

Colour-coded Weather Alerts

Weather Impact Guides



With our colour-coded weather alert system, the colour of the alert is determined by looking at the potential impacts weather might have, along with the confidence level that the weather causing that impact will occur.

The three levels of impact we alert for – moderate, high, and extreme – are guided by a series of impact tables, where the increasing impact is considered according to potential travel delays, utilities disruption, damage to property, potential for impact to human health, and how long it might take society to recover.

This generic impact guide shows how the severity of the impacts increase, progressing from moderate to high to extreme.

	Moderate	High	Extreme
General	Limited disruption to daily life	Considerable disruption to daily life	Lengthy disruption to many aspects of daily life
Travel	Travel delays possible	Major travel disruption	Prolonged travel disruption
Utilities and services	Disruption to utilities and services may occur	Utilities and services likely impacted	Significant impact to utilities and services
Land and structures	Minor damage to property	Substantial property damage	Extensive property damage
Human health	Increased risk of injury, illness, or death	Higher risk of injury, illness, or death	Highest risk of injury, illness, or death
Societal recovery	Relatively quick recovery	A few days for recovery	Long duration recovery

Impact guides for main weather hazards can be found below. These guides replace the former criteria for public weather alerts. They give details of the various potential impacts for each of fourteen common Canadian weather hazards. The impacts listed are not an exhaustive list, but an example of the range of impacts you might expect at that level. For a specific weather event, impacts will vary by location, antecedent conditions, timing, and by the vulnerability of the impacted area and/or people. Please note these are guidelines, and do not include secondary



or specific impacts like business or school closures, which could be consequences of a direct impact like travel or utilities being disrupted.

Remember: All weather can have serious results. It can be life-threatening at any impact level.

Coastal flooding/storm surge

Adverse impacts are expected due to elevated water levels in coastal regions.

Moderate	High	Extreme
<ul style="list-style-type: none"> • Travel routes difficult or dangerous to navigate • Local utility outages • Some overland and basement flooding • Coastal shoreline erosion in sensitive areas • Water over banks and in yards or campgrounds • Properties in coastal locations affected by spray, wave overtopping or sewage backup • Damage to shoreline adjacent buildings/structures/boats • People close to the shore are at risk of injury due to strong currents or the rapid approach of unexpectedly larger waves 	<ul style="list-style-type: none"> • Widespread travel disruptions • Dangerous route conditions • Widespread utility outages • Coastal water well contamination from sea water • Main floor flooding affecting properties and parts of communities • Erosion and/or damage to shoreline and riverbanks • Infrastructure including docks, breakwaters, retaining walls, dikes damaged or destroyed • Major damage to buildings and structures • Essential services delays; significant delays for emergency responders • Increased risk of injury/fatalities from landslide or drowning 	<ul style="list-style-type: none"> • Travel routes very dangerous and/or impassable, including nearshore roads and evacuation routes • Widespread flooding • Prolonged, widespread utility outages • Vehicles destroyed or washed away • Widespread building and structural damage or destruction • High risk of injury/fatalities from landslide or drowning • Critical infrastructure including dams, dikes and pumping infrastructure compromised/destroyed • Essential service disruption

Cold (extreme cold, Arctic outflow)

Adverse impacts are expected due to extreme cold temperatures or wind chill.

Moderate	High	Extreme
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<ul style="list-style-type: none"> • Risk of cold injury, such as frostnip, frostbite or hypothermia, without adequate protection • Higher risk of illness or death from being exposed to cold • Road de-icing may be less effective • Vehicle charging, battery levels, tire performance may be affected • Water pipes freeze or burst • Minor tree and vegetation damage • Outdoor work adjusted • Outdoor events postponed or cancelled 	<ul style="list-style-type: none"> • Very high risk of cold injury, such as frostbite and hypothermia, without adequate protection • Road de-icing less effective • Vehicle charging, battery levels, tire performance affected • Impacts to critical infrastructure, such as water mains • Tree and vegetation damage • Outdoor work suspended 	<ul style="list-style-type: none"> • Severe risk of cold injury, such as frostbite or hypothermia, without adequate protection • Travel or outdoor activities not safe • Widespread tree and vegetation damage • Risk of widespread impacts to utilities and critical infrastructure
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Frost

Adverse impacts are expected from cold temperatures that have the potential to damage plants.

