Revised/Special Edition

- •Dangers of Linear Rainbands
- •Fukushima Prefecture Disaster Prevention App
- •Fukushima Prefecture Disaster Prevention VR, and more.

Now with even more disaster preparedness info!

Printing/Revision History

First printed in August 2020 Revised in August 2021 Revised in October 2024

Protecting the lives of you and your loved ones

from floods and landslides

# **Fukushima**

# My Evacuation

# Plan Booklet

**Fukushima Prefecture** 



## What used to be OK can now be dangerous

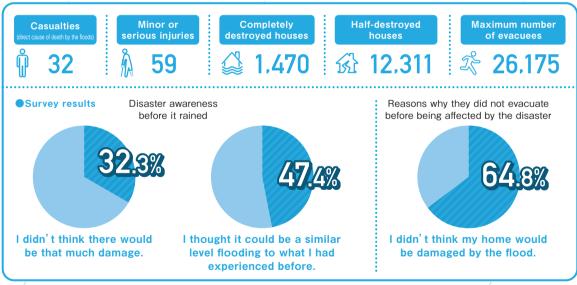
In recent years, floods caused by typhoons and rainstorms were seen all over Japan. In Fukushima, Typhoon Hagibis, followed by torrential rains two weeks later, occurred in 2019. They caused severe damage, with the floods claiming 32 lives, and the maximum number of evacuees was about 26,000.







A survey was conducted targeting those who had suffered damage by Typhoon Hagibis and heavy rains. The results showed that quite a few people were not worried about the disaster before it started raining, and they only evacuated after they felt they were in imminent danger. Many suffered unexpected damage due to the record-high heavy rainfall, even though they had thought that the damage wouldn't be so bad. based on their own experience.



Source: "Disaster response verification report regarding Typhoon Hagibis and heavy rains, etc." by Fukushima Prefecture Disaster Response Verification Committee regarding Typhoon Hagibis and heavy rains

In recent years, there have been several instances of once-in-a-decade heavy rainfall and precipitation that has never been experienced before. Based on what we have learned from Typhoon Hagibis and heavy rains, you should stay vigilant and avoid the mindset that everything's been OK until now while preparing your own evacuation plan (My Evacuation). This is in order to respond to an emergency quickly. Please go through this booklet and think about your evacuation plan. Floods are no longer someone else's problem.

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Important points regarding the verification results of Typhoon Hagibis and heavy rains in 2019



#### **1)Alert Levels**

It was found that a high percentage of people who had a concrete evacuation plan evacuated earlier. They thought that they should evacuate before the impact of the typhoon gets bigger, even before the rain started. It is essential to make an evacuation plan beforehand, in accordance with the alert levels.



#### **2** Hazard Map

It was found that a high percentage of people who were aware about and understood the hazard map evacuated earlier. It is crucial to check the hazard map regularly, and know the threat that disasters pose to your area, including your home.



#### **3** Evacuation Sites

It is important to make sure you know where to evacuate during a disaster; not only shelters, but also houses of relatives and acquaintances.



#### **4** Gathering Information

The main source of disaster information is television, followed by the disaster/evacuation information sent out by municipalities (Area Messages). In times of disaster, information is sent out from a variety of media, so it is essential to understand how to obtain these information.

## **Alert Levels**

-Know the guidelines for evacuation-

Municipalities will issue the five alert levels along with residential evacuation information. In the event of a disaster, pay attention to the information provided by your local government or prefecture (emergency radio system, local government homepage, TV, radio, etc.).



Note 1: An Alert Level 5 is not always issued due to a number of reasons, such as when municipalities are unable to accurately grasp the severity of the disaster Note 2: Evacuation Advisories are no longer issued. Instead, Evacuation Orders will be issued.

Note 3: Alert Level 3 indicates that even people other than the elderly, etc. who are living in the evacuating area should stop their usual activities depending on the conditions. They should prepare to evacuate or proceed to evacuate themselves if they feel that they are already in danger.

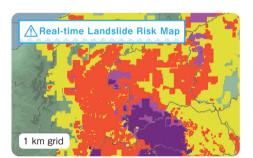
- Elderly citizens, those with disabilities, infants, and small children, and those who are supporting any of the previous groups, who may need more time to evacuate, should evacuate from affected areas when an Alert Level 3 (Evacuation of the Elderly, etc.) is issued.
- Everyone should evacuate from affected areas when an Alert Level 4 (Evacuation Order) is issued.
- Alert Level 5 (Secure your safety immediately) indicates a life-threatening situation in which you can no longer safely evacuate. Please evacuate before an Alert Level 5 is issued.
- Also, please refrain from evacuating by car.

