Sapporo Disaster Prevention Handbook

—Protect Those You Love

Sapporo City Emergency Management Office
Zip 060-8611 Kita 1 Jo Nishi 2 Chome, Chuo-Ku, Sapporo
TEL. (011)211-3062
http://www.city.sapporo.jp/kikikanri/

Various brochures and hazard maps can be found at ward offices throughout the city or at the Sapporo Crisis Management and Control Center.

Sapporo International Communication Plaza Foundation
(Multilingual Disaster Support Center)
In the event of a large scale earthquake, the Sapporo International Communication Plaza will act as a "Multilingual Disaster Support Center" providing information updates in several languages.

Sapporo MN Bldg. 3F, Kita 1-jo Nishi 3-chome, Chuo-ku (across from the Sapporo Clock Tower)
Tel: 011-211-3670   Fax: 011-211-3673
http://plaza-sapporo.or.jp/   (Japanese/English)

* A 10-minute walk from JR Sapporo Station; a 3-minute walk from Exit 16 of Odori Subway Station
As we have witnessed through examples such as the Hanshin-Awaji Disaster, Nigata Chuetsu Earthquake Disaster, and East Japan Earthquake Disaster, major earthquakes can happen at any time without warning. Further, in recent years there have been major land slides and water damage due to localized torrential rains all over Japan, which could happen at any time here in Sapporo as well. If nothing is done to prepare for such disasters, or nothing is done when they strike, how will you protect the ones you love? Can you protect them without the cooperation and support from those around you?

In order to keep damages at a minimum, it is important for all citizens to be alert and aware of disasters, as well as be well prepared and equipped to act in an appropriate and calm manner. Further, in order to cooperate with locals in the community and seek support, it is essential to show up and take part in regular disaster readiness meetings or drills available in the community or neighborhood where citizens can actually "see each other's faces."

This booklet is to provide information and knowledge concerning disasters, and how each person can prepare at home for such incidents. Please utilize this manual to prepare yourself and take part in disaster prevention activities in your neighborhood and community.

For the purpose of saving the lives of those you love.
What you need to know

**[Strong tremors and damage]** When the tremor is strong it is difficult to remain standing.

Seismic intensity ("shindo" in Japanese) measures the strength of the movement of an earthquake and expresses it on a 10 grade scale. The following graphic provided by the Japan Meteorological Agency depicts what usually occurs in the surrounding environment during an earthquake depending on its scale.

<table>
<thead>
<tr>
<th>Intensity of 5 (weak)</th>
<th>Intensity of 5 (strong)</th>
<th>Intensity of 6 (weak)</th>
</tr>
</thead>
<tbody>
<tr>
<td>You feel as though you want to hold on to something. Items can fall from shelves.</td>
<td>More items fall from shelves. Furniture that is not bolted down may topple over.</td>
<td>Difficult to stand. Windows and tiles on the wall crack or fall.</td>
</tr>
<tr>
<td>Intensity of 6 (strong)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is impossible to move without crawling. Most unbolted furniture topples over or moves around.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intensity of 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Most wooden buildings with low earthquake resistance collapse, some low earthquake resistance concrete buildings may collapse.</td>
</tr>
</tbody>
</table>

* We have only listed strong intensities over 5 weak to 7 on a scale of 0 - 7.

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### Earthquakes and damage possible in Sapporo

As a result of research concerning earthquakes in Sapporo, it is safe to say that a major earthquake could happen in Sapporo. In Sapporo, there are three faults that could possibly cause the most damage, and have made assumptions concerning the damage that earthquakes triggered from these sources could cause.

#### Three faults that could cause maximum damage

- Fault line on the West Sapporo anticline
- Fault line on the Tsukisamu anticline
- Nopporo Hill fault line

#### Intensity Prediction Map (Tsukisamu Fault)

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#### Damage to Lifelines

When a major earthquake hits, electricity and the water supply, the lifelines of a city, are stopped. It may take up to a week for electricity to be supplied, and up to a month for the water supply to be turned back on.

