

Prepare for disasters on a daily basis

The sooner
the better

In our daily lives, where we usually live casually, sometimes we are exposed to the occurrence of large earthquakes and the threats of nature. We are not sure when a disaster will come and attack us. And when it occurs, it may take a lot of time for the rescue to come.

Let's use this Kadena **Town Disaster Prevention Map** as a reference to prepare for various disasters and have a **strong attitude to protect ourselves**. In addition, work with our family and local community to learn how to protect ourselves and prepare ourselves regularly.

Two "Evacuation Actions"

Evacuation (basic)

Horizontal evacuation to safe places such as shelters, parks on hills, etc.

Evacuation shelters for tsunami, landslide disasters (landslide and debris flow), storm surge, etc.

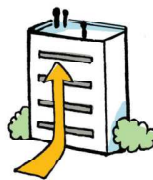


Indoor safety (emergency)

Vertical evacuation to a location above the second floor where safety can be ensured from heavy-duty buildings and indoor flooding in the vicinity

Storms, tornadoes, floods, etc.

※ Go up to the third floor or higher in case of tsunami.



To clarify evacuation timing at a warning/alert/precaution level

In order for residents to understand the meaning of information intuitively, disaster prevention information has been provided at a five-level alert level, and measures to be taken have been clarified.

Evacuate immediately if you live in an area where a warning level 3 or 4 has been issued by the municipality.

Alert level	Actions that residents should take	Evacuation information	Disaster prevention weather information
5	A disaster has already occurred. The best action to protect life	Evacuation information	Heavy rain advisory Overflow information
4	All evacuate Evacuate to the evacuation destination immediately. If moving to a public evacuation site is considered dangerous, evacuate to a safer location nearby or a safer location in your home.	Evacuation advisory Evacuation instruction (emergency)	Overflow risk information Earth and sand disaster alert information
3	Elderly people, people with disabilities, infants and their supporters should evacuate.	Preparation for evacuation and evacuation of elderly people	Overflow alert information Flood alert
2	In preparation for evacuation, confirm your evacuation action using a hazard map or the like.	Flood warning Heavy rain advisory, etc.	
1	Enhance your attitude toward disasters.	Possibility of alarm class (Early warning information)	

(Announced by the Ministry of Land, Infrastructure, Transport and Tourism, the Japan Meteorological Agency, and prefectures)

- If you feel in danger, evacuate regardless of the alert level.
- Alert levels are not always issued in stages, starting at level 1.

Precautions for storage of carry-out bags

※ In the event of a large-scale disaster, it is desirable to stockpile "one week's worth"

In a backpack that can be carried

Each one is distributed individually.

Put it in a place where you can take it out immediately.

Pay attention to the season, expiration date, etc.

Rolling stockpile in your daily diet

Food

What can be eaten as it is or can be eaten by simple cooking, canned and re-torted foods, cut rice cake, chocolate, dried plums, cheese, seasonings, etc. Sweets are high in calories and can be enjoyed by children, calming the mind and giving them a sense of security.

* Families with babies also stock milk powder and baby bottles.



Water

Drinking water is recommended to 3 be liters per adult per day. In addition to drinking water, in order to secure the water for daily use for cooking, washing, toilet, etc., the water of the bath is not removed, and water is put in the pot and the kettle before going to bed.



Fuel and others

Prepare more tabletop stoves, solid fuel and spare gas cylinders. Portable stove for outdoor use is also convenient. In addition to portable toilets, which were the most troublesome problems of past earthquake disasters, washing utensils, sanitary supplies, plastic bags, kitchen wraps, newspapers, etc.



Evacuation preparation

Correct information and correct action
Don't be deceived by rumors and hoaxes.



Minimize luggage.



Clothing for evacuation

Long sleeve jacket
Long pants



Protect your head with a helmet or disaster prevention hood.

Hold nothing in hand.

Durable shoes
Boots/bare feet (no good)

Check the safety of your family and ask if there are any injuries or missing persons among your neighbors.



Hold the hands of children and the elderly firmly.



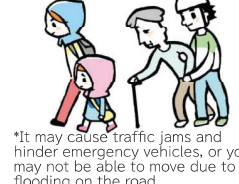
Turn off the gas before the evacuation.
Switch off the breaker.



Leave contact notes for out-of-home family members.



