

# 1 Tsunekanemaru and Abiki District

This Inland Water Hazard Map shows the areas where inundation is expected, the flood depth in those areas and emergency evacuation site in the event the heaviest expected rainfall occurs. The map was created in order for residents to remain mindful of disaster preparation in the course of their daily lives and to take actions such as making provisions and taking measures to protect themselves from disasters and checking evacuation routes. This Inland Water Hazard Map defines "heaviest expected rainfall" as 130 mm of rain per hour. Note that depending on circumstances, inundation may occur in areas other than the expected inundation areas on this map, and flood depth may differ from what is listed here.

## How to Use this Hazard Map

### Inland Water Hazard Map

Excessive rainwater cannot flow and accumulates in city areas.

### Flood Hazard Map (Flood and Landslide Disasters)

Water overflow Bank collapse

Make sure to check this information as well. Fukuyama City also has tsunami hazard maps, priority reservoir hazard maps, and earthquake disaster prevention maps. Please check these as well.

When a flood from inland waters occurs, there may not be time to issue evacuation information. Refer to weather information and "Kikikuru" (Real-time Risk Map: Inundation) information provided on the Japan Meteorological Agency (JMA) website in order to decide for yourself whether to evacuate.

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## Prepare for Disaster

- If a disaster occurs, it will become difficult to procure goods. Therefore, everyone needs to prepare emergency carry-out supplies and stockpiles during normal times.
  - Also make sure to participate in city disaster preparedness exercises.
- ### Emergency carry-out supplies
- Prepare a necessary carry-out supplies in reference to the list of items, considering your family structure.
  - Prepare an emergency carry-out supply bag whose size is appropriate for your body, and make its weight light enough for you to carry on your back.
  - Pack items in each family member's own backpack in case you are separated.

Classification	Items
<b>Food</b> * For 3 days as a guide (preferably for 1 week)	<input type="checkbox"/> Drinking water <input type="checkbox"/> Dry bread <input type="checkbox"/> Biscuits and chocolate <input type="checkbox"/> Rice <input type="checkbox"/> Retort foods <input type="checkbox"/> Baby food <input type="checkbox"/> Powdered milk <input type="checkbox"/> ( )
<b>Daily essentials</b>	<input type="checkbox"/> Blanket <input type="checkbox"/> Towel <input type="checkbox"/> Wrap <input type="checkbox"/> Tissue <input type="checkbox"/> Plastic bag <input type="checkbox"/> Matches / Candles <input type="checkbox"/> Charger <input type="checkbox"/> Spare battery (Mobile battery) <input type="checkbox"/> Portable toilet / Paper diapers (for 7 days as a guide) <input type="checkbox"/> Toiletries <input type="checkbox"/> Disposable hand warmers <input type="checkbox"/> Toothbrush / Toothpaste <input type="checkbox"/> Sanitary products <input type="checkbox"/> Disposable diapers <input type="checkbox"/> ( )
<b>Medical and hygiene products</b>	<input type="checkbox"/> Medicine <input type="checkbox"/> Bandage <input type="checkbox"/> Gauze <input type="checkbox"/> Band-aid <input type="checkbox"/> Wet tissue <input type="checkbox"/> Medication record book <input type="checkbox"/> Mask <input type="checkbox"/> ( )
<b>Valuables</b>	<input type="checkbox"/> Cash (don't forget the coins) <input type="checkbox"/> Passbook <input type="checkbox"/> My Number Card <input type="checkbox"/> Signature stamp <input type="checkbox"/> ( ) <input type="checkbox"/> ( )
<b>Clothing</b>	<input type="checkbox"/> Underwear <input type="checkbox"/> Socks <input type="checkbox"/> Long sleeve jacket <input type="checkbox"/> Long pants <input type="checkbox"/> Cotton work gloves <input type="checkbox"/> Winter clothes <input type="checkbox"/> Raincoat <input type="checkbox"/> ( )
<b>Evacuation equipment</b>	<input type="checkbox"/> Flashlight <input type="checkbox"/> Mobile Radio <input type="checkbox"/> Helmet / Hood <input type="checkbox"/> ( )
<b>Pet care products</b> * If you have a pet	<input type="checkbox"/> Cage <input type="checkbox"/> Leash <input type="checkbox"/> Pet sheets <input type="checkbox"/> Food / Water <input type="checkbox"/> ( )

\*This list is for reference only. Please prepare what you need at home, including adding any necessary items in the parentheses.

