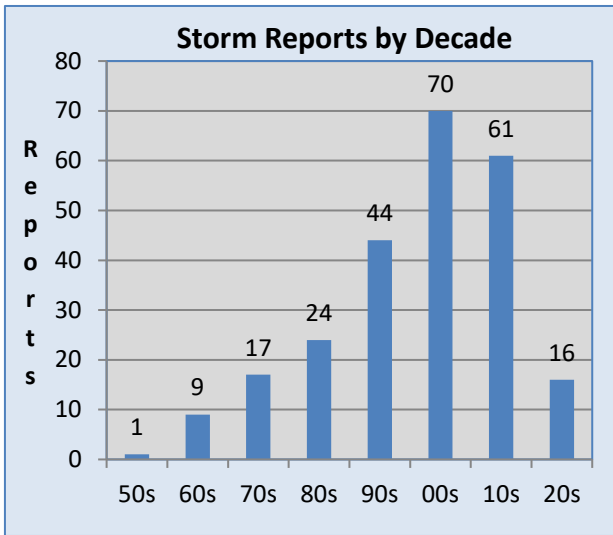


Calumet County Severe Weather Facts (1950-2023)

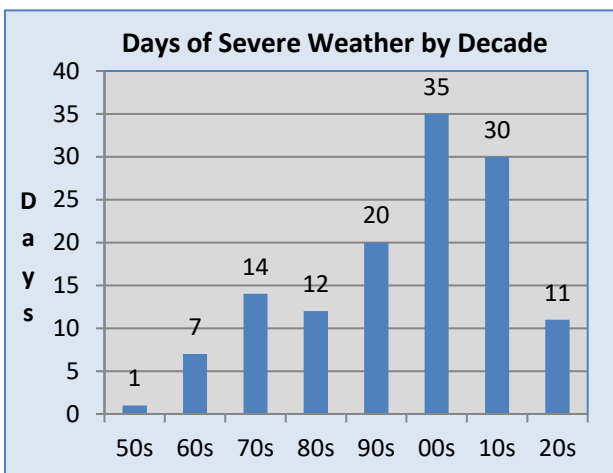
Updated: 01/01/24; Next Update: January 2025

Storm Reports by Decade



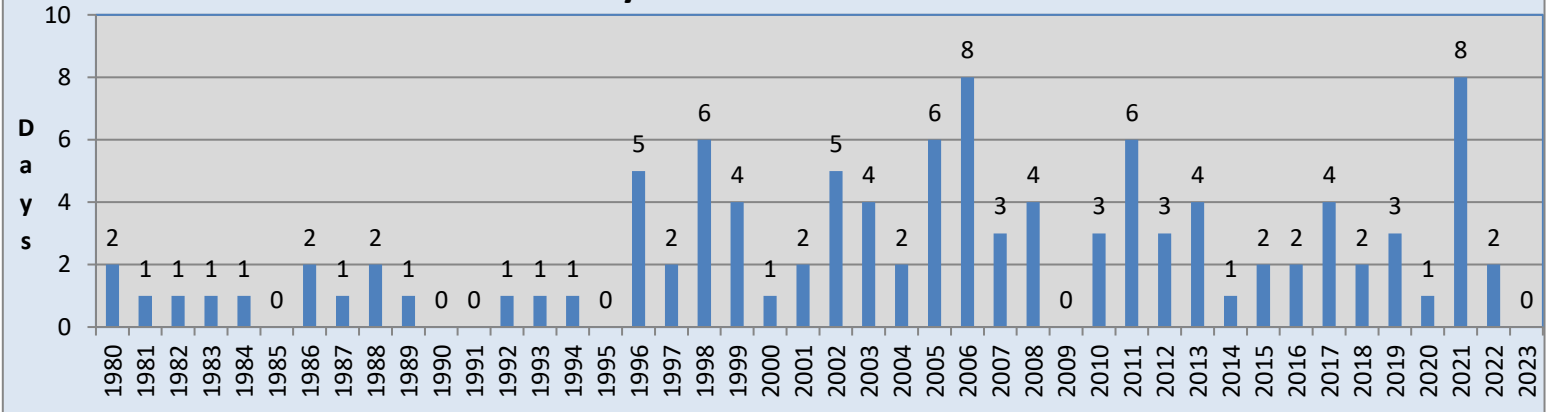
Since 1950 there have been 242 documented reports of large hail, damaging winds and tornadoes across Calumet County (see graph to the left). The population boom of the 1980s and 1990s combined with the SKYWARN program led to an increase in the number of reports of severe weather during both decades. The number of reports decreased 11% from the 2014-2023 period compared to the 1990s, although many counties across northeast Wisconsin saw increases in the number of storm reports. One can't say for sure there has been an increase in severe weather across northeast Wisconsin. One possible reason for the apparent increase in reports is that in some instances, multiple reports were received from a single location for the same storm due to more spotters today. Another reason for the increase in storm reports has been the focus by the National Weather Service (NWS) to improve warning verification. 2006 was the most active year with 21 reports, followed by 20 reports in 1998, 13 reports in 2008, 12 reports in 2011 and 10 reports in 1996, 2002, 2012 and 2021. In 2023, there were no reports of severe weather across the county.

