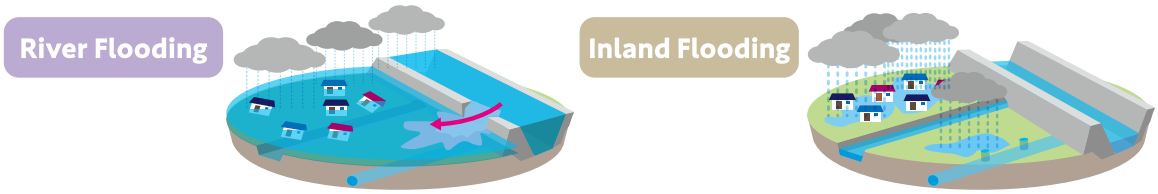
Regarding the Flood and Inland Flooding Hazard Map

Basic Knowledge of Flooding The Difference Between River Flooding and Inland Flooding

There are two types of flooding: river flooding and inland flooding. In recent years, due to factors like increased rainfall from climate change, it is necessary to remain vigilant for both river flooding and inland flooding, where sewers and drains overflow. Let's check the characteristics of each and the actions you should take.



	River Flooding	Inland Flooding
Explanation of Terms	Flooding caused by water overflowing or breaching river embankments.	Flooding caused by the inability to drain rainwater, leading to overflows from sewage systems and other sources.
Characteristics	●Risk of occurring after prolonged heavy rainfall. ●Occurs less frequently but can cause catastrophic damage.	●Risk of occurring even after short periods of intense rain. ●Occurs relatively frequently.
Scale of Inundation	●Widespread and deep. ●Risk of buildings being submerged to the 2nd floor or higher, or being washed away.	●Localized and shallower (compared to River Flooding). ●Risk of roads flooding or water entering the 1st floor of buildings.

Assumed Conditions for Inundation

The Flood Hazard Map and Inland Flooding Hazard Map are based on the maximum possible rainfall (occurring roughly once every 1,000 years).

Flood Hazard Map	Causes of Inundation / Inundation caused by River Flooding						Target Areas / Citywide	
Estimated Inundation Depth	Flood Forecast Rivers	Ishikari River (Upper reaches) 348 mm/72 hours	Biei River 422 mm/72 hours	Chubetsu River 457 mm/72 hours	Ushubetsu River 466 mm/72 hours			
	River Water Level Information	Osarappe River 478 mm/72 hours	Etanbetsu River 507 mm/24 hours	Pippu River 515 mm/24 hours	Pepan River 484 mm/72 hours			
		Bebetsu River 477 mm/72 hours	Kuranuma River 515 mm/72 hours	Pon River 527.9 mm/24 hours	Ushubetsu River / Toma River 493 mm/72 hours			
		Nagayama-Shinkawa River / Ushubetsu River 474 mm/72 hours						
	Small and Medium-sized Rivers	Naitaibe River 138 mm/2 hours	Uppetsu River 160 mm/2 hours	Toko River 125 mm/hour	Komata River Diversion Channel 125 mm/hour			
		Oroen River 125 mm/hour	Ohotsunai River 125 mm/hour	Sakae River 125 mm/hour	Nambata River 125 mm/hour			
		Inogawa River 155 mm/2 hours	Nanko River 125 mm/hour	Chikabumi Ohotsunai River 125 mm/hour	Atago-Shinkawa River 109 mm/hour			
		Kamui River 125 mm/hour	Go-Go River 125 mm/hour	Kihoku River 129 mm/hour	Nambata River Diversion Channel 125 mm/hour			
		Akibanosawa River 125 mm/hour	Ubun River 129 mm/hour	Pon-Ushibetsu River 125 mm/hour	Pepan River 484 mm/72 hours			
		Nishisato River 126 mm/hour	Nishi-Hachi-Go River 125 mm/hour	Pon-Ushibetsu River Diversion Channel 125 mm/hour	Pepan Daisan Tributary 125 mm/hour			
		Takuhoku River 125 mm/hour	Jugo-Go River 125 mm/hour	Komata River 125 mm/hour	Jinsui River 134 mm/hour			
		Yonkashuppe River 144 mm/2 hours	Bebetsu River 113 mm/hour	Nagayama Ni-Go River 129 mm/hour	Chikabunai River 125 mm/hour			
		Haishubetsu River 141 mm/hour	Chiyogaoka River 125 mm/hour	Nagayama San-Go River 125 mm/hour	Sakura River 125 mm/hour			
		Kimukushu-Haishubetsu River 125 mm/hour	Ainu River 125 mm/hour					
Inland Flooding Hazard Map	Causes of Inundation / Inundation Caused by Rainwater Overflowing From Sewers Due to Drainage Capacity Limits						Target Area / Areas Primarily Drained by the Sewer System	
Estimated Inundation Depth	Heavy rain over a short period: 125 mm per hour							

*Flood Forecast Rivers: Rivers with large drainage areas where flooding may cause significant or serious damage to the national economy.
*River Water Level Information: Rivers other than Flood Forecast Rivers where flooding may cause significant or serious damage to the national economy.
*Depending on rainfall patterns, flooding may be deeper than predicted, or occur in areas not colored on the map.

