Fukuroi City

Definitive Edition
April 2026

Flood Hazard Map Guide Book

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Inundation predictions

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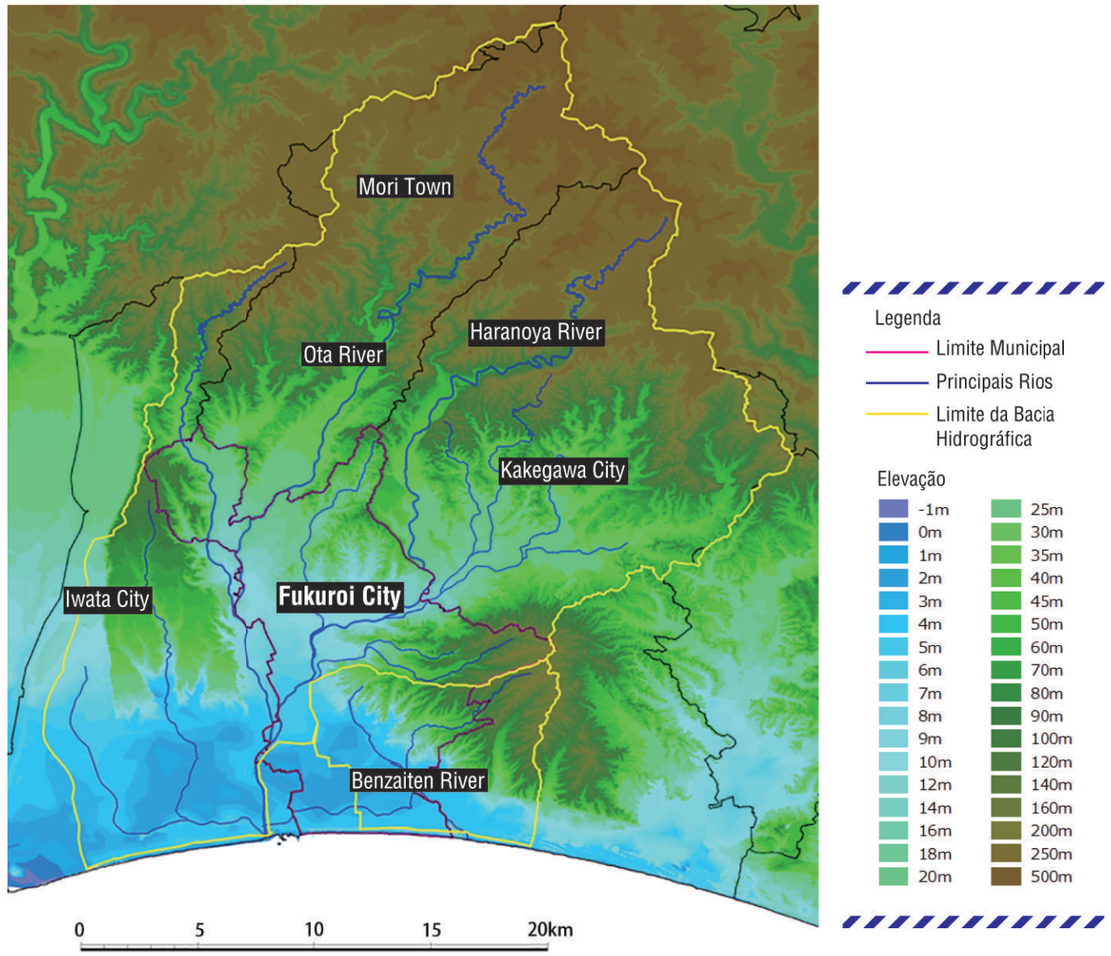
Topography and Disaster Characteristics of Fukuroi City

