

Floods

Floods are the most frequent natural hazard in Canada and have had devastating effects in Alberta (i.e. High River 2013). 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 man-made dam.

Flood Facts

- A heavy rainfall can result in flooding, particularly when the ground is still frozen or already saturated from previous storms.
- Flash flooding - in which warning time is extremely limited - can be caused by violent storms or dams breaking.
- Many Alberta rivers experience flooding at one time or another. The potential for flood damage is high where there is development on low-lying flood-prone lands.

Before a Flood

To prepare for a flood and 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

- 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.
- In floods, sheltering livestock may be the wrong thing to do. Leaving animals unsheltered is preferable because flood waters that inundate a barn could trap animals inside, causing them to drown.

- If evacuation of the animals is being considered, then evacuation procedures, places and routes should be planned. Animal evacuation routes must not interfere with human evacuation routes. Alternate routes should be found in case the planned route is not accessible. Places where animals are to be taken should be decided in advance and arrangements made with the owners of these places to accept the animals.

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 eaves troughs 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.
- 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 or television for information from local officials and follow their instructions.
- Monitor alerts from the [Alberta Emergency Alert](#) app.
- Keep your [emergency kit](#) close at hand, in a portable container such as a duffel bag, back pack or suitcase with wheels.
- Make sure your cell phone is charged and the charger is packed.

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. Do not take shortcuts. 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

Restore your home to good order as soon as possible to protect your health and prevent further damage to the house and its contents.

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

- Rely on the professionals to make sure the building is structurally safe. Do not enter if you see buckled walls or floors.
- Take safety precautions. 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 your drinking water shows signs of contamination, such as colour, odour or taste, do not 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 they are 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

Maintain good hygiene during flood cleanup. Minimize contact with floodwater or anything that may have been in contact with it. Keep children away from contaminated areas during cleanup operations.

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

- Depending on your situation, you may need to rent additional equipment such as extension cords, submersible pumps, wet/dry shop vacuums, carbon monoxide sensors, dehumidifiers, fans and/or heaters.
- When using the equipment, keep extension cords out of the water.

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 are not tuned-up or properly ventilated.
- Do not use flooded appliances, electrical outlets, switch boxes or fuse-breaker panels until they have been checked by your local utility company.
- Whether you use a wood, gas or electrical heating system, have it 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 (about 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. Make sure to 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

- 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 the 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 you should 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.
- For wooden furniture, remove drawers and open doors. Do not dry quickly as splitting may occur.

Mould

- Mould can lead to serious health problems.
- 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 isopropanol (rubbing alcohol).

Food and medicine

- All 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, including home preserves (since the area under the seal of jars and bottles cannot be properly disinfected).
 - Cans that reveal seepage or have large dents.

What to discard

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

What is salvageable

- Frames of 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.
- 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, 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 (i.e. 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.)

Be Informed

- Download the [Alberta Emergency Alert](#) app to receive current information about disasters or emergencies impacting your community.
- [Alberta Environment forecasts and advisories for high streamflows, flooding and ice jams in rivers and streams in Alberta.](#)
- [Data and advisories now available through the Alberta Rivers: Data and Advisories app.](#)
- [Information for producers and animal owners.](#)

For more information on hazards in Alberta, contact your municipality or community's Director of Emergency Management or the Alberta Emergency Management Agency at 780-422-9000 (Dial 310-0000 for toll-free access outside Edmonton). You can also visit www.aema.alberta.ca.