Days of Severe Weather by Decade



In order to address the impact of multiple reports for the same storm, the data was examined by the number of severe weather days. Since the reports were sporadic during the 1950s through the 1970s, only data from 1980 to present was used. There has been an increase of 25% in the number of days of severe weather from the 2014-2023 period compared to the 1990s. (see graph to the left). This trend can be attributed to the increase in population, technology advances in reporting severe weather and greater severe weather awareness by the public. Since 2010, Calumet County averages 2.9 days of severe weather per year. The long-term average from 1980 to 2023 is 2.5 days per year. There were no reports of severe weather in the following years: 1985, 1990, 1991, 1995, 2009 and 2023. The most active year was 2006 and 2021 with 8 days of severe weather; followed by six days in 1998, 2005 and 2011. The last report of severe weather occurred on August 3, 2022.

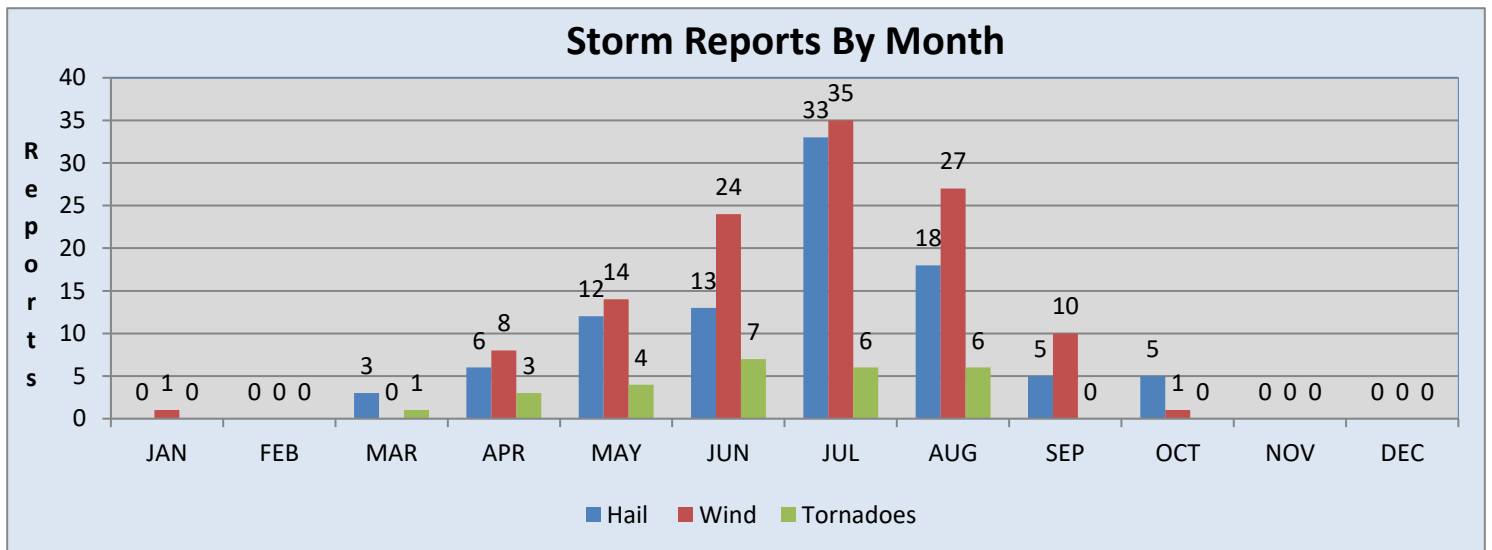
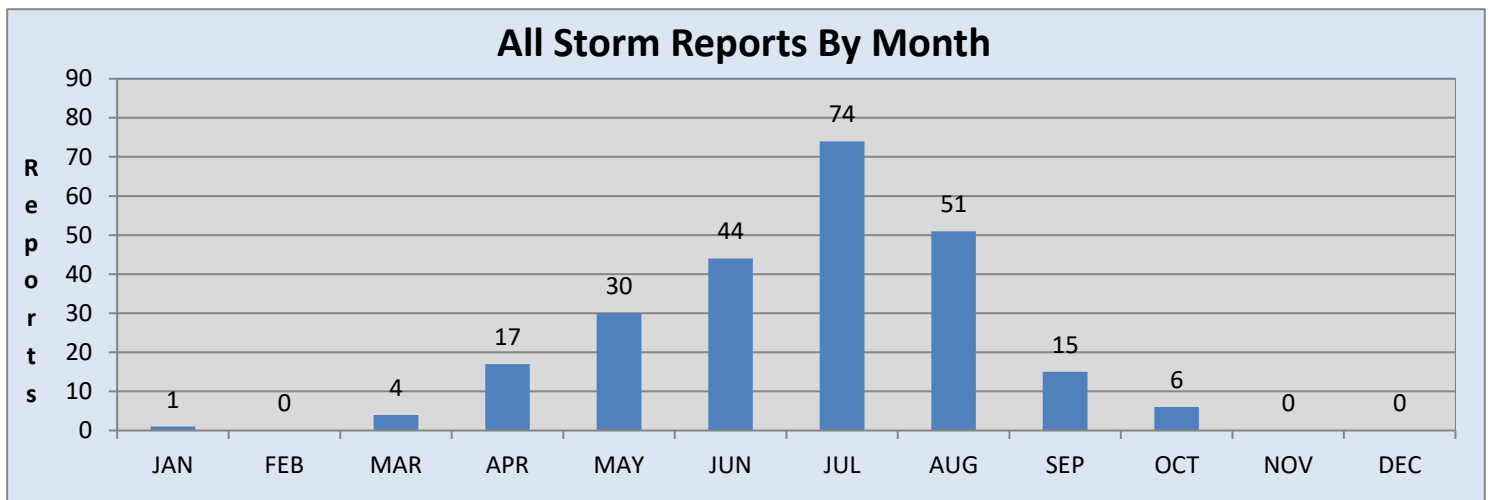
Number of Days of Severe Weather Since 1980



Calumet County Severe Weather Facts (1950-2023)

Storm Reports by Month

Severe weather has been reported in Calumet County in every month except February, November and December. Surprisingly, there has been one report of severe weather during the month of January. On January 24, 1967, a line of thunderstorms produced damaging winds across Brown, Calumet, Winnebago, and Outagamie counties during the early evening hours. On a few occasions, severe weather breaks out during the month of March. The severe weather season begins in earnest in April, with the heart of the convective season between May and August. July is the peak month for the number of reports followed by June and August. The warm season period of May through September accounts for 88% of all severe weather reports during the year. Severe weather can occur from time to time in September. Isolated reports of severe weather have been noted during October. Large hail (0.75 inches) was reported on October 2, 2006 in Brillion. The largest October event occurred on October 18, 2007 when there were four reports of large hail (0.88 to 1.50 inches) across the county. The latest report of severe weather during a given year occurred on October 27, 1984 when wind damage was reported in New Holstein.