### Rolling stock (stockpiles at home)

**Prepare** \* For 3 days as a guide!

Stock some extra food items and processed products on a daily basis.

**Eat and use**

Use stockpiles in order of expiration date.

"Rolling stock" is the circulating type stockpiling method by which some extra food and consumables are purchased not only for emergency but also for daily use, and they are additionally purchased as much as they are used.

Stock not only foods and drinks but also daily necessities (toilet paper, batteries, and other consumables). Also, outdoor equipment can be used as disaster-prevention goods at the time of disaster.

## How to Obtain Information

### Automated Delivery (Push Type)

**Fukuyama Disaster Prevention Email Service** Advance registration required

Disaster prevention information will be sent to telephone numbers registered in advance.

Fukuyama City Disaster prevention email

**Telephone** (Disaster Information Telephone Notification Service)

For those without mobile phones, evacuation information and other announcements will be made by calls to landlines.

Fukuyama City Disaster Information Telephone

### FAX

For people with hearing impairments, disaster evacuation information and other important information will be sent via fax in text format.

Fukuyama City Disaster Information Fax

### Emergency Alert Text Messages

Emergency alert text messages will be delivered to mobile phones and smartphones that support them.

### Public Information by Public Address Vehicles

Public address vehicles will be dispatched to necessary areas depending on the situation.

### Obtaining Information Individually (Pull Type)

#### Television and radio

#### Fukuyama City's SNS

Fukuyama City uses various social media platforms such as Facebook, X, Instagram, and LINE to disseminate information. Please register for the one you find easiest to use.

Fukuyama City SNS

#### Home Page

(Disaster Prevention / Crisis Management Information)

This is disaster prevention information published on the Fukuyama City website. You can check emergency evacuation sites, hazard maps, and other disaster prevention information.

Fukuyama City Disaster prevention information

#### Kikikuru (real-time danger maps)

Kikikuru is the nickname for the risk distribution service provided by the Japan Meteorological Agency, which allows you to check the risk of disasters caused by heavy rain on a map. It displays the risk of landslides, inundation, and flooding in real time using five-levels that are color-coded. Please use it to see the risk of disaster and evacuate while it is still safe to do so.

Risk Levels are divided into 5 levels indicated by color

- High: Extreme risk (High possibility of a severe disaster has already occurred)
- High risk: Warning (Risk of a severe disaster could occur within several hours)
- Caution
- Low: Check weather bulletin

kikikuru

## Evacuation Action Procedure

### Check your home and evacuation sites on the hazard map

- Check how deep the water will be if your home is inundated.
- Mark multiple routes from your home to your evacuation site on the hazard map. Identify places where you can cross railways and roads. Note that the emergency evacuation sites that will be opened will vary depending on the disaster situation. When evacuating, check the emergency evacuation sites listed on the Fukuyama City website, or other sources.
- Conduct evacuation drills using this hazard map in your community to ensure appropriate actions during a disaster.

### Do not block gutters or storm drains

- If the intake of a storm drain is clogged with fallen leaves or debris, it can cause road flooding.
- Do not place car access blocks or other objects on top of storm drains or L-shaped gutters.
- Regularly inspect gutters and storm drains.

### Evacuation Guidelines

- Even before evacuation information is issued, if you feel your life is in danger, start evacuating to a safe place.

#### Horizontal Evacuation

Even before evacuation information is issued, if you feel your life is in danger, start evacuating to a safe place.

#### Vertical Evacuation

Evacuation to an upper floor of your home or a nearby building.

## Regarding the occurrence of inland flooding and river flooding

Rain that falls on residential areas and roads is drained into rivers through sewers and waterways.

Rivers

## Occurrence of inland flooding

When heavy rain falls, rainwater cannot drain away, causing flooding in residential areas and roads.

Roadside ditch Sewer pipe Rainwater drain

Overflowing rainwater accumulates in urban areas.

## Occurrence of floods (river overflows)

If heavy rain continues, river levees may collapse, causing large scale damage.

water overflow Bank collapse

Rivers

## Alert Levels and Appropriate Actions

During heavy rain, evacuation information will be issued by Fukuyama City, and disaster prevention weather information will be issued by the Japan Meteorological Agency. By correctly understanding this information and taking appropriate action, you can protect yourself from danger.