Evacuate on foot in groups of two or more people. (Refrain from evacuation by car. *)



*It may cause traffic jams and hinder emergency vehicles, or you may not be able to move due to flooding on the road.

Avoid walls and narrow roads.



Prepare for earthquake and tsunami disasters

Ah! Shaking

Proactive measures

Home disaster prevention conference

Discuss the evacuation place and the communication method before a disaster.



Fix furniture so that it does not move.

It is best to fix it to the wall with L-shaped metal fittings. If you can't make a hole in the wall, use a special stick or the like.



Earthquake occurrence and evacuation action

Earthquake occurrence

Earthquake early warning (seismic intensity of around 5)

- Secure yourself first when you feel a strong tremor.



- Check the sources of fire as soon as the shaking stops.

※If you can't ensure safety, don't force yourself to approach the fire.



- Put out the fire quickly when a fire starts.
- Check the safety of your house.



Outdoors

- Get away from signboards, block walls and window glass.



- Don't rush out of the house.
- Secure exit.



- Stay away from large furniture and windows.



- Wear shoes and thick slippers to protect your feet from broken glass.

If you're at a low sea level

- Evacuate immediately without waiting for a tsunami warning or evacuation order if you feel a strong tremor or a long, slow tremor.
- Collect information after evacuation!

- Prepare emergency goods.

- Evacuate as soon as evacuation advisories and instructions are issued.

- Evacuate immediately when the fire burns to the ceiling.

When leaving home

Shut off the main gas valve. Switch off the breaker.



Actively call out to the elderly and people with disabilities in the neighborhood to provide evacuation support.

1-2 minutes

3-5 minutes

Evacuate

Types of tsunami warnings and actions to be taken

Types of tsunami warnings	Tsunami height announced		Actions to take if you see or hear tsunami warnings etc.
	Numerical presentations (division of tsunami height forecast)	Announcement of earthquake level	
Large tsunami warning	More than 10m (10m < expected height)	Huge	Wooden houses are completely destroyed and washed away, and people are caught up in the tsunami. If you are on the coast or along the river, evacuate immediately to a safe place such as a hill or high building.
	10m (5m < expected height ≤ 10m)		
	5m		
Tsunami warning	3m (1m < expected height ≤ 3m)	High	At low altitudes, tsunamis hit and flood damage occurs. People are caught up in the tsunami. If you are on the coast or along the river, evacuate immediately to a safe place such as a hill or high building, or evacuation building.
Tsunami advisory	1m (20cm ≤ expected height ≤ 1m)	(No notation)	In the sea, people are caught up in a fast stream, and aquaculture rafts are washed away, and small ships capsized. People in the sea should get out of the water immediately and get away from the shore.

*The large tsunami warning is categorized as a special warning.

Run far away and high.

Emergency If you are late to run away, **Vertical evacuation**

Evacuate to the rooftop or upper floor of the building. (To the 3rd floor or higher of a sturdy building)

High

Far High

Evacuation building

Evacuation site

Basic **Horizontal evacuation**

Evacuate from a location in the expected inundation area to a nearby hill on foot.

Tsunamis caused by earthquakes that occur in the distance may also reach you.

When a tsunami comes up to land, the speed is said to be about 10 meters per second (the speed at which people run at full speed), making it difficult to escape when a tsunami approaches.

You may not be able to determine if a tsunami warning has been announced. If you are on the coast or at a low altitude, feel a strong tremor or a long, slow tremor, make sure to evacuate immediately without waiting for a tsunami warning or evacuation instruction.

If you find an unexploded bomb,

Is this...? Maybe...?

If you find it on land, notify the nearest police box or police station.

Do not touch.

Do not move.

Inform adults.

Adults inform police.

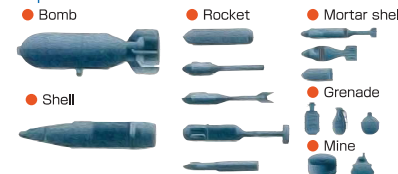
Dial 110

If you have any information about buried unexploded bombs, contact your local municipal office.

If found in the sea, notify the coast Guard.



Dial 118



Over time, it has weathered, its shape has changed, and it may be unrecognizable.

What is unexploded ordnance?

"Unexploded bombs" are shells used during the war or bombs dropped from aircraft that fall into the ground or the sea and do not fire but remain "unexploded." Or, what is suspected is generally called "unexploded ordnance."