Past Heavy Rain Events in Asahikawa

Cases Since 2018 Where 24-Hour Rainfall Exceeded 100mm

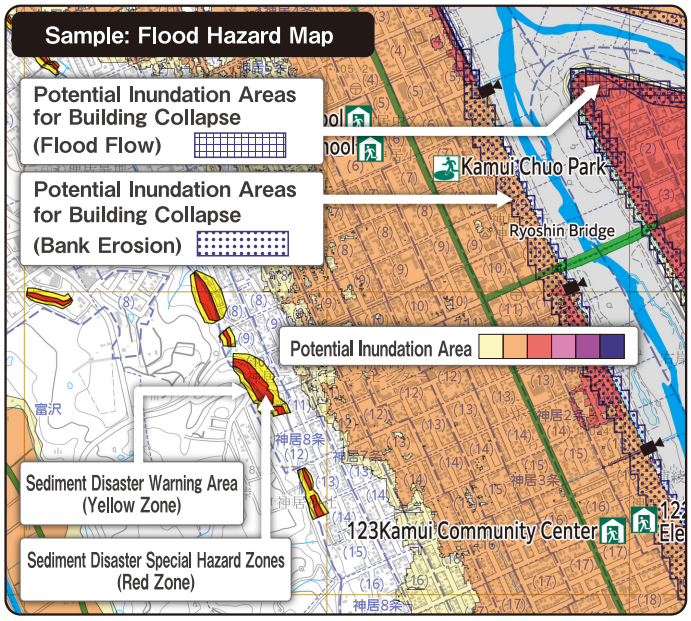
Year, Month, Day	Gauging Station Name	Maximum 24-hour Precipitation	Damage Status
2018 (Heisei 30) July 3	Mizuho Etanbetsu Asahikawa	146.0mm 141.0mm 144.5mm	Flooding of the Pepan, Kuranuma, Etanbetsu, and Ishikari Rivers; inundation of the Chuwa District, etc.
2023 (Reiwa 5) August 6	Etanbetsu	121.5mm	No damage reported in Asahikawa (the Uryu River flooded in other areas).
2024 (Reiwa 6) July 24	Etanbetsu Asahikawa	206.5mm 112.5mm	Agricultural damage and road flooding in the Etanbetsu district, etc.

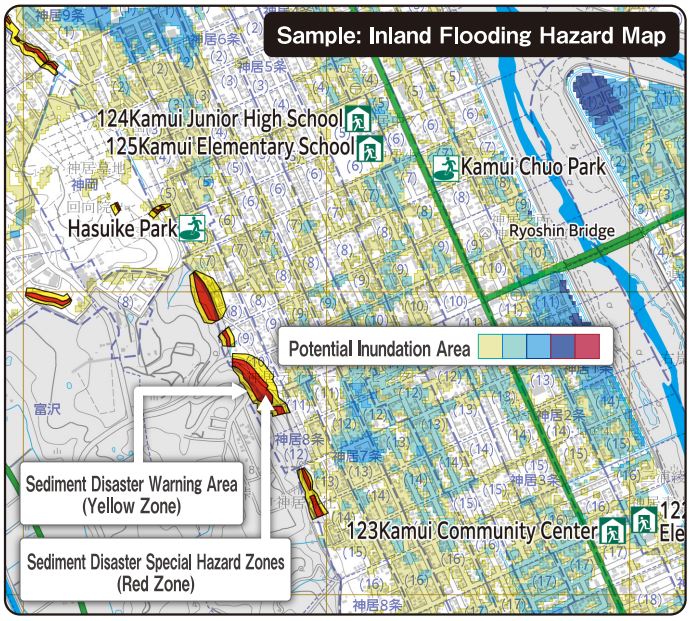
Flooding of the Pepan River and inundation of the Chuwa District caused by heavy rain from July 2–3, 2018.

STEP1 : Evacuation Actions for Storms and Floods

STEP1 Which Areas Are Dangerous? How to Read the Hazard Map

Check for disaster risks at your home, workplace, or school using the Flood Hazard Map and Inland Flooding Hazard Map (pages 11～37).





Estimated Flood Depth in the Event of Inundation

Areas are color-coded based on the estimated flood depth. Since your evacuation strategy changes depending on the depth, please check your specific risk.