  Evacuate early to a safe location or go to the safest place possible inside your home, such as the 2nd floor.

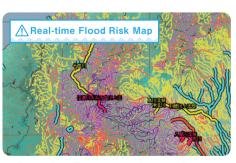
**Evacuating outdoors is dangerous during heavy rains.** 

#### Evacuate early by using the river level and rain information as reference

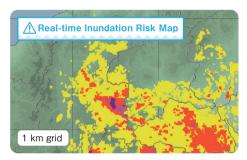
In addition to the alert levels (pictured left) issued by municipalities, use the river level and weather information provided by the Ministry of Land, Infrastructure, Transport and Tourism, the Japan Meteorological Agency, prefectural governments etc., as reference. Check the detailed information on the Real-time Risk Map which tells you about the conditions of the area you live. Purple indicates high danger.



Purple: Danger near cliffs and mountain streams



**Purple: Danger along rivers** 



Purple: Danger in low-lying areas

Information released by individual municipalities includes heavy rain emergency warnings, landslide alerts, and flood warnings.

If you register your address, there is a Real-time Risk Map alert service which will automatically send notifications to your smartphone when there is danger in the area you live.

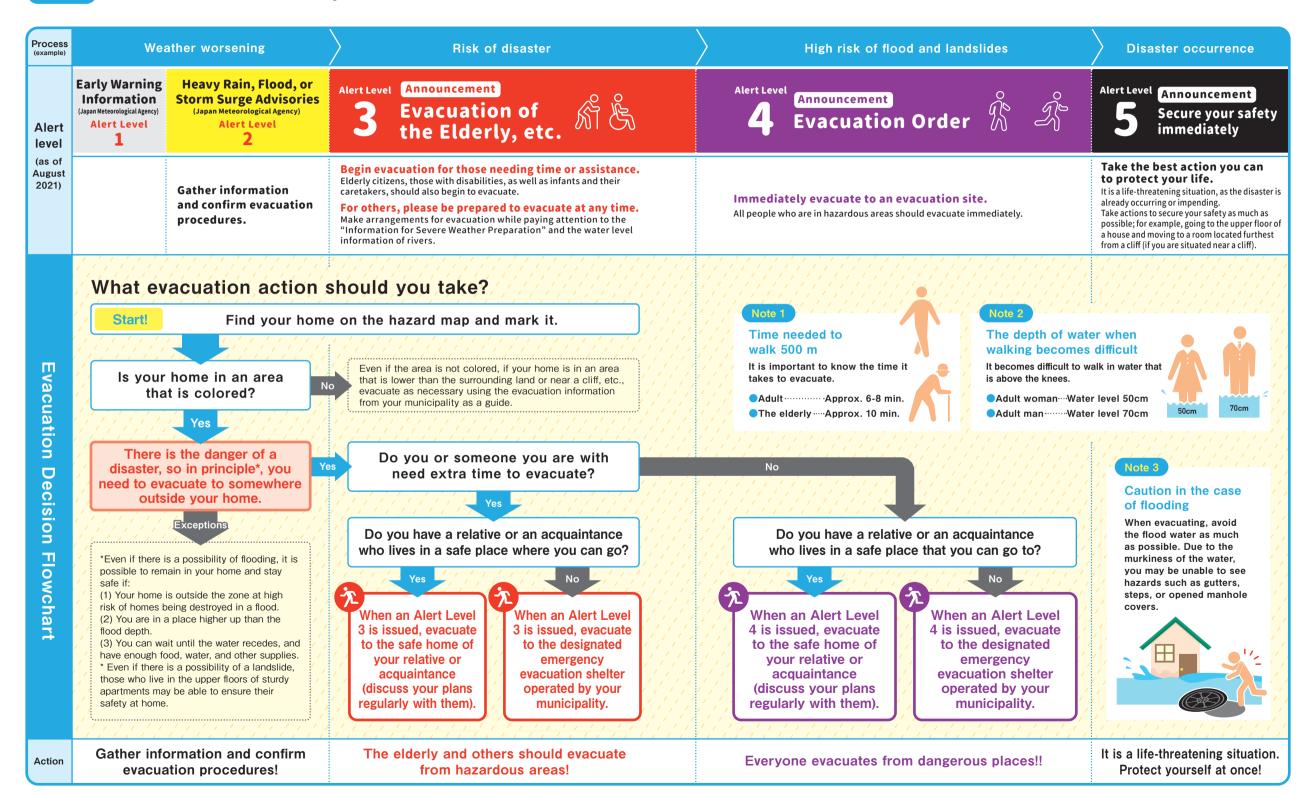
Real-time Risk Map alert service



## **Evacuation Decision Flowchart**

-Check the actions you should take-

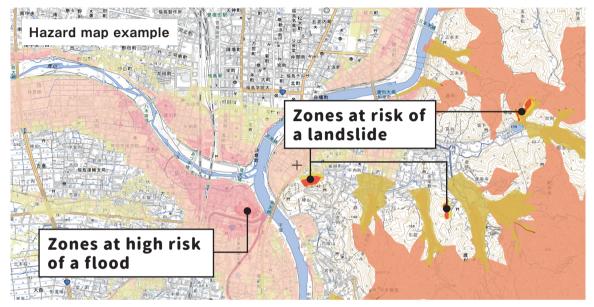
You should have the mindset of protecting your own life. Use the Evacuation Decision Flowchart together with the hazard map to determine your home's disaster risk and decide which actions to take.



## **Hazard Map**

-Identify the flood risk of your home and the neighborhood-

Hazard maps use colors to designate areas at risk of flooding or landslides. As a general rule, it is necessary to evacuate from your home if you reside in an at-risk area. Hazard maps are provided by your town or city, and can be checked by visiting your municipality's homepage.



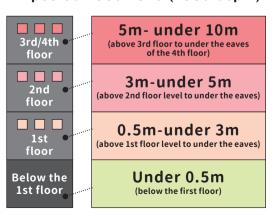
\*The colors and legends on hazard maps may vary according to your municipality

Source: Hazard Map Portal Site

l egend

## Flood disaster

## **Expected flood zone (flood depth)**



### Landslide



Landslide hazard zone

Zone at risk of a landslide



Landslide special hazard zone

