



# Floods

What to do?



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PREPARED?

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### Our partners

This publication was produced by Public Safety Canada in collaboration with: Canada Mortgage and Housing Corporation (CMHC), Canadian Red Cross, Natural Resources Canada, and St. John Ambulance.

An electronic version of this brochure is available at **[www.GetPrepared.ca](http://www.GetPrepared.ca)**.

This publication is also available in multiple formats (audio, Braille, large print, and diskette). To order, please call: 1 800 O-Canada (1-800-622-6232); TTY: 1-800-926-9105.

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Cat. No.: PS48-9/1-2008E-PDF

ISBN: 978-0-662-48179-9

Printed in Canada





## INTRODUCTION

*Floods are the most frequent natural hazards in Canada, and the most costly in terms of property damage. Floods can occur in any region, in the countryside or in cities. In the past, floods have affected hundreds of thousands of Canadians. They can occur at any time of the year and are most often caused by heavy rainfall, rapid melting of a thick snow pack, ice jams, or more rarely, the failure of a natural or human-made dam.*

All Canadian rivers experience flooding at one time or another. The potential for flood damage is particularly high where there is development on low-lying, flood-prone lands.

Flash or sudden flooding, in which warning time is extremely limited, can result from other causes such as hurricanes, violent rainstorms, or the bursting of dams.

Though all levels of government are working to reduce the impact of floods, individuals also play an important role. Everyone has a responsibility to protect their homes and their families. By planning ahead and taking practical steps to prepare, you can do your part to minimize flood damage.

This brochure addresses the three basic steps to take to prepare for floods: finding out about the risks in your area and about protective measures, making an emergency plan, and getting an emergency kit.

## BEFORE A FLOOD

### *Protecting your home before, during, and after a flood.*

#### **To reduce the likelihood of flood damage**

- Put weather protection sealant around basement windows and the base of ground-level doors.
- Install the drainage for downspouts a sufficient distance from your residence to ensure that water moves away from the building.
- Consider installing a sump pump and zero reverse flow valves in basement floor drains.
- Do not store your important documents in the basement. Keep them at a higher level, protected from flood damage.

#### **If a flood is forecast**

- Turn off basement furnaces and the outside gas valve.
- Take special precautions to safeguard electrical, natural gas or propane heating equipment.
- If there is enough time, consult your electricity or fuel supplier for instructions on how to proceed.
- Shut off the electricity only if flooding has not yet begun and the area around the fuse box is completely dry. Stand to the side of the breaker panel and look away from the panel when switching the power off. Have a flashlight with you.

#### **If flooding is imminent**

- Move furniture, electrical appliances and other belongings to floors above ground level.
- Remove toxic substances such as pesticides and insecticides from the flood area to prevent pollution.
- Remove toilet bowls and plug basement sewer drains and toilet connections with a wooden stopper.
- Disconnect eavestroughs if they are connected to the house sewer.

- In some cases, homes may be protected with sandbags or polyethylene barriers. Follow instructions from local emergency officials.
- Do NOT attempt to shut off electricity if any water is present. Water and live electrical wires can be lethal. Leave your home immediately and do not return until authorities indicate it is safe to do so.

## DURING A FLOOD

*Listen to the radio to find out what areas are affected, what roads are safe, where to go and what to do if the local emergency team asks you to leave your home.*

- Keep your emergency kit close at hand, in a portable container such as a duffel bag, back pack, or suitcase with wheels.

### **If you need to evacuate**

- Vacate your home when you are advised to do so by local emergency authorities. Ignoring such a warning could jeopardize the safety of your family or those who might eventually have to come to your rescue.
- Take your emergency kit with you.
- Follow the routes specified by officials. Don't take short-cuts. They could lead you to a blocked or dangerous area.
- Make arrangements for pets.
- Time permitting, leave a note informing others when you left and where you went. If you have a mailbox, leave the note there.

### **Never cross a flooded area**

- If you are on foot, fast water could sweep you away.
- If you are in a car, do not drive through flood waters or underpasses. The water may be deeper than it looks and your car could get stuck or swept away by fast water.

- Avoid crossing bridges if the water is high and flowing quickly.
- If you are caught in fast-rising waters and your car stalls, leave it and save yourself and your passengers.