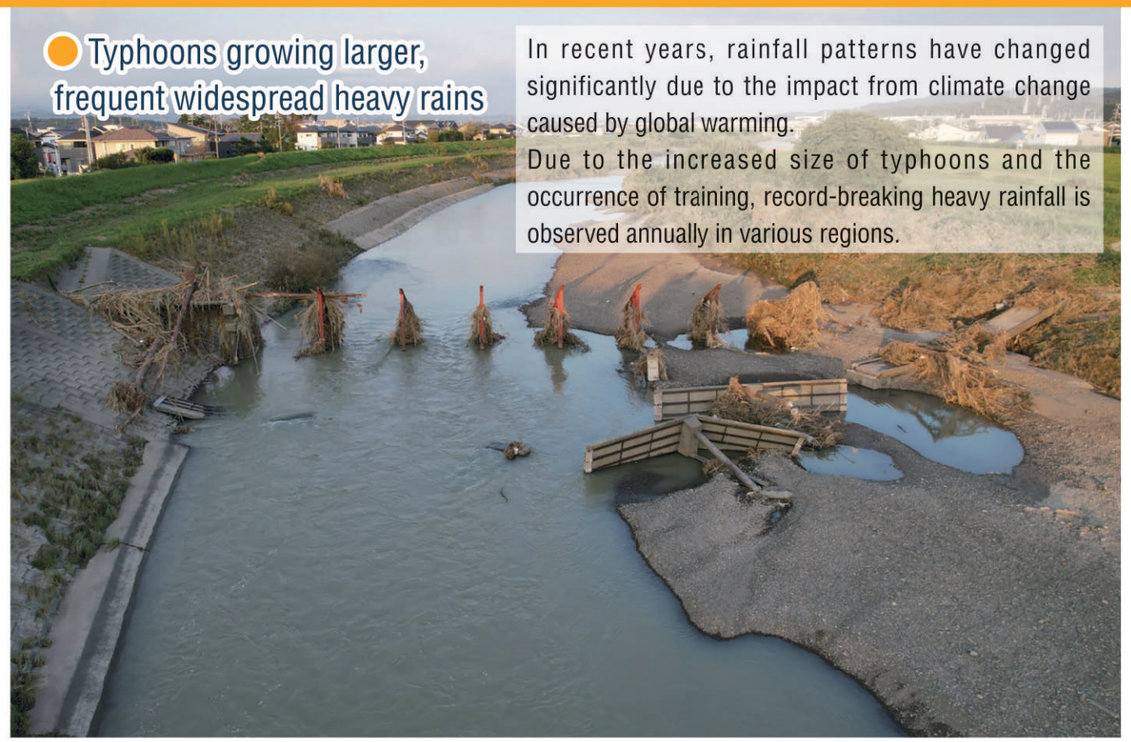
The topography of Fukuroi City is largely flat alluvial plains developed along the Ota River and Haranoya River, making it an area prone to inland flooding caused by typhoons and localized torrential rains. If a levee is breached, there is a risk of massive muddy floodwaters surging into the city, causing extensive damage including collapsed and washed-away houses and widespread flooding.
Furthermore, recent climate change has intensified rainfall patterns, increasing the risk of flooding even in areas that previously remained unaffected.



Basic Data of Fukuroi City
(As of December 1, 2025)

Area: 108.33km^2
Population: 87,562
No. of households: 37,724

Flooding in Fukuroi City



Typhoons growing larger, frequent widespread heavy rains

In recent years, rainfall patterns have changed significantly due to the impact from climate change caused by global warming.
Due to the increased size of typhoons and the occurrence of training, record-breaking heavy rainfall is observed annually in various regions.

September 2022 Typhoon No. 15 Okano Bridge

Flooding in Fukuroi City

Within the city, inland flooding caused by rising water levels in effluent streams has resulted in flooded roads and residential water damage.
In particular, during Typhoon No. 15 (also known as Tropical Storm Talas) in September 2022, the entire city was hit by torrential rain, causing significant damage.

September 2022 Typhoon No. 15 Konan District

September 2022 Typhoon No. 15 Meiji Bridge

September 2022 Typhoon No. 15 Araya Bridge

Progression of Flooding

It starts raining like always...

Due to climate change, rainfall patterns have become more intense, increasing the risk of flooding even in areas that have not previously experienced flood damage. Do not rely solely on past experience. Check the latest weather information and evacuate early.

When heavy rain falls in the city and surrounding areas...