Zone with considerable danger of destruction to buildings and of loss of life/physical harm to people occurring.



Additional landslide hazard zones and expected flood zones are added as needed. Please make sure to check your hazard maps regularly.

## How to read hazard maps

1 Hazard maps can be viewed through the "Disaster Prevention Information in Fukushima" website, and through the Hazard Map Portal Site (ハザードマップ ポータルサイト) operated by the Ministry of Land, Infrastructure, Transport and Tourism. Or please use the hazard maps if they have been distributed to you by your municipality.



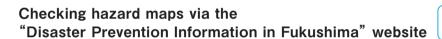
Example: Fukushima City

Check to see if your home, workplace, and/or neighborhood are in any of the colored areas on the map.

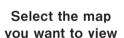
......

3 Assess the expected damage, using the map legend as a reference.

\*The colors and legends on hazard maps may vary according to your municipality.









Select the map's PDF file

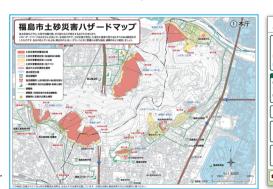
Check the expected damage in your area

**々県内市町村ハザードマップ** 

Select your

city or town

\*There are many kinds of hazard maps, such as those for floods, landslides, volcanic disasters, etc.







## **Evacuation Sites**

-Make sure you know where to evacuate in advance-

Your municipality determines your evacuation destination. Use the hazard maps and confirm the location of the closest evacuation destination. If you have a relative or an acquaintance who lives in a safe place, consult with them about using their residence as an evacuation destination during an emergency.

## **Designated emergency** evacuation site



The site is intended for emergency evacuation from dangers such as floods or tsunamis, in order to protect your life. Evacuees should not expect to stay long at the site.

Examples: Parks, school grounds, buildings, etc.

## **Designated Evacuation Shelter**



Evacuees may stay at the shelter until the danger has passed, and those whose homes have been damaged may stay temporarily.

Examples: School gymnasiums, community centers, etc.

Public facilities that have been designated as emergency evacuation sites or evacuation shelters are marked with pictograms. Check for the nearby facilities available for evacuation.