## AFTER A FLOOD

### *Re-entering your home.*

- Do not return home until authorities have advised that it is safe to do so.
- If the main power switch was not turned off prior to flooding, do not re-enter your home until a qualified electrician has determined it is safe to do so.
- Use extreme caution when returning to your home after a flood.
- Appliances that may have been flooded pose a risk of shock or fire when turned on. Do not use any appliances, heating, pressure, or sewage system until electrical components have been thoroughly cleaned, dried, and inspected by a qualified electrician.
- The main electrical panel must be cleaned, dried, and tested by a qualified electrician to ensure that it is safe.
- Depending on where you live, your municipal or the provincial inspection authority is responsible for the permitting process required before your electric utility can reconnect power to your home.

### **Ensure building safety**

- Make sure the building is structurally safe.
- Look for buckled walls or floors.
- Watch for holes in the floor, broken glass and other potentially dangerous debris.

## Water

- Flood water can be heavily contaminated with sewage and other pollutants. It can cause sickness and infections.
- If through colour, odour or taste you suspect that your drinking water has been contaminated, don't drink it.
- Household items that have been flood-damaged will have to be discarded according to local regulations.

## Documentation

- Store all valuable papers that have been damaged in a freezer until needed. (After your cleanup, consult your lawyer to determine whether flood-damaged documents, or just the information in them, must be retained).
- Record details of flood damage by photograph or video, if possible.
- Register the amount of damage to your home with both your insurance agent and local municipality immediately.

## CLEANUP

***Restore your home to good order as soon as possible to protect your health and prevent further damage. Minimize contact with flood water or anything that may have been in contact with it. Keep children away from contaminated areas during cleanup.***

## Recommended flood cleanup equipment

- Gloves
- Masks and other protective gear
- Pails, mops and squeegees
- Plastic garbage bags
- Unscented detergent
- Large containers for soaking bedding, clothing and linens, and clotheslines to hang them to dry

### Additional equipment

- You may need to rent or buy additional equipment such as extension cords, submersible pumps, wet/dry shop vacuums, a carbon monoxide sensor and dehumidifiers, fans or heaters.
- When using the equipment, keep extension cords out of the water.

### Water

- Drain flooded water from your home in stages—about one third of the volume daily. If the ground is still saturated and water is removed too quickly, the walls or the floor could buckle.
- Use pumps or pails to remove standing water, then a wet/dry shop vacuum to mop up the rest.
- For instructions on how to disinfect and restore wells and cisterns, contact your local or provincial health authorities or emergency management organization.

### Yard

- Clear the yard of all debris and refuse, which can provide a breeding ground for bacteria and mould.

### Heating and appliances

- Do not heat your home to more than 4°C (about 40°F) until all of the water is removed.
- If you use pumps or heaters powered by gasoline, kerosene or propane, buy and install a carbon monoxide sensor. Combustion devices can produce lethal amounts of carbon monoxide if they're not tuned-up or are improperly ventilated.
- Do not use flooded appliances, electrical outlets, switch boxes or fuse-breaker panels until they have been checked by your local utility.
- Whether you use a wood, gas or electrical heating system, have it thoroughly inspected by a qualified technician before use. Replace the furnace blower motor, switches and controls if they have been soaked.



- Flooded forced-air heating ducts and return-duct pans should be either cleaned thoroughly or replaced.
- Replace filters and insulation inside furnaces, water heaters, refrigerators and freezers if they have been wet. It may be cheaper to replace the entire appliance.

### **Dirt and debris**

- Remove all soaked and dirty materials as well as debris.
- Break open walls and remove drywall, wood paneling and insulation at least 50 centimetres (20 inches) above the high-water line.
- Hose down any dirt sticking to walls and solid-wood furniture then rinse several times.
- Wash and wipe down all surfaces and structures with unscented detergent and water. Rinse.

### **Floor drains**

- Flush and disinfect floor drains and sump pumps with detergent and water. Scrub them to remove greasy dirt and grime.
- Clean or replace footing drains outside the foundation when they are clogged. Consult a professional for advice or service.

### **Structures**

- Ventilate or dehumidify the house until it is completely dry.
- Rinse and then clean all floors as quickly as possible.
- Replace flooring that has been deeply penetrated by flood water or sewage.
- Clean all interior wall and floor cavities with a solution of water and unscented detergent.

### **Carpets and furniture**

- Dry carpets within the first two days. For large areas, hire a qualified professional. Discard carpets soaked with sewage immediately.
- Remove residual mud and soil from furniture, appliances, etc.
- If items are just damp, let the mud dry and then brush it off.