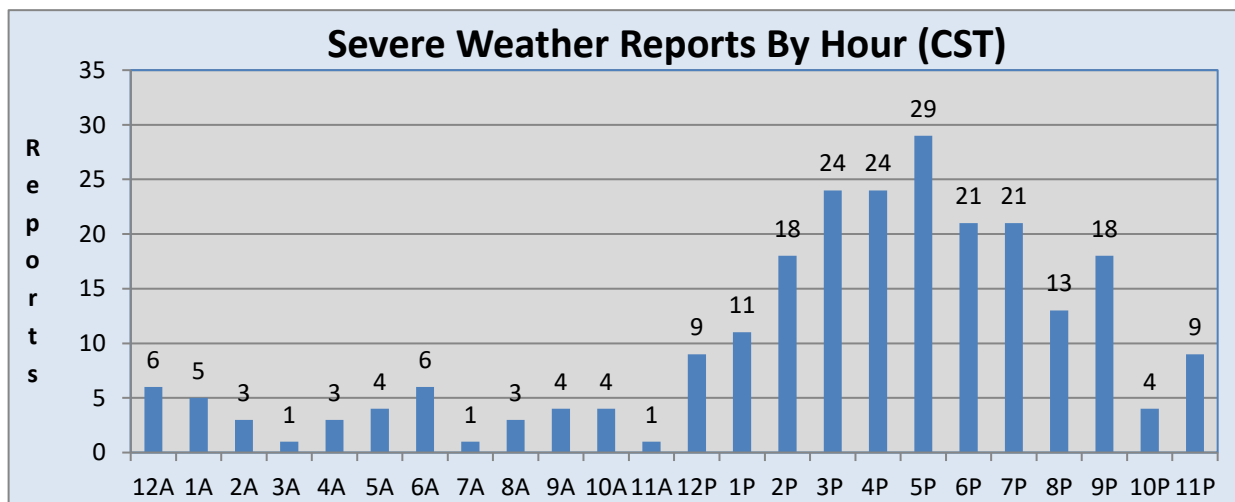
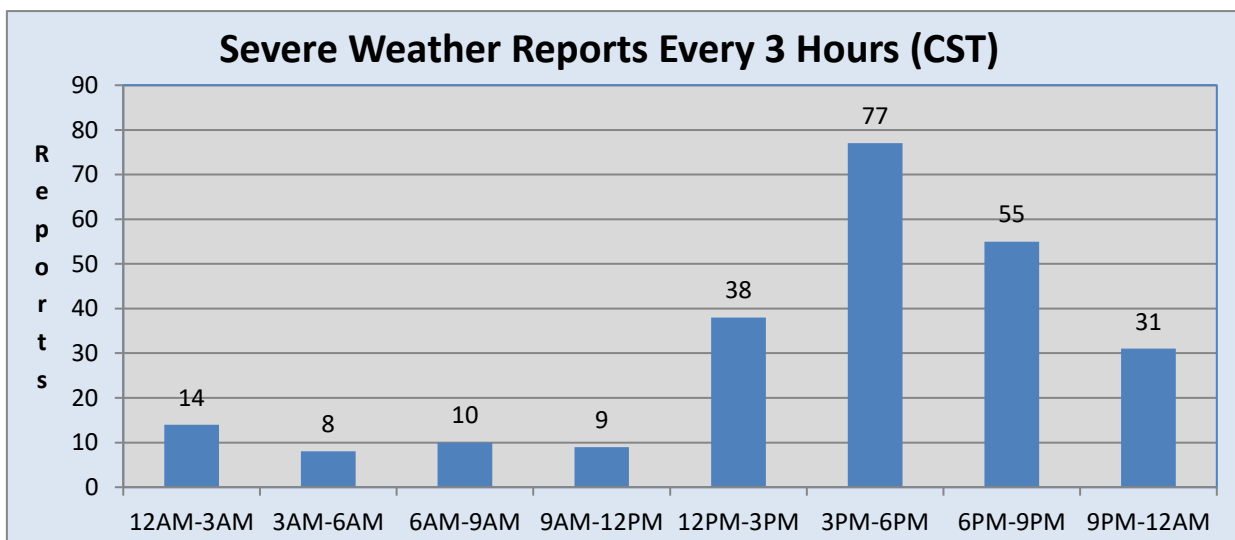


NOTE: The chart depicts storm type by month: (hail, wind/wind damage, tornadoes).

