

CAT Hotsheet



Institute for
Catastrophic Loss Reduction

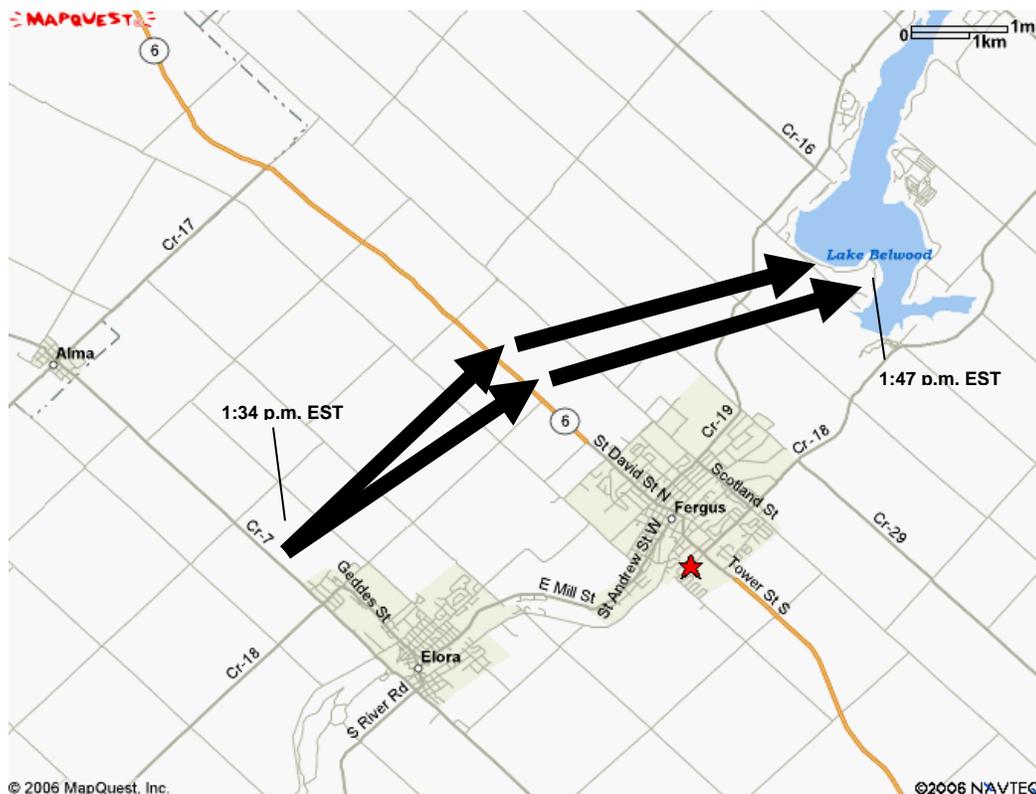
August 19 Ontario storm aka “Freaky Friday”

Date: August 19, 2005
Time: Approx. 3 p.m. to 7 p.m. EST
Location: Southern Ontario (Kitchener-Waterloo to Durham Region)
Insured loss: >\$500 million
Economic loss: N/A
Return period: >1 in 100 year

The storm in southern Ontario, August 19, 2005, was the costliest natural catastrophe in Ontario history, the second most expensive on record for the country.

As much as 153 millimetres (and, by some accounts, 175 millimetres) of rain fell on parts of northwest Toronto in a two-to three-hour deluge that impacted a wide swath of real estate from Kitchener-Waterloo to Durham Region. As a result of the torrential downpour, infrastructure was washed away, basements were flooded and cars were damaged by falling trees and rising flood waters. What’s more, two tornadoes set down in the Salem/Fergus, Ontario, area, damaging several properties, and a tornado warning was issued for Toronto, a rarity. The Insurance Bureau of Canada said that insured damage from the storm would likely exceed \$400 million and may reach as high as \$500 million (prior to the August 19 storm, the 1991 Calgary hailstorm was the second most costly natural catastrophe in Canadian history at \$416.5 million, in 2003 dollars).

Damage path: August 19, 2005 Salem/Fergus, Ontario tornado (F2)



According to a Special Weather Summary issued by Environment Canada on August 20: "Severe thunderstorm activity associated with a warm front tracked from southwestern Ontario into south-central Ontario Friday afternoon [August 19]. The strongest severe thunderstorm was long lived and tracked from Milverton to just north of Fergus and across Brampton and the northern part of Toronto then east to Oshawa. It left a trail of damage in its wake with many areas receiving excessive rainfalls as well as two distinct tornadoes and some locally large hail...Both tornadoes were associated with the single long lived storm and estimated to rank as F2 on the Fujita Scale with winds of 180 to 250 km/h."

The City of Toronto says the storm resulted in more than 1,274 complaints of basement flooding as of August 26. Millions of dollars in public infrastructure was also damaged. For one, a large section of Finch Avenue West at Black Creek was washed away as a result of the heavy rain and flooding. It took city repair crews almost five months to re-open the road and, even then, only two of four lanes were made available. Final repairs won't be complete until at least May 2006, at a total cost that will approach \$5 million. In the meantime, the city had to erect a temporary pedestrian bridge, at a cost of \$250,000. Several other roadways sustained lesser damage.

Numerous watermain breaks were also reported, and the Highland Creek Wastewater Treatment Plant was flooded, triggering damage to approximately 30 percent of its equipment and operation. Damage to the plant is expected to exceed \$1 million.

Additionally, the Highland Creek trunk sanitary sewer collapsed, triggering a large spill of raw sewage into the creek. The 48 inch diameter pipe broke during the heavy rains, releasing sewage into the creek at a rate of .7 cubic metres per second (or 60,480 cubic metres a day). The spill wasn't stopped until the evening of August 22.



(Photos courtesy of Brian Campbell)

Established in 1998 by Canada's property and casualty insurers, ICLR is an independent, not-for-profit research institute based in Toronto and at the University of Western Ontario in London, Canada. ICLR is a centre of excellence for disaster loss prevention research and education. ICLR's research staff is internationally recognized for pioneering work in a number of fields including wind and seismic engineering, atmospheric sciences, water resources engineering and economics. Multi-disciplined research is a foundation for ICLR's work to build communities more resilient to disasters.