

Hazard Identification and Risk Assessment 2025

Background

Durham Emergency Management is legislated under the provincial Emergency Management and Civil Protection Act to implement an emergency management program. The Durham Emergency Management Program is based on a community Hazard Identification and Risk Assessment (HIRA), which must be reviewed annually as part of the Act's compliance requirements.

A HIRA aims to understand what risks or threats to public safety, property, or the environment exist in Durham and assess their impact. Understanding the risks allows for prevention, mitigation, preparedness, response to, and recovery from these threats.

Hazard Identification and Risk Assessment Process

There are four steps to create and maintain a HIRA:

1. Hazard identification
2. Risk assessment (frequency and consequence)
3. Risk analysis
4. Monitor and review annually for changes in frequency and/or consequence

Methodology

The HIRA completed in 2025 examined the potential hazards derived from the provincial hazards list identified by Emergency Management Ontario. The level of risk for each hazard was examined, past occurrences researched and possible scenarios reviewed. The likelihood of the hazard occurring and the potential consequences of the hazard on people, property, the environment, business and finance, and critical infrastructure were examined.

Prioritized Risks

The 2025 annual review of the HIRA produced a prioritized list of risks for Durham Region, which was determined to be:

- Extreme heat
- Electrical energy failure
- Active threat
- Tornado
- Water/wastewater disruption
- Infectious disease
- Winter weather
- Cyber attack
- Transportation emergency on roads and highways
- Flooding