Such unexploded ordnance is extremely dangerous because the safety device of the detonator (fuse) has been removed and the ignition device is expected to be activated (operated) at any time by some impact.

Typhoon, storm and flood damage and evacuation actions

Always get the latest typhoon information!

Since typhoons approaching the Okinawa region sometimes become stronger and slower in speed, they may affect Okinawa for a long time. **Typhoon No. 24 in 2018 produced record-breaking heavy rains and storms in various parts of the country, causing a temporary power outage for 230,000 households.** In Kadena Town, flood and immersion damages occurred in Mizugama seawall area due to the effects of storms, waves and storm surges. They caused serious damages such as breakage of embankments and so on. In Typhoon No. 8 in 2014, Hija Bridge was submerged and the road was closed. To prevent and mitigate typhoon disasters, it is important to prepare regularly and take early measures against typhoons. Also, when a typhoon is approaching, always try to get the latest typhoon information and avoid unnecessary or urgent outings.

Reinforce your house first when a typhoon approaches.

Windows without shutters
Close curtains or put anti-shattering film.

Vehicle
Fix cars and motorcycles with covers.

Laundry pole
Take it down so that it will not blow away.

Fill up on water, fuel, etc.

Keep your smartphone, mobile battery, bath water, washing machine water and car gasoline full.

Check emergency supplies in preparation for power and water outages.

Food, drinking water, flashlights, radios, lighters, and simple clothing should be kept in your backpack.

Do not overdo.

If the evacuation route is immersed due to floods, etc., do not try to evacuate. Wait for rescue on the second floor of your home or at a high place! It is very dangerous if the flow is fast even at a depth of about knee high!

Sandbags
to keep water out.
Effective to wrap them in a plastic sheet.

Flowerpots, children's toys, bicycles, etc.
Put them somewhere in the house so that they will not blow away.

Window
Reinforce with plywood.
Reinforce with gummed tape.
Seal up the window sash with newspapers and towels.

Gutters
Clean gutters if they are clogged with grass or debris. Repair if necessary.

Rain intensity and rainfall

Forecast terms	Rainfall (mm/h)	Images received by people
Slightly strong	10~20	Raining with light sounds.
Strong	20~30	Pouring
Heavy	30~50	Falling as if the bucket had been overturned.
Very heavy	50~80	Falling like a waterfall with loud noises.
Fierce	80~	There is so much rain that breathing is difficult. You feel fear.

Wind power and speed

Wind power	Average speed (m/s)	
Somewhat strong	10~15	Hard to walk against the wind. An umbrella is useless against the wind.
Strong	15~20	Hard to walk against the wind without falling over. Working in high places is very dangerous.
Very strong	20~25	Unable to stand unless you hold onto something. A risk of injury due to flying objects. Unfixed prefabricated huts move and fall over. Most of the greenhouse film (covering material) is torn.
	25~30	
Furiously strong	30~35	Outdoor activities are extremely dangerous. Many trees fall down. Some utility poles and streetlights fall down.
	35~40	Some block walls collapse. Moving vehicles may roll over.
	40~	

Size of typhoon

Class	Radius with speed 5m/s or more
Large	500km ~ 800km
Very large	Over 800km

Strength of typhoon

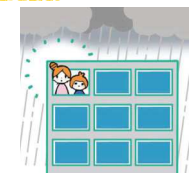
Class	Maximum speed
Strong	33m/s (64 knots)~ 44m/s (85 knots)
Very strong	44m/s (85 knots)~ 54m/s (105 knots)
Violent	Over 54m/s (105 knots)

As a guide to indicate the approximate magnitude of a typhoon, the "size" and the "strength" of a typhoon are expressed as shown on the tables above. The "size" is the radius of the strong wind area (range where wind with the wind speed of 15m/s or more is blowing or may blow), and the "strength" is classified by the maximum wind speed. Furthermore, the area where winds with a speed of 25m/s or more are blowing or may blow is called a **storm zone**.

Take action immediately to protect your life when a special warning is announced.

Standards for special warnings on weather etc.

