

# Preparing for **MOTHER NATURE**

A Series of How-To Guides



**UNIVERSITY  
OF ALBERTA**

CITY OF   
**Camrose**

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# 1. Introduction

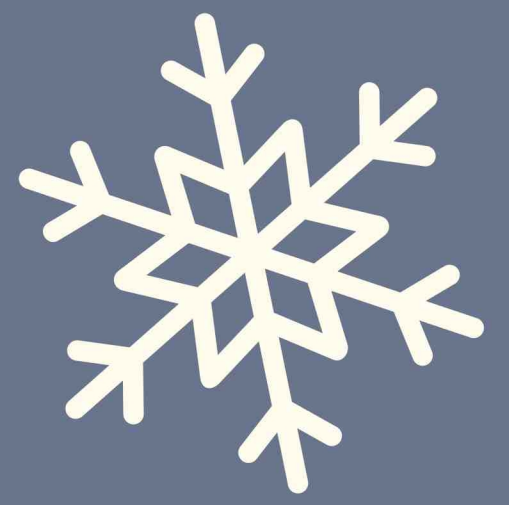
Our project aims to inform Camrose citizens through the city website using How-to guides on better preparation for the top 10 extreme weather events, as stated in Table 4-32 of the Climate Vulnerability and Risk Assessment report. When addressing the issue surrounding the local impacts of climate change and extreme weather events, we focused on extreme heat waves, high wind events, freezing rainstorms, major hail, tornados, prolonged drought, extended power outages, wildland fire, flooding, and extreme snowfall. We chose to focus on these events as they were found to pose the most significant risk to Camrose, according to the CVRA (Associated Engineering, 2023).

The local impacts of extreme weather events are already revealing, posing threats to public safety, critical infrastructure, and the overall socio-economic fabric of Camrose. By prioritizing solutions, we not only mitigate the immediate risks but also contribute to long-term sustainability, reducing vulnerabilities that could otherwise escalate over time (Mbajorgu, 2019). This project is an integral component of Camrose's strategy to proactively address the challenges posed by climate change, ultimately positioning the city as a leader in sustainable urban development and climate resilience. Through collaborative efforts, informed decision-making, and strategic solutions, we strive to build a resilient community that can withstand the impacts of climate change and ensure a vibrant future for generations to come. How-to guides play a crucial role in supporting green energy initiatives, which ultimately impact climate change positively. These guides offer practical instructions and step-by-step procedures for individuals and communities to adopt sustainable practices.

The decision to focus on creating how-to guides for extreme weather and climate change topics comes from recognizing an increase in the severity of these events and the need for easily accessible and actionable information. We plan to identify the most impactful issues on a scale of severity, aiming to address the necessary concerns related to climate change. Research indicates that interactive presentations with structured narratives and visual aids are more effective in communicating information (Mohapatra & Zayapragassarazan, 2021). Taking inspiration from this, our how-to guides allow for an innovative approach, structuring the content to align with the City of Camrose website template. Using this method, we aim to facilitate a more robust understanding of the issue and to minimize the harmful effects of the challenges posed by climate change.



# How to Prepare for Extreme Snowfall



Extreme snowfall refers to unusually heavy and intense snow, often causing transportation disruptions, infrastructure damage, and safety hazards due to reduced visibility and slippery roads.

## Winter pantry essentials and emergency supplies\*

- Bottled water (1 gallon per person per day for 3 days)
- Sustainable foods (canned goods, snacks, dried fruits)
- Emergency supplies (flashlights, batteries, radio)
- Personal essentials (medications, pet supplies, baby items)



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## For Your Home

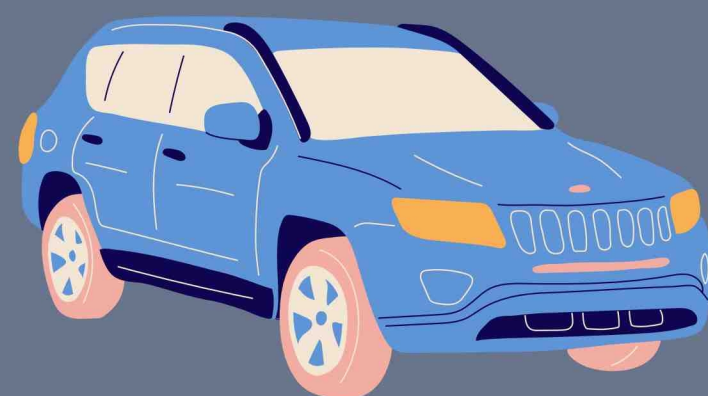
- Clean your gutters to prevent clogs and ice dams
- Ensure heating system is in good condition
- Check your roof for damage, such as missing or damaged shingles, cracks, and leaks
- Ensure insulation in the walls and attic is viable; you may consider adding additional insulation
- If needed, cover the windows in plastic can help to keep heat in



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## For your Car

- Consider installing dedicated snow tires for improved grip in winter conditions
- Keep jumper cables or a portable jump starter in your vehicle
- Check and top up essential fluids (engine oil, coolant, and windshield washer fluid) to prevent freezing and to optimize vehicles performance
- Inspect brake pads and discs for wear and tear, ensure brake system is properly lubricated to provide reliable braking power on slippery roads
- While you should avoid travel if possible, let somebody know where you are going and when you plan to arrive if you must drive



\*see [www.Camrose.ca/beprepared](http://www.Camrose.ca/beprepared), for instructions on emergency kit construction.