#### Welfare evacuation shelter

This is a facility that accepts

disabilities, pregnant women,

infants, and others who are

unlikely to be able to stay in an

ordinary shelter because they

the elderly, those with



\*There is a limit on the number of people a welfare evacuation shelter can accept. People who are fine with staving at a general shelter cannot stay here.

need assistance with activities of daily living. Most of these facilities have an easily accessible environment and \*These shelters are not always staff members who provide made available from the first day consultation and other support. of a disaster occurrence.

## **Evacuation shelters for** different types of disasters



Different evacuation shelters are designated for different types of disasters, so make sure to check the hazard maps in advance

This designated emergency evacuation shelter cannot be used during flooding or

## **Decentralized** evacuation

"Evacuation" does not mean simply going to an evacuation shelter/site. In order to avoid overcrowding in shelters, it has become important to implement measures such as decentralized evacuation depending on the situation.

#### Evacuate to a shelter/site if:

- Your home is at high risk of flood or landslide damage.
- You are unable to evacuate to the home of a relative or acquaintance.

Go to the evacuation shelter/site operated by your city or town.



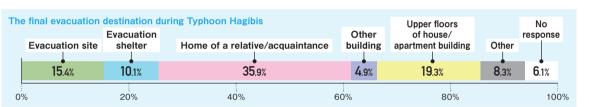
## Evacuate to a hotel or the home of a relative or acquaintance if:

- The hotel or home in question is at low risk of flooding or landslide.
- The home of a relative or acquaintance is available.

## Go to a hotel or home of a relative or acquaintance.

Make sure to consult with your relative or acquaintance beforehand.





Reference: "Disaster response verification report regarding Typhoon Hagibis, etc." by Fukushima Prefecture Disaster Response Verification Committee regarding Typhoon Hagibis

## You do not need to evacuate from your home if:

- You are not in an expected flood zone with the risk of homes being destroyed.
- Rooms in your home are higher than the flood water depth.
- You can wait until the water recedes and have enough food, water and other supplies.

#### Stay home.

Go to a safe place inside your home.



## **Evacuation by Car**

Evacuating by car is dangerous when there is an imminent risk of flood or landslide. When you evacuate after thinking that it is still safe, the water levels can rise rapidly, which can potentially make it impossible to exit the vehicle.



In the case when evacuating by car or staying overnight in your car is unavoidable:

- Go to a safe place outside of the flood zones during daylight and before heavy rainfall begins.
- It is necessary to prepare portable toilets because restrooms may be inaccessible.
- Do light exercise, and make sure to drink water and stay hydrated in order to prevent traveler's thrombosis (economy class syndrome) and heatstroke.



## **Disaster Kit**

-Figure out what is necessary during an evacuation-

Prepare the necessary items for evacuation beforehand and keep them in a backpack which you can guickly bring in an emergency. Additionally, prepare an emergency supply of food and water in your home in case you stay. Use this checklist to help prepare your disaster kit.



## **Emergency supplies** for evacuation

These are items to bring when evacuating. Have them packed and ready in a bag, such as a backpack.

Raincoat



Undergarments



Medication

Emergency food and water







First aid kit

## **Emergency supplies** for home

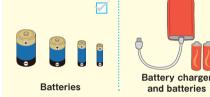
These are the minimum supplies needed to stay at home for several days following a disaster and until essential utilities are restored. Prepare supplies for one week (minimum 3 days) if you can.



### Preparation for the family

Necessary items may vary during a disaster. Please prepare according to your family's needs.







12 11

Bank books,

personal seal, cards



## **Gathering Information**

-How to obtain information during a disaster and an emergency evacuation-

Gather information from municipalities via TV, radio, internet, etc.

## Weather/Evacuation Information, etc. =



TV, radio



NHK "d" button



Municipality homepage



Local government emergency radio



Information from PR vehicles and fire departments



**Emergency** news messages

## NHK "d" button (Japanese Only)

Press the "d" (data broadcasting) button of your remote controller.

After the menu of the data broadcasting is displayed, choose the disaster information you want to check, and press OK.



#### When you want to check weather information

Choose "Weather information" and press "OK". or the red button of the controller.

#### When you want to check "Evacuation/ **Evacuation Shelter** information

Choose「防災·生活情報」(Disaster Prevention/Living Information) and press "OK". The menu list of the pre-set municipality will be displayed. If the municipality has distributed information regarding 「避難・避難所」(Evacuation/Evacuation Shelter), then 「避難情報」(Evacuation Information), and 「開設避難所」 (Opened Evacuation Shelter) will be displayed in red. Choose the information you want to check, and press "OK".







