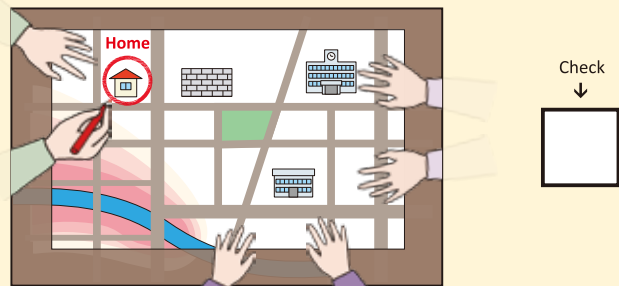


How to use this Disaster Preparedness Information Book

Understand disaster risk using area maps starting from page 13 during normal times, and create “**your own hazard map**” by writing down necessary information you should know such as “**dangerous locations**,” “**evacuation centers/evacuation sites**,” “**evacuation routes**,” and “**how to contact your family**.”

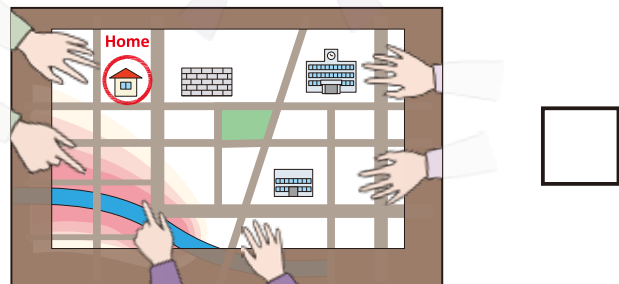
1 Check the location of your house.

First, put a mark on the location of your house.



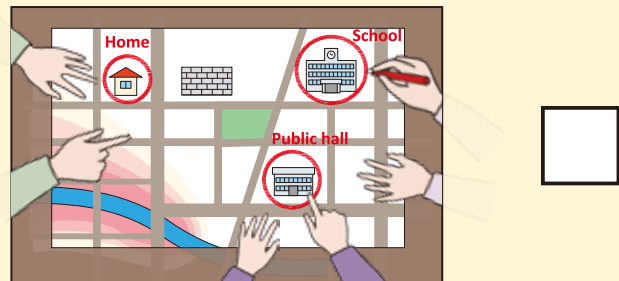
2 Check the areas at risk of tsunami, flood, landslide, and other disasters.

Check each disaster hazard map to see if your neighborhood is in a disaster hazard area.



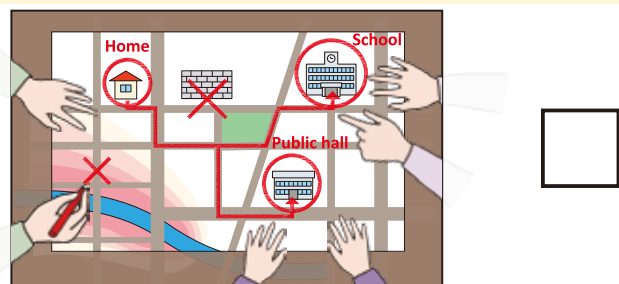
3 Check the places to which you will evacuate according to disaster.

For example, some evacuation sites can be used at the time of tsunami, but not at the time of landslide disaster because they are dangerous. Check evacuation sites, etc. for each disaster with the “List of evacuation centers/evacuation sites” on page 35, and consider evacuating to a safe house of your relatives/acquaintances or accommodation facilities. Decide evacuation destination according to disaster, as well as the “second best” evacuation center in case you cannot go to the “best” evacuation center.



4 Consider safe evacuation route.

Consider the evacuation route to the evacuation center/evacuation site which you decided in the above 3. Early evacuation is best, but find out a safe route such as a route to avoid “a place at risk of inundation” when the weather has already been stormy, and a route to avoid “a dangerous place with a brick wall, etc.” when evacuating after an earthquake.



5 Talk with your family and neighbors about evacuation.

Talk with your family and neighbors about “dangerous locations in the neighborhood,” “evacuation destinations,” “evacuation routes,” etc. Prepare yourself for emergency situations so that you can stay calm, call people around you, and take the best evacuation action.