# How to Prepare for Extended Power Outages

Extended power outages are often caused by extreme weather events and could leave homes powerless for days or even weeks

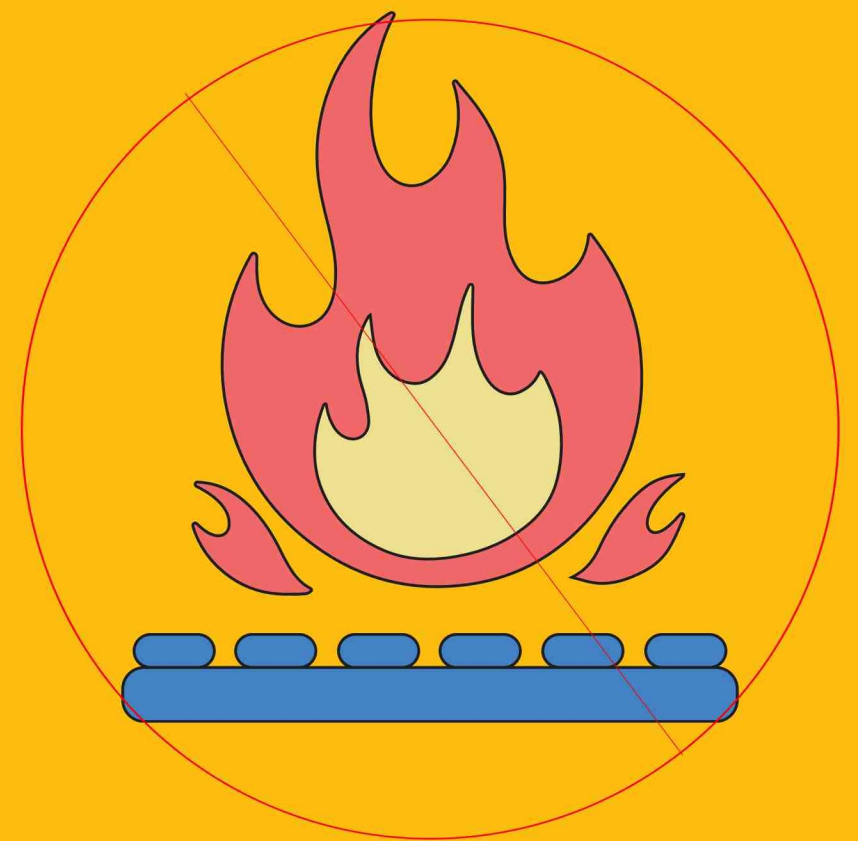
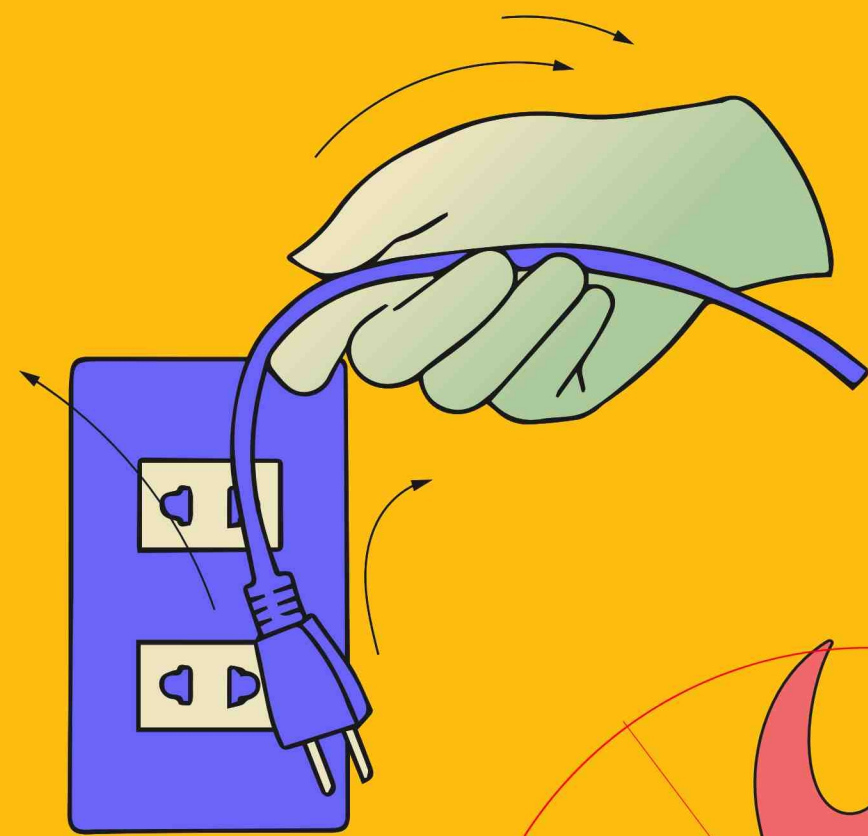
## Before Power Outage

- Develop an emergency kit that can sustain your family for 3+ days\*
- Sign up for power outage alerts
- Use surge protectors or unplug electronics
- Figure out if you need a backup power supply for medical devices, carbon monoxide detectors, and other essential devices



## During Power Outage

- Keep refrigerators and freezers closed
- Do not heat the house with gas heaters
- Check if the outage is limited to your house
- To stay warm, use blankets, close curtains, and huddle together



## After Power Outage

- Turn on only essential devices. Wait 15 minutes to reconnect other devices.
- Check if all appliances are working properly (fridge, freezer, furnace, etc.)
- If flooding has occurred, do not enter unless the power is disconnected
- Re-stock emergency kit



\*See [www.Camrose.ca/beprepared](http://www.Camrose.ca/beprepared), for instructions on emergency kit construction.