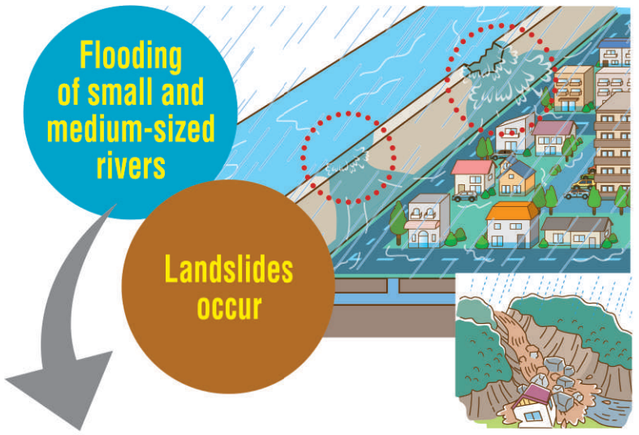
Inland inundation

When heavy rain falls in a short period of time, the drainage capacity may be overwhelmed, or the water level in the outlet river may rise, leaving no place for the water to go. As a result, rainwater accumulates in low-lying areas (inland inundation). Depending on the location, there are areas with deep water and areas with fast currents, making going out or traveling dangerous.

When heavy rain continues to fall in the city and surrounding areas...

Flooding of small and medium-sized rivers

Landslides occur



Prolonged, widespread heavy rain can cause small and medium-sized rivers to overflow, resulting in flooding over 3 meters deep in some areas and even washing away houses near rivers. Moreover, the ground becomes saturated with water, making it prone to landslides.

As the rain continues to fall harder...

Large-scale river overflow

If heavy rain continues to fall, water levels in large rivers also rise. When large rivers overflow, massive streams of mud surge into urban areas, causing widespread damage including collapsed and washed-away houses, extensive flooding, and severe damage from sediment. Due to the large watershed area, water levels may rise even after the rain has stopped, so caution is necessary.

Preparedness for Disasters

Very important

You must save yourself. Don't assume you're the only one who'll be fine. Be prepared for disasters.

CAUTION!!

1 **Act on the assumption that flooding could occur**

It is said that disasters strike when you least expect them, but lately the pattern of rainfall has changed so much that it could be said that disasters strike before you've even forgotten the last one.

CAUTION!!

2 **Based on conceivable situations and regional characteristics, imagine flood damage**

At places where flooding has occurred, you often hear people say, "I never imagined the water would reach this far..."The potential for flooding that may occur after the rain begins varies depending on the features of the area.

CAUTION!!

3 **Should I evacuate? Should I stay? Prioritize life and do your best**

Evacuating to a safe place before flooding begins is crucial, but attempting to evacuate through floodwaters is extremely dangerous. It is important to act in accordance with the situation.

CAUTION!!

4 **Protect yourself**

To prevent casualties from disasters, it is essential to have the fundamental understanding that in an emergency, you are responsible for your own safety.

CAUTION!!

5 **Gather information by yourself**

It is important to obtain information promptly on your own. Information is disseminated through various methods, including television, radio, the internet, and by word of mouth from your neighbors, so be sure to stay informed with the latest updates.

CAUTION!!

6 **Do not make assumptions**

Hazard maps are created based on certain conditions and scenarios. Actual flooding events may not occur as predicted. Understand that this is nature and that unexpected things could happen.

Points to Note When Evacuating

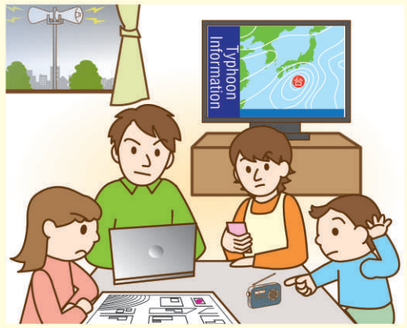
- It's important to check in advance where you will evacuate to. Prepare so that you can evacuate safely and calmly.

① Check safe evacuation routes

Be sure to regularly confirm with your family and the community safe evacuation places and routes in the case of flooding.

② Gather accurate information and evacuate early

Evacuating from your home after flooding has begun is dangerous. Monitor the latest weather, disaster, and evacuation information via television, radio, the internet, and other sources. If you sense danger, make a point of evacuating early.



③ Wear comfortable clothing and bring emergency supplies when evacuating

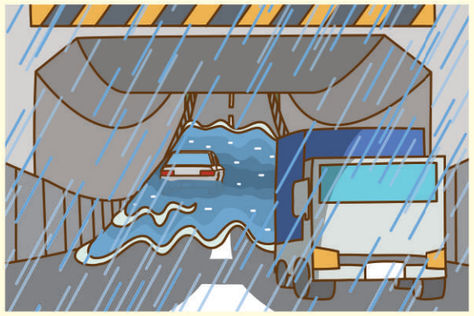
To prevent accidents during evacuation, wear comfortable clothing and evacuate together with family members, neighbors, and others where possible.
Carry your belongings in a backpack, keep your hands free, and evacuate wearing laced sneakers instead of rain boots.