6 Visually check the evacuation route by yourself.

Actually walk the route to the evacuation center/evacuation site with your family or neighbors. Take a note of the dangerous locations you did not notice on the map and points to pay attention to.



7 Prepare an emergency kit for evacuation.

Prepare an emergency kit and other necessary items for evacuation with reference to the “Stockpiles and emergency kit” on page 36.



Evacuation information

Evacuation information provided by the city and disaster prevention weather information provided by the national and prefectural governments

In the event of flood or sediment disaster, or river overflow, evacuation information is issued using five “**alert levels**.” When alert level 3 “**evacuation of senior persons**” or alert level 4 “**evacuation instruction**” are issued, act immediately to evacuate from the dangerous location.

Evacuation information, etc.			Disaster prevention weather information	Weather condition
Alert level	Evacuation action, etc.	Evacuation information, etc.	Information equivalent to alert levels (example)	
High	Alert level 5 The stage at which disaster has already occurred . Take the best action to protect your life .	Emergency safety measures It is issued when disaster has already occurred or is highly likely to occur. [issued by municipality]	Equivalent to alert level 5 Information on flooding Heavy rain emergency warning and others	Heavy rain that occurs only once every few decades
Risk level	Alert level 4 Evacuate immediately to an evacuation destination . If it is likely to be dangerous to go to a public evacuation site, evacuate to a safe place nearby or a safer place in your house.	Evacuation instruction It is issued to urgently or repeatedly urge residents to evacuate, depending on the local situation. [issued by municipality]	Equivalent to alert level 4 Flood risk information Land slide alert information Storm surge emergency warning Storm surge warning and others	2 to a few hours before heavy rain
	Alert level 3 Persons who need more time for evacuation (senior persons, persons with disabilities, infants and toddlers, etc.) and their supporters have to start evacuation. Others need to get prepared for evacuation.	Evacuation of the elderly, etc. When a front line or a typhoon is expected to pass or approach during night or dawn. [issued by municipality]	Equivalent to alert level 3 Information to provide a warning on flooding Storm surge advisory with a high probability of a subsequent warning and others	A few hours to a half day before heavy rain
	Alert level 2 Check your evacuation action with hazard maps, etc. to prepare for evacuation.	Heavy rain or flood advisories [issued by Japan Meteorological Agency]	This is the information which the residents use as reference to take voluntary evacuation action.	
Low	Alert level 1 Prepare yourself for disaster.	Early advisory information [issued by Japan Meteorological Agency]	1 day to a few days before heavy rain	

* Evacuation information is not necessarily issued in order from 1 to 5. The situation may suddenly change.

Emergency warning

- Extraordinary torrential rain or tsunami is expected to occur.
- A significant disaster is highly likely to occur.
- Do your best to save your life immediately.
- It is too late to evacuate after an emergency warning is issued.



Criteria for issuing an emergency warning

Phenomenon	Criteria	
Heavy rain	To be issued when heavy rainfall with a level of precipitation intensity observed only once every few decades caused by typhoon, etc. is predicted.	
Storm wind	To be issued when any of the following are predicted to occur due to a typhoon with a level of intensity observed only once every few decades or an extratropical cyclone with the same level of intensity.	Storm winds
Storm surge		Storm surge
Hight wave		Severe ocean waves
Severe snowstorm	To be issued when snowstorm winds, due to a typhoon with a level of intensity observed only once every few decades or an extratropical cyclone with the same level of intensity, are predicted to blow.	
Heavy snow	To be issued when heavy snow with a level of precipitation observed only once every few decades is predicted to fall.	
Tsunami	To be issued when a tsunami with a height exceeding 3 meters at the highest point is predicted (Major tsunami warning is classified as an emergency warning).	
Volcanic eruption	To be issued when an eruption which may cause significant damage to residential areas (Volcanic eruption warnings (Volcanic Alert Level 4 or higher) and volcanic eruption warnings (Residential-area Warning)* are classified as emergency warnings).	
Earthquake (earthquake motion)	To be issued when an earthquake motion with a seismic intensity scale of 6 Lower or more is predicted (Earthquake Early Warning (with a seismic intensity scale of 6 Lower or more) is classified as an emergency warning).	