# How to Prepare for Flooding



A flood is rising overwhelming water levels in existing waterways or dry land. Flooding is impacted by intensity and duration of a rainfall.

## Before Flood

- Seal your home for potential water leaks
- Prevent Soil Expansion (6 inches away from your Home Foundation)
- A sump pump must be installed to remove excess water to protect your home from the heavy rains and rising waters that can flood your space
- Install a generator

## During flood

- Move into the upper floor of your house during flooding so you can escape from water overflow
- Check on your community
- Check out your community's social media pages, such as Camrose's emergency preparedness and emergency services website\*
- Know what the alerts mean
- Be prepared to evacuate immediately
- When a flood or flash flood warning is issued for your area, head for higher ground and stay there until further notice



## Why ?

Lot of people assume that, just because they don't live near a body of water, they don't need to engage in flood preparation activities. Anyone can fall victim to a flood. Floods can occur after unseasonably heavy rains, or even in severe snowing.

## After Flood

- Restore the Utilities (Use pumps or pails to remove standing water in the house, then a wet/dry shop vacuum to mop up the rest)
- Clean Up (Check if a technician can assist with utilities before you use them, including furnaces, water, electrical equipment and appliances)
- Check-in with a Financial Assistance

\*See [www.Camrose.ca/en/living-here/emergency-resources.aspx#Emergency-Preparedness](http://www.Camrose.ca/en/living-here/emergency-resources.aspx#Emergency-Preparedness)

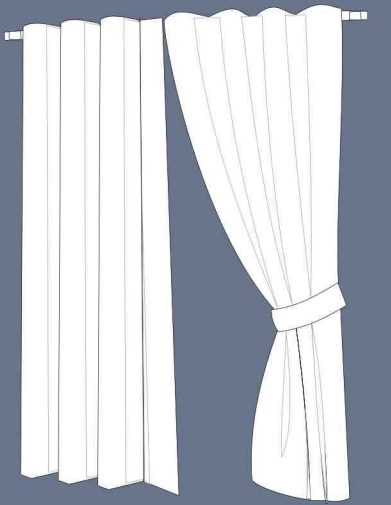


# How to Prepare for Severe Hail Events

Hail is a form of solidified rain, they can range from pea size up to more intense sizes such as a soft ball.

## Before the Storm

- If possible, shelter vehicles in garages or sheds
- Close all windows/doors of your home
- Close curtains/blinds to contain glass if a window breaks
- Listen to weather alerts



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## During the Storm

- Move inside and take shelter
- Bring pets indoors
- Stay away from large windows in your home
- If driving, consider pulling over to take shelter
- If outside with no shelter, face away from wind and cover your face/neck with your hands



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## After the Storm

- Inspect your property for any damage
- Document any damage with photos, for insurance purposes
- Clean up and prepare to repair damages



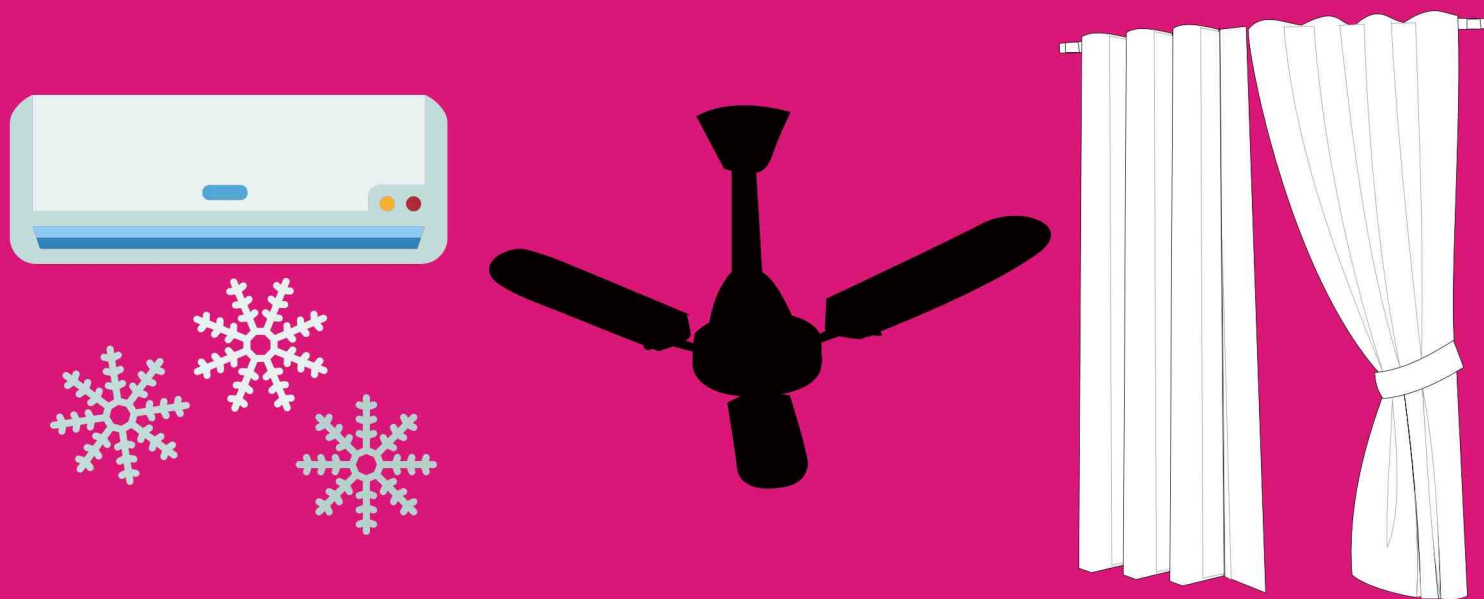


# How to Prepare for Extreme Heat



Extreme heat is the #1 cause of death from weather-related hazards\*. Extreme heat is classified as a period of time where temperature and humidity are higher than usual. In this period of time, our bodies work harder than usual to keep our internal temperature normal.