#### Fires

We assume in the event of an earthquake during winter, over 300 fires will breakout damaging approximately 1,400 houses.

#### Death Toll

We assume that the death toll will reach a maximum of 2,000, due to fires and collapsed buildings. We expect that during the middle of winter that number will increase to over 8,000.

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Please check Earthquake Disaster Map for intensity in each area.

* Please see back of brochure for source of information
When an earthquake hits.

When you feel an earthquake, stay calm and take measures to protect yourself. There are many dangers inside and outside of the house when earthquakes hit. In order to be well prepared, it is important to understand what things around you can be dangerous.

**At home**
- Furniture could topple onto you.
- The sway of the tremor is larger and longer on higher stories. Be sure to bolt your furniture down.
- Get under a sturdy table to protect yourself. Move away from windows and other furniture.
- Beware of falling window glass or signboards, cover your head with your bag and get to a safe place.
- If you are trapped in an elevator, stay calm and call for help.
- If you are driving, slowly reduce speed and pull over to the left side of the road. Tune into the radio for emergency information.

**In shops**
- Beware of items falling from shelves.
- Do not use the elevator, and follow the instructions of the sales clerk.

**In mansions or condominiums**
- Stay clear of vending machines or brick fences that may topple over, as well as dangling electric lines.

**Aboard transportation**
- Hold on to bars and hand grips, and be careful not to fall down. Follow the instructions of the driver or staff.

**Emergency Earthquake Announcement**

When a strong earthquake is expected to strike, an announcement will be made on television or radio. The Emergency Earthquake Announcement predicts the expected intensity and time of strike in each area before it strikes. In order to utilize this Emergency Earthquake Announcement to its fullest, it is important to visualize the best course of action before an earthquake strikes.

If you are near the beach when you feel an earthquake, leave immediately and get to higher ground.
Several hours after an earthquake

It is assumed that after an earthquake or any other major disaster has struck, that rescue from the fire department or government may not arrive in time. For this reason, and in order to protect the lives of as many as possible, it is important for families and communities to help and support each other.

- If fire breaks out, but is small, use a fire extinguisher to put it out.
- Check to see if family members are not harmed.
- Put on shoes or slippers to avoid injury from broken glass.
- Open windows and front door to secure an exit.
- Turn on television and radio to gather correct information.
- Confirm the safety and well being of the elderly and neighbors.
- Cooperate with neighbors to rescue others.

Disaster Message Dial [171]

The Disaster Message Dial is a voice message recorder that allows people to leave messages for those in disaster areas when a major disaster hits and phones are not in service. Simply dial [171] and follow the voice guidance to leave a message or play one.

* Not in use unless there is a disaster.

To leave a message press 1
To play a message press 2

Persons living outside the disaster area, enter the telephone number of the person living in the disaster area.

There is a similar message service available through each mobile phone company. Please see the websites for each mobile phone company for details.
Several days after an earthquake

In the event that a major disaster strikes, electricity and water supply may be cut off for days. Furthermore, emergency supplies may not arrive immediately. In this case, everyone involved is a victim and must cooperate with others to get through these difficult times.

If you stay at home

- Confirm whether doors and windows open and close; check electricity and water. Check for other damage to the home.
- Clear away any broken glass or other debris.
- Live on emergency supplies. (There will not be any water or electricity for a while)
- Use left over bath water for daily use.

If you evacuate to a center

- Turn off gas valve, and main electricity breaker to avoid fires.
- Be sure to prepare food, water, medicine and warm clothing.
- Be sure to lock up. Do not leave broken windows unattended, rather cover them up with wood planks, card board or vinyl sheets.
- Walk, do not drive to the shelter.

Life at the shelter

- Water, food and information are provided at the locations.
- Talking to the elderly or playing with children is a very important way to help.
- Communal life can lead to stress and colds and other illnesses tend to spread, so be sure to take good care of physical and sanitary management.
- Clear away any broken glass or other debris.
- Operation of the shelter is basically managed by the victims themselves. Abide by rules for communal life, proactively cooperate.

