

Are you prepared for disasters?

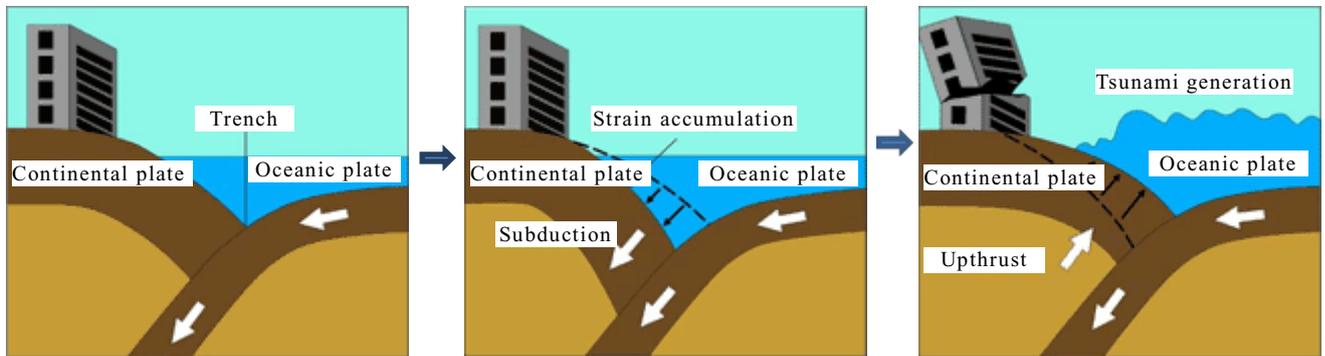


1. Earthquakes

Earthquakes can't be prevented, but the damage they cause can be minimized with precautionary measures and mental preparation.

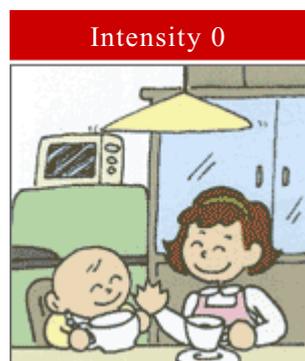
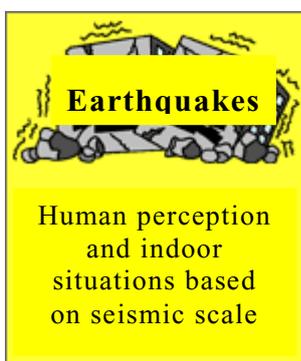
Why do earthquakes occur?

The earth's surface is covered with a dozen or so huge slabs of rock called tectonic plates, which move several centimeters a year in different directions. At the boundaries, these plates come into contact and slide past one another, or one plate may be driven beneath another. Around Japan, oceanic plates subduct below continental plates. At boundaries like these, large earthquakes occur. The accumulation of strain energy caused by subduction also affects interior parts of continental plates, causing earthquakes in shallow underground areas.

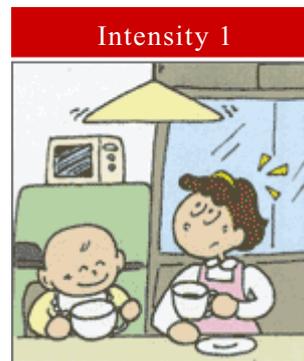


Human perception of seismic intensity

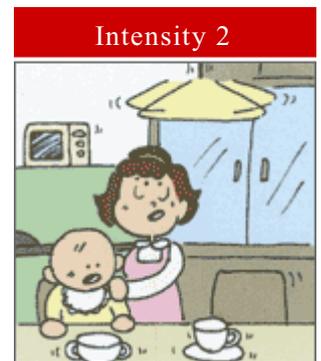
Seismic intensity values describe the scale of ground motion, and are determined using data from seismic intensity meters installed nationwide. The Japan Meteorological Agency seismic intensity scale runs from 0 to 7 with two divisions for levels 5 and 6 (5 lower/upper and 6 lower/upper) due to the wide range of damage they can cause. Accordingly, there are 10 levels of intensity on the scale.



Perception:
Imperceptible to people.



Perception:
Felt slightly by some people in buildings.