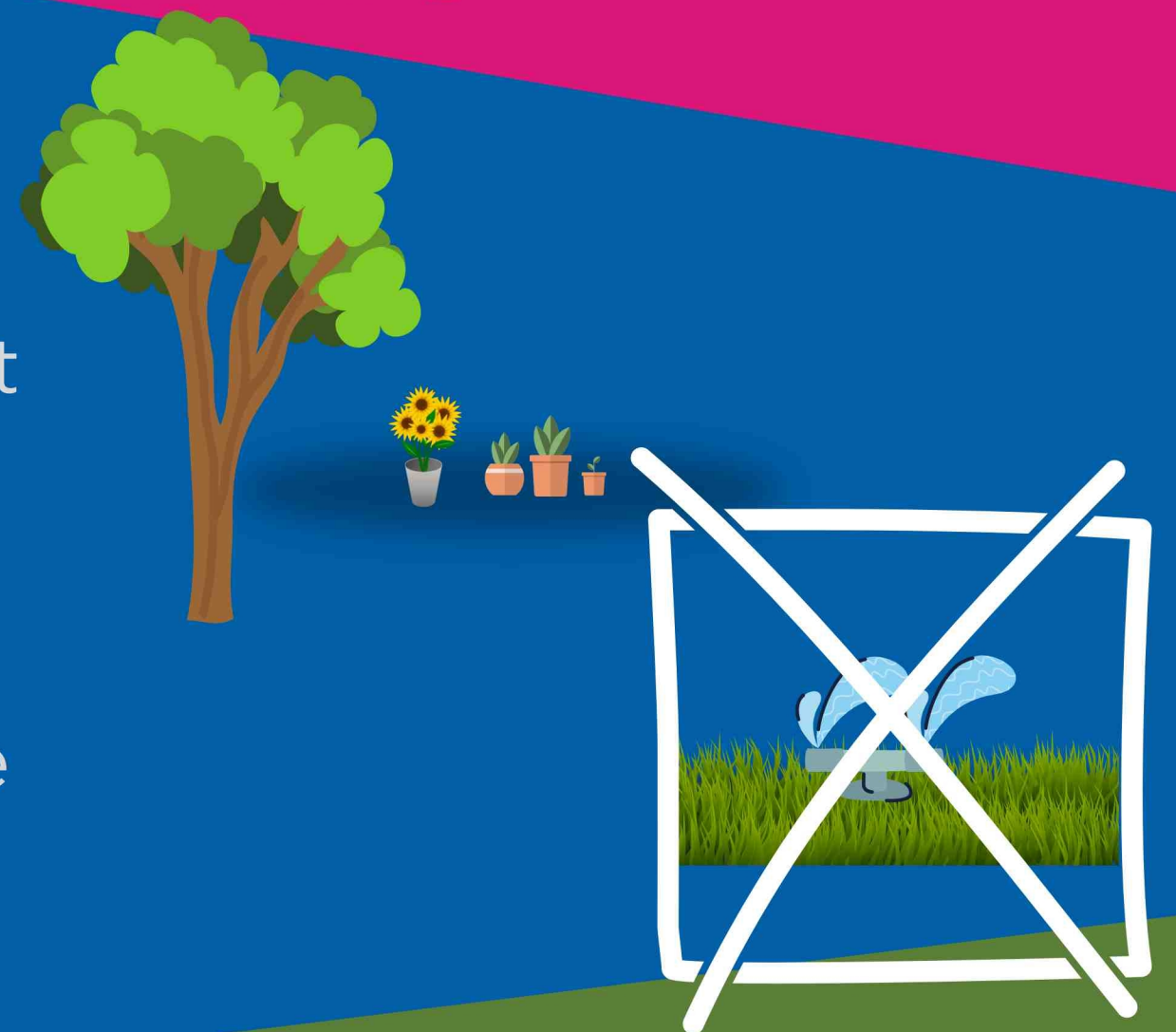
## In Your Home



1. Minimize light in your house.
  - a. Keep blinds closed.
  - b. Put tinfoil on windows.
  - c. Turn off lights.
2. Use fans to your advantage.
  - a. Rotate ceiling fans counterclockwise
  - b. Invest in cooling fans or air conditioning

## In Your Backyard

1. Limit watering your grass
  - a. Try to not water your grass at all, or water at night when cooler and sun is not shining (minimize evaporation)
  - b. Collect rainwater to water plants with
2. Use shaded areas
  - a. Stay in shaded areas as much as possible
  - b. Move potted plants to shaded areas to conserve water in the pots



## In The City

1. Share resources
  - a. carpool with friends and family to the local pool or lake
2. Check on friends, family and neighbours
3. Use city building to cool down
  - a. visit the library or local mall to find cool air





# How to Prepare for Wildland Fires



Wildland fires refer to uncontrolled blazes spreading rapidly across forests, grasslands, and rural areas, posing significant risks to lives, property, and natural habitats.