Flood Hazard Map

Estimated Inundation Depth (m)	Flood Depth Reference	Evacuation Actions During a Flood
20.0 m or more (Deep blue-purple)	8th floor or higher flooded	Areas Requiring Early Horizontal Evacuation Residents on the 3rd floor or higher of apartments and similar buildings may also shelter in place.
10.0 m to less than 20.0 m (Deep purple)	5th to 7th floors flooded	
5.0 m to less than 10.0 m (Light purple)	3rd to 4th floors flooded	
3.0 m to less than 5.0 m (Light red)	2nd floor flooded	
0.5 m to less than 3.0 m (Light orange)	1st floor flooded	Vertical evacuation to the 2nd floor or higher is also possible. Single-story houses: Horizontal Evacuation required
Less than 0.5 m (Light yellow)	Sub-floor Inundation	Sheltering in Place is possible

Inland Flooding Hazard Map

Estimated Inundation Depth (m)	Flood Depth Reference	Evacuation Actions During a Flood
3.0 m to less than 5.0 m (Red-purple)	2nd floor or higher flooded	Areas Requiring Early Horizontal Evacuation
1.0 m to less than 3.0 m (Blue-purple)	1st floor flooded	Vertical evacuation to the 2nd floor or higher is also possible. Single-story houses: Horizontal Evacuation required
0.5 m to less than 1.0 m (Light blue)	1st floor flooded	
0.2 m to less than 0.5 m (Light blue-green)	Sub-floor Inundation	Sheltering in Place is possible
Less than 0.2 m (Light yellow-green)	Sub-floor Inundation	

Areas not designated for flood simulation (Light Gray)

Potential Inundation Areas for Building Collapse

Areas along riverbanks at risk of house collapse or being swept away during a flood are designated as Potential Inundation Areas for Building Collapse.

Map Display	Classification	Explanation of Terms	Evacuation Actions During a Flood
	Flood Flow	Areas at risk of building collapse or being swept away due to the force of floodwaters flowing from rivers.	Areas Requiring Early Horizontal Evacuation
	Bank Erosion	Areas at risk of building collapse or being swept away due to land loss from severe riverbank erosion caused by strong currents.	

Sediment Disaster Warning Area, etc.

Based on the Sediment Disaster Prevention Act, areas at risk of such disasters are designated as Sediment Disaster Warning Area, etc.

Map Display	Classification	Explanation of Terms	Evacuation Actions for Sediment Disasters
	Sediment Disaster Warning Area (Yellow Zone) Debris Flow / Steep Slope Failure / Landslide	Areas where landslides pose a threat to life or physical safety due to steep slope failure.	Areas Requiring Early Horizontal Evacuation
	Sediment Disaster Special Hazard Zones (Red Zone) Debris Flow / Steep Slope Failure	Areas where a landslide could destroy buildings and pose a severe threat to life or physical safety due to steep slope failure.	

STEP2 : Evacuation Actions for Storms and Floods

STEP2 When Should You Evacuate? Check the Types of Evacuation Information and Required Actions

When a disaster is imminent, ensure you act at the right time by following JMA weather warnings and Asahikawa City's evacuation instructions.

Information from the Japan Meteorological Agency (JMA)

Alert Level (Equivalent Information)	River Flooding	Heavy Rain	Sediment Disasters
Alert Level Equivalent to Level 5	Level 5 Flood Emergency Warning	Level 5 Heavy Rain Emergency Warning	Level 5 Sediment Disaster Special Hazard Warning
Alert Level Equivalent to Level 4	Level 4 Flood Danger Warning	Level 4 Heavy Rain Danger Warning	Level 4 Sediment Disaster Danger Warning
Alert Level Equivalent to Level 3	Level 3 Flood Warning	Level 3 Heavy Rain Warning	Level 3 Sediment Disaster Warning
Alert Level 2	Level 2 Flood Advisory	Level 2 Heavy Rain Advisory	Level 2 Sediment Disaster Advisory
Alert Level 1	Early Warning Information		

Significant changes to weather warnings and disaster information will take effect starting in 2026.

Here Is What Has Changed!

- "Level" designations will be added to the names of warnings and advisories.
- The way river flood risk levels are communicated is changing.
- Information equivalent to "Alert Level 4" will be issued as a "Danger Warning."

Information from Asahikawa City

Alert Level	Evacuation Information	Status of Open Evacuation Centers
5	Emergency Safety Measures	When evacuation information is issued, we will also announce which Evacuation Centers are open.
4	Evacuation Order	
3	Evacuation of the Elderly and Persons Requiring Assistance	

*Asahikawa City will issue evacuation information based on a comprehensive assessment of weather forecasts, river levels, sunset times, and other factors.

Evacuation Information Distribution Channels from Asahikawa City

- Media Outlets (TV / Radio)
- Public Announcement Vehicle
- Emergency Alert Mail (Area Mail) Asahikawa City Website / SNS Asahikawa Kurashi App
- Phone / FAX, etc.

Actions Residents Should Take

Alert Level 5	Emergency Safety Measures	A disaster has already occurred. Take the best possible action to protect your life.
~ <Complete evacuation by Alert Level 4!> ~		
Alert Level 4	Evacuation Order	From dangerous locations Evacuate Everyone!
Alert Level 3	Evacuation of the Elderly and Persons Requiring Assistance	From dangerous locations Elderly and Persons Requiring Assistance: Evacuate
Alert Level 2	Prepare for evacuation by checking your evacuation plan using Hazard Maps, etc.	
Alert Level 1	Increase your disaster preparedness by staying alert for the latest disaster prevention and weather information.	

