

Tornado Fact Sheet for Canada

Based on the 30-year dataset from 1991 to 2020, inclusive

Totals

Total number of tornadoes: **1,948** (all), **235** (F/EF2+)

Tornadoes by F/EF rating: 0 (**1,110**), 1 (**603**), 2 (**216**), 3 (**16**), 4 (**2**), 5 (**1**)

Percentages by F/EF rating: 0 (**57.0%**), 1 (**31.0%**), 2 (**11.1%**), 3 (**0.8%**), 4 (**0.1%**), 5 (**0.1%**)

Total number of tornado days: **1051** (all), **159** (F/EF2+)

Total number of human casualties (fatalities + injuries): **369** (**23** + **346**)

Total damage costs (unadjusted Canadian dollars): **\$1,001,247,000**

Total path length: **6,101 km** (all), **3,056 km** (F/EF2+)

Means / Medians

Mean annual tornado frequency: **64.9** (all), **7.8** (F/EF2+)

Mean number of days per year with at least one tornado: **35.0** (all), **5.3** (F/EF2+)

Province with highest mean annual tornado frequency: **Ontario – 18.5** (all), **2.9** (F/EF2+)

Month with highest mean annual tornado frequency: **Jul – 23.2** (all), **Aug – 2.6** (F/EF2+)

Mean start Date: **May 4** (all), **Jun 18** (F/EF2+)

Mean end Date: **Oct 3** (all), **Aug 12** (F/EF2+)

Mean length of Season: **153 days** (all), **57 days** (F/EF2+)

Mean / median tornado occurrence time in local time: **4:37 / 5:00 PM** (all),

5:07 / 5:50 PM (F/EF2+)

Mean / median path length: **8.5 / 5.6 km** (all), **16.0 / 12.5 km** (F/EF2+)

Mean / median path width (based on values of maximum width): **356 / 260 m** (all),

668 / 540 m (F/EF2+)

Mean path direction: from **253⁰** (all), from **256⁰** (F/EF2+)

Mean number of casualties per year (fatalities + injuries): **12.3 (0.8 + 11.5)**

Mean damage amount per year (unadjusted Canadian dollars): **\$33,375,000**

Extremes

Most intense tornado: **F5** – 22 Jun 2007, Elie, MB

Most tornadoes on one day: **22** – 20 Aug 2009, southern Ontario, F0-F2

Longest path length: **98.3 km** – 27 Aug 1991, Réserve faunique Mastigouche QC, F2

Widest path: **2,440 m** – 8 Jun 2020, Brooks Lake (Nestor Falls) ON, EF2

Most casualties (fatalities + injuries): **142 (12 + 130)** – 14 Jul 2000, Pine Lake AB, F3

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

Latest occurrence in year: **23 Nov** 2013, Charleville ON, EF1

By Province*

Total tornadoes / mean annual tornado frequency:

BC – 19 / 0.6

ON – 554 / 18.5

AB – 335 / 11.2

QC – 320 / 10.7

SK – 438 / 14.6

ATL – 33 / 1.1

MB – 254 / 8.5

TER – 2 / 0.1

Notes

* data for statistics only used when available (e.g. dates, ratings, lengths, widths, etc.)

* there are actually two data sets used here: a national data set and provincial data sets (because a tornado that crossed a provincial border needs to be counted once nationally but twice provincially – once in each province)

* the mean path direction is a scalar arithmetic mean