④ Knowledge of floodwater

Floodwaters are powerful, and even adults find it difficult and dangerous to walk in water that is knee-deep or higher. Do not move unnecessarily. Stay indoors and ensure your safety (vertical evacuation). If your home does not have a second floor, the decision to evacuate to a nearby location is also important. Run away from water rather than trying to fight it. Both people and vehicles can be easily swept away. The most important thing is to stay away from flowing water.

⑤ Precautions when evacuating by vehicle

Numerous cases have occurred where people lost their lives while evacuating by vehicle, such as becoming immobile in flooded underpasses or falling into rivers from roads along riverbanks. Generally, driving becomes difficult when water depth exceeds 30 cm.



⑥ When flooding occurs and you waited too long to evacuate

If you cannot secure time to evacuate or you decide that evacuating to a designated emergency site or other planned location is difficult, evacuate to a safe building, such as the second floor or higher of your home (vertical evacuation).

Rainfall Types and Intensity

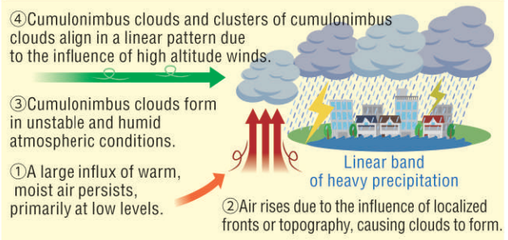
Weather forecasts describe rainfall intensity using terms like “heavy rain” or “very heavy rain.” The expressions used to describe rainfall intensity and the corresponding rainfall amounts are classified in the table below. Please use this information to make disaster prevention weather information more useful for you.
Prepare so that you can evacuate safely and calmly.

Description of rainfall Intensity	Rainfall amount	What that rainfall looks like	Illustration
Moderately heavy rain	10 to 20 mm per hour	Pouring rain splashes up from the ground, soaking your feet.	
Heavy rain	20 to 30 mm per hour	Pelting rain that even with an umbrella, you’ll get soaked.	
Driving rain	30 to 50 mm per hour	The rain pours down like someone’s turned over a bucket, turning the roads into rivers.	
Downpour	50 to 80 mm per hour	The rain pours down like a waterfall, making umbrellas completely useless.	
Torrential rain	80mm–per hour	Rain that makes you feel suffocated and instills fear.	

Linear rainband

Linear rainband refers to a phenomenon where rainfall occurs intensely in a long, band-like pattern over a specific region.
This precipitation band is formed by fronts, topography, and other factors, and because it can linger in the same area for prolonged periods, it can bring extremely heavy rain. This phenomenon increases the risk of localized heavy rain and flooding.

Typical Mechanisms for the Occurrence of Linear rainband



Notice Even if it’s only 10mm of rain per hour, what if it keeps falling?

There is a risk of moderate to heavy rain, with rainfall of 10 to 20 mm per hour, persisting for several hours.

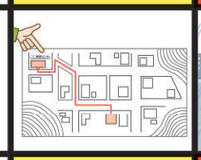
“10 mm of rain per hour” refers to rainfall so heavy that water accumulates without draining away, equivalent to a level of 1 cm of rainwater accumulating per hour.
You might think it’s only 1 cm, but if this rain continues for a long time, it will exceed the capacity of rivers and waterways, which are the drainage routes for rainwater, and cause flooding.
Particular caution is needed in river watersheds and low-lying urban areas, where rainfall tends to concentrate and water tends to pool.

Alert Level

The “Alert Level” is information indicating disaster risks, such as heavy rain and flooding, along with recommended evacuation actions, on a five-level scale from 1 to 5.