Be assertive toward helping the elderly and disabled who have difficulty evacuating.

If you evacuate to a center

- When it is too dangerous to stay at home, go to the nearest evacuation site (school grounds, park, etc.).
- Evacuation sites are where anyone can go and stay safe. If necessary, you can also live there temporarily.
- Evacuation sites will usually be at a close elementary or junior high school in the area.
- It is not uncommon for the crime rate to increase due to confusion in a disaster area. (Intruders from other areas are also a problem). Neighborhood watch and fire prevention in the community is essential for protecting loved ones.
- Provide children and women with personal alarms for their safety, and try to move about in groups.
- Cooperate together to patrol the area and ensure the safety of the community.

It is not uncommon for the crime rate to increase due to confusion in a disaster area. (Intruders from other areas are also a problem). Neighborhood watch and fire prevention in the community is essential for protecting loved ones.
In recent years there have been landslides and floods in various parts of the nation due to localized torrential rains. In Sapporo, we have not experienced any major flooding since 1981, but there is always the possibility of disaster due to localized torrential rains. Also, in 2004, strong winds from a typhoon caused many casualties including some deaths.

Gather plenty of information in advance to perceive danger.

Storms and flooding disasters which are caused by typhoons, torrential rains and melting snow are not sudden, so it is important to be prepared, and to pay attention to weather reports to perceive danger and avoid it.

Amount of rain in 1 hour

- 10 - 20mm [Rather heavy rain]
- 20 - 30mm [Heavy rain]
- 30 - 50mm [Very heavy rain]
- 50 - 80mm [Extremely heavy rain]
- Over 80mm [Violent rain]

Puddles form on the ground, water splashes and wets feet. Water drains and small creeks overflow, small landslides begin. The road becomes a river. In large cities, rainwater runs into basements and underground malls. Possibility of large-scale disasters increases.

Amount of wind velocity

- Wind velocity 10 - 15m/s [Rather strong winds]
- Wind velocity 15 - 20m/s [Strong winds]
- Wind velocity 20 - 25m/s [Very strong winds]
- Wind velocity 25 - 30m/s [Extremely strong winds]
- Wind velocity 30 - 35m/s [Fierce winds]
- Wind velocity Over 35m/s [Extremely fierce winds]

Cannot open umbrella. Cannot walk toward the wind, some people fall down. Thin branches break, signboards fall or fly around. Trucks in motion are toppled over. Telephone poles and street lights fall over, concrete fences fall over.

Be sure to stay tuned to television, radio or Internet to gather all of the latest weather information.

Information on the Internet.
- Meteorological Agency [http://www.jma.go.jp]
- Ministry of Land, Infrastructure, Transport and Tourism [River Disaster Prevention Information] [http://www.river.go.jp]
- Sapporo Crisis Management and Control Center [http://www.city.sapporo.jp/kikikanri/]

Storm and Flooding in Sapporo

In August 1981, a low pressure system front sent forth torrential rains, and two weeks later typhoon 15 hit, bringing with it more torrential rains which caused flooding, resulting in one death, 1 injured and 13 houses partially or totally destroyed. Typhoon 18 in 2004 which swept along the west coast of Hokkaido toward the north, brought strong winds which killed 4, injured 92 and partially destroyed 12 houses.
Prompt action is essential

Storm and flood damages increase and become more severe with each passing hour. Be sure to evacuate before this happens.

When a typhoon is near or rain continues

- Be sure to bring in pots and other items that can be tossed around by the wind and become dangerous. Refrain from going outdoors.
- Keep emergency bags to minimum necessities, so that mobility is maintained.

Preparation of Emergency Bags

- Have sand bags or water bags always on hand. Fill a double garbage bag with water, it will act as a water bag. Place them in cardboard boxes to increase the effect.

If you fear your house may flood

- Begin preparations to keep water from entering.
- Keep emergency bags to minimum necessities, so that mobility is maintained.

