# Damage from Alberta tornado ranks it among strongest in Canada's history

## Fewer than 2 dozen tornadoes have been rated EF-4 or higher

Jonathon Sharp · CBC News · Posted: Jul 04, 2023 2:47 PM EDT | Last Updated: July 4, 2023

An image of the EF4-rated damage at the farm on the west side of Highway 2A between Didsbury and Carstairs, Alta. on July 1, 2023. A woman took shelter in the home's basement and survived. (Northern Tornadoes Project)

The tornado that destroyed several homes in central Alberta on the weekend was one of the strongest recorded in Canada's history, with winds powerful enough to toss a farm combine weighing nearly 10,000 kilograms.

The Northern Tornadoes Project released Tuesday its preliminary damage

analysis for the Mountain View County twister, rating the tornado as an EF-4, on the high end of the enhanced Fujita scale, which tops out at EF-5.

"Since we've started tracking tornadoes in the 1900s, only 21 have been rated this severe," said Connell Miller, a survey lead with the team, which works alongside Environment and Climate Change Canada.

"If you think about it, Canada gets around 100-120 tornadoes per year. That's an incredibly small number of tornadoes being rated this severe."

According to the damage report, the tornado that touched down Saturday afternoon cut a 15-kilometre path of destruction between Didsbury and Carstairs, in a rural area north of Calgary.

Environment Canada said the funnel cloud was formed by a supercell thunderstorm and lasted roughly a half-hour. Top winds speeds were estimated around 275 km/h.

The scar left on the farmland, and across Highway 2A, was large enough to see via satellite.

***WATCH | Meteorologist explains the science behind this tornado:***

## A meteorologist talks about the central Alberta tornado on July 1

Terri Lang, an Environment Canada meteorologist, explains the science behind the recent tornado that hit central Alberta

Not since 1987 had such a powerful tornado descended on Alberta. In July of that year, an F-4 ripped through eastern Edmonton, killing 27 people and

leaving more than 300 others injured. Edmontonians remember the event as "Black Friday."

The only other F-4 recorded in the province happened in the Grassy Lake area in 1915.

The last F-3 tornadoes occurred in 2000. On July 14 of that year, the Pine Lake tornado struck a trailer park, killing 12 people and injuring more than 100 others.

Environment Canada switched from the Fujita scale to the enhanced Fujita scale in 2013, hence the difference in the EF/F rating.

## No fatalities Saturday

In the path of Saturday's twister were several homes, 12 of which were damaged, the report said. Three of the homes were flat-out destroyed while four were left uninhabitable.

In its preliminary assessment report, Environment Canada said the most notable damage happened at a farm on the west side of Highway 2A, where every wall of a well-constructed home was flattened.

A woman was inside the home when the tornado struck, and she took shelter in the basement. Emergency crews had to clear the wreckage to reach her.

While her home was blown away, she was left unharmed.

"It's a miracle nobody was more severely injured or killed in this event," Miller said.

A satellite image shows a brown streak where a tornado cut through farmland in a rural area north of Calgary.

(Northern Tornadoes Project )

The surveying team attributed this result to the timely warning issued by Environment Canada. Additionally, the government agency said the tornado warning and its lead time "likely helped to ensure no fatalities occurred."

"This is definitely a great example of the tornado warnings getting out ahead of time and people hearing them and heeding them," said Terri Land, a meteorologist with Environment Canada.

The only minor injury listed in the Northern Tornadoes Project's damage report was a cut suffered by a first responder.

This 10,000-kilogram combine was lifted by the tornado and tossed about 50 metres, the damage survey team said. (Northern Tornadoes Project)

## Reading the wreckage

Through surveying the wreckage, the researchers determined how strong the tornado was by figuring out what wind speeds would be needed to, say, flatten the walls of a sturdy home or toss heavy farm machinery.

The single piece of damage from Saturday that stood out to Miller was the lifting of a nearly 10,000-kg combine.

"It's still mind-boggling to me," he said.

The tornado lifted the combine and tossed it about 50 metres before the machine rolled and came to rest as a "crumpled ball of metal."

"We've done wind tunnel studies on combines before, and we can't even get them aloft in our tornado simulators because they're not strong enough," Miller said.

***WATCH | Powerful tornado descends on central Alberta:***

## Researchers suspect Alberta tornado was powerful, but not the strongest ever

Researchers are working to determine the exact strength of the tornado that hit north of Calgary Saturday, destroying several buildings. For residents, the cleanup continues.

Over the past few days, dozens of volunteers have stepped up to help the farmers and homeowners whose properties were devastated.

Lance Douglas, one of the volunteer organizers, said he planned to spend Tuesday working to get large machinery into the area to remove downed trees and other large debris.

The Northern Tornadoes Project plans to release a more complete report on its findings. The group is a Western University unit focused on understanding tornadoes in Canada.

The team says only one F-5 tornado has been recorded in Canadian history. It touched down about 30 kilometres west of Winnipeg, in the village of Elie, in 2007.

There were no fatalities or injuries but it did damage a flour mill and destroyed several houses.

The researchers say that most tornadoes that touch down in Canada are either EF-2 or weaker.