#### **Providing easy-to-understand** information to protect lives

This portal can display large amounts of evacuation information on a single map, such as the latest data on weather, traffic, river water levels, evacuation orders and which evacuation shelters are open, all of which can help guide appropriate evacuation actions.



Search "Fukushima Bousai Portal

#### After you have evacuated



**Evacuation shelter** bulletin boards



Disaster Emergency Message Dial 171



Boards

Disaster Message

#### **Disaster Emergency Message Dial 171**

When a disaster occurs, the communication traffic to the disaster-stricken area increases, making it difficult to get through. Disaster Emergency Message Dial 171 is a voice message service where people in the affected areas record messages confirming their safety. The message can then be played back by others anywhere in Japan (Explanation is in Japanese).





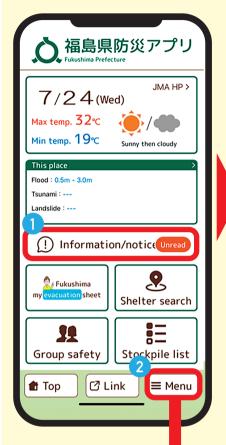
By using mobile internet, people in the affected areas can leave a text message, and everyone can confirm the safety of each other using their mobile phone numbers.



Disaster account (fo	refecture Official Prevention X rmerly Twitter) hima Bosai		_	Disaster Prevention mation in Fukushima" Hazard map		<b>製料</b>
for gathering information	<ul><li>Evacuation informat</li><li>Fukushima Prefectu</li><li>See p. 15-16 for details</li></ul>	re Disaster Prev		NHK Evacuation information in each area (.  Fukushima Prefecture Disaster Prevention		Q Q
websites and apps in advance	Safety confirmation during a disaster ······		·· Disaster message board (English/Japanese)		Q	
Check these	<ul><li>Weather information</li></ul>	า ·····		Weather warnings/advisories by JMA (En	nglish)	Q

## Always be prepared for an emergency =





You can download this app by

scanning the 2D Barcode with

Please make use of this free app.

your smartphone camera.

This is the official Fukushima Prefecture Disaster Prevention App.

It has various functions to help you be prepared for an emergency.

Please make use of it.

## 1 Push notifications

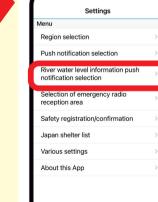


If the information is not automatically translated, tap the "Translate" button for a translation if one is available on the page.



- Get push notifications with updated information about weather conditions and evacuations.
- You can register to receive information for up to three other areas in addition to your current location.

#### 2 Push notifications about river water levels



Close River water level informati... Undo
Select observatories to receive push noti
fications

Decide

Fukushima City

Abukuma River(Kuroiwa)

Arakawa(Yagita)

Abukuma River(Fukushima)

Matsukawa(Shimizu)

Muddy River(Nigorikawa River (Nigorikawa Bridge))

Arakawa(Kaminakura)

If you select nearby rivers as shown above, you can receive push notifications when the river water levels rise.

## And there's more...

#### **Hazard Maps**





You can check the disaster risk levels in your current location and any other locations that you have selected (optional).

#### **■** Disaster Prevention Maps









You can check river water levels, movement of rain clouds, road restriction information, riverside cameras, road cameras, and more.

#### Shelter Search





- You can check if evacuation shelters near you are open and their crowd levels.
- You can check the distance and direction to evacuation shelters even during communication failure with the Evacuation Compass function.

#### **■Group Safety**



Create groups in advance, and you can share location information with your family and friends during a disaster.

## Make your own

## Fukushima

My Evacuation

#### Plan Sheet



## Create your own "My Evacuation Plan Sheet"

You can make your own "My Evacuation Plan Sheet" on p.18 of this notebook or with the Fukushima Prefecture Disaster Prevention App (Japanese only).

Start here to make yours on the app.

