

# Canadian Tornado Fact Sheet

*Based on the 30-year (1980-2009) Data Set*

## Totals

Total number of tornadoes: **1839**

Tornadoes by Fujita Scale<sup>1</sup>: F0 (**65.7%**), F1 (**25.7%**), F2 (**7.0%**), F3 (**1.3%**), F4 (**0.3%**), F5 (**0.1%**)

Tornado totals by Fujita Scale<sup>1</sup>: F0 (**1209**), F1 (**473**), F2 (**128**), F3 (**23**), F4 (**5**), F5 (**1**)

Total number of human casualties (fatalities + injuries)<sup>2</sup>: **947 (60 + 887)**

Total damage costs (unadjusted Canadian dollars)<sup>2</sup>: **\$547,134,500**

Total path length<sup>2</sup>: **3,058.2 km** (approx. driving distance from Ottawa, ON to Saskatoon, SK)

## Averages

Average annual tornado incidence: **61.3** (F0-F5), **5.2** (F2-F5)

Average number of days per year with one or more tornadoes: **32.8** (F0-F5), **3.8** (F2-F5)

Province with highest average annual tornado incidence: **Saskatchewan – 17.6**

Month with highest average annual tornado incidence: **July – 21.2**

Peak activity during day<sup>2</sup>: **50.6%** occurred **4:00-7:59 PM**

Average path length<sup>2</sup>: **10.6 km** (F0-F5), **23.9 km** (F2-F5)

Average path width (using widest point along path)<sup>2</sup>: **249 m** (F0-F5), **391 m** (F2-F5)

Average path direction<sup>2</sup>: **260°** (from the west)

Average number of casualties per year (fatalities + injuries)<sup>2,3</sup>: **32 (2 + 30)**

Average damage amount per year (unadjusted Canadian dollars)<sup>2,3</sup>: **\$18,237,800**

<sup>1</sup> The Enhanced Fujita (EF) Scale is used in Canada for tornadoes occurring after 2012. Follow [link](#) for details.

<sup>2</sup> Time of occurrence, path length, path width, path direction, casualties and damage amount are not available for all events.

<sup>3</sup> Average values are skewed by a small number of catastrophic events.



## Extreme Events

Most intense tornado: **F5** – 22 Jun 2007 Elie, MB (the only F5 ever recorded in Canada)

Most tornadoes on one day: **19** – 20 Aug 2009 in southern ON, F0-F2 (highest daily total ever recorded in Canada)

Longest path length: **115 km** – 31 May 1985 Grand Valley to Tottenham, ON F4 (the longest single tornado path ever recorded in Canada)

Widest path: **1,800 m** – 23 Jun 2007 Pipestone, MB F3

Most casualties (fatalities + injuries): **327 (27 + 300)** – 31 Jul 1987 Edmonton, AB F4 (only the 30 Jun 1912 Regina, SK F4 tornado had more fatalities at 28)

Earliest occurrence in year: **10 Mar 1991** – Pitt Meadows, BC F0

Latest occurrence in year: **9 Nov 2005** – Hamilton to Stoney Creek, ON F2

## Significant Event Revisions

**4 Aug 1994 Aylmer, QC F2** – reclassified from **F3** to **F2** based on re-examination of evidence

## References

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Cheng, V. Y. S., G. B. Arhonditsis, D. M. L. Sills, H. Auld, M. W. Shephard, W. A. Gough, and J. Klaassen, 2013: Probability of tornado occurrence across Canada. *Journal of Climate*, **26**, 9415-9428.

Cheng, V. Y. S., G. B. Arhonditsis, D. M. L. Sills, W. A. Gough and H. Auld, 2015: A Bayesian modeling framework for tornado occurrences in North America. *Nature Communications*, **6**, 6599.

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