Perception:
Felt by many people in buildings. Sleeping people may be awoken.

Indoor situation:
Light fittings and other hanging objects swing slightly.

Intensity 3



Perception:
Felt by most people in buildings. Some people may be startled.

Indoor situation:
Light fittings and other hanging objects swing slightly.

Intensity 4



Perception:
Most people are startled. Some may try to shelter in a safe place. Most sleeping people are awoken.

Indoor situation:
Hanging objects swing considerably and dishes in cupboards rattle. Unstable ornaments may fall.

Intensity 5 lower



Perception:
Many people try to shelter in a safe place. Some may have difficulty moving.

Indoor situation:
Hanging objects swing violently. Dishes in cupboards and items on bookshelves may fall. Many unstable ornaments fall. Unsecured furniture may move.

Intensity 5 upper



Perception:
Many people are frightened and have difficulty moving.

Indoor situation:
Dishes in cupboards and items on bookshelves fall. TVs may fall from their stands, and heavy furniture such as chests of drawers may topple over. Frame deformation may make it impossible to open doors. Some doors may become detached from their frames.

Intensity 6 lower



Perception:
It is difficult to remain standing.

Indoor situation:
Unsecured heavy furniture moves or topples over. Doors become stuck and do not open.

Intensity 6 upper



Perception:
It is impossible to remain standing or move without crawling.

Indoor situation:
Most unsecured heavy furniture moves or topples over. Some doors may become separated from their frames and be thrown through the air.

Intensity 7



Perception:
People have difficulty moving as intended.

Indoor situation:
Most furniture moves and topples over, or may even be thrown through the air.

Preparations for earthquakes

Securement of indoor safety



- Fasten furniture to walls or ceilings to prevent it from falling over. Keep heavy objects in low places.
- Keep sleeping areas, porches and other spaces clear of items or objects that could fall over.
- Place shatterproof film on glass surfaces.
- Keep a flashlight and slippers at hand to aid safe movement.

Stocks of essentials (emergency kit)



- Water: Each person needs three liters of water per day. Make sure there is enough for you and your family.
- Food: Store at least three days worth of non-perishable food (e.g., canned/pouched rice or processed quick-cooking rice, canned/bottled items).
- Camping stove and fuel
- Flashlight: Each person should have a flashlight in case of blackouts.
- Radio for accurate information
- Valuables, first-aid medicine, underwear, rainwear and other necessities. These should be placed in an emergency kit bag and kept in an easily retrievable place.

When an earthquake strikes

Indoors

- If you feel a tremor, don't rush outside. Ensure your own safety first: protect your head with a cushion or similar, and shelter under a sturdy desk or table.
- Turn off gas, stoves and similar.
- In mid-to-high-rise buildings (e.g., condominiums), open the entrance door and/or the door to the evacuation passage to secure an escape route.



Outdoors

- Move away from walls, vending machines and other things that may fall over. Protect your head from falling signboards and other objects.
- Move away from buildings to avoid broken glass from windows in shops and other buildings, falling signboards/walls, and the like.
- On buses and trains, follow the instructions of the staff. If you are at a station or on a train when an earthquake strikes, do not go near the railway tracks.
- In department stores, supermarkets, hotels, underground shopping malls and other public/commercial areas with many people, do not rush toward emergency exits/stairs, and follow the instructions of the staff.



While driving

- If you feel a tremor while driving, pull over to the left and stop. Get information from your car radio and follow the directions given by the authorities.

Are you prepared for disasters?



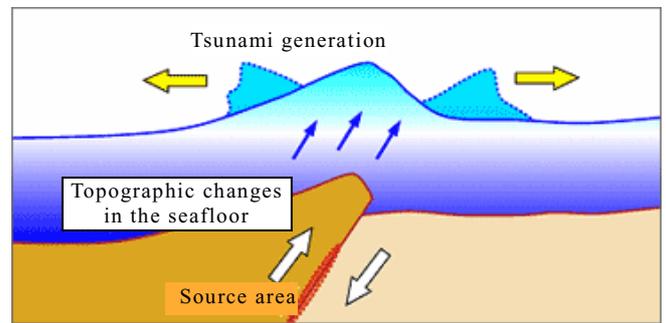
2. Tsunami

Tsunami waves may strike after an earthquake. If you feel strong shaking and are in or near the coast, evacuate immediately to high ground or another safe place. Tsunami waves may strike repeatedly with high speed, and the first wave is not necessarily the biggest. Do not go near the sea until the tsunami warning or advisory is lifted.