Evacuate if you feel you are in danger, regardless of the alert level. Alerts may not always be issued in numerical order from Level 1.

Mato-Map Points

Check Weather and Disaster Prevention Information for Storm and Flood Damage!

In addition to TV and radio, you can check information on weather and river levels via the internet and apps. Use these resources actively to guide your evacuation actions.

Where to Get Disaster Prevention Information

Check the list of disaster information sources on page 42!

STEP3 : Evacuation Actions for Storms and Floods

STEP3 Where should I evacuate? Confirm evacuation sites and actions.

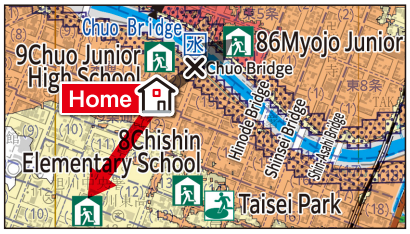
If your home is at risk of flooding, use the hazard map to identify a safe destination for horizontal evacuation.

Check the locations of Evacuation Sites & Evacuation Centers!

Check Evacuation Sites & Evacuation Centers on the hazard map based on your current location. Since the best way to evacuate depends on the situation, consider options other than public Evacuation Centers.

- Hazard Map ➡ Pages 11~37
- List of Evacuation Centers and Facilities ➡ Pages 45~46

Check your evacuation route!



Check your route to Evacuation Sites & Evacuation Centers for flood or landslide risks! Even if a site is nearby, avoid any dangerous areas along the way.

Hazard Point Checklist

- ☐ Roads prone to flooding
- ☐ Routes near bridges or rivers
- ☐ Uncovered side ditches
- ☐ Areas where landslides are likely to occur
- ☐ Slopes or stairs difficult for the elderly to navigate
- ☐ Concrete block walls or buildings at risk of collapsing

Moving to a safer location is the basic principle of evacuation!

If your home is in danger, you must move to a safer location (Horizontal Evacuation). However, public Evacuation Centers are not the only option. It is important to consider "Distributed Evacuation" by heading to various locations such as the homes of relatives or friends, hotels/accommodations, or even your vehicle. ※When staying in a vehicle, pay close attention to health risks such as carbon monoxide (CO) poisoning and economy class syndrome.

If you are in a high-risk area

Evacuation❶ Horizontal Evacuation

Designated Emergency Evacuation Sites & Evacuation Centers

When danger is imminent, do not hesitate to evacuate to an open Designated Evacuation Center or other safe location.

Distributed Evacuation

In addition to Designated Evacuation Center, consider evacuating to the homes of relatives or friends in safe areas, or to hotels and other accommodations.

If you are in a low-risk area

Evacuation❷ Seeking Safety Indoors

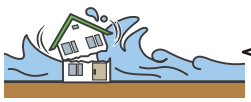
Sheltering in Place

If your disaster risk is low and you have prepared a one-week supply of food and portable toilets, you can shelter in place.

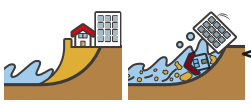
If Sheltering in Place, confirm the following "The 3 Conditions for Sheltering in Place" are met.

If the "three conditions" are met, you may stay at home and ensure your safety even if there is a risk of flooding.

❶ Not located within a Potential Inundation Areas for Building Collapse, etc. (If you are...)

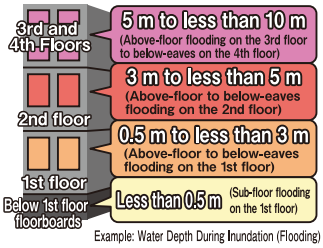


Wooden houses are at risk of collapsing due to the high flow velocity.



The ground may be washed away, causing entire buildings to collapse.

❷ The living area is higher than the predicted flood depth.



Example: Water Depth During Inundation (Flooding)

❸ You can hold out until the water recedes and have sufficient supplies of water and food (If supplies are insufficient...)

Access to water, food, and medicine may become difficult, and utilities such as electricity, gas, water, and toilets may become unavailable.

If you are late to escape: Take immediate action to save your life (Emergency Safety Measures)!

For example, flee to places like these!

- The highest possible floor within your home, school, workplace, or facility.
- A high floor in a sturdy nearby building.
- In areas at risk of Sediment Disasters, stay on the 2nd floor or higher in a room furthest from the mountain or hill slope.

STEP4 : Evacuation Actions for Storms and Floods

STEP4 How should I evacuate? Points to note during evacuation.

When evacuating from dangerous areas based on information from Asahikawa City or voluntarily, please keep the following points in mind for a safe evacuation.

Evacuate early during heavy rain!

Evacuate before flooding begins.

