

Flash flood frequency in Ontario is increasing due to climate change, with extreme rainfall events becoming more common and intense. Specifically, climate models project that rainfall events that currently occur once every 20 years could happen every five years by the end of the century. This increased frequency and intensity of rainfall, particularly during summer months, raises the risk of flash flooding, especially in urban areas where drainage systems can be overwhelmed.

Here's a more detailed breakdown:

- **Climate Change Impact:**

Warmer air holds more moisture, leading to heavier and more frequent downpours.

- • **Increased Rainfall Intensity:**

Short, intense bursts of rain are becoming more common, overwhelming drainage systems and increasing the likelihood of flash floods.

- • **Urban Areas Vulnerable:**

Cities like Toronto, Ottawa, Mississauga, and Brampton are particularly susceptible due to their dense populations, infrastructure, and urbanization, which can exacerbate flood risks.

- • **Specific Months:**

While flash floods can occur any time of year, July and August are prime months for thunderstorm-induced flash flooding.

- • **Projected Increases:**

Climate models project that extreme rainfall events will become more frequent and intense, with 24-hour extreme precipitation projected to increase by 12%.

- • **Economic Impacts:**

Flooding is Canada's most frequent and costly disaster, with annual insured losses from floods averaging nearly \$800 million in the past decade.