

**Community Services Report to
Emergency Management Committee
2025 May 07**

**ISC: UNRESTRICTED
EM2025-0400**

Status of Emergency Preparedness Focus on Risk – Severe Spring and Summer Weather

PURPOSE

To share information about severe spring and summer weather risks and the risk management strategies in place at The City of Calgary to prevent, prepare for, and mitigate these risks.

PREVIOUS COUNCIL DIRECTION

- The Emergency Management Bylaw 25M2002 requires the Calgary Emergency Management Agency provide a Status of Emergency Preparedness Report annually to Emergency Management Committee. In addition, two reports and panel presentations are provided each year to ensure the Emergency Management Committee and Calgarians are well-informed on actions taken to address high risks for Calgary.
- Background and Previous Council Direction is included as Attachment 1.

RECOMMENDATION:

That the Emergency Management Committee recommend that Council receive this report for the Corporate Record.

GENERAL MANAGER COMMENTS

GM Katie Black concurs with the content of this report.

HIGHLIGHTS

- As identified in The City of Calgary's Disaster Risk Assessment, severe spring and summer weather such as tornadoes, heavy rainfall, hail, wind, and thunderstorms are among the top disaster risks that could impact Calgary, and many of these hazards are becoming more frequent and severe due to a changing climate.
- Severe spring and summer weather season is from May to August and if Calgarians are aware of the risks and understand how they can prepare, they will be better able to take actions to protect themselves, their families, and their communities.
- Severe spring and summer weather could have serious and negative impacts including critical injuries or loss of life, social impacts, as well as substantial damage to property and critical infrastructure, the environment, and the economy.
- City of Calgary business units work together with external partners to implement strategies focused on reducing risk and increasing resilience to help ensure that The City is prepared for the risks of severe spring and summer weather.

DISCUSSION

Identifying Risks for Calgarians

The City of Calgary completes a Disaster Risk Assessment to understand local risks and develop strategies to reduce and manage the impact of future events. Risk is determined by the severity and frequency of an event, the number of people and assets exposed to the hazard, and socioeconomic, physical, and environmental factors. The Assessment is updated annually, and a detailed *Disaster Risk Report* is released every four years in alignment with the municipal service planning and budget cycle. The results of the 2025 annual update of the Disaster Risk Assessment were shared with Council earlier this year and are being released publicly during the May 7th Emergency Management Committee (EM2025-0191).

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Severe Spring and Summer Weather Risks for Calgarians

The Disaster Risk Assessment has identified and rated five severe spring and summer weather risks that have the potential to impact Calgarians:

- **Tornado**: Calgary is located within an area of high risk for tornadoes, and although impacts on population centres are rare, when they do occur, they can be destructive. A tornado impacting Calgary could result in loss of life, injuries, hundreds of millions of dollars in losses, and disruption of essential services. Alberta averages 12 to 15 confirmed tornado reports per year. In July 2023, a tornado touched down north of Calgary in Didsbury.
- **Heavy rainfall**: A more likely high-risk event in Calgary, heavy rainfall can cause stormwater flooding as it can overwhelm drainage and lead to sewer backups. Secondary impacts include power disruptions, traffic re-routing, flooded properties, evacuations, stranded motorists, critical injuries, debris removal, environmental consequences, and service interruptions. Calgary receives approximately 325 millimetres of rainfall (not including other precipitation such as snow) each year with almost half of this amount in July and August.
- **Hail, wind, thunderstorms**: Other severe spring and summer weather, such as hail, wind, and thunderstorms, are likely to occur in Calgary due to our proximity to the foothills. The Insurance Bureau of Canada reports that 2024 was the costliest year in history for severe weather-related losses. Calgary's August 2024 hailstorm was the most destructive at \$3 billion in insured losses.

Data from the *Yale School of the Environment* shows that the number of severe storms around the globe in all seasons has increased by 40 per cent in the past 20 years, and the impact of climate change is expected to increase their frequency, duration, and severity.

Preparing The City for Severe Spring and Summer Weather

The City's *Municipal Emergency Plan* provides an overarching plan to guide response and recovery to any type of emergency. A significant spring or summer weather event could activate the overarching plan and select annexes:

- The *Spring and Summer Severe Storm Incident Response Plan* and the *Tornado Incident Response Plan* establish actions and address special aspects of each hazard.
- Attachment 2 summarizes the Municipal Emergency Plan and its annexes.

The City of Calgary implements a range of programs, training, and structural mitigation to prepare for and mitigate risk of severe spring and summer weather:

- Regular spring and fall simulated scenario exercises validate emergency plans, procedures, policies, and public communication strategies. In April 2024, a tornado event exercise was conducted to test processes and plans.
- The *Best Available Refuge Area* program identifies the best places to seek refuge in many City buildings during a tornado or high wind event and is leveraged as a resource for external organizations to utilize in their emergency planning programs.
- Adoption of building codes helps The City meet national and provincial standards for wind.
- Guidelines developed by The City identify buildings in Calgary important for disaster recovery, ensuring communities will have resilient facilities to assist them during disasters.
- The City's hydrometric monitoring program maintains a connection with Environment & Climate Change Canada to help prepare for and respond to localized severe storms.