* “Volcanic eruption warnings (Residential-area Warning)” (Volcanic Alert Level 4 or 5) and “Volcanic eruption warnings (Residential-area Warning)” (keyword: Residential-area Strict Alert)” are classified as emergency warnings for “volcanoes to which volcanic eruption warning levels are applied” and “volcanoes to which volcanic eruption warning levels are not applied”, respectively.

Preparing for storm and flood disaster

Getting a heavy rainfall forecast!
Your household's safety measures at such a time.

Announcement criteria of heave rain advisory/warning/emergency warning

Heavy rain advisory

To be issued when heavy rain is predicted to cause a disaster.

Heavy rain warning

To be issued when heavy rain is predicted to cause a significant disaster

Heavy rain emergency warning

To be issued when heavy rain with a level of precipitation observed only once every few decades is predicted due to a typhoon or heavy rain, or heavy rain caused by a typhoon with a level of intensity observed only once every few decades or by an extratropical cyclone with the same level of intensity is predicted.

Along with the above warning/advisory, a flood advisory/warning is issued.

Preparing yourself for flood disaster

Damage mitigation

Since wastewater flows in the house through the gap under the door, cover the front-side with "sandbags," or a wood panel, and cover the gap with towels. In addition, a plastic tank and other light items need to be moved to the inside of the house beforehand.



Do not get near a dangerous place

Do not get near a dangerous place such as the vicinity of a downed power line. In addition, since overflow water contains wastewater, pay attention that children do not touch the water.



The undersurface is dangerous. Evacuate in a group of 2 or more people.

When walking on a flooded place, check the security of the undersurface by using a long stick as a cane to determine whether there is a manhole or a ditch, and try to take action in a group of 2 or more people.



Travel to an evacuation center

Evacuate by car or on foot before wind and rain become strong. Evacuation by car in a strong wind and rain hampers walking evacuees and emergency vehicles, and there is a risk of being submerged due to flood, so do not use a car.



Wear clothes that you can move easily in

Wear clothes that you can move easily in, work gloves, and a helmet if you have one, and select shoes that do not come off easily. Do not put on rain boots, because you will be swept off your feet by water in the boots. A separate-type raincoat in eye-catching color is recommended.



The walkable depth is 70 cm for men, and 50 cm for women

In a flood, the walkable depth is up to approx. 70 cm for men, and approx. 50 cm for women. If the depth is deeper, wait for a rescue at a high place.



River overflow, etc.

There are two types of overflow caused by an increase in precipitation. One is overflow from a river caused by overspill of river water and breach of a levee, and the other is internal overflow from underground waterways.

Overflow from rivers

A flood occurs when rainwater collects in a river, increasing the volume of the river water, which flows over the levee, or washes out the levee and flows out. When a flood occurs, the water volume increases instantly. Accordingly, the greatest caution is needed.

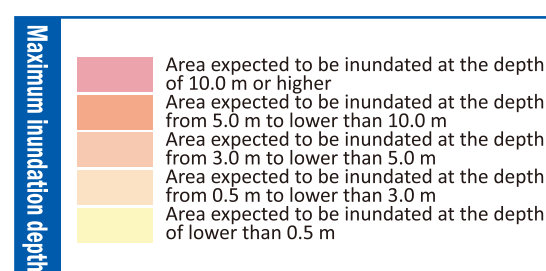
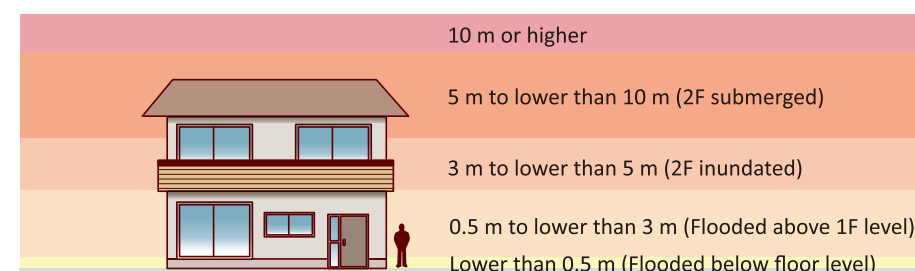


Overflow from underground waterways

A flood is generated by pooled water that has flowed in from the surrounding areas or rainwater that has fallen in the area without drawing off. As it is difficult to issue warnings or evacuation advisories at appropriate times, caution is necessary.