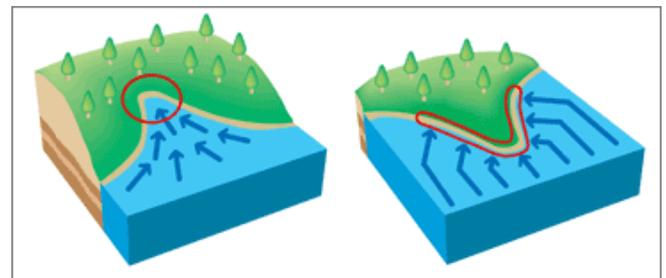
Why do tsunami occur?

- What is a tsunami?

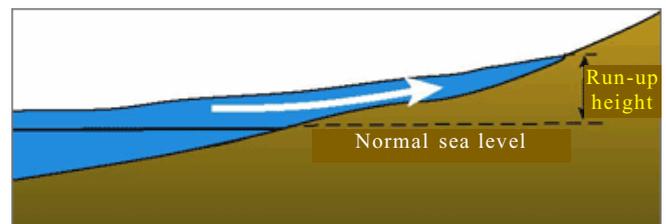
When a large earthquake occurs at a shallow depth below the seafloor, the resulting fault movement causes the seafloor to rise or subside. This in turn causes massive amounts of water to move up and down, and this movement spreads out in all directions in the ocean. This is how a tsunami is generated.



Tsunami have a longer wavelength than normal ocean waves. As they lose little energy in their motion, they travel further.



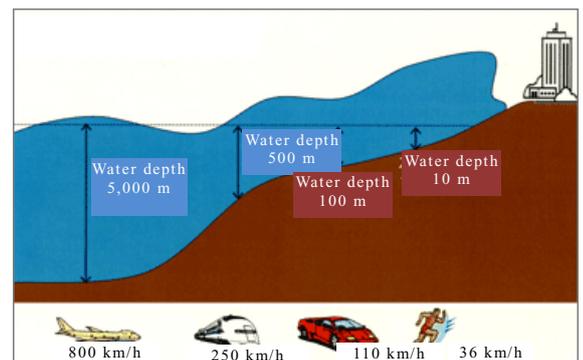
Tsunami waves propagate more slowly as the sea becomes shallower. As a result, trailing waves catch up with those ahead nearer the coast, and the tsunami grows much higher. Coastal landforms and buildings can also cause wave reflection and diffraction, thereby amplifying tsunami heights in some areas.



Tsunami may run up from the waterfront to inland areas depending on coastal landforms. These waves contain massive amounts of water welling up from the seafloor to the surface; they can run ashore with huge power and wash away everything in their path, destroying buildings and carrying inland large ships, rocks and other objects, which themselves can further damage houses and buildings. Tsunami can also run up rivers and cause damage to basin areas.

- Tsunami speed

Tsunami waves travel faster through deep water and more slowly as they reach shallower coastal areas. As a result, trailing waves catch up with those ahead nearer the coast, and the tsunami grows much higher.



Tsunami damage

The greatest damage caused by the 1993 Hokkaido Nansei-oki Earthquake resulted from a tsunami that struck shortly after the tremor. Waves higher than 3 meters hit all coastal areas of Okushiri Island near the epicenter off the coast of Hokkaido immediately after the quake, and waves measuring over 10 meters were also observed in many areas. The event caused extensive damage and many casualties.

More recently, the 2003 Tokachi-oki Earthquake triggered tsunami waves as high as 2.55 meters at Tokachi Port and over 4 meters in coastal areas in the towns of Taiki and Akkeshi. The tsunami also ran 11 kilometers up the Tokachi River.

Japanese people are all too familiar with tsunami-related disasters.