- To test if material is dry, tape clear food wrap to the surface of the item. If the covered section turns darker than the surrounding material, it is still damp. Dry until this no longer occurs.
- For upholstered furniture, consult a professional to see what can be salvaged. In the meantime, remove cushions and dry separately. Do not remove upholstery. Raise furniture on blocks and place fans underneath.
- Wooden furniture: remove drawers and open doors. Do not dry quickly or splitting may occur.

### **Mould**

- Mould can lead to serious health problems to the occupants of formerly flooded buildings, even well after the flood occurred.
- You may need to have your home professionally cleaned for it to be covered by insurance. Check with your insurance company.
- If you are cleaning up in a room where mould is present, wear a face mask and disposable gloves.
- To minimize mould growth, move items to a cool, dry area within 48 hours and set up fans.
- Alternatively, textiles, furs, paper and books can be frozen until they are treated.
- Wet mould will smear if wiped. Let it dry and then brush it off outdoors.
- You can also kill mould spores by lightly misting the item with rubbing alcohol.

### **Food and medicine**

- Undamaged canned goods must be thoroughly washed and disinfected.
- Dispose of all medicines, cosmetics and other toiletries that have been exposed to flood water.
- Dispose of any of the following food items if they have been exposed to flood water:

- Contents of freezer or refrigerator, including all meats and all fresh fruit and vegetables
- All boxed foods
- All bottled drinks and products in jars, since the area under the seal of jars and bottles cannot be properly disinfected
- Cans with large dents or that reveal seepage

### **What to discard**

All insulation materials, particleboard furniture, mattresses and box springs, stuffed toys, pillows cushions, and furniture coverings that have been exposed to flood water.

### **What is salvageable?**

- Frames of high-quality furniture can often be saved. They must first be cleaned, disinfected and rinsed, then dried by ventilation away from direct sunlight or heat. Drying too quickly can cause warping and cracking.
- Clothes can be cleaned. Scrape heavy dirt from washable clothes. Rinse and wash them several times with detergent and dry quickly.

## **BEFORE MOVING BACK IN**

***Once the flood waters have receded, do not reoccupy your house until:***

- The regular water supply has been inspected and officially declared safe for use.
- Every flood-contaminated room has been thoroughly cleaned, disinfected and surface-dried.
- All contaminated dishes and utensils have been thoroughly washed and disinfected – either by using boiling water or by using a sterilizing solution of one part chlorine bleach to four parts water. Rinse dishes and utensils thoroughly.
- Adequate toilet facilities are available. For more information, consult your local health authority.

## MAKE AN EMERGENCY PLAN

*Every Canadian household needs an emergency plan. It will help you and your family to know what to do in case of an emergency. Remember, your family may not be together when a flood or other emergency occurs.*

Start by discussing what could happen and what you should do at home, at school or at work if an emergency happens. To be prepared, make a list of what needs to be done ahead of time. Store important family documents, such as birth certificates, passports, wills, financial documents, insurance policies, etc. in waterproof container(s). Identify an appropriate out-of-town contact that can act as a central point of contact in an emergency.

Write down and exercise your plan with the entire family at least once a year. Make sure everybody has a copy and keeps it close at hand.

For more information on making an emergency plan, call 1 800 O-Canada or visit [www.GetPrepared.ca](http://www.GetPrepared.ca) to download or complete an emergency plan online.

## GET AN EMERGENCY KIT

*In an emergency you will need some basic supplies. You may need to get by without power or tap water. Be prepared to be self-sufficient for at least 72 hours.*

You may have some of the items already, such as a flashlight, battery-operated radio, food, and water. The key is to make sure they are organized and easy to find. Would you be able to find your flashlight in the dark?

Make sure your kit is easy to carry. Keep it in a backpack, duffel bag or suitcase with wheels, in an easy-to-reach, accessible place, such as your front hall closet. Make sure everyone in the household knows where the emergency kit is.