Stay alert if heavy or prolonged rain continues in your area or upstream. It is vital for those who need more time to evacuate, such as the elderly or people with disabilities, to leave early.

Evacuate on foot!

During storms and floods, evacuation by car involves risks and can obstruct emergency vehicles. Please evacuate on foot except in unavoidable circumstances involving infants, people with disabilities, the elderly, or residents in rural areas.

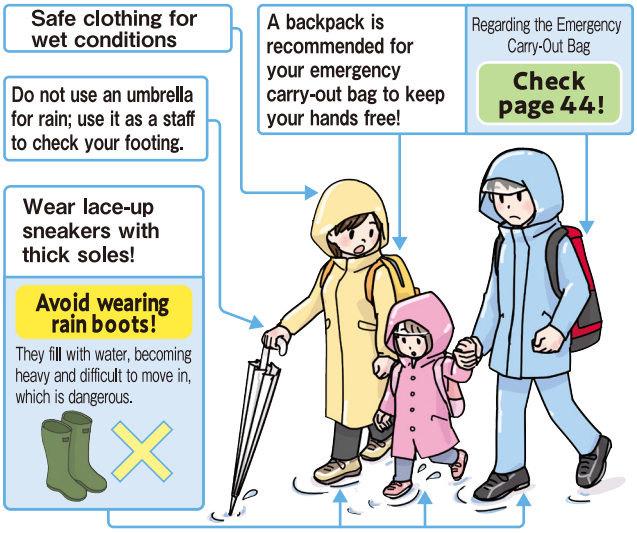
Evacuate before it gets dark.

When heavy rain is forecast, evacuate while it is still light. Evacuating after dark is dangerous because poor visibility makes it hard to see collapsed roads or side ditches.

Points to note during evacuation

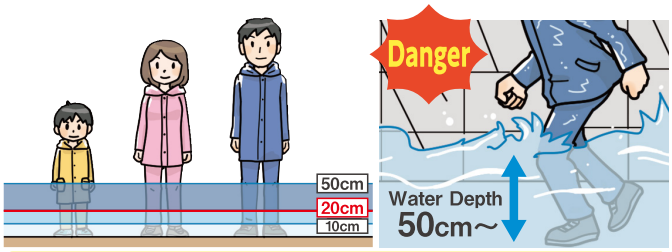
Evacuation clothing

Evacuate with minimal baggage and in easy-to-move-in clothing.



Beware of safe wading depth!

The benchmark for walkable depth is roughly below the knees. A depth of 50 cm or more makes evacuation difficult even for adults. If water is waist-deep or the current is fast (even if shallow), do not force your way through; evacuate to a high place (2nd floor or higher) and wait for rescue.



Even a depth of approximately 20 cm is dangerous for children.

Watch your step!

When roads are flooded, the muddy water hides unknown dangers. Use a long pole or umbrella as a staff to check for hazards beneath the surface as you move.

What to do before evacuating

Before leaving home, turn off the circuit breaker and check for fire hazards by closing the gas main valve. Also, inform family or acquaintances that you are evacuating.

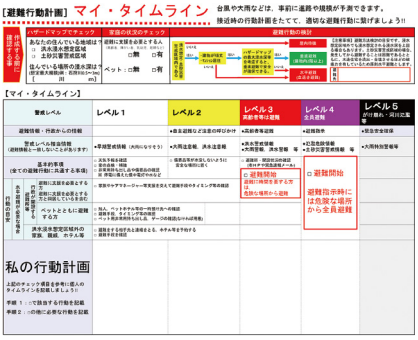
STEP5 : Evacuation Actions for Storms and Floods

STEP5 Create My Timeline and decide on your evacuation actions.

❶ Create a "My Timeline" and decide on your family's evacuation actions!

"My Timeline" is a personal evacuation action plan that organizes "when" and "what to do" during progressive disasters like typhoons or floods. By arranging your disaster actions?such as evacuation timing and destinations confirmed in the "Evacuation Action Determination Flow" in chronological order, it serves as an "action checklist" and "decision support tool" during a disaster. Scan the QR code on the right to get your My Timeline sheet and start filling it out.

Asahikawa City My Timeline Download link ▶



❷ Confirm your evacuation timing and appropriate destination based on the previous steps!

What evacuation action should you take? Evacuation Action Determination Flow!

Find your home on the Hazard Map and mark it.

※Hazard Maps are color-coded to indicate areas at high risk of flooding and landslides. However, please note that disasters can still occur in uncolored areas.

Is the location of your home, school, or workplace colored on the map?

No → Even outside colored areas, residents of low-lying lands or areas near cliffs should evacuate as necessary based on evacuation information from Asahikawa City.

Yes

Due to the risk of disaster, the general rule is to evacuate to a safe area (Horizontal Evacuation).

Exception → **※The 3 Conditions for Sheltering in Place**

❶Located outside Potential Inundation Areas for Building Collapse (Flood Flow/Bank Erosion) and Sediment Disaster Warning Area.
❷You are in a location higher than the predicted inundation depth.
❸You can manage until water recedes, and have sufficient supplies of water and food.