When a typhoon is near

- Be aware of the dangers of each basement in advance, and pay attention to weather reports. Persons above ground should notify persons underground if there is a change in the situation.
- Do not go to see how the river looks.

Dangers in underground spaces and facilities

- If the ground above floods, the water rushes underground at once!
- Blackouts occur during floods.
- It is impossible to know what is happening outside you are in the basement.
- Stairways cannot be climbed when water is rushing down. Water may also begin flowing through exhaust vents, light windows and other unexpected places.
- The lights go out leaving the area in complete darkness, and elevators no longer operate.
- Water pressure prevents doors from opening!
- Water may also begin flowing through exhaust vents, light windows and other unexpected places.

There have been sad cases of people drowning in basements during a flood.

In June 1999, offices near Hakata Station in Fukuoka flooded, and people trapped in the first basement floor drowned. Water began to pour in from the entrance of the parking lot at rapid speed. After a phone call stating, “I can’t get out,” a scream was heard and the line went dead.

Issuance of Evacuation Information

When danger is eminent, the ward office or fire department will send out an announcement to evacuate. If you hear an announcement or hear of information concerning evacuation, please evacuate immediately.

Evacuation Order

Issued when the possibility of a disaster is eminent.

=> Evacuate immediately

Evacuation Instruction

Issued when possibility of human casualty is extremely high, or has already occurred.

=> If you have not yet evacuated, do so immediately. If you do not have time, take the measures you can to save your life.

When evacuating

- Wear clothes that are easy to move in, and travel in pairs or groups.
- Avoid evacuation by car, and do not leave your car on the riverbank.
- Evacuate after inundation is extremely dangerous.

Evacuation after inundation is extremely dangerous.

Generally speaking, walking becomes difficult for men when the water level is over 70cm, and for women over 50 cm. There is also the danger of being swept away by fast currents. There is also the danger of falling into a man hole.

<table>
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<th>Evacuation Order</th>
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<td>=&gt; Evacuate immediately</td>
<td>=&gt; If you have not yet evacuated, do so immediately.</td>
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Evacuate to the second floor of your house, or to a strong building nearby.
Protecting yourself from landslides

There is the possibility that landslides may occur during heavy rains. If it rains more than 20 mm in one hour, or over 100 mm of rainfall is recorded from when the rains begin, take extra caution.

- In some cases, landslides tend to occur quite a while after the premonitory phenomena is evident.

When a landslide occurs, there are often premonitory phenomena present. If you notice any of these premonitory phenomena, evacuate immediately.

In order to evacuate safely

Be sure to regularly check areas that could potentially slide, where the evacuation shelter is, and how to get to the shelter safely.

Potential Danger Zones for Landslides

- Hokkaido Sapporo Construction Management
- Sapporo Crisis Management and Control Center
  - http://www.city.sapporo.jp/kikikanri/

Concerning Landslide Warnings

Hokkaido and the Meteorological Agency for Sapporo District share information to announce necessary information and guidelines as to when there is a possibility for landslides to occur during heavy rains. Whether or not information or warnings are announced, if you feel in danger do not hesitate to evacuate individually.

Protect yourself from tornadoes

Tornadoes that occur with cumulonimbus clouds bring forth great damage. If a tornado appears, take action to protect yourself immediately.

Thunder and Lightening Advisory

- Dark clouds hang low, and the area becomes dark.
- Thunder can be heard, lightening can be seen.
- A sudden cold breeze begins to blow.
- Large raindrops or hail begins to fall.

Indoors

- Move to the basement or room on the first floor that does not have windows.
- Close curtains and windows and stay away from the windows.
- Take cover under large desks or tables, and keep yourself low to the floor, and protect your head.
- Evacuate to a strong building nearby.
- DO NOT evacuate to storage rooms, garages or prefab buildings.
- Beware of falling telephone poles and trees.