Phenomenon	Standards	
Heavy rain	Heavy rainfall of the type seen only once in several decades, due to typhoons and torrential rains, is expected. Alternatively, it is a case where heavy rain is expected due to a typhoon having an intensity seen only once every several decades or a similar temperate cyclone.	
Storm	Due to typhoons which occur only once in several decades or similar temperate cyclones	When a storm is expected
Storm surge		When a storm surge is expected
Wave		When high waves are expected



(Note) In making the announcement, objective indicators will be set based on past disaster cases, such as precipitation, central pressure of typhoons, maximum wind speed, etc., and judgment will be made based on these actual conditions and forecasts.

If you receive a special warning, your area is in a very dangerous situation, only once in a few decades. Pay attention to the surrounding situation and information such as evacuation orders and evacuation instruction announced by municipalities, and take immediate action to protect your life.

To avoid lightning damage

To avoid lightning damage, when the distance between the sound of the lightning and the lightning is close, enter the house, unplug the TV or other appliances, and stay in the center of the room. Also, in the outdoors, lower your body and wait for lightning to go away.

Attention to sediment disasters near steep slopes and cliffs.

Some of the precursors of a landslide caused by heavy rain or torrential rain includes:

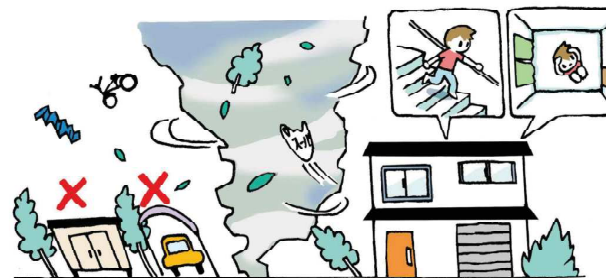
- Pebbles fall down.
- Cracks are formed on the ground.
- Water mixed with soil flows down the slope.

If you find any of these precursors, contact the town office. If an evacuation advisory is issued, evacuate immediately.

Okinawa has the highest incidence of tornadoes in Japan!

Protect yourself from tornadoes.

If you feel something unusual, move to a sturdy building.



Precursor phenomena of tornado

1. A black cloud approaches and the surroundings suddenly darken.
2. You can hear the sound of thunder or see lightning.
3. A cold wind suddenly blows.
4. Heavy rain or "hail" begins to fall.

In summer, many tornadoes have been confirmed due to typhoons and tropical pressure. Watch out for changes in the sky when you receive tornado **warning information** announced by the Japan Meteorological Agency. If there are signs of a developed cumulonimbus cloud approaching, take safety actions such as moving into a sturdy building.

If you are indoors

- Do not open windows.
- Move away from windows.
- Draw curtains.
- Close shutters.
- Move to the basement or the lowest floor.
- Move to a room without a window (toilet, etc.) near the center of the house.
- Stay away from corners, doors and exterior walls.
- Go under a sturdy desk and protect your head and neck with your arms.

If you're outdoors

- Do not evacuate to a garage or prefab structure.
- Do not go under bridges or overpasses.
- Evacuate to a sturdy building nearby.
- Move to the basement or the lowest floor of the building.
- If you don't have a sturdy building, cover your body in a nearby waterway or depression and protect your head and neck with your arms.
- Watch out for flying objects.

Prepare for floods and landslide disasters

Watch out, even if it stops raining.

Outside water inundation [flood]

[Generation mechanism]

Heavy rains increase the volume of water in large rivers, causing levee breaks and flooding over the levee.

[Features and forecasts]

- Even if it is not raining, it can occur if heavy rain falls in the upstream area.
- It is possible to predict in advance from the rainfall situation and water level.

Outside water inundation

Breakdown



Flow of water

It can happen anywhere. Inside water inundation

[Generation mechanism]

Drainage that drains rainwater into large rivers does not function well and water overflows from small rivers, manholes and gutters.

[Features and forecasts]

- It also occurs in a short period of heavy local rain, and suddenly floods.
- It is difficult to predict in advance, and it may occur even if a warning or the like has not been issued.

What will happen if floods take place?

Flood on road



The engine may stop, the door may not open, or you may not be able to get out of the vehicle.

Flood above/below floor level



The water flowing in is muddy water, and it is difficult to clean up because sediment and sludge accumulate even after the water has gone down.

Collapse of house

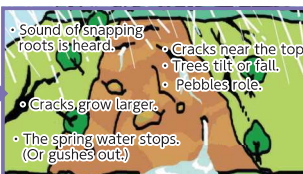
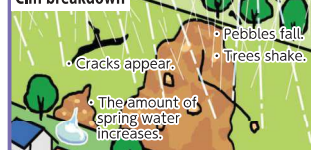


Along the river, houses collapse and there is a risk of loss of life.