Level 4: Everyone evacuate

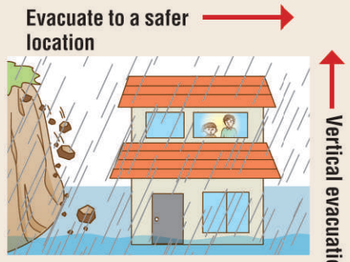
Danger ← Low — High

Alert Level	1	2	3	4	5
Kikikuru	—	Caution (Advisory Level)	Alert (Warning level)	Danger	Disaster is imminent
What you should do	Increase mental preparedness	Check evacuation plan	People who require time to evacuate should evacuate. Other residents should prepare.	Everyone should evacuate from dangerous places	Take the best action to protect life
					
Flood	Early warning information	Level 2 Advisory (Flood)	Level 3 Warning (Flood)	Level 4 Urgent Warning (Flood)	Level 5 Emergency Warning (Flood)
Heavy rain	Early warning information	Level 2 Advisory (Heavy rain)	Level 3 Warning (Heavy rain)	Level 4 Urgent Warning (Heavy rain)	Level 5 Emergency Warning (Heavy rain)
Landslide	Early warning information	Level 2 Advisory (Landslide)	Level 3 Warning (Landslide)	Level 4 Urgent Warning (Landslide)	Level 5 Emergency Warning (Landslide)
City directive	—	—	Evacuation for the elderly and vulnerable	Evacuation directive	Emergency safety measures *Not always issued

Evacuate immediately at Alert Level 4!

Do the utmost to protect life

If a sudden thunderstorm makes it already dangerous to go outside, make ensuring your safety the top priority at your current location or a nearby location. If danger is imminent, consider not only moving to designated evacuation shelters, but also vertically evacuate to the second floor of your home or a nearby sturdy building if evacuating outdoors is deemed dangerous, and wait for rescue.



E.g.
- If the city issues “Emergency Safety Measures”
- If you are caught off guard by sudden heavy rain while sleeping and unable to evacuate in time
- If the flooding depth has already reached above your knees (50cm)
- If there is a risk of slipping and falling due to flowing water on the evacuation route
- If the location of the waterway cannot be seen due to high water

Moving around outdoors is dangerous.

How to Obtain Weather and Evacuation Information

It is important to gather information yourself to obtain the latest updates.

When the risk of flood disasters or landslides is approaching, various information is disseminated. However, due to various factors, information may not always reach you.

- If I sleep with the storm shutters closed during a storm...
- If I hadn't turned on the TV or radio...
- If there's a power outage...

Simply waiting for information may cause the situation to deteriorate unexpectedly, potentially causing you to miss the opportunity to evacuate. When a disaster seems likely to occur, gather information yourself and pay attention to the situation around you.

Information on Significant Heavy Rain

Information on significant heavy rain refers to information provided by the Japan Meteorological Agency when particularly heavy rain is expected.
This information is intended to alert you to the possibility of heavy rainfall in the coming days and to urge caution. Specifically, this includes rainfall amounts, affected areas, and anticipated impacts, serving as indicators that local governments and residents should pay attention to.
Even if rainfall within the city is not heavy, heavy rain in the mountainous areas upstream can cause flooding that affects Fukuroi City, so pay attention to rainfall and water level information over a wide area.

Automatically delivered information (PUSH notifications)

Receive via smartphone app

Shizuoka Prefecture Comprehensive Disaster Preparedness App

This smartphone app offers a wide range of features that are useful during a disaster, from notifications of emergency information and hazard maps to everyday disaster preparedness learning and evacuation training.

How to register

Install the app and set your location. You can get the app using the QR code below.

App Store からダウンロード

Google Play で手に入れよう

NHK News and Disaster Preparedness

Information on typhoon path predictions and river flooding is broadcast.

NHK Internet Radio Rajiru★Rajiru

This app enables you to listen to NHK radio broadcasts online.

Public Address System
(Emergency Broadcast System)

Receive via email or LINE

Fukuroi City Information Delivery Service "Mero Net"

You can receive announcements from City Hall during disasters, weather advisories, and broadcast information from the public address system via email or LINE.

How to register

Please use the QR code on the right and send an empty email (no subject or body required) to the email address.

Emergency Alert Emails

Emails are delivered to mobile phones that support the reception of emergency alert emails.

How to register

In some cases, configuration may be required. For details, please contact your telecommunications carrier.

Data broadcasts

On TVs that support data broadcasting, you can check weather and disaster information by pressing the "d button".