## Preparation

- An emergency kit is recommended, which should include items such as a flashlight, snacks, radio, and batteries
- Download the app AB Wildfire Status to get up-to-date information on the status and location of wildfires\*
- Keep important documents in a safe and accessible location in case of an evacuation
- Do your best to keep flammable items away from close proximity to your house
- Learn about emergency kit construction\*\*



## During a Wildfire

- Be prepared to evacuate the area
- Listen to local authorities for updates and additional information
- If this fire makes it to you, never try to fight it yourself
- Monitor air quality, as smoke can be harmful to your health
- Make sure that all windows, doors, and other openings are closed to stop smoke from getting in



## Post Evacuation and Prevention

- Only return if authorities have notified you that it is safe to do so
- Be sure to check for any small hot spots which may be difficult to see, put them out with water and monitor closely
- Keep all receipts of additional expenses you may have made while evacuated



\*See <https://www.alberta.ca/wildfire-status> to stay updated on wildfire news in Alberta

\*\*See [www.Camrose.ca/beprepared](http://www.Camrose.ca/beprepared) for instructions on emergency kit construction

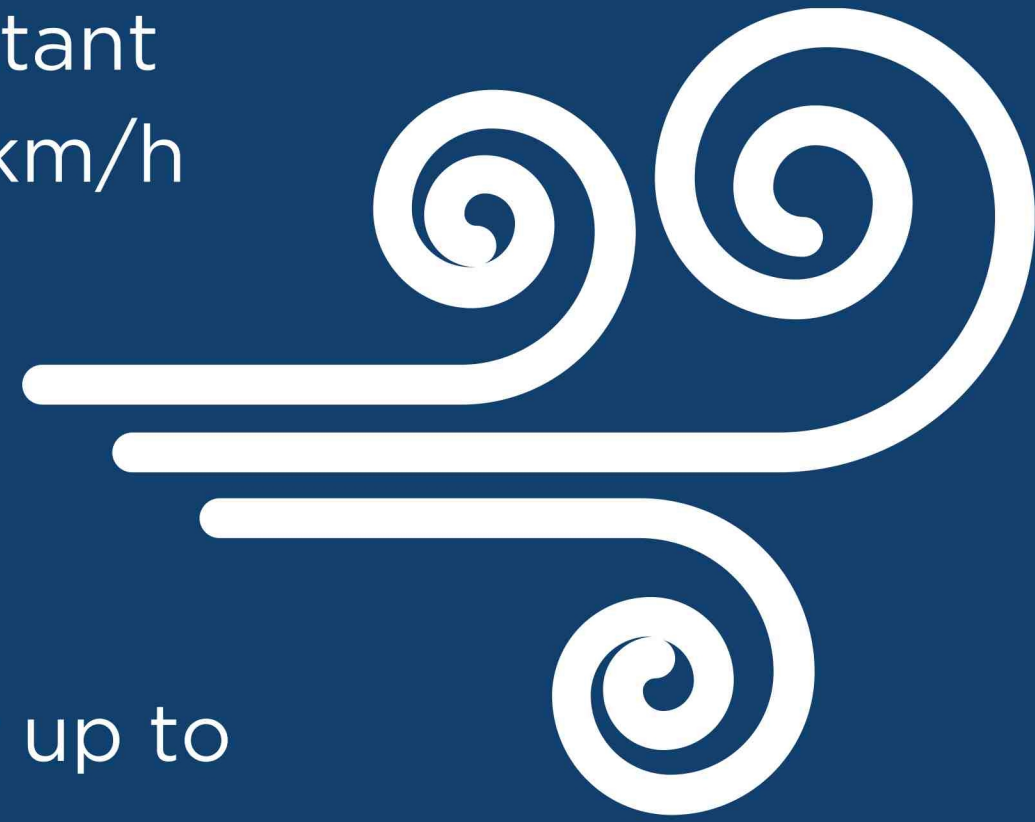


# How to Prepare for Strong Winds

Strong wind events in Alberta are classified as constant winds of 60-65 km/h or more, with gusts up to 90 km/h or more

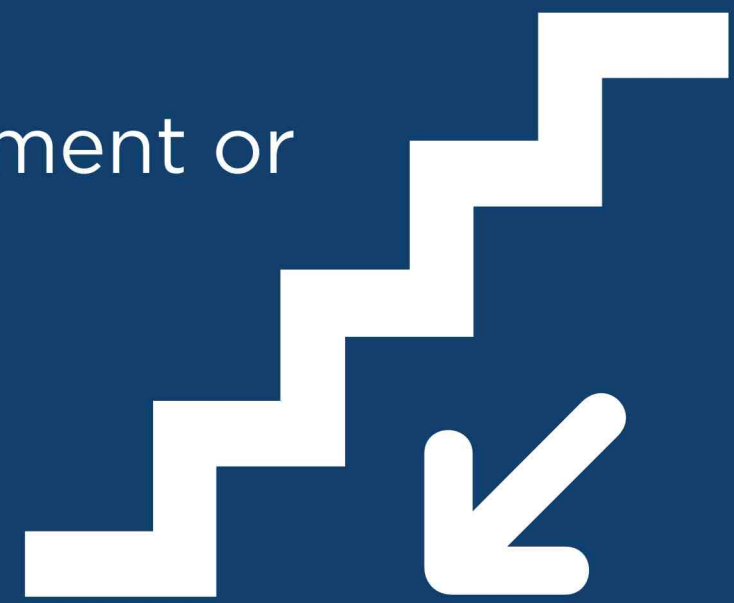
## Before the Wind

- Secure all loose objects around your property
- Have an Emergency Kit with living essentials for up to 3 days\*
- Close windows, blinds, and curtains
- Identify an interior room to shelter in (basement or interior bathroom)



