

# [NEW] Floods (From Public Safety Canada)

[http://getprepared.ca/risks/floods\\_e.asp](http://getprepared.ca/risks/floods_e.asp)

A heavy rainfall can result in flooding, particularly when the ground is still frozen or already saturated from previous storms. Floods may also result if heavy rain coincides with the spring thaw.

Flash flooding -- in which warning time is extremely limited -- can be caused by earthquakes, hurricanes, violent storms or dams bursting.

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## Preparing for a flood

Beyond the human toll taken in lives, injuries and suffering, flood damage costs Canadians millions of dollars each year. The best way to minimize flood damage is to take precautions ahead of time, especially if you live in a flood-prone area. Although governments at every level work to reduce the risk of floods, you are the first line of defence.

### 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.

### 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 supplier for instructions on how to proceed.

### When there is immediate danger of flooding:

- Shut off the electricity.
- If the area around the fuse box or circuit breaker is wet, stand on a dry board and shut off the power with a dry wooden stick.
- Try to 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. This approach requires specific instructions from your local emergency officials.

## During a flood

Keep your radio on to find out what areas are affected, as well as what roads are safe, where to go and what to do if the local emergency team asks you to leave your home. You'll

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want to have your [emergency kit](#) close at hand, in a portable container such as a duffel bag or suitcase with wheels.

## Important: Never cross a flooded area

If you are on foot, the fast water could sweep you away.

If you are in a car, try not to drive through flood waters or underpasses. The water may be deeper than it looks and you could get stuck or your car could be swept away by fast water. You may also want to 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

It is important to restore your home to good order as soon as possible to protect your health and prevent further damage to the house and its contents. The Canada Mortgage and Housing Corporation has prepared a [checklist](#) to help organize your clean-up. It is also available by calling 1-800-668-2642 (outside Canada call 613-748-2003).

## Before you begin

Be cautious when re-entering your home. Avoid electrical shock by wearing rubber boots in any area flooded with more than five centimetres (two inches) of standing water.

## Electricity

Keep extension cords out of the water. If the power is on in the flooded area, shut it off immediately at the breaker box. If conditions are wet around the breaker box, stand on a dry board and use a dry stick to turn off the switch. Consult your local electrical utility if you require assistance.

## 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, posing a serious health hazard.

If through colour, odour or taste you suspect that your drinking water has been contaminated, purify it before drinking.

Household items that have been flood-damaged will have to be discarded according to local regulations.

## Recommended 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 clothes lines to hang them to dry.

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Store all valuable papers that have been damaged in a freezer until they are needed. 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.

Depending on your situation, you may need to rent additional equipment such as extension cords, submersible pumps, wet/dry shop vacuums, a carbon monoxide sensor and dehumidifiers, fans or heaters.

## Clean-up

Flooding can disrupt water purification and sewage disposal systems, cause toxic waste sites to overflow and dislodge chemicals previously stored above ground. For this reason, floodwaters are often contaminated with infectious organisms.

Although most floods do not cause serious outbreaks of infectious disease or chemical poisonings, they can cause sickness. It is very important to maintain good hygiene during cleanup, and to make every effort to minimize contact with floodwaters or anything that may have been in contact with them. Keep children away from contaminated areas during clean-up operations.

## Water

Remove water from your flooded home slowly. Drain it in stages -- about one third of the volume daily -- because 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](#).

## 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 large amounts of lethal 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, ensure that it has been thoroughly inspected by a qualified technician before using it again. 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 or replaced.

Replace filters and insulation inside furnaces, water heaters, refrigerators and freezers if they have been wet. However, it is often cheaper to replace this equipment.

## Dirt and debris

- Remove all soaked and dirty materials as well as debris.
- Break out walls and remove drywall, wood panelling 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.

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## 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 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

- Carpets must be dried within the first two days. For large areas, hire a qualified professional to do the job. Carpets soaked with sewage must be discarded 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.
- Upholstered furniture: 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. If 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 isopropanol (rubbing alcohol).

## Food and medicine

All undamaged canned goods must be thoroughly washed and disinfected. Dispose of all medicines, cosmetics and other toiletries.

Dispose of any of the following food items if they have been exposed to flood waters:

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

## Precautions for specific items

- **Furs:** Blot gently with towels to remove excess water. Air-dry or freeze.
- **Textiles:** Rinse until the water runs clear. Air-dry, or bag and freeze.
- **Books:** Do not squeeze. Fan open and air-dry, using electric fans, or freeze.

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- **Framed items:** Remove from frame and air-dry.
- **Glossy paper:** Do not allow it to dry or the pages will stick together. Freeze immediately.
- **Paintings:** Do not remove canvas paintings from their stretchers. Do not freeze.
- **Contemporary photographs, negatives and slides:** Remove from mounts or plastic sleeves and air-dry. If stuck together, do not force apart.

## Water-damaged heirlooms and antiques

- Act quickly to prevent further damage.
- Wet items will be heavy and fragile so keep them well supported when handling, drying or freezing. Relocate items to a cool, dry location.
- Books, documents and textiles can be placed in a freezer until they can be properly treated.
- Consult a conservator before attempting repairs.
- If items are contaminated with sewage, take proper health precautions.

## What to keep or discard

**Remove and replace all insulation materials** and other articles that have been soaked, including particleboard furniture, mattresses, box springs, stuffed toys, pillows as well as furniture coverings, padding and cushions.

**Frames on high-quality furniture can often be saved.** However, 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.

**Scrape heavy dirt from washable clothes.** Rinse and wash them several times with detergent and dry quickly.

**Consult your lawyer** to determine whether flood-damaged documents, or just the information in them, must be retained.

**The yard area should also be cleared** of all debris and refuse which can provide a breeding ground for bacteria and mould.

## Before moving back in

Once the flood waters have receded, you must not live in 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.)

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**[LINK]** <http://publicsafety.gc.ca/index-en.asp> **Public Safety Canada (PS)** was created in 2003 to ensure coordination across all federal departments and agencies responsible for national security and the safety of Canadians.

From natural disasters to crime and terrorism, their mandate is to keep Canadians safe.