Tsunami countermeasures

If you are in or near the coast

Leave the area immediately and evacuate to high ground or another safe place if strong shaking or weak but long-lasting slow shaking is felt.

Get reliable information

Get information from TV, radio and/or other official channels; do not act on hearsay or rumors. Stay away from the sea until the tsunami warning or advisory is lifted.



Tips to protect yourself from a tsunami

General public	<ol style="list-style-type: none">1. Leave coastal areas immediately and evacuate to a safe place if strong shaking (seismic intensity of 4 or greater) or weak but long-lasting slow shaking is felt.2. Even if you do not feel shaking, leave coastal areas immediately and evacuate to a safe place if a tsunami warning is issued.3. Get reliable information from TV, radio, municipal information cars and/or other official channels.4. Do not approach the seashore to engage in bathing or fishing activities when a tsunami advisory or tsunami warning is in effect.5. Remain on alert until the warning or advisory is lifted, as tsunami waves may strike repeatedly.
Ships	<ol style="list-style-type: none">1. Evacuate from the port (*Notes 1 and 2) immediately if strong shaking (seismic intensity of 4 or greater) or weak but long-lasting slow shaking is felt.2. Even if you do not feel shaking, evacuate from the port (*Notes 1 and 2) immediately if a tsunami warning or advisory is issued.3. Get reliable information from TV, radio and/or other official channels.4. Small ships that cannot evacuate from the port (*Note 2) should be pulled up to high ground and lashed; if this is not practical, the best possible action under the circumstances should be taken.5. Remain on alert until the warning or advisory is lifted, as tsunami waves may strike repeatedly. <p>*Note 1: from the port: to deeper, broader waters</p> <p>*Note 2: Evacuation from the port, pulling up of small ships and other measures should be taken only when there is time to do so before a tsunami strikes.</p>

Emergency Supply Checklist (keep for reference)

Emergency supplies to be carried in the event of an emergency

Store enough emergency supplies for you and your family and keep them in an easily retrievable place. It is important to put them in a backpack or similar to enable immediate pick-up.

Check emergency supplies regularly.

Check emergency supplies regularly to make sure everything is ready to use. It is particularly important to check the best-before dates of food and drinking water and the expiry dates of medicine and to replace them as needed.

If a disaster strikes, you may have to stay in an emergency shelter. In preparation for such situations, keep emergency supplies to be taken with you when you evacuate and emergency stockpiles for post-disaster daily life.

Valuables

Cash (incl. 10-yen coins for public phones), bankbooks, personal seal, health insurance card, copy of Certificate of Residence, driver's license, title deeds, etc.



Portable radio

Small light radio with AM and FM station access and plenty of spare batteries



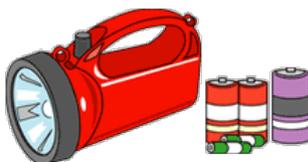
Emergency food, water

Food requiring no cooking, such as hardtack (biscuit-type bread), canned food and processed quick-cooking rice
Water in PET bottles
Powdered milk for any infants



Flashlights

One flashlight per person if possible
Spare batteries and light bulbs



Helmets, padded hoods

Appropriate sizes



First-aid medicine

Plaster, salve, bandages, stomach medicine, pain reliever, medicine for fever, cold medicine, eye drops, etc.

Regularly taken medication



Other daily commodities

Clothes (e.g., underwear, jackets and socks), cotton work gloves, towels, tissue paper, wet wipes, rainwear, lighter (matches), plastic bags, sanitary napkins, paper plates/cups, chopsticks, can opener, bottle opener, candles, knives, whistle, notebook for emergency communication, etc.



Emergency stockpiles

Food

Easy-to-cook food, such as processed quick-cooking rice, retort food, canned food, dried food, instant noodles, rice cake, pickled plums, chocolate, candies, etc.



Water

3 liters of water per person per day
Water for domestic use in plastic tanks or similar
Water in the bathtub for use in emergencies



Fuel

Camping stove, fuel, etc.
Spare gas cylinders



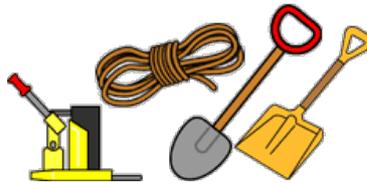
Daily commodities

Blankets, sleeping bags, clothes, toiletries, toilet roll, portable toilet, disposable body warmers, dry shampoo, plastic bags, plastic wrap, pots, bucket, plastic sheets, etc.