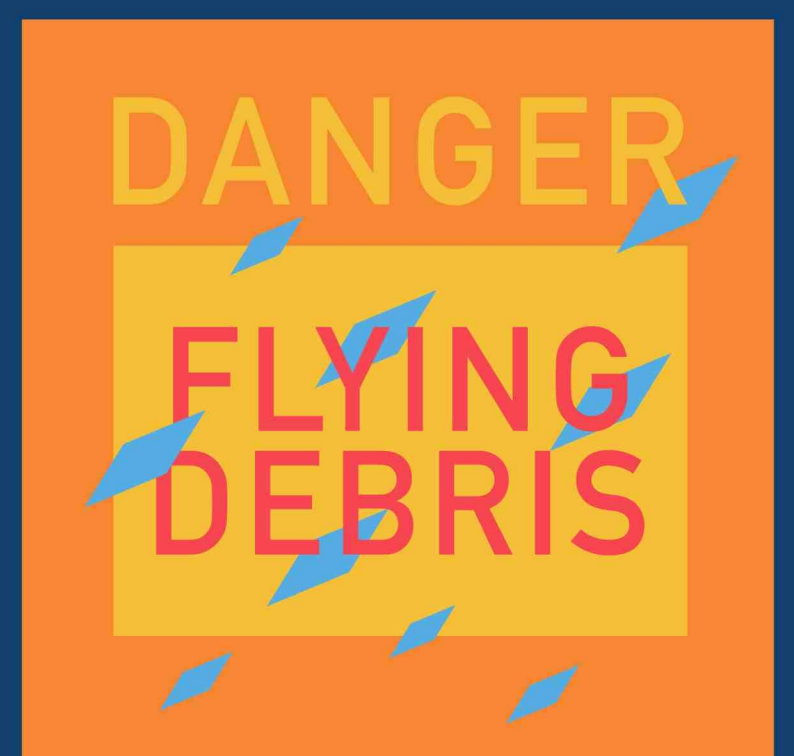
## During the Wind

- Take shelter immediately; if you are in a mobile home, move to a sturdy structure
- Stay away from windows, doors, exterior walls, and fireplaces
- Stay up to date on official weather reports



## After the Wind

- Remain cautious of debris and downed powerlines
- Get any structural damage professionally assessed
- Clean debris and repair property damage quickly
- Reflect on the experience and make changes to be better prepared in the future



\*See [www.Camrose.ca/beprepared](http://www.Camrose.ca/beprepared), for instructions on emergency kit construction.



# How to Prepare for Tornadoes

A tornado appears as a rotating, funnel-shaped cloud that extends from a thunderstorm. In Alberta, tornadoes are most common between May and September.

## Before the Tornado

- Ensure your roofing and siding are rated for severe winds
- If you have a gable roof, make sure it's properly braced
- Ensure ridge vents and soffits are tightly connected to the roof
- Make sure doors are pressure and impact-rated (including your garage doors)
- Securely anchor utility sheds and storage areas
- If you're rebuilding or renovating, consider straps on your rafters
- Have an emergency kit, including water, non-perishable food, and medication\*



## During the Tornado

- Close all your windows and doors
- Stay on top of weather alerts
- Turn off the gas and electricity
- Make sure that you have a tornado emergency plan, including access to a safe shelter for yourself, your family, people with disabilities, and your pets



## After the Tornado

- Talk to property insurance advisor (Before and after the event)
- Stay away from places with a high risk of damage until further notice from the authorities

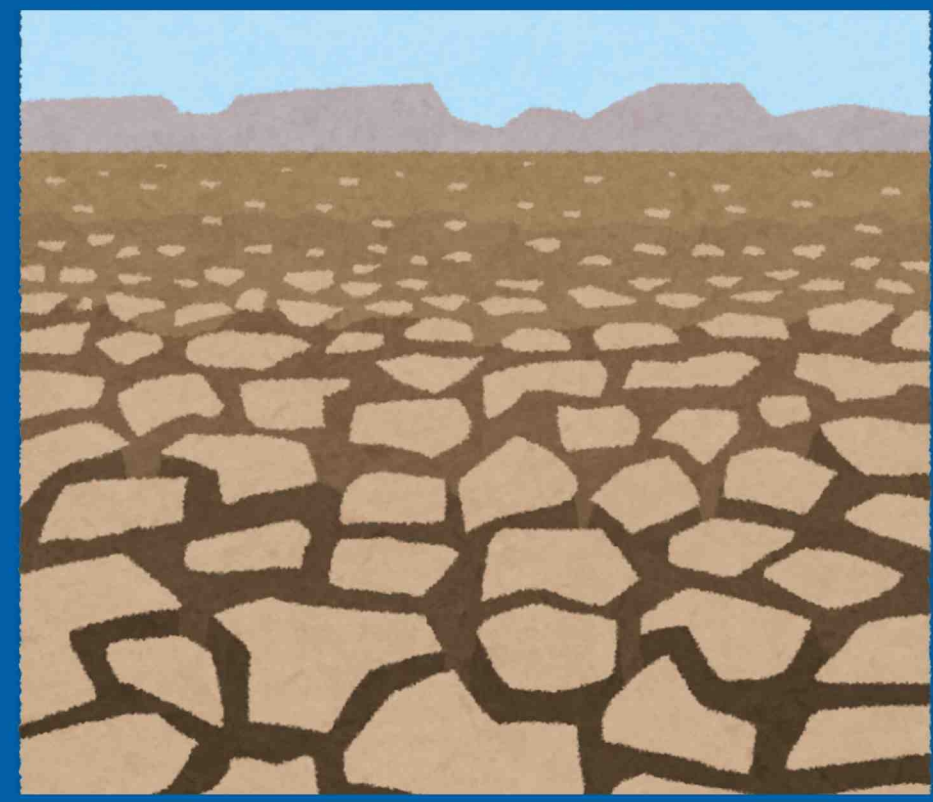


\*See [www.Camrose.ca/beprepared](http://www.Camrose.ca/beprepared), for instructions on emergency kit construction.