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- Ongoing investment enhances stormwater management infrastructure through the *Community Drainage Improvement Program* and *Local Drainage Improvement Program*.
- The City's *2023 Stormwater Management Strategy* prioritizes four key areas, including making established communities more resilient, proactively managing and maintaining assets, utilizing low impact development, and setting stormwater performance measures.

Preparing Calgarians and the Community for Severe Spring and Summer Weather Events

The City has education programs and services in place to prepare Calgarians:

- Public awareness emergency preparedness campaigns are ongoing throughout the year, including participation in national *Emergency Preparedness Week*, which takes place the first week of May each year. This year, Emergency Preparedness Week is May 4 to 10.
- Outreach through the *Ready Calgary Emergency Preparedness Program* focuses on increasing the capacity of the community to prepare and respond. Programming targets residents, youth, businesses, community groups, and equity-deserving populations (e.g., newcomers, older adults, racialized communities, people with disabilities, and urban Indigenous communities).
- The City has created a video series in multiple languages, focused on measures individuals can take to prepare their household for emergencies, including severe weather.
- The City's *Climate Ready Home Guide* provides information to Calgarians to protect their property from severe weather events, such as hail, wind, and heavy rain.

Environment & Climate Change Canada provides Weather Alerts and Warnings to keep Calgarians aware of imminent severe weather in the form of public weather Watches, Warnings, and other alerts through their website and app, and in severe cases through the Alberta Emergency Alert system. For critical emergencies, including extreme severe thunderstorms and tornadoes, the alert can be pushed to all local radio and TV stations, and to all mobile phones. Environment & Climate Change Canada provides advance forecasting and weather information to Calgary Emergency Management Agency to help prepare for potentially hazardous events.

Supporting Calgarians During and Following Severe Weather Events

Incident response can be complex as it requires coordination and the ability to rapidly scale up depending on the extent of the event. The City has several measures in place:

- Calgary 9-1-1 has mitigation strategies in place to manage call surges and ensure call prioritization is focused on health and safety.
- Calgary 9-1-1 has established processes for connecting callers with appropriate resources to address a range of safety issues, including assistance for those sleeping outside during weather events and connecting callers with the 2-1-1 Distress Centre for crisis options.
- *Emergency Social Services* is an internal City-wide program that provides for the immediate physical and emotional needs of evacuated Calgarians during an emergency.
- Through the *Critical Service Provider Group*, the Community Strategies business unit, along with other business units, liaises with the Government of Alberta and non-profit organizations to build capacity to support populations facing vulnerability during severe weather events.
- *Emotional Wellness Response Team*, a sub-group of the Critical Service Provider Group, provides coordinated psychosocial wellness support during the initial phase of an emergency response, to support individual and community resiliency.

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EXTERNAL ENGAGEMENT AND COMMUNICATION

- | | |
|--|---|
| <input type="checkbox"/> Public engagement was undertaken | <input checked="" type="checkbox"/> Dialogue with interested parties was undertaken |
| <input type="checkbox"/> Public/interested parties were informed | <input type="checkbox"/> Public communication or engagement was not required |

The City engages 55 Calgary Emergency Management Agency member organizations in education, training, simulated exercises, emergency response planning, and communications. The Agency consists of City of Calgary business units, government agencies, critical infrastructure operators, utilities, schools, industry groups, and community service providers.

IMPLICATIONS

Social

Severe weather has the potential to disproportionately impact Calgarians with limited access to resources. The City's emergency planning aligns with the *Social Wellbeing Policy* of prevention by ensuring the social impacts of disasters are mitigated before disasters occur.

Environmental

Severe weather, such as tornadoes and heavy rain, has the potential to disrupt critical infrastructure services and cause physical impacts to infrastructure, which could negatively impact the environment. The City's emergency planning aligns with the *Climate Resilience Strategy* such that reducing disaster risk is a critical component of adaptation planning.

Economic

Severe spring and summer weather events, such as tornadoes and hail, can cause hundreds of millions of dollars in direct and indirect losses. The City's emergency planning addresses the Economic Resilience Strategy, as mitigation efforts will result in future savings.

Service and Financial Implications

Existing operating funding – base

Funding for disaster response planning/preparation is in the 2023-26 Service Plans & Budgets.

RISK

Severe spring and summer weather could have serious impacts including critical injuries or loss of life, social impacts, as well as substantial damage to property and critical infrastructure, the environment, and the economy. Literature indicates that managing disaster risk is more economically, socially, and environmentally sound than managing disaster consequence.

ATTACHMENTS

1. Background and Previous Council Direction
2. Municipal Emergency Plan Annex Summary
3. Presentation

Department Circulation

Director	Department	Approve/Consult/Inform
Iain Bushell	Emergency Management & Community Safety	Approve
Carolyn Bowen	Climate & Environment	Inform
Nancy Mackay	Water Services	Inform
Eren Cervantes-Altamirano	Community Strategies	Inform

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