Moderate
<ul style="list-style-type: none"> • Widespread damage to plants or crops

Heat

Adverse impacts are expected due to significant heat and/or Humidex values.

Note: Extreme heat can create favourable conditions for wildfires and poor air quality.

Moderate	High	Extreme
<ul style="list-style-type: none"> • Increased risk of illness or death • Brownouts and/or power outages • Animals at risk • Outdoor events delayed and/or adjusted 	<ul style="list-style-type: none"> • Higher risk of illness or death • Localized travel disruption • Risk of localized water shortages • Brownouts and power outages • Animals at higher risk 	<ul style="list-style-type: none"> • Extreme risk of illness or death • Widespread travel disruption due to route damage and/or aircraft, train, or vehicle performance • Excess demand and potential damage to

<ul style="list-style-type: none"> • Workforce impacts due to higher temperatures indoors and outdoors 	<ul style="list-style-type: none"> • Crops, plants, and gardens at risk of damage • Items, vehicles or materials left in direct sunlight at risk of damage • Some damage to critical infrastructure • Outdoor events delayed and/or cancelled • High impacts on essential services 	<ul style="list-style-type: none"> • utilities, including energy and water • Power outages and water shortages • Animals at extreme risk • Crops, plants, and gardens at risk of extreme damage • Items, like vehicles or materials left in direct sunlight at risk of damage or destruction • Damage to critical infrastructure • Outdoor events delayed and/or cancelled for multiple days • Prolonged, widespread impacts on essential services
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Hurricanes and tropical storms

Adverse impacts are expected from:

- a hurricane (producing coastal winds of ≥ 118 km/h)
- a tropical storm (producing winds of 63–117 km/h)
- coastal flooding (storm surge)
- high waves with an implied threat of local flooding from heavy rains

Visit the [Canadian Hurricane Centre](#) for forecasts, warnings, and watches.

Moderate	High	Extreme
<ul style="list-style-type: none"> • Travel delays due to road closures, flooding, debris, power outages • Utility outages • Some damage to buildings and structures including siding and roofing 	<ul style="list-style-type: none"> • Widespread travel disruption • Flash flooding • Widespread utility outages • Major damage to buildings and structures • Risk of injury from blown debris and storm cleanup-related accidents • Some critical infrastructure damage 	<ul style="list-style-type: none"> • Widespread, prolonged travel disruption • Widespread, prolonged utility outages • Widespread building and structural damage or destruction • Risk of life-threatening injury • Critical infrastructure compromised/destroyed

	<ul style="list-style-type: none"> • Essential services delays; significant delays for emergency responders 	<ul style="list-style-type: none"> • Prolonged, widespread essential services disruption
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Ice (freezing rain, freezing drizzle, flash freeze)

Adverse impacts are expected due to icy surfaces and ice buildup.

Moderate	High	Extreme
<ul style="list-style-type: none"> • Travel delays due to icy routes and vehicle collisions • Ice accumulation on powerlines, bridges and other infrastructure • Some utility outages • Some property damage, broken branches • Risk of injury due to slips and falls or falling ice or debris 	<ul style="list-style-type: none"> • Significant travel delays, multiple vehicle collisions • Damage to powerlines, bridges, and other infrastructure • Widespread utility outages • Major property damage, treefall • Increased risk of injury due to slips and falls or falling ice or debris 	<ul style="list-style-type: none"> • Widespread, dangerous travel conditions, including vehicle pileups • Utility poles and towers collapse • Long duration, widespread utility outages • Widespread property damage, trees destroyed • Critical infrastructure compromised

Rain

Adverse impacts are expected due to significant rainfall amounts.