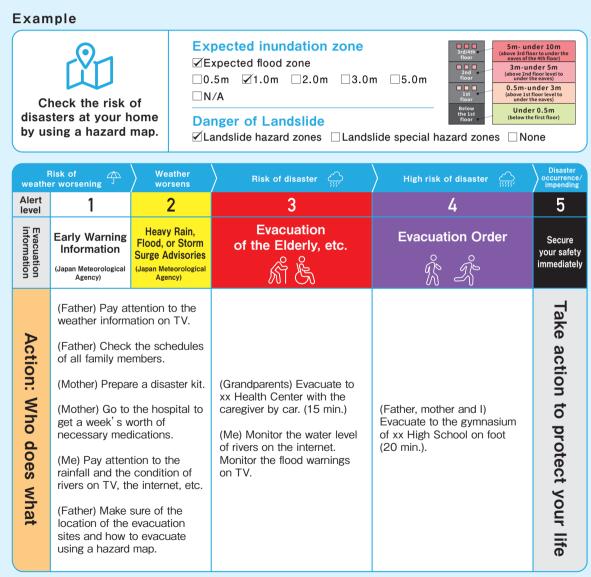




## My Evacuation Plan Sheet

-Consider the best evacuation plan for you-

My Evacuation Plan Sheet is an evacuation plan that should be shared with family members. You need to make plans regarding how/when/where to evacuate based on the possible risk of flood, both for your home and your workplace. To evacuate safely from the danger of flood, create these plans together with your family members and colleagues.



When you make an evacuation plan, you should write how to evacuate,





weather worselling		Worsens	/	/	Impending	
Alert level	1	2	3	4	5	
Evacuation information	Early Warning Information (Japan Meteorological Agency)	Heavy Rain, Flood, or Storm Surge Advisories (Japan Meteorological Agency)	Evacuation of the Elderly, etc.	Evacuation Order	Secure your safety immediately	
Action: Who does what					Take action to protect your life	

## Imagine Being in a Disaster Yourself

-Learn about how you should evacuate-

## My Evacuation Plan Promotion Workshops-Think about how to always be prepared for an emergency-

My Evacuation Plan Promotion Workshops are held all across Fukushima Prefecture.

A Coordinator for My Evacuation Plan Promotion or a person with expertise comes to the workshop venue, and each workshop attendee checks the disaster risks for their home and workplace on the hazard maps, as well as the location of their evacuation shelters, and creates their own My Evacuation Plan Sheet (a personalized evacuation plan).

Organizations that have taken this workshop include neighborhood associations, various groups, schools, companies, and more. Workshops can even be held in the evenings and on weekends and public holidays.

New groups are always welcome to participate in this workshop, so please feel free to make an inquiry using the contact details below (Japanese only).

••••••••••

The Risk Management Division,
Fukushima Prefectural Government
☎024-521-8497



A workshop in progress



Search "マイ避難推進講習会 (My Evacuation Plan Promotion Workshop)" (Japanese only)

## Try experiencing a disaster simulation with the Fukushima Prefecture Disaster Prevention VR



A Fukushima Prefecture Disaster Prevention VR based on past disasters in Fukushima Prefecture is available to the public via the official Fukushima Prefecture YouTube Channel.

You can see a 360-degree view by tilting your smartphone without needing special goggles. Think of this as a chance to imagine being in a disaster yourself, to be ready for an emergency or to consider what evacuation plan is best for you. Put your carefully prepared My Evacuation Plan into practice.













Search "Fukushima Bousai VR"



## **Infection Prevention Measures**

-Be careful to prevent infections when evacuating-

## Preventing infections in a flooded house

Proper cleaning is important because bacteria and mold both grow more easily inside a flooded house and can lead to infections.

- Mold can grow inside the house, so open the doors and windows and ensure good air circulation.
- Remove any sludge and thoroughly dry the area.
- •Wear gloves to avoid injuries when cleaning.
- Wear a mask to avoid breathing in dust.
- Wash your hands after you finish cleaning.



## Preventing infections in evacuation shelters

Many people live together in close quarters at evacuation shelters, and illnesses can spread easily. Each person should follow the rules for living at an evacuation shelters and be careful to avoid catching an illness or spreading infections.



Consider evacuating to the safe home of a relative or acquaintance.

This will also help avoid overcrowding in evacuation shelters.



Whenever possible, bring your own masks, disinfectant, thermometers, towels and wet wipes.



To evacuate means avoiding danger. If there is a low risk of flooding or landslides near your home and you can ensure your safety, you may be able to remain on the second floor of your home or a similar place.



Work to keep your surroundings tidy and clean, and do not share tableware, toiletries or towels with other people.

Maintain cleanliness and hygiene.