Information gathered by oneself (PULL notifications)

Information source	How to access	Available information
Japan Meteorological Agency website	https://www.jma.go.jp/jma/index.html	Kikikuru Small and Medium-sized Rivers Flood Damage and Sediment Disaster Risk Level
Fukuroi City website	https://www.city.fukuroi.shizuoka.jp/	Various disaster and disaster preparedness information within the city
Fukuroi Meteorological Observation System	https://fukuroi.tenki.ne.jp	Rainfall, river water levels, and weather-related information within the city issued by the national and prefectural governments
Shizuoka Prefecture/ SIPOS Radar (for PCs and smartphones)	https://sipos.pref.shizuoka.jp/	Rainfall, river water levels Live camera images Advisories and warnings

Japan Meteorological Agency's hazard distribution map "Kikikuru"

"Kikikuru" is information that enables you to visually see on a map where and at what level the risk of disasters caused by heavy rain or flooding is approaching, and is published on the Japan Meteorological Agency's website.

Four types of distribution information

Flooding Kikikuru: Heavy rain warning (flooding) risk level distribution
Inundation Kikikuru: Inundation warning risk level distribution
Landslide Kikikuru: Heavy rain warning (landslide hazard) risk level distribution
Heavy Rain Kikikuru*: Risk level obtained by overlaying the risk distributions of inundation risk and flood risk
*Service scheduled to begin in late May 2026

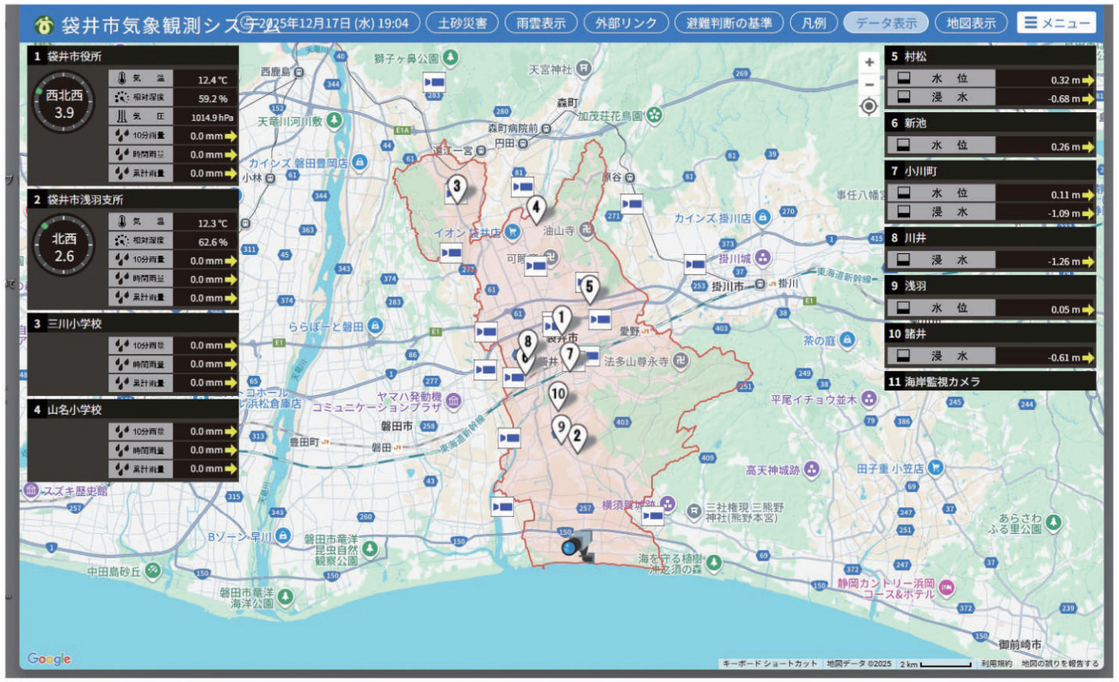
How to Obtain Weather and Evacuation Information

Rainfall and river water levels can be checked via the Internet or smartphone.

The Fukuroi City Weather Observation System, operated by Fukuroi City, is a comprehensive disaster preparedness platform that enables users to check all weather-related information issued by the national, prefecture, and city governments in one place.