Does anyone in your group (including yourself) require extra time to evacuate?

Yes

Do you have relatives or acquaintances who live in a safe area and can take you in?

When evacuation information is issued...

- Yes → **Evacuate at Alert Level 3** Evacuation of the Elderly and Persons Requiring Assistance: Evacuate to the home of a relative or acquaintance in a safe location, or to a lodging facility.
- No → **Evacuate at Alert Level 3** Evacuation of the Elderly and Persons Requiring Assistance: Evacuate to an open Designated Evacuation Center or Designated Emergency Evacuation Site.

No

Do you have relatives or acquaintances who live in a safe area and can take you in?

- Yes → **Evacuate at Alert Level 4 Evacuation Order**: Evacuate to the home of a relative or acquaintance in a safe location, or to a lodging facility.
- No → **Evacuate at Alert Level 4 Evacuation Order**: Evacuate to an open Designated Evacuation Center or Designated Emergency Evacuation Site.

Evacuation Action Table for Areas Requiring Early Horizontal Evacuation

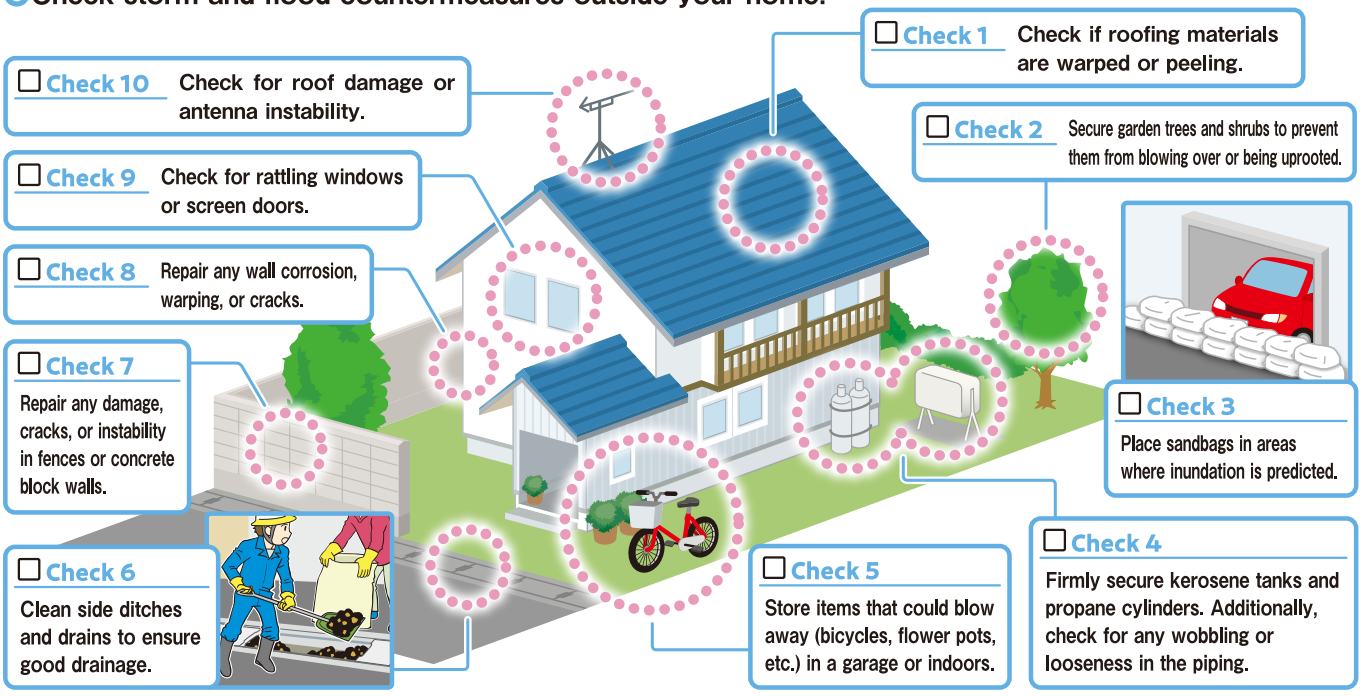
Classification			Map Display	Evacuation Actions and Points to Note
Areas Requiring Early Horizontal Evacuation	Potential Inundation Areas for Building Collapse	Flood Flow		Early horizontal evacuation is required as levee breaches may cause rushing floodwaters that can collapse wooden houses. Staying in place may be possible in sturdy high-rise buildings.
		Bank Erosion		Early horizontal evacuation required: High risk of building collapse due to bank erosion.
	Areas where houses are at risk of being submerged.	Inundation depth of 3.0 m or more	Flood / Inland Flooding	Early horizontal evacuation is required as floodwaters may reach even the top floor. Sheltering indoors is only an option if you have access to a room that will remain dry.