## **Know about Disasters**

-Know what to do if a disaster strikes-

## Be careful of inland flooding

Inundation is a disaster that occurs when drainage cannot keep up with increases in surface water due to heavy rain, canals and drain sewers overflow and flood, drainage is obstructed by increased river waters and high tides, and homes and rice fields are submerged under water. This disaster is also known as inland flooding (source: Japan Meteorological Agency).

Because water cannot easily seep underground in areas with many paved roads and residential properties, large amounts of falling rain may collect in rivers, canals or sewage lines. Be cautious of the dangers of potential flood damage in your local area, such as flooding in comparatively low-lying areas such as underpasses or underground areas.











▲ Scenes from inland flooding caused by Typhoon Hagibis (Typhoon No. 19) in 2019 in Date City

Check expected flood zones on the inland flooding hazard map. Check p. 7–8 for details on how to read the hazard maps.



## **Dangers of linear rainbands**

Called linear rainbands, these areas of rain are created when organized clusters of rainclouds—like a row of ongoing, continuously occurring rainclouds (thunderstorm clouds)—pass over or stay in approximately the same area for many hours and form lines of intense rainfall 50–300km long and 20–50km wide (source: Japan Meteorological Agency).

In September 2023, due to Typhoon Yun-yeung (No. 13), which emerged south of Japan, and temperature and pressure changes related to that storm, warm and moist air flowed in and a linear rainband formed in Fukushima Prefecture's Coastal Region. The cumulative precipitation from 9 a.m. on Sept. 8 to noon on Sept. 9 was enormous, enough to rival the average total rainfall for the entire month of September, and this caused significant damage.



The road shoulder was destroyed by heavy rain on Fukushima Prefectural Road 249 (Hirono Town)



▲Collapsed embankment at the Fujiwara River (Iwaki City)

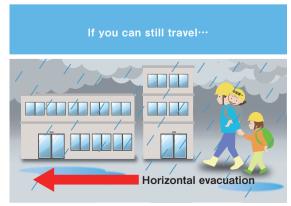
## Weather information about extreme rainfall

"Weather information about extreme rainfall" uses the keyword "linear rainband" to explain that extremely intense rain is falling continuously in the same place as the possibility of dangerous flooding drastically increases due to heavy rainfall (source: Japan Meteorological Agency). When this information is announced, immediately evacuate appropriately.

## **Appropriate evacuation examples**



Go to the second or higher floor of a building not located on or near a slope



Go to a reinforced concrete building in your neighborhood

21



## Insurance and Mutual Aid (Kyosai)

-Get insurance for when you have to rebuild your life-

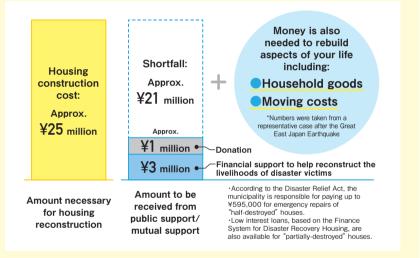
In cases where a large-scale flood disaster causes extensive damage to your home, it will be costly to repair and rebuild. Public support funds alone will not suffice for housing/living reconstruction.

It is important to be prepared for disasters, such as having insurance and mutual aid, in case you have to rebuild your home/life. Even if you have already have it, you should review your coverage to make sure whether it is adequate.

#### This is how much it costs to rebuild your house after it is completely destroyed.

The reconstruction costs of a completely destroyed house by the Great East Japan Earthquake amounted to be about ¥25 million on average, while the costs covered by public funds amounted to only about ¥4 million, even with goodwill donations included.





## Make sure your home is properly covered for a disaster.

By enrolling in insurance/mutual aid, damage from floods/high tides/landslides caused by typhoons/storms, or damage from earthquakes/tsunamis/volcanic eruptions to your house and household goods will be compensated. There are different types of insurance/mutual aid for disasters, such as those added and attached to your fire insurance (or Kyosai) for disaster-related damage, or included it in basic compensation. Be aware of the possible disaster risk to your house and make sure you are properly covered by your insurance. Furthermore, regardless of the extent of damage to the building, household goods may also be considerably damaged, and therefore need to be repurchased. Homeowners are recommended to prepare both for building compensation and for household property compensation.



For details, please check with your insurance company/Kyosai organizatio

As for Kyosai, you typically need to pay a one-time investment fund (share) to become a member of a Kyosai organization, so please check with each organization.

Source: The Cabinet Office "Protect Our Home from Flood Disaster and Earthquake-Recommendations for having insurance or mutual aid"