Calumet County Severe Weather Facts (1950-2023)

Storm Reports by Time of Day

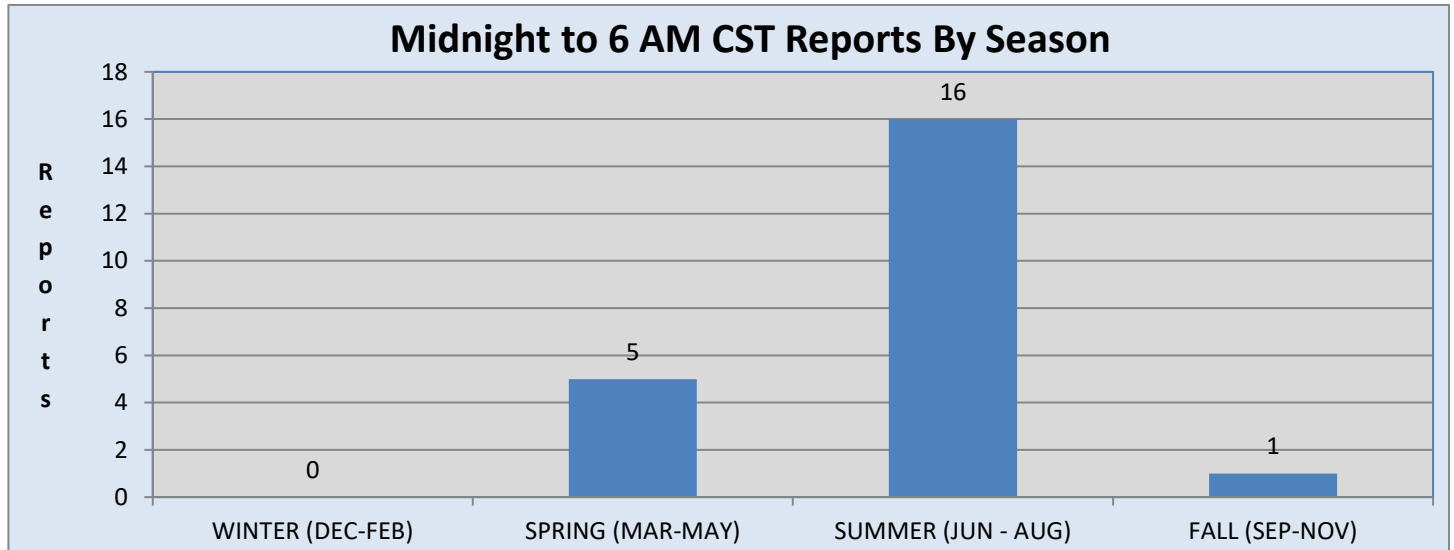
No matter the season, the afternoon and early evening hours are the peak time for severe weather across Calumet County. Nearly two-thirds of all severe weather reports occurred between 1 PM and 9 PM local standard time. In Calumet County, severe weather reports increased after noon with a peak between 3 PM and 8 PM local standard time. The peak in the storm activity corresponds to peak afternoon heating when the atmosphere is most unstable. During May through early September, there is another peak of severe weather that occurs between midnight and 5 AM. In these events, thunderstorms that fire up across the Dakotas and Minnesota and moves into the county overnight. However, on September 2, 2011 northeast Wisconsin experienced one of the biggest and strongest morning severe weather outbreaks in years when severe thunderstorms developed across east central and northeast Wisconsin and moved northeast into Brown County. Numerous reports of severe weather were reported across Winnebago, Waushara, Outagamie and Brown Counties. Hurricane force winds were reported near High Cliff State Park around 8:40 AM CST and near Wrightstown in Brown County around 8:45 AM CST. In 2019, a round of severe thunderstorms moved across northeast Wisconsin on the morning of July 20th, producing wind gusts of 50 to 80 mph.