Alert Level	Municipalities	Meteorological Observatory					Actions to be taken by residents	
		River Flooding	Heavy Rain	Landslides	Storm Surges			
5	Evacuation Information, etc.	Flooding of major rivers such as Class 1 rivers	Flooding of low-lying areas and flooding of rivers other than major rivers	Debris flows and landslides on steep slopes	Flooding due to rising sea levels and waves		Danger to Life Secure your safety immediately!	
Evacuate from dangerous areas by Alert Level 4!								
4	Evacuation Order	Level 4 Flood Urgent Warning	Level 4 Heavy Rain Urgent Warning	Level 4 Landslide Urgent Warning	Level 4 Storm Surge Urgent Warning		Evacuate everyone from dangerous areas	
3	Evacuation of the elderly, etc	Level 3 Flood Warning	Level 3 Heavy Rain Warning	Level 3 Landslide Warning	Level 3 Storm Surge Warning		People who need time to evacuate should evacuate early or prepare for evacuation.	
2	(Information issued by the Meteorological Observatory →)	Level 2 Flood Advisory	Level 2 Heavy Rain Advisory	Level 2 Landslide Advisory	Level 2 Storm Surge Advisory		Confirm evacuation actions (evacuation locations, evacuation routes, timing of evacuation, etc.)	
1	(Information issued by the Meteorological Observatory →)	Early Warning Information						Raise preparedness for disasters

\*The above new disaster prevention weather information will be put into operation from late May 2026.

## Recent Heavy Rain Disasters (July 2018 Heavy Rains)

From June 28th to July 8th, 2018, record-breaking torrential rains occurred over a wide area, mainly in western Japan, due to the influence of Typhoon No. 7 and the rainy season front. This heavy rain resulted in record-breaking 24-hour, 48-hour, and 72-hour rainfall amounts at observation points throughout the country, and emergency warnings were issued for 11 prefectures, including Hiroshima and Okayama. River flooding, inundation, and landslides occurred in various locations, causing extensive damage.

#### Situation In Fukuyama City

- 24-hour rainfall: 238 mm
- 48-hour rainfall: 364.5 mm
- 72-hour rainfall: 392.5 mm
- \*New highest rainfall on record
- Flooded area: Approximately 2,000 ha
- Number of buildings damaged by flooding above floor level: 1,301 buildings (As of January 31, 2019)

## Beware of Torrential Rain

To prepare for sudden and localized torrential rain, check the rain conditions regularly.

**Moderately Heavy Rain**  
10-20 mm of rain per hour  
Your feet will get wet from splashes from the ground. Caution is needed if it continues for a long time.

**Heavy Rain**  
20-30 mm of rain per hour  
A downpour so heavy that you'll get soaked even with an umbrella. Drains and sewers may overflow.

**Intense Rain**  
30-50 mm of rain per hour  
Rain like buckets being overturned. Roads become like rivers.

**Very Intense Rain**  
50-80 mm of rain per hour  
Rain like a waterfall. The surrounding area becomes whitish from the spray, reducing visibility.

**Torrential Rain**  
80 mm or more per hour  
You will have a feeling of suffocation and oppression. There is a strong risk of large-scale disaster, and strict vigilance is necessary.

## What is an Inland Water Hazard Map?

This map summarizes information such as the areas and depths of flooding expected due to inland flooding, as well as emergency evacuation sites. Inland flooding happens when the amount of rainfall exceeds the drainage capacity of sewers and other drainage systems, or when the water level in rivers and other drainage destinations rises, preventing rainwater from being drained and causing inundation.

### Inland Water Hazard Map

You can check the inland flood hazard map on the Fukuyama City website.

Fukuyama City Inland Water Hazard Map

## What is a Flood Hazard Map (Flood and Landslide Disasters)?

This map summarizes information such as the areas expected to be inundated due to flooding (river overflow), the depth of the flooding, and emergency evacuation sites. Flooding (river overflow) refers to a situation in which heavy rain causes river levels to rise, overflowing levees or causing levees to collapse, resulting in large scale damage.

### Flood Hazard Map (Flood and Landslide Disasters)

Flood hazard maps (flood and landslide hazards) can be viewed on the Fukuyama City website.

Fukuyama City Flood Hazard Map