Inundation depth



Flood hazard map shows the expected inundation depth in different colors.

Various land slide disasters

Sediment disasters are roughly divided into three types: cliff failure, landslide, and debris flow.

Cliff failure

Water permeating the ground weakens the soil resistance, and the weakened slope suddenly collapses. It is the sediment disaster that occurs most frequently. As it can occur in the vicinity of a residential area, many people fail to escape and lose their lives.



- Major warning signs
- Water coming out of a cliff becomes turbid.
 - Flow of underground water or spring water stops.
 - Cracks and deformation are seen on a slope.
 - Small stones are falling down.
 - Something is heard from a cliff.
 - There is an abnormal smell.

Landslide

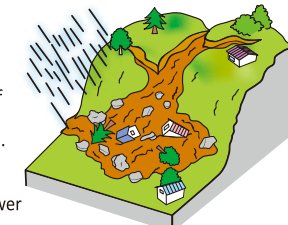
Occurs when part of a loosened slope slides down under the influence of underground water and gravity after heavy rain falls onto vulnerable soil ground. As one landslide occurs in a wide area, houses and roads suffer severe damage.



- Major warning signs
- Cracks have formed on the ground.
 - Well water or mountain runoff gets muddy.
 - Water blows out of a cliff or slope.
 - Cracks develop on a house or revetment.
 - Houses, revetments, trees, or power poles tilt.

Debris flow

Soil, stones, sand, and other debris accumulated in a valley or on a slope abruptly start flowing together with the water caused by heavy rain. With an enormous force and at an overwhelming speed, the debris flow destroys and swallows things lying wherever the flow travels.



- Major warning signs
- Mountains rumble.
 - River water level drops although the rainfall continues.
 - River water gets turbid, or driftwood floats on the river.

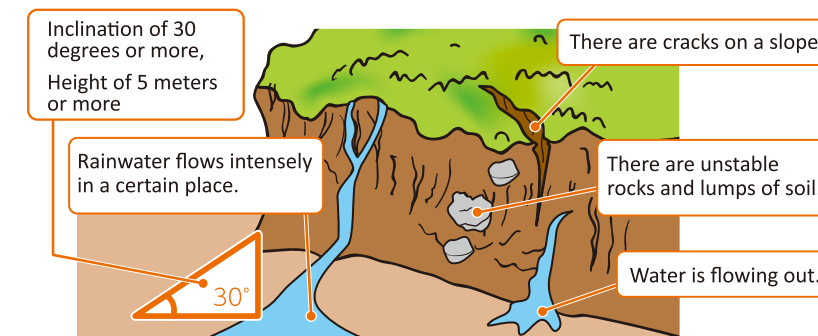
Check dangerous locations

A cliff at an angle of 30 degrees or higher has a high risk of failure by heavy rain.

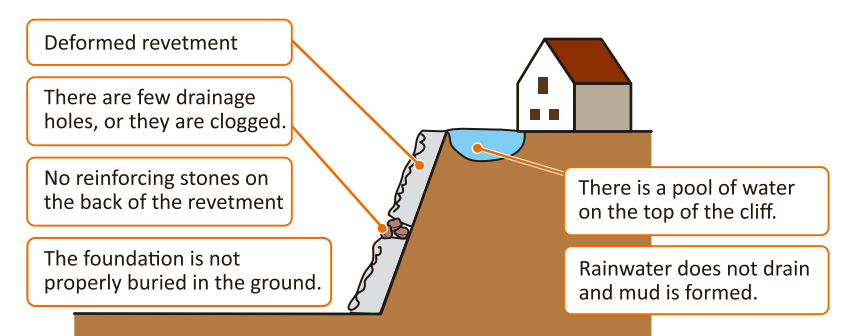
Revetments, which prevent cliffs or mounds from failing, are also at risk of failure depending on their structure and age.