### Basic emergency kit

- Water – at least two litres of water per person per day. Include small bottles that can be carried easily in case of an evacuation order
- Food that won't spoil, such as canned food, energy bars and dried foods (remember to replace the food and water once a year)
- Manual can opener
- Wind-up or battery-powered flashlight (and extra batteries)
- Wind-up or battery-powered radio (and extra batteries)
- First aid kit
- Special items such as prescription medications, infant formula and equipment for people with disabilities
- Extra keys to your car and house
- Cash in smaller bills, such as \$10 bills (travellers cheques are also useful) and change for payphones
- A copy of your emergency plan and contact information

You can purchase a pre-packaged emergency kit from the Canadian Red Cross at [www.redcross.ca](http://www.redcross.ca), from the St. John Ambulance/Salvation Army at [www.sja.ca](http://www.sja.ca) or from retailers across Canada. Visit [www.GetPrepared.ca](http://www.GetPrepared.ca) or call 1 800 O-Canada for a list of retailers by province and territory or for a list of additional emergency kit items, including a car emergency kit.



## RESOURCES

### National Resources

Public Safety Canada – Other publications:

- Your Emergency Preparedness Guide
- Earthquakes – What to do?
- Power Outages – What to do?

For more emergency preparedness information or to order brochures, visit **[www.GetPrepared.ca](http://www.GetPrepared.ca)**.

Canada Mortgage and Housing Corporation – for more information on cleaning your house after a flood, home repair and renovation, contact CMHC toll-free at 1-800-668-2642 or visit **[www.cmhc.gc.ca](http://www.cmhc.gc.ca)**.

Canadian Red Cross – **[www.redcross.ca](http://www.redcross.ca)**

Natural Resources Canada – **[www.nrcan.gc.ca](http://www.nrcan.gc.ca)**

St. John Ambulance – **[www.sja.ca](http://www.sja.ca)**

### Provincial and Territorial Resources

For regional or local information on emergency preparedness, contact your emergency management organization as follows:

Alberta Emergency Management Agency  
Telephone: (780) 422-9000 / Toll-free: 310-0000  
[www.aema.alberta.ca](http://www.aema.alberta.ca)

British Columbia Provincial Emergency Program  
Telephone: (250) 952-4913 / Emergency: 1-800-663-3456  
[www.pep.bc.ca](http://www.pep.bc.ca)

Manitoba Emergency Measures Organization  
Telephone: (204) 945-4772 / Toll-free: 1-888-267-8298  
Emergency: (204) 945-5555  
[www.manitobaemo.ca](http://www.manitobaemo.ca)

New Brunswick Emergency Measures Organization  
Telephone: (506) 453-2133 / Toll-free (24/7): 1-800-561-4034  
24 hr: (506) 453-2133  
[www.gnb.ca/cnb/emo-omu](http://www.gnb.ca/cnb/emo-omu)

Newfoundland and Labrador Emergency Measures Organization  
Telephone: (709) 729-3703  
[www.ma.gov.nl.ca/ma/fes/emo](http://www.ma.gov.nl.ca/ma/fes/emo)

Northwest Territories Emergency Measures Organization  
Telephone: (867) 920-6133 / Emergency: (867) 873-7554  
[www.maca.gov.nt.ca/safety/emergency\\_measures](http://www.maca.gov.nt.ca/safety/emergency_measures)

Nova Scotia Emergency Management Office  
Telephone (24 hr): 1-866-424-5620  
[www.gov.ns.ca/emo](http://www.gov.ns.ca/emo)

Nunavut Emergency Management  
Telephone: (867) 975-5403 / 24 hr Emergency: 1-800-693-1666  
[cgs.gov.nu.ca/en/nunavut-emergency-management](http://cgs.gov.nu.ca/en/nunavut-emergency-management)

Emergency Management Ontario  
Telephone: (416) 314-3723 / 24 hr: 1-877-314-3723  
[www.ontario.ca/emo](http://www.ontario.ca/emo)

Prince Edward Island Emergency Measures Organization  
Telephone: (902) 888-8050 / After hours: (902) 892-9365  
[www.peiemo.ca](http://www.peiemo.ca)

Quebec – Ministère de la sécurité publique  
Telephone (toll-free): 1-866-776-8345  
General information (Services Québec): 1-877-644-4545  
[www.msp.gouv.qc.ca/Index\\_en.asp](http://www.msp.gouv.qc.ca/Index_en.asp)

Saskatchewan Emergency Management Organization  
Telephone: (306) 787-9563  
[www.cps.gov.sk.ca/SaskEMO](http://www.cps.gov.sk.ca/SaskEMO)

Yukon Emergency Measures Organization  
Telephone: (867) 667-5220 / Toll Free: 1-800-661-0408  
[www.community.gov.yk.ca/emo/index.html](http://www.community.gov.yk.ca/emo/index.html)

[www.GetPrepared.ca](http://www.GetPrepared.ca)



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