Moderate	High	Extreme
<ul style="list-style-type: none"> • Travel delays due to overland flooding, water pooling on routes, traffic rerouting • Some utility outages • Basement flooding • Outdoor events postponed or cancelled 	<ul style="list-style-type: none"> • Widespread overland flooding, roads covered by water • Some washouts, landslides; some communities inaccessible • Widespread travel delays • Utility outages likely, power loss can lead to pump failures • Widespread residential and business flooding • Injuries or fatalities from drowning, landslides • Vehicles damaged • Outdoor events cancelled 	<ul style="list-style-type: none"> • Major roads/highways/bridges washed out or blocked by landslides • Travel unsafe • Widespread outages • Dams, levies and dikes, and/or pumps, compromised • Major destruction and inundation of buildings • Sewer backups and wastewater contamination • Shoreline and riverbank erosion and damage

		<ul style="list-style-type: none"> • Agriculture and livestock loss • Vehicles damaged and/or washed away • Multiple injuries and/or fatalities from drowning, landslides
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Snow

Adverse impacts are expected due to significant snowfall accumulations.

Moderate	High	Extreme
<ul style="list-style-type: none"> • Travel disruptions due to route closures, vehicle collisions, and conditions • Injuries due to exertion, falls 	<ul style="list-style-type: none"> • Travel dangerous due to accumulated snow, route closures, and multiple vehicle collisions • Long travel delays • Property and/or tree damage • Roofs at increased risk of collapsing under the weight of snow 	<ul style="list-style-type: none"> • Travel extremely unsafe or impossible • Significant property and/or tree damage • Damage to some critical infrastructure • Snowed-in residents, numerous injuries due to exertion and/or collapsing structures/trees • Essential services delays; significant delays for emergency responders

Snow squall

Adverse impacts are expected due to localized, intense bands of snow, generated by open water or a front.

Moderate	High	Extreme
<ul style="list-style-type: none"> • Travel disruptions due to route closures, vehicle collisions, and conditions • Injuries due to exertion, falls 	<ul style="list-style-type: none"> • Travel dangerous due to accumulated snow, route closures, and multiple vehicle collisions • Long travel delays expected • Stranded vehicles and passengers • Property and/or tree damage • Some utility outages 	<ul style="list-style-type: none"> • Very dangerous and/or impassable routes • Prolonged, widespread travel delays • Vehicles and passengers stranded for long periods • Utility outages • Significant impact on delivery of essential goods and services

	<ul style="list-style-type: none"> • Roofs at increased risk of collapsing under the weight of snow • Significant delays for emergency responders 	
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Thunderstorms

Adverse impacts are expected due to hail and/or wind and/or rain associated with thunderstorms.

Note: Lightning can occur with any thunderstorm.

Moderate	High	Extreme
<ul style="list-style-type: none"> • Some travel delays • Driving conditions difficult • Local utility outages • Damage to roofs, fences, soft shelters and trees • Potential for flooding • Risk of injury 	<ul style="list-style-type: none"> • Travel delays and/or cancellations • Utility outages • Significant damage to buildings, structures and trees • Potential for dangerous flooding; fast moving water can sweep vehicles away and damage infrastructure • Risk of serious injury • Some critical infrastructure damage • Essential services disruption 	<ul style="list-style-type: none"> • Prolonged or widespread travel delays or cancellations • Prolonged or widespread utility outages • Buildings and many trees destroyed • Potential for extreme flooding; fast moving water will sweep vehicles away and damage infrastructure • Risk of life-threatening injury • Critical infrastructure compromised/destroyed • Prolonged essential services disruption

Tornadoes

Adverse impacts are expected from violently rotating, damaging winds associated with thunderstorms.