Tools

Shovels, bars, saw, jack, ropes and other equipment for rescue operations



Keep emergency supplies for your family's needs.

Emergency supply requirements depend on the family. Discuss with your family what to store.

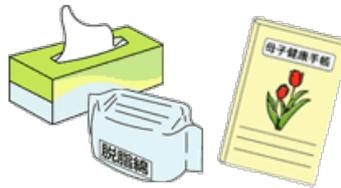
Families with infants

Powdered milk, baby bottle, diapers, baby food, spoons, baby wipes, baby sling, bath towels or baby blankets, gauze or handkerchiefs, bucket, plastic bags, soap, etc.



Families with pregnant women

Absorbent cotton, gauze, bleached cotton cloth, T bandage, cotton wipes, items for a new baby, maternity handbook, tissue paper, large plastic wrapping cloth, newspapers, soap, etc.



Families with individuals requiring nursing care

Diapers, tissue paper, spare aid supplies, household medicine and regularly taken medication, certificate of disability, extra clothes, etc.



At emergency shelters

Precautions for staying at emergency shelters

It is inconvenient to live in an emergency shelter away from your home.

Some people become sick due to the stress or strain of living with others in an unfamiliar environment.

In times of disaster, pay attention to elderly people, children and other vulnerable individuals. People should try to help one another so that everybody can live in comfort.



Precautions for staying overnight in cars

Seeking refuge in a car provides more privacy and warmth than an emergency shelter. However, it also involves risks such as economy-class syndrome (caused by sitting immobile in a small space for many hours) and carbon monoxide poisoning from a lack of ventilation. Caution is therefore required for overnight stays in a car.

To prevent economy-class syndrome:

- Move and stretch as much as possible.
- Perform foot exercises such as toe wiggling while sitting.
- Drink plenty of water.
- Wear loose clothes.

To prevent carbon monoxide poisoning:

- Open windows regularly for fresh air even if it is cold.
- Park far enough away from other cars.
- Use air conditioning with fresh-air intake.

*It is also important to have enough gasoline in the tank during Hokkaido's cold winter.



How to contact family members or check their safety

In times of disaster, telephone, Internet and other media may be unavailable for extended periods. Families are advised to discuss in advance where to meet after a disaster, how to contact one another and how to check one another's safety.

Remember the NTT Disaster Emergency Message Dial (171) voice messaging service in case normal telephone communication becomes impossible after a disaster.

NTT Disaster Emergency Message Dial (171)

- To record a message

171 + 1 + your home telephone number, etc.

- To replay a message

171 + 2 + your home telephone number, etc.

In addition, the Disaster Broadband Message Board and mobile phone carriers' disaster message services are also available.



The NTT Disaster Emergency Message Dial service (171) allows people to leave messages for family members and friends to confirm safety. The service is available for practice usage on the first day of each month as well as during Disaster Prevention and Volunteer Week (January 15 – 21) and Disaster Reduction Week (August 30 – September 5). The service is easy to use – just dial 171 and follow the voice prompts.

The Disaster Broadband Message Board (Web 171) and mobile phone carriers' disaster message services are also available. Please check how to record and play back messages in advance.

[\(Links to relevant sites\)](#)

[Websites for information on disaster management and emergency medical services]

- **Hokkaido Disaster Prevention Information**
(English, traditional/simplified Chinese, Korean and Russian)
URL: <http://www.bousai-hokkaido.jp/>
- **Hokkaido Emergency Care/Regional Disaster Information System**
(English only)
URL: <http://www.qq.pref.hokkaido.jp/qq/qq01fnlgsp.asp>

[Multilingual information website]

- **NHK World** Arabic, Bengali, Burmese, Chinese, French, Hindi, Indonesian, (17 languages) Japanese, Korean, Persian, Portuguese, Russian, Spanish, Swahili, Thai, Urdu and Vietnamese
URL: <http://www3.nhk.or.jp/nhkworld/>