of the Elderly, Etc.*3
2	Weather worsening	Heavy Rain or Flood Advisories (Japan Meteorological Agency)
1	Risk of weather worsening	Possibility of warnings (Japan Meteorological Agency)

In order to make it easier for residents to evacuate in the event of a disaster, disaster prevention information is provided that divides the actions that residents should take into five stages. Alert Levels 1 and 2 are announced by the Japan Meteorological Agency, and alert Levels 3 to 5 are issued by Zama City. Alert Level 5 is the stage where a disaster has already occurred and lives are in danger. Complete evacuation at Alert Level 4.

Note 1: An Alert Level 5 may not be issued for a number of reasons, such as municipal authorities being unable to accurately grasp the severity of a disaster.  
Note 2: Evacuation Recommendations will no longer be issued. Instead, Evacuation Instructions will be issued.  
Note 3: An Alert Level 3 indicates that everyone living in the evacuating area should prepare to evacuate if the Alert Level is raised. People who may have difficulty evacuating quickly or who feel that they are already in danger should proceed to evacuate themselves.

# Information Transmission Paths in Zama City



## Check where to get information

Pay attention to weather forecasts on television and radio, and if an Advisory for heavy rain or floods is announced, collect information from the following websites, etc.:

Information provision from Zama City

**Administration radio system for disaster use**

In the event of a disaster, emergency information regarding disaster prevention will be broadcast simultaneously from speakers installed throughout the city.

**Voice automatic response service**

If you cannot hear the content of the broadcast on the administration radio system for disaster use properly, or want to check the content again, you can check it using an automatic voice call.

Toll-free number **0120-673-679**

**Zama City Emergency Information Isama Mail Distribution**

A service that distributes information on disasters that occur in the city to cell-phones and PCs by "email".

**Official LINE account**

Disaster prevention information is distributed through the Zama City official LINE account. Add us as a friend using the QR code on the left.

Cell-phone QR code for registration

Note: If you have taken measures to prevent spam, allow "anshin-bousai.net" as a domain from which you can receive emails.

Official LINE account

Zama City Emergency and Disaster Prevention Information	Japan Meteorological Agency	Disaster Information for Rivers from the Ministry of Land, Infrastructure, Transport and Tourism	Kanagawa Prefecture Disaster Prevention and Disaster Information	Kanagawa Prefecture Precipitation Amount and Water Level Information PC Version	Kanagawa Prefecture Precipitation Amount and Water Level Information Cell-phone Version

Information provided by: Crisis Management Division

# Your Belongings When Evacuating

Prepare on a daily basis and be ready for emergencies. For an emergency bag, a backpack is convenient because you can use both of your hands freely. Keep them in an easy-to-find place so that everyone in your family can easily grab them.

**Things you need when evacuating**

- Rope**: Prepare it so that you can evacuate safely.
- Walking stick or pole**: Prepare one for each person to ensure a safe path to walk in inundation areas.
- Flashlight**: Prepare one for each person. Prepare spare batteries as well.
- Work gloves, raincoat, athletic shoes**: If water gets inside boots, it becomes difficult to walk.
- Helmet**: Protect yourself from flying debris during storms.

**Things you need at the evacuation site**

- Household medicines**: Prepare any medicines you normally take.
- Smartphone**, **Charger**, **Mobile battery**
- Emergency food and drinking water**
- Warm clothing, masks, socks, etc.**
- Radio**: Prepare small and light radio.
- Children's items**
- Nursing care products**
- Plastic bags**

**Minimize items to take with you when evacuating!**

# Notes on Evacuation Actions

## ① Guidelines and points to note when evacuating

(1) Evacuate horizontally or vertically depending on the situation.

Inland flood can occur in a short period of time, making it dangerous to travel to evacuation sites. In that case, try to evacuate vertically by moving to higher place in your home or a nearby building.

(2) Do not enter underpasses or low-lying areas!

Do not pass through carelessly, but take a detour. If you find a road flooded, do not pass through it, but take a detour, etc., as your top priority.

If you do enter, your first priority should be to escape. If you enter a flooded road, escape.

Underpasses are lower than the surrounding ground, and their topographical structure makes it easy for rainwater to accumulate.

## ② Make an evacuation plan "My Timeline" for emergencies

The goal of evacuation is to get somewhere safe. You do not have to go to evacuation sites if you are in a safe place. The actions required to ensure safety vary depending on your family structure and living situation. A chronologically organized evacuation plan tailored to your situation is called "My Timeline." Discuss with the people around you and organize in advance what you will do and when. This will be useful for checking and deciding what to do in the event of a storm or flood.

Basic steps in the event of a typhoon

- Normal times**: Check the hazard map and secure an emergency bag. Decide in advance where to evacuate, how to evacuate, and when to start evacuating.
- A few days before**: Check meteorological information. Check meteorological information using TV, radio, the Internet, etc.
- A few hours before**: Evacuation preparation. Reconfirm the items you need to take with you and the timing of evacuation.
- Disaster occurrence**:
  - The city opens "evacuation sites." → Check the information from the city and begin evacuation.
  - The city issues "Evacuation Instructions." → Take action to evacuate and ensure safety.
  - Information from the city will be sent via Emergency Information Isama Mail, administration radio system for disaster use, and the city's website.

# Tips for Everyday Life and When Evacuating

## ① Preparing for heavy rain

Prepare for heavy rain and be ready to evacuate at any time.

(1) Prepare for flooding

If there is a possibility of inundation, move household goods to a higher place, such as the second floor.

(2) Prepare for a power outage.

Have flashlights, etc., ready in case of a power outage.

(3) Prepare an emergency bag.

Keep an emergency bag close at hand so you can evacuate at any time.

If you live in an area where flooding is expected, consider where to evacuate your car.

## ② Measures you can take in advance

(1) Clean the rainwater inlets on the road.

If the rainwater inlets on the road become clogged, there is a risk of inland flood, so clean them regularly.

(2) Check evacuation shelters.

Make sure everyone knows the evacuation sites to evacuate to from their homes, schools, and workplaces.

(3) Actually walk the evacuation route.

Decide on multiple routes (evacuation routes) to evacuation sites.

(4) Install rainwater storage and permeation facilities

By allowing rainwater that falls on the roof of your house to permeate and be stored in the ground, you can prevent inland flood.

## ③ Points of evacuation

If you feel danger or receive an Evacuation Instruction, evacuate immediately.

(1) Close the gas stopcock.

(2) Turn off the electric breaker.

(3) Close the water valve.

(4) Evacuate on foot.

If you evacuate by car, you will not be able to move if it is flooded. In principle, evacuate on foot.

(5) Call out around your neighborhood.

(6) Watch your step.

When evacuating, act in groups of two or more. Call out around your neighborhood and evacuate as a group.

(7) Watch out for manholes and gutters.

Check your footing to make sure there are no potholes or grooves. Boots are dangerous if water gets inside, so wear sneakers, etc.

(8) Evacuate to the second floor or higher.

When flooded by heavy rain, manhole covers open and gutters become invisible, so be careful when walking.

(9) Evacuate to the second floor or higher of your home or a nearby building.