# How to Prepare for Prolonged Drought

A drought is characterized as a prolonged period of low precipitation, typically lasting a season or longer, that leaves plants, animals, and people with inadequate water supply.



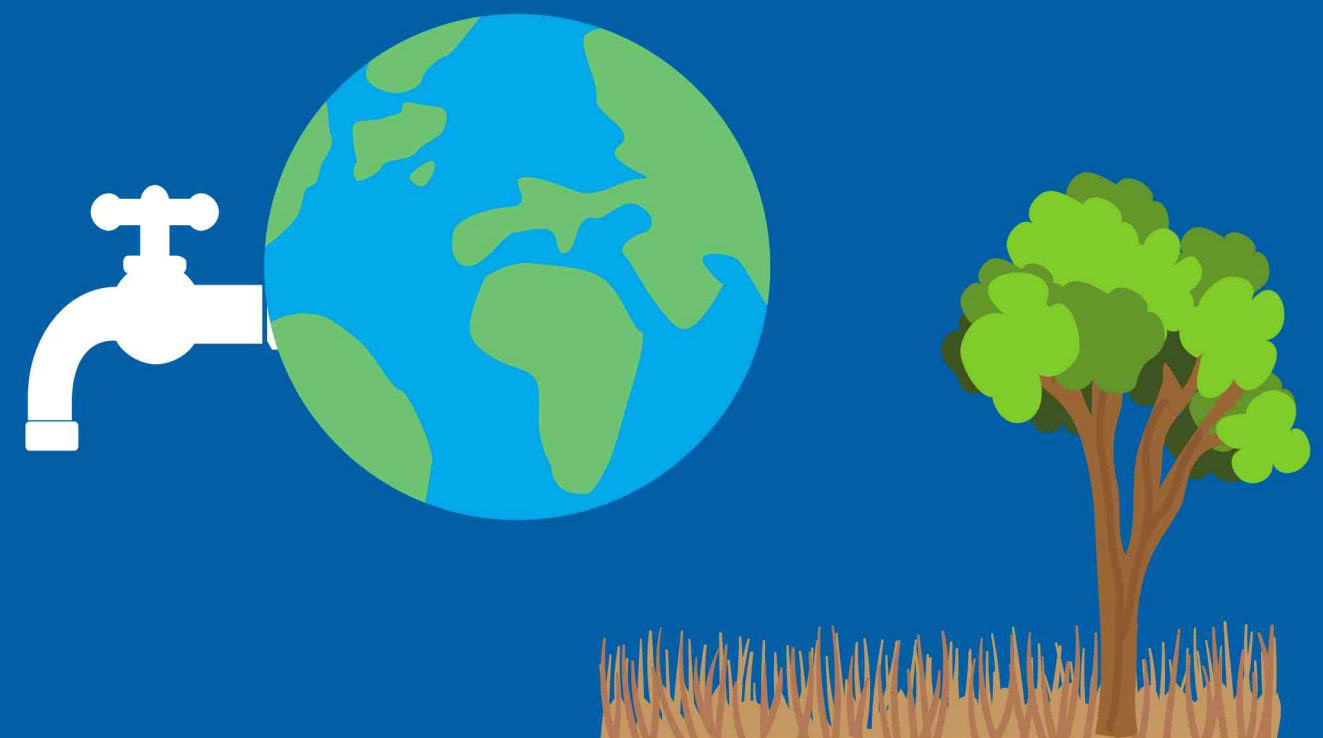
## Before the Drought

- Minimize the amount of water you use
- Stop any leaks around your house
- Plant drought-tolerant plants
- Reuse dirty water to water plants or garden
- Raise your lawn mower blades to encourage the grass roots to grow deeper
- Collect rainwater