If a tornado occurs

Outdoors

- Large masses of debris flow at once.
- Large amounts of debris flow at once.
- A large mass of a slope will slide down.
- The side of a steep slope will suddenly slide.
- A crack appears on the slope.
- The mountain rumbles.
- The ground or mountain rumbles.

Water flows from the side of a slope.
River water becomes murky and drift wood appears.
Well water and mountain streams become murky.
Small rocks fall.
The water level in the river suddenly recedes even though there is heavy rainfall.
Cracks appear in the ground, cave-ins can be found, trees lean.
A crack appears on the slope.
The mountain rumbles.
The ground or mountain rumbles.

* In some cases, landslides tend to occur quite a while after the premonitory phenomena is evident.
Many of the homes that collapsed during the Hanshin-Awaji Earthquake Disaster, were built before May of 1981, in accordance with the former earthquake resistance standards. It is wise to first check when your house was built.

Earthquake Resistance Evaluation and Earthquake Resistance Renovation Subsidy Programs

The city of Sapporo executes a program to assist in a portion of the cost needed to evaluate and renovate wooden homes that were built prior to May of 1981. Be sure to have the evaluation and make sure your home is safe and secure.

Inquiries
Building Inspection Section of the Urban Renewal and Development Bureau. TEL. 211-2867

Making Sure Your House is Earthquake Resistant

Preparing for an Earthquake

In order to protect those you love and yourself from an earthquake that could strike at any time, it is important to begin making preparations immediately.

Securing Furniture and Safety

- Make sure fallen furniture does not block exits.
- Do not sleep in the direction that furniture can fall.
- Use extension poles to secure furniture. Stow heavy items on the bottom to keep the center of gravity low to the floor.
- Place plates under casters.
- Anchor televisions with rubber mats. (strapping the TV to the wall is also helpful)
- Use L shaped studs to anchor furniture. Use shatter-proof film on glass of cupboards. Use latches to keep doors from opening, and non-slip cloth underneath plates to keep them from sliding out.
- Use wires to keep hanging lights secure. Make sure refrigerators will not topple over, and microwaves cannot move around. All major appliances need to be securely anchored down.

Checklist for Safety Around the House

- Kerosene tank is anchored.
- Propane gas tanks are anchored and piping is secure.
- Block fences are not wobbly.
- Fire extinguishers are ready, not expired and you know how to use them.
- Nothing flammable is left near stoves and ovens.

Prepare emergency cards like these ahead of time and keep them on your person.

[Checklist for Around the House]

- Windows and screens are not wobbly.
- Television antennas are securely fastened.
- The roof is not peeled back or damaged.
- There is nothing that can be blown away when a typhoon is nearing.
- Electric lines are not sagging.

Prepare emergency cards like these ahead of time and keep them on your person.

Preparing for Storms and Floods

In order to protect those you love and yourself from an earthquake that could strike at any time, it is important to begin making preparations immediately.

Determine a safe evacuation route.

Determine the exact route to the evacuation shelter.

Clean out drains regularly.

It drains and ditches become clogged with leaves or dirt, rainwater will cause flooding.

Make emergency cards like these ahead of time and keep them on your person.

Emergency Card

Emergency Card

Emergency Card

Emergency Card

Emergency Card

Emergency Card
Disasters can strike anytime, whether you are all together as a family or during the day when everyone is at work or school. It is important to regularly discuss contacts, evacuation shelters, meeting places and what to take when disaster strikes.

What must be done in the event of an emergency.
- Contact method and meeting place with family.
- Evacuation shelter and route.
- Emergency supplies and items to bring along.
- What we can do to help in our community.

Emergency contacts during a disaster
- Chuo Ward Office 231-2400
- Kita Ward Office 757-2400
- Higashi Ward Office 741-2400
- Shiroishi Ward Office 861-2400
- Atsubetsu Ward Office 895-2400

Gas leaks
- Hokkaido Gas Co., Ltd. 233-5533

Emergency contact for waterworks during night and holidays
- Waterworks Management Center 211-7770

Fire, emergency and rescue 119

Points to remember during evacuation
- Evacuation shelters are basically nearby elementary and junior high schools. Shines and temples, community centers also serve as shelters. Be sure to confirm these beforehand.
- In the event that an evacuation order or advisory is in effect, promptly evacuate the premises.
- Be sure to check on neighbors and evacuate in groups.
- Do not use your car; walk.
- Be sure to turn off the gas valve and electric breakers when you leave.