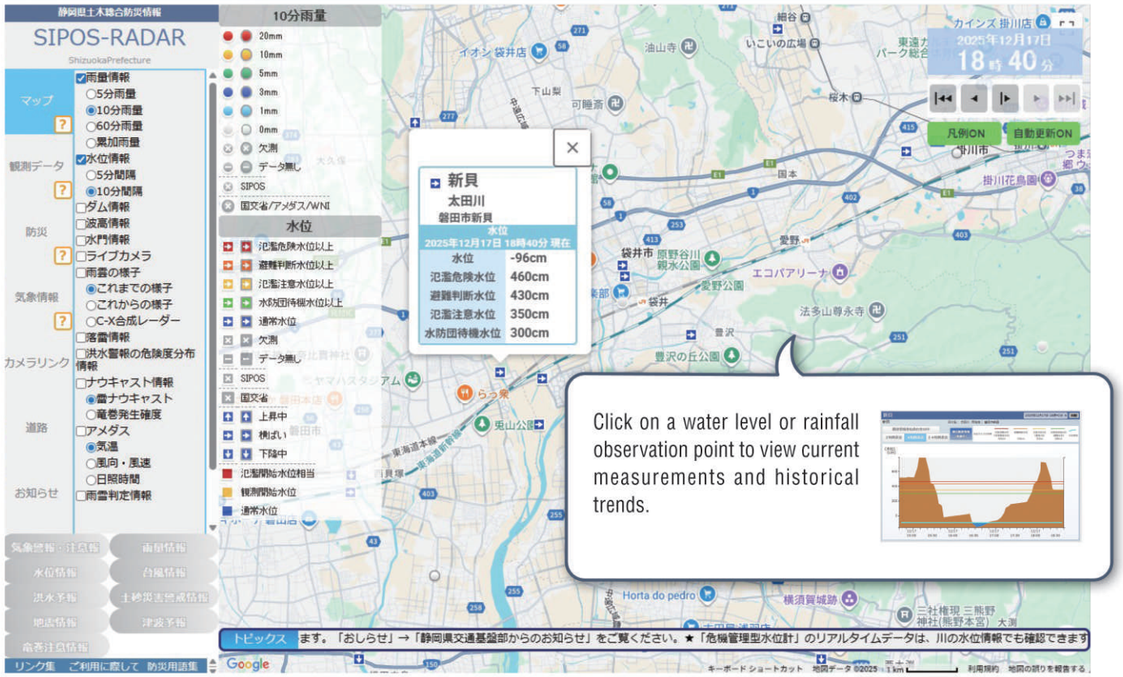
Main Functions and Features

- Real-time aggregation and display of rainfall, water levels, flooding, wind direction, and wind speed.
- Japan Meteorological Agency data (Precipitation Nowcast, Landslide Information Kikikuru, Special Warnings/Advisories/Alerts) is overlaid onto a map.
- Shizuoka Prefecture's river monitoring cameras are linked to the water level information data using the "SIPOS Radar."
- When advisories or warnings are issued, an alert will be displayed on the system's home screen.



Shizuoka Prefecture "SIPOS Radar"

This is the Comprehensive Civil Engineering Disaster Preparedness Information System built by Shizuoka Prefecture. This system was created to enable residents to immediately ascertain information on heavy rain, typhoons, river conditions, and disaster risks, thereby aiding their evacuation decisions.



At some of the prefecture's water level observation stations, flood danger levels and evacuation decision levels, which serve as guides for evacuation decisions, have been established. Keep an eye on changes to water levels and use this information as a reference for evacuation.

River basin	Observatory Name	Location	Flood Danger Level (cm)	Evacuation Decision Water Level (cm)
Ota River (Upstream)	Amagata (Prefecture)	Mori, Morimachi, Shuchi District	280	240
Ota River (Midstream)	Shingai (Prefecture)	Shingai, Iwata City	460	430
Ota River (Downstream)	Toyohama (Prefecture)	Toyohama, Iwata City	–	–
Shikiji River	Kasaumebashi (Prefecture)	Kasaume, Iwata City	584	540
Ugari River	Yokotebashi (Prefecture)	Kuno, Fukuroi City	320	280
Haranoya River	Yamana (Prefecture)	Fukuroi, Fukuroi City	700	650
Sakagawa River	Kaneshirobashi (Prefecture)	Kaneshiro, Kakegawa City	490	450
Sakagawa River	Saida (Prefecture)	Saida, Kakegawa City	610	520
Benzaiten River	Showa-Suimon (Prefecture)	Nakashinden, Fukuroi City	–	–

Long-lasting Items and Stockpiles

Be sure to prepare emergency supplies.

When evacuating to designated emergency sites or other locations in advance of flooding, please bring emergency supplies and any personal items you need. A hands-free backpack is convenient for your emergency kit. Try carrying it to make sure it's not too heavy. Fully preparing yourself will give you peace of mind.