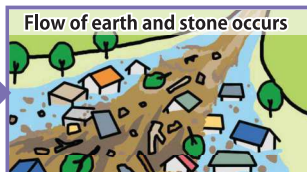
Precursor of landslide disasters

There are three main types of phenomena that generate landslide disasters: "cliff breakdown," "landslide," and "debris flow," and when these occur, some kind of precursory phenomenon may appear.

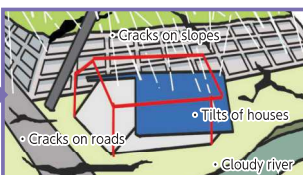
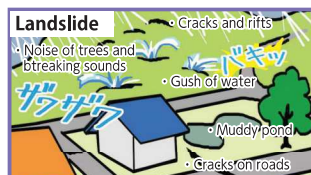
Cliff breakdown



With this phenomenon, the part near the surface of the slope loosens due to rainwater penetration, earthquake, etc., and sudden breaks occur. Because the time to collapse is too short for people to run away from houses nearby, their lives are often taken.



It is a phenomenon in which rocks and sediment on mountainsides and riverbeds are swept away downstream by a long rain or a torrential rain. At speeds of 20 to 40 km/h, a house or a field may be destroyed in an instant.



A phenomenon in which part or all of the slope slowly moves down the slope due to the influence of ground-water and gravity. Because the amount of movement of the soil mass is large, serious damage occurs.

Cautions taken during evacuation



Watch out for rain.

Many debris flows are triggered by rain. If you think it's dangerous because of long rain or heavy rain, evacuate early. Great care should be taken if the rainfall is more than 20 mm per hour or more than 100 mm from the beginning of the rain.



Confirm safe evacuation routes.

Decide the route to the evacuation site in advance and make sure that you can pass safely.

Flow of earth and stone



Cliff breakdown



Learn how to escape.

Because the debris flow is fast, it will catch you if you run away with the flow at your back. Escape at right angles to the direction in which the earth and sand flow.

Risks of evacuation by car

With a depth of 30 cm, most car engines stop. Therefore, if you feel the danger of flooding, move your car to a hill or other place immediately. If the engine stops due to flooding, or if it is flooded beyond the floor of the car, there may be water in the intake system of the engine, so even if the water on the road has gone down, there is a risk of breakdown if the engine is turned on while water is in the intake port.



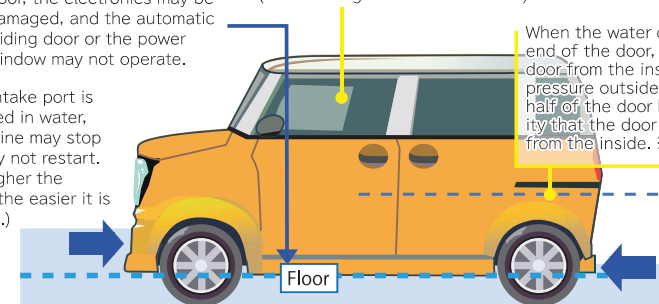
▲ Hija Bridge submerged in the flood by typhoon No.8 in 2014.

Problems that occur when driving a car on flooded roads.

If the water depth exceeds the floor, the electronics may be damaged, and the automatic sliding door or the power window may not operate.

Can be broken with an escape hammer. (Laminated glass does not break.)

If the intake port is immersed in water, the engine may stop and may not restart. (The higher the speed, the easier it is to flood.)



When the water depth reaches the lower end of the door, it is difficult to open the door from the inside due to the water pressure outside the vehicle. If it exceeds half of the door height, there is a possibility that the door almost cannot be opened from the inside. ※

※ If it is flooded until there is no internal and external water pressure difference, the door will open from the inside.

If water enters the muffler, the engine may stop and not restart.

If there is water flow, the vehicle may be washed away.

If the tires are completely submerged, the vehicle may float and it may be difficult to move.

! The effect of inundation on the vehicle depends upon the vehicle shape and design. In particular, attention should be paid to low-height vehicles because they are easily affected.

! Vehicles are not designed to travel in deep water. For this reason, it is important not only to evacuate early in the event of heavy rain, but also to avoid entering the flooded road carelessly, and to escape early if the vehicle stops moving on the flooded road.