Moderate	High	Extreme
<ul style="list-style-type: none"> • Travel routes difficult or dangerous to navigate • Travel delays due to road closures, debris, power outages 	<ul style="list-style-type: none"> • Travel routes dangerous to navigate • Widespread travel disruption • Widespread utility outages 	<ul style="list-style-type: none"> • Very dangerous and/or impassable travel routes • Prolonged, widespread travel disruption including vehicles blown around or destroyed

<ul style="list-style-type: none"> • High-sided vehicles pushed around • Local utility interruptions or outages • Outdoor events postponed or cancelled • Damage to trees • Minor damage to property including buildings, vehicles, signs, fences, loose items • Risk of injury from flying or falling debris 	<ul style="list-style-type: none"> • Significant, widespread tree damage • Essential services delays; significant delays for emergency responders • Significant damage to buildings and property including boats, sheds, RVs, small planes • Increased risk of serious injury from flying or falling debris or collapsing structures/trees • Some critical infrastructure damage 	<ul style="list-style-type: none"> • Prolonged, widespread utility outages • Transmission/utility tower collapse • Stands of trees (forests, orchards, parks) flattened/destroyed • Prolonged essential services disruption • Homes/buildings destroyed • High risk of serious injury from flying/falling debris or collapsing structures/trees • Major agriculture/livestock losses • Critical infrastructure compromised/destroyed; supply chain impacted
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Visibility (blizzards, blowing snow, dust, fog)

Adverse impacts are expected due to widespread poor visibility.

Moderate	High	Extreme
<ul style="list-style-type: none"> • Routes difficult to navigate • Travel delays and disruptions due to route closures, collisions, gridlock 	<ul style="list-style-type: none"> • Travel dangerous to impossible • Widespread travel disruption, multiple collisions • Increased risk of disorientation or becoming lost over short distances • Some vehicles and passengers stranded • Major delays for emergency response 	<ul style="list-style-type: none"> • Travel extremely dangerous and/or impossible • Prolonged, widespread travel disruption • Vehicles and passengers stranded for long periods • Significant impact on delivery of essential goods and services • High risk for mass casualty incidents affecting emergency responders and hospitals

Wind

Adverse impacts are expected from damaging winds.

Moderate	High	Extreme
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<ul style="list-style-type: none"> • Minor travel delays due to debris and outages • Some short term utility outages • Larger tree branches broken; some yard items blown about • Risk of injury from flying or falling debris • Outdoor events postponed or cancelled 	<ul style="list-style-type: none"> • Major travel delays due to debris and outages • High-sided vehicles pushed around • Widespread utility outages • Some roof damage • Small to medium trees snapped • Some damage to critical infrastructure • Increased risk of injury from flying or falling debris • Outdoor events cancelled • Essential services disruption 	<ul style="list-style-type: none"> • Widespread, prolonged travel delays due to road closures, debris, downed power lines • High-sided vehicles tipped or flipped • Long duration, widespread utility outages • Structural damage to homes and buildings • Significant damage to trees including orchards, parks • Critical infrastructure compromised • High likelihood of injury due to flying or falling debris • Prolonged essential services disruption
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Winter storm

Adverse impacts are expected from multiple types of severe winter weather.

Moderate	High	Extreme
<ul style="list-style-type: none"> • Travel disruptions due to route closures, vehicle collisions, and winter conditions • Local utility interruptions or outages • Larger tree branches broken 	<ul style="list-style-type: none"> • Dangerous travel conditions; widespread travel delays and road closures • Vehicles and passengers stranded, numerous vehicle collisions • Utility outages • Structural damage to roofs/buildings • Significant tree damage • Essential services delays; significant delays for emergency responders 	<ul style="list-style-type: none"> • Travel unsafe; prolonged, widespread travel delays • Vehicles and passengers stranded for long periods • Prolonged, widespread utility outages • Major damage and destruction to homes and buildings • Stands of trees flattened or destroyed • Prolonged essential services disruption

Glossary

Useful terms to understand the impact guides:

- Critical infrastructure: physical systems and facilities – like power grids, water treatment plants, hospitals, and transportation networks – that support the functioning of society
- Essential services: activities or functions provided by people or organizations – like health care, emergency response, and public transit – that rely on critical infrastructure to operate
- Prolonged: impacts will continue for a long time or longer than usual
- Utilities: services that include electricity, internet, cellular and landline telephone, water, and gas supply
- Widespread: impacts will be found or distributed across a wide area.