Daily Preparation for Storms and Floods

Daily safety measures to prepare for heavy rain and typhoons

During typhoons or localized torrential rain, various damages such as house inundation, river flooding, and sediment disasters are anticipated due to strong winds and heavy rain. Ensure thorough daily safety measures to prepare for storms and floods.

○Check storm and flood countermeasures outside your home!



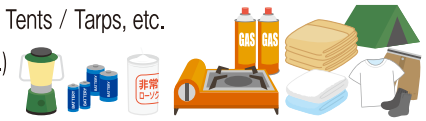
Recommended Household Stockpiling

In the event of a large-scale disaster, lifelines such as electricity, gas, water, and communications, as well as the supply of goods, may stop. Stockpile drinking water and emergency food at home so you can be self-sufficient even in such circumstances.

Stockpiles Stockpile at least a 3-day to 1-week supply of essentials to last until services are restored!

● Food items, etc.
☐ Food (Rice, Alpha Rice (Pre-cooked dehydrated rice), cup noodles, canned goods, retort pouches, etc.)
☐ Drinking water (Target: 3L per person per day) ☐ Disposable tableware (Cups, plates, etc.) ☐ Plastic wrap / Aluminum foil

● Daily necessities
☐ Candles / Lanterns ☐ Towels (Bath towels, etc.) ☐ Tents / Tarps, etc.
☐ Fuel (Cassette gas canisters, etc.) ☐ Spare batteries, etc. ☐ Change of clothes (Jackets, underwear, etc.)
☐ Portable gas stove ☐ Blankets / Towel blankets ☐ Portable heater

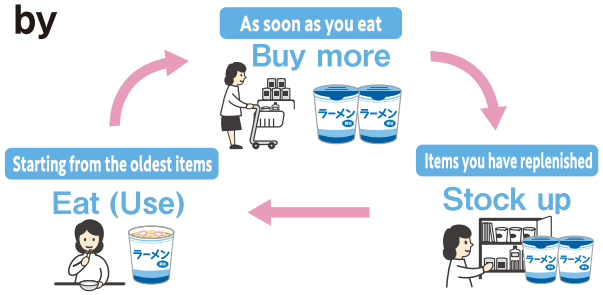


● Hygiene products
☐ Toilet paper ☐ Disposable masks
☐ Emergency toilets (Target: 5 uses per person per day) ☐ Waterless shampoo ☐ Trash bags / Plastic bags
☐ Toothbrush set (including mouthwash, etc.) ☐ Sanitary products (Hygiene items) ☐ Alcohol-based disinfectant
☐ Wet wipes

Mato-Map Points

Update your supplies daily by practicing Rolling Stock (Supply Rotation)!

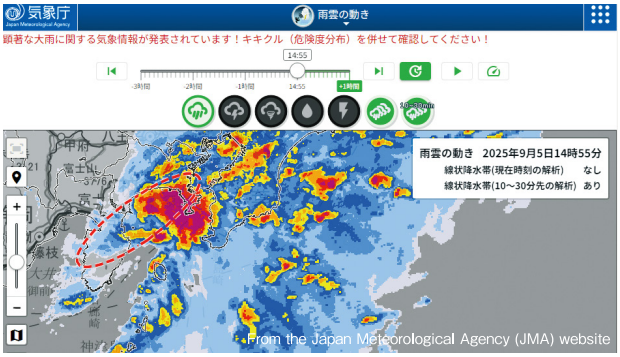
"Rolling Stock" is a method of stockpiling where you buy a little extra food and daily necessities, and replenish exactly what you eat (or use). Retort pouches with shorter shelf lives can also be treated as emergency food.



Preparing for localized heavy rain, lightning, gusts, and tornadoes.

To protect yourself from sudden heavy rain, lightning, gusts, and tornadoes.

In recent years, incidents of sudden localized heavy rain (guerrilla rainstorms), localized torrential rain, lightning strikes, gusts, and tornadoes have increased. As these often occur suddenly, make sure to learn the specific countermeasures for each.



In these cases, a developed cumulonimbus cloud is approaching. Beware of sudden heavy rain, lightning, gusts, and tornadoes!

- Dark clouds (cumulonimbus clouds) approach and the area turns dark suddenly
- You hear thunder (rumbling) or see flashes
- A sudden, chilly wind begins to blow
- Large raindrops or hail begin to fall.

Disasters caused by lightning

Lightning Strike

Direct strikes in open areas, etc.

Side Flash

Lightning that strikes a tree travels down through the branches to the ground.

Beware of locations where lightning is likely to strike!

- Outdoor sports such as golf, soccer, and baseball
- Outdoor leisure at parks, seas, or mountains

How to protect yourself from lightning

1 Evacuate immediately if you hear thunder

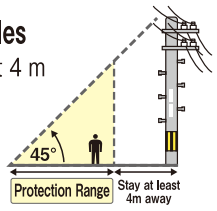
If outdoors, evacuate to a safe location.