Languages I speak:
Nationality:
Embassy/Consulate phone number:
Emergency contact within Japan:
Emergency contact overseas:
ID number (passport or other identification):
Medical History:
Evacuation Shelter:

Family Disaster Awareness Meetings

Let's be sure to check on the elderly lady next door.
We need formula and pet food in our emergency supplies.
We need to add my medication and glasses to our emergency take out supplies.

What is the next disaster drill in our neighborhood?

Emergency supplies and items to bring along.
Be sure to have enough food and water (3 liters per person per day) to last at least 3 days.
The following list is just an example. Prepare what your own family will need.

Emergency supplies
- Cassette Gas Range
- Water Tank
- Portable Toilet
- Lantern
- Flashlight/Portable Radio
- First Aid Kit/Medicine/Book
- Cash/Valuables
- Disposable Heating Pads
- Blankets
- Tissue paper/Wet wipes
- Plastic Bags

Items to bring along
- Pet food
- Formula/Diapers/Bottles
- Medicine/Book
- Dry Shampoo
- Gloves
- Napkins
- Sanitary Supplies
- Newspaper
- Jackets/Coats
- Sleeping Bags
- Disposable Pads

Points to Remember During Evacuation

Languages I speak:
Nationality:
Embassy/Consulate phone number:
Emergency contact within Japan:
Emergency contact overseas:
ID number (passport or other identification):
Medical History:
Evacuation Shelter:
It is important to attend disaster prevention meetings and drills that are held in the community and neighborhood, so that people can actually see your face. In the event of an emergency, everyone in the community will know and can help each other. In order to be able to help others, it is essential to form neighborhood and community disaster prevention organizations, and proactively carry out drills.

### Neighborhood and Community Disaster Self Prevention Organizations’ Main Activities

**Evacuation Pathfinders**
- Determine safe areas and routes and help people evacuate. Make sure no one is left behind.

**Water Supply Team**
- Searches for usable faucets, asks each family to contribute food supplies and helps cook and supply water.

**Rescue and Relief Team**
- Treat the wounded, transport them to hospitals or first aid facilities.

**Fire Extinguisher Team**
- Calls out to each house to turn off stove, ovens and gas. The teams help with neighbors in the community to put out primary fires with fire extinguishers and bucket water relays.

**Headquarters/Information Contact Team**
- Gathers information concerning damage in the area, evacuation situation and disaster and reports to ward offices and fire departments. The team also relays information from the ward offices to the citizens of each community.

### Regular Activities

**Regular neighborhood events may also lead to evacuation activities.**

**Hold regular seminars and drills concerning disaster prevention.**

**Attend first aid classes and learn the knowledge and procedures of first aid.**

**Determine evacuation route and safe areas and notify everyone in the community.**

**For inquiries concerning the Neighborhood and Community Self Disaster Prevention Organization, please contact the General Affairs and Planning Department of each ward office. For disaster drills, please contact each fire department.**

*See back of brochure for source of information.*
In the event that a nuclear disaster occurs at the Tomari nuclear plant, it is essential to collect all the correct information possible, and act calmly.

Gathering Information

1. Gather the correct information and do not act according to assumptions or rumors.
2. Please avoid using the telephone unless it is an emergency.

Evacuating Indoors

If an order is given to evacuate and take cover indoors, please get inside your house or any other building nearby and refrain from going outdoors.

Restriction on Food and Drink

There is a possibility that food and drink intake will be restricted if there is radiation in the air. Please stay calm and follow instructions.

1. Do not consume any food or drink that may have been contaminated.
2. Items that were already indoors are not a problem.
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