Check the surroundings of your house on a routine basis to make sure there are no hazardous locations.

See the cliffs shown below!!



See the revetment shown below!!



Landslide alert information

In the situation where heavy rain warning (sediment disaster) has been issued and life-threatening sediment disaster could happen at any time, the information is jointly issued by Chiba Prefecture and the Japan Meteorological Agency to call for vigilance. You need to pay attention to your surroundings and the precipitation pattern, and if you feel danger, even in the condition that the sediment disaster alert information has not been issued, evacuate voluntarily without hesitation.

Landslide danger zones (yellow zone)

Area recognized as that its land has a risk of **causing damage** to the lives or bodies of residents, etc.

Landslide special danger zones (red zone)

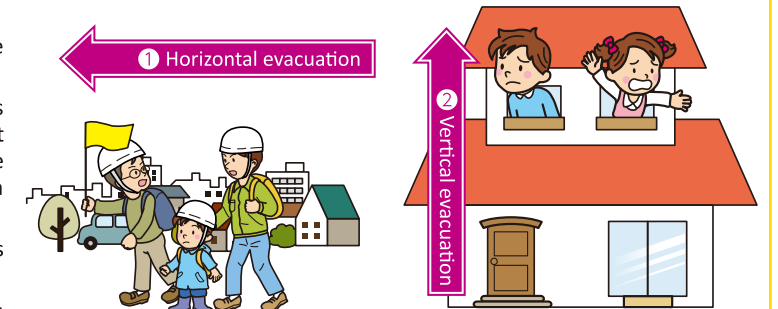
Area recognized as that its land has a risk of **causing significant damage** to the lives or bodies of residents, etc.

Japan Meteorology Agency

<http://www.jma.go.jp/jp/dosha/>

Points of evacuation actions

- Pay attention to landslide disaster events shown above, and evacuate early.
- Evacuate in a direction perpendicular to debris flow or landslide (① horizontal evacuation).
- Evacuation from buildings is a principle, but when you think it is dangerous to evacuate outside at night or in heavy rain, think about evacuating to a room on the opposite side to the mountain on the second or upper floor of your house, or to the upper floor of a sturdy building (② vertical evacuation).
- Evacuate early when a Record-breaking Deluge in a Short Period is issued.
- ± Evacuate immediately when a sediment disaster warning is issued.



Rainfall intensity and precipitation patterns (Hourly rainfall: mm)

Rainfall of 10-20

The rain is puddled on the whole ground surface. Hearing someone's voice becomes difficult. If the rain is expected to continue for a while, you need to be careful.

Rainfall of 20-30

In a downpour, you get wet even you put up an umbrella. You need to pay attention to the current weather forecast on radio or TV, and if it is predicted to continue for a while, you need to prepare yourself for evacuation.

Rainfall of 30-50

When it rains hard as if a bucket of water is being emptied, mountain failure and cliff failure tend to occur. You need to start preparing for evacuation.

Rainfall of 50-80

It rains as if it is waterfall, and the air becomes white due to splashes. Small and middle-sized rivers flood, and the possibility of flood disaster increases.

Rainfall of 80 and more

You will have stifling and oppressive feeling and feel a sense of fear. There is a high possibility of large-scale disaster, and strict caution is necessary.

Wind strength and the way of blowing (Average wind speed: m/s)

10 ≤ Average wind speed < 15

Walking into the wind is difficult. Not able to put an umbrella up.

15 ≤ Average wind speed < 20

Not able to walk into the wind. Some persons fall.

20 ≤ Average wind speed < 25

Unless keeping the body sturdy, a person falls. Objects blown by the wind break window panes.

25 ≤ Average wind speed

Not able to keep standing. Outdoor activities are dangerous. Trees start falling down by their roots.

Size and intensity of typhoon

Size	Radius of area with a wind speed of 15 m/s and above	Intensity	Maximum sustained wind (m/s)
Large	500 km-799 km	Strong	33-43
Super (very large)	800 km-	Very strong	44-53
		Violent	54-