2 Evacuate into a sturdy building or vehicle

Evacuating under a tree is extremely dangerous.

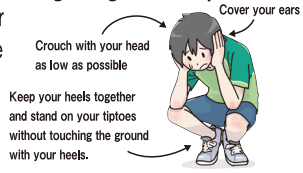
3 Stay away from trees and utility poles

If near trees or utility poles, stay at least 4 m away. To avoid being too far from protection, stay within the "protective range" shown on the right.



4 If no shelter is available, adopt the "Lightning Crouch" position.

If there is nowhere to hide, wait for the lightning to pass in the posture shown on the right. However, this is a last resort; prioritizing evacuation is the first step.



Disasters caused by gusts and tornadoes

Blowing off of roofs, etc.

Collapse of Buildings

Collapse of utility poles and trees

Collision with flying debris

Strong gusts and tornadoes can even overturn trains and cars!

How to protect yourself from gusts and tornadoes

1 Evacuate into a sturdy building

Evacuating to garages, sheds, or prefabricated buildings is dangerous; evacuate into a sturdy permanent building.

In November 2006, a tornado in Saroma Town blew away a prefabricated building, resulting in the death of an employee inside.

2 Evacuate while watching for flying debris, such as trees or signs

Stay low and stay alert as you head into a nearby building for shelter.

3 If you cannot enter a building

Lie flat in a ditch or low-lying area and cover your head and neck with your hands. Stay curled up small and wait for the danger to pass.

4 Stay away from windows even indoors

Close windows and shutters, draw curtains, and if possible, move to a windowless room near the center of the house.

Mato-Map Points

Nowcast: Rain Cloud Movement, Lightning, and Tornadoes (JMA)

Check 1-hour forecasts for precipitation, lightning activity, and tornado probability. Check these updates whenever atmospheric conditions are unstable!

JMA "Nowcast" website (Asahikawa City area) ▶

Regarding Sediment Disasters

Heavy rain, typhoons, and earthquakes can loosen the ground, potentially triggering landslides, debris flows, and land creeps. To protect yourself, it is crucial to first check for potential hazards around your home.

Two types of areas at risk of sediment disasters

Areas at risk of harming residents if a landslide occurs are designated as "Sediment Disaster Warning Area" (Yellow Zones). Among these, areas where building destruction could cause severe harm are designated as "Sediment Disaster Special Hazard Zones" (Red Zones).

Types of sediment disasters and precursor phenomena

If you notice any of the following signs, a landslide may be imminent. Evacuate immediately with those around you to a safe location and report it to the authorities.

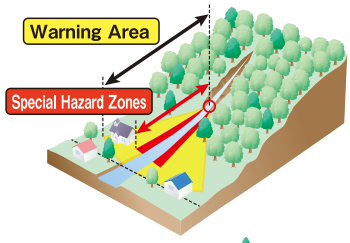
- Unusual murkiness in the river

- Appearance of driftwood.
- The sound of stones rolling in the river

- A sudden drop in water level during rain
- Ground rumbling or a roaring sound
- An earthy/soil smell

Debris Flow

A phenomenon where mountain or river stones and sediment flow down violently with water due to heavy rain.



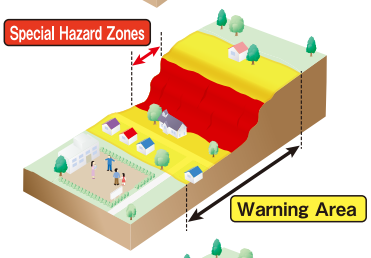
- Increase in the volume of spring water
- Occurrence of surface runoff

- Small pebbles pitter-pattering down
- Springs becoming murky
- Appearance of new springs

- Small pebbles crumbling down
- Appearance or widening of cracks and ground displacements
- Springs stopping or gushing out

Steep Slope Failure (Landslides)

A phenomenon where a slope collapses suddenly due to rain, snowmelt, or earthquakes.



- Increase in the volume of spring water
- Drying up of springs
- Cloudiness in well water

- Occurrence or expansion of cracks and vertical offsets
- Bulging of slopes or structures
- Leaning trees or the sound of roots snapping

- Mountain or ground rumbling
- Ground vibration

Landslides

A phenomenon where rainwater or snowmelt seeps underground, causing the slope to slide intermittently.

Mato-Map Points

Stay alert for sediment disaster weather information!

When the risk of landslides increases due to heavy rain, the Japan Meteorological Agency (JMA) issues landslide warnings. Monitor your surroundings and the intensity of the rain, and do not hesitate to evacuate voluntarily if you feel in danger.

Beware of Linear Precipitation Bands!

A "Linear Precipitation Band" refers to extremely heavy rain created when cumulonimbus clouds (developed rain clouds) form one after another in a line, passing through or stalling over nearly the same location. When a linear precipitation band occurs, very intense rain continues for a long time, leading to localized torrential rain that can trigger major disasters like landslides.