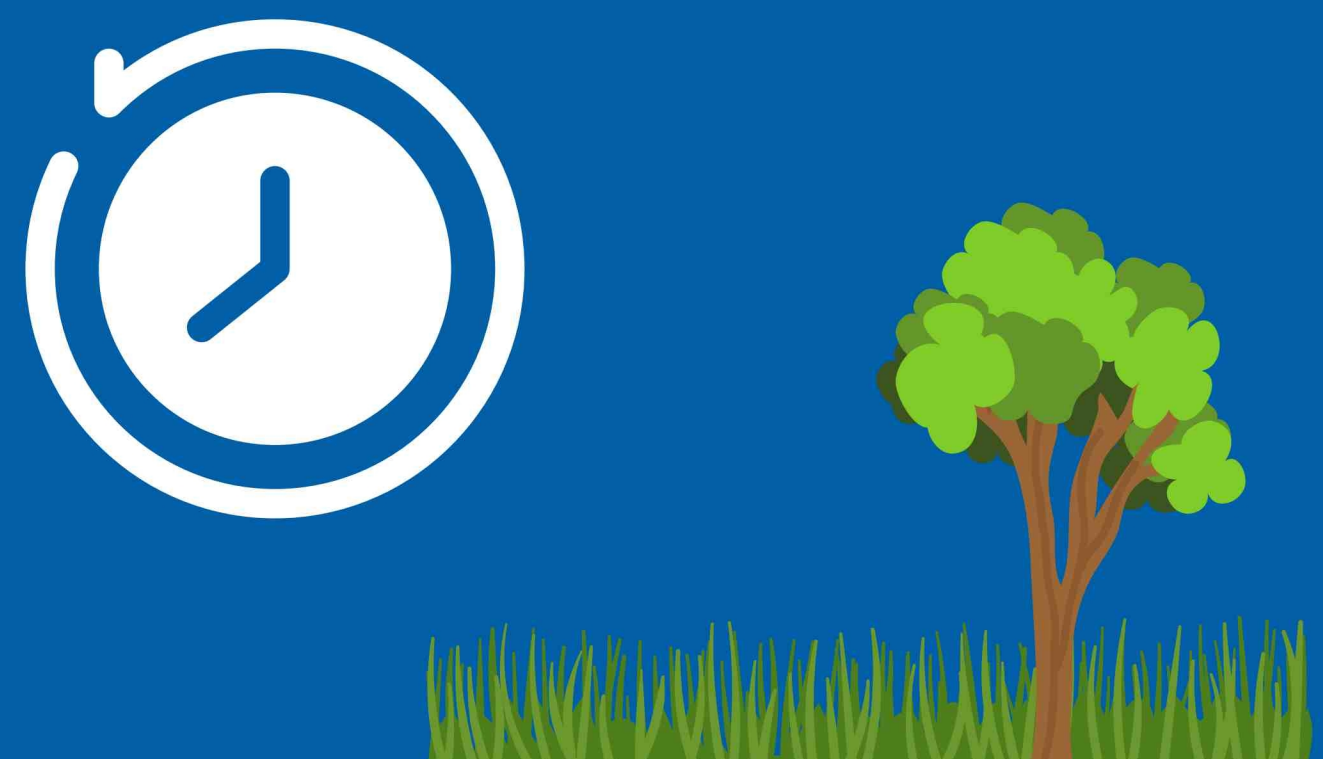
## During the Drought

- Efficiently utilize water resources
  - only run the dishwasher or washing machine when there are full loads
- Let lawns die to allow trees to survive
- Use rainwater to water necessary plants
- Continue to check taps and pipes for leaks



## After the Drought

- Understand that it might take several years to regain vegetation
- If your lawn dies, replant drought-tolerant grass
- Continue minimizing the amount of water consumption in your home





# How to Prepare for Freezing Rain

Freezing rain occurs when liquid droplets immediately solidify into ice when they come in contact with objects (roadways, vehicles, powerlines, etc).

## Before the Storm

- Postpone/cancel all non-essential travel
- Have de-icing products on hand (sand, salt, etc)
- Have any essentials needed beforehand (water, food, flashlights, medication, etc)



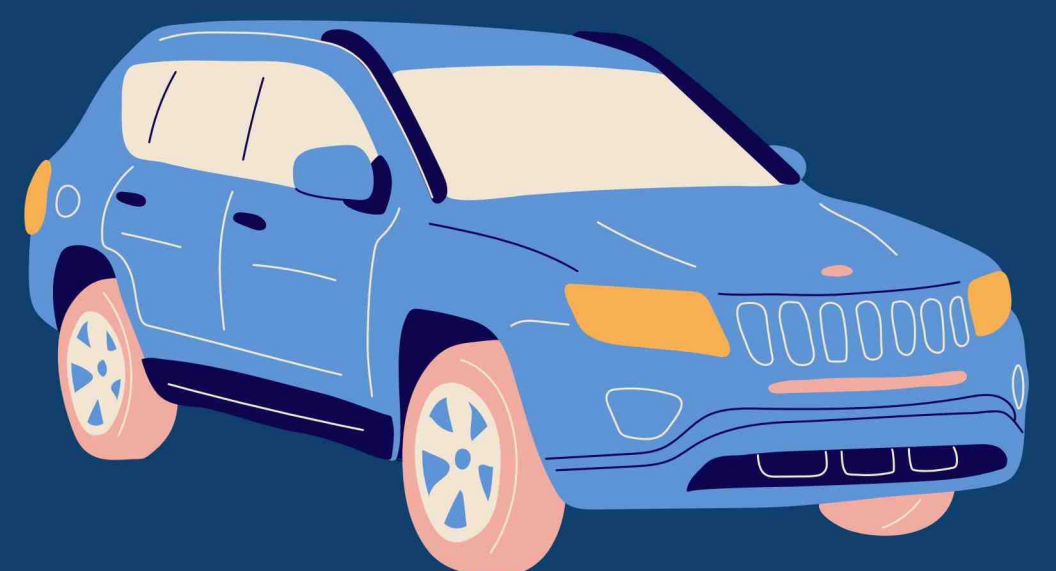
## During the Storm

- If driving is necessary, check road conditions prior
- Drive carefully
- Take care when walking outside
- Keep pets indoors
- Put your vehicle in a shelter, if available



## After the Storm

- Sprinkle salt or sand on walkways
- Continue taking care while walking
- Continue driving carefully
- Watch for any build-up of ice that could fall from roofs
- Check on loved ones who live in geographically remote conditions that also were expected to endure the storm (call, text, etc)





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