❶ If your emergency kit is too heavy, it can hinder your evacuation. If it's too heavy, reduce its contents.
❷ Prepare relatively light dried foods that can be easily eaten by simply adding water.
❸ Prepare one backpack per person and store them in separate, easily accessible locations.

check ☑ Items to keep in your emergency kit (backpack)

- ☐ Cell phone charger ☐ Portable radio ☐ Emergency food (such as canned bread) and drinking water
- ☐ Flashlight (with spare batteries)
- ☐ Daily necessities (lighter, knife, can opener, tissues, plastic bags, etc.)
- ☐ Candle (thick and stable)
- ☐ Clothing (underwear, outerwear, gloves, socks, handkerchiefs, towels, etc.)
- ☐ First aid supplies (adhesive bandages, gauze, bandages, triangular bandages, disinfectant, fever reducers, stomach medicine, cold medicine, pain relievers, eye drops, splinter removers, etc.)

check ☑ Items needed based on family composition

- ☐ Raincoat ☐ Gloves ☐ Helmet (disaster helmet)
- ☐ Essentials for the elderly and persons with disabilities (such as nursing care supplies)

check ☑ Essentials for infants and toddlers

- ☐ Milk ☐ Baby food ☐ Disposable diapers ☐ Baby wipes ☐ Toys

check ☑ Essential items for evacuation

- ☐ Menstrual products ☐ Prescription medications (if you have a chronic condition, don't forget them)
- ☐ Fukuroi City Flood Hazard Map (this booklet)
- ☐ Valuables (bank passbook, health insurance card, driver's license, My Number card, copies of address books, etc.)

check ☑ Items that are handy

- ☐ Blankets/sleeping bags ☐ Portable gas stove ☐ Disposable hand warmers ☐ Disposable chopsticks
- ☐ Floor mat ☐ Portable power bank

Memo

Confirming and Contacting Evacuation Shelters

Talk with your family about evacuation plans before a disaster strikes. If you wait until a disaster strikes, you risk not being able to escape in time.

When it comes to evacuation, you should plan in advance where to go in the early stages and where to go if you're unable to evacuate in time.

1	Check for hazards in your home and elsewhere	Check the flood hazard map to see the risk of flooding or landslides at your home (or workplace, school, etc.).
2	Confirm whether you can stay at home	Evacuation is required in areas where early evacuation is necessary (see pp. 16–17) and in areas where there is a risk of landslides.
3	Check evacuation shelters	Make sure to locate evacuation shelters in advance, as well as places to go if you are unable to evacuate in time.

Meeting place we decided on as a family

Communication method we decided on as a family

Emergency Contacts: Family, Relatives, and Friends

Name Memo
Phone Number
Name Memo
Phone Number
Name Memo
Phone Number
Name Memo
Phone Number

Disaster Message Service

In the event of a disaster and it becomes difficult to connect calls to the affected area, NTT will set up a "Disaster Message Service" that enables users to record and play back voice messages regarding their safety and well-being within the affected area.

- Recording a message: 171-1-XXXX-XX-XXXX (Phone number of person in the disaster-affected area)
- Playing a message: 171-2-XXXX-XX-XXXX (Phone number of person in the disaster-affected area)
- Message length: Max. 30 seconds per message
- Message retention period: Until the service ends
- No. of stored messages: 1 to 20 messages per phone number
- Supported phones: Landline phones, IP phones (including 050 numbers), and mobile phones

Let people know you're safe

Trial days : 1st and 15th of every month, first three days of the New Year, Disaster Preparedness Week, and Disaster Preparedness and Volunteer Week

Disaster Message Service 171
This is a "voice message board" that enables you to check on the safety of people in disaster-affected areas via phone.

Dial 171

Guidance via voice prompts

Record 1 / Play 2

Guidance via voice prompts

Please dial the landline, mobile, or IP phone numbers of people in the disaster-affected areas. Please note that you must enter landline numbers starting with the area code.
0 - - -

Guidance via voice prompts

Follow the guidance to record (or play)

Disaster Message Board (PC/smartphone) web 171
This is a "online message board" that allows you to check on the safety of people in disaster-affected areas via the Internet.

https://www.web171.jp
Visit the site or search for "web171"

Enter the phone number of the person in the disaster-affected areafor whom you wish to record a message

Follow the instructions to record/check

*If there are messages on another company's message board at the time of checking, a link will be displayed.