Calumet County Severe Weather Facts (1950-2023)

Severe Weather Reports Midnight to 6 AM CST

Overnight severe weather reports are most prominent during the summer (June through August) due to nocturnal convection along warm fronts, or from complexes of storms that develop across the Dakotas and Minnesota and roll through northeast Wisconsin during the early morning hours. The summer months account for nearly 73% of all overnight reports during the year. The last report of an early morning severe weather event (midnight to 6 AM CST) occurred on July 18th when damaging winds were reported around 4:50 AM CST near St. John.



Calumet County Severe Weather Facts (1950-2023)

Calumet County Tornadoes

Since record keeping began in 1950, there have been 27 documented tornadoes in Calumet County. Of the 27 tornadoes, there have been zero documented tornadoes of F/EF3 or greater intensity. Six of the tornadoes have been rated F/EF2 intensity, 10 tornadoes were rated F/EF1 and 11 tornadoes rated F/EF0 (see table on next page). The last F/EF2 tornado to strike Calumet County occurred four miles west of Kiel on April 4, 1981. The most tornadoes in a year occurred in 1996 with four. Two tornadoes were reported in 1967, 2003, 2005, 2011 and 2013. The last tornado to strike Calumet County occurred on August 28, 2018 when an EF0 tornado touched down around 3:33 PM CST around two miles east of New Hostein. Since 1950, tornadoes have touched down in 19 different years. A tornado strike in Calumet County occurs on average about every two and a half years.

Event #	Date			Time (CST)	Start / End Location	F/EF Rating
	Month	Day	Year			
1	6	20	1954	04:00	Brothertown	2
2	5	8	1964	18:30-19:06	Winneconne - Wrightstown	2
3	7	8	1965	17:00	Lake Winnebago - 1 N Sherwood	2
4	6	30	1967	23:49-23:59	Chilton - 7 E Chilton	2
5	7	2	1967	14:00	Brillion	1
6	4	21	1971	17:30	4 SW Hilbert	0
7	3	11	1973	10:30	2 E Calumetville	1
8	8	9	1979	18:20	Rockland Beach	2
9	4	4	1981	00:35	4 W Kiel	2
10	7	19	1983	19:25	Stockbridge Harbor	1
11	5	24	1989	21:05	4 WNW Chilton	1
12	6	11	1996	16:08-16:09	5 NW Chilton	0
13	7	18	1996	18:05-18:07	1.1 S - 1.6 SE Jericho	1
14	7	18	1996	18:10	5.9 S Chilton	0
15	7	18	1996	18:15-18:16	2.2 WNW - 1.8 W St Anna	0
16	5	31	1998	01:20-01:24	0.5 N Stockbridge - 2 NE Stockbridge	1
17	6	8	2003	12:42-12:46	4.3 W - 4.1 WSW Brothertown	0
18	8	3	2003	13:59-14:03	0.3 W - 0.2 ENE Potter	1
19	5	6	2005	15:25-15:29	5 WSW - 3.7 SW Brothertown	0
20	6	9	2005	18:14	4 NW Stockbridge	0
21	6	24	2006	16:14-16:15	4 W Sherwood	0
22	4	10	2011	19:59-20:01	1.6 NW Quinney - 1.5 SSE Stockbridge	1
23	8	23	2011	20:05-20:06	0.8 ENE - 1.3 E Sherwood	0
24	8	6	2013	23:38-23:52	3.5 E Greenville - 2.6 NNE Brillion	1
25	8	7	2013	00:05-00:10	0.5 SSE Henrysville - 1 NE Stangelville	1
26	6	15	2016	17:47-17:49	3.3 WSW Harrison - 2.6 NW Stockbridge	0
27	8	28	2018	15:33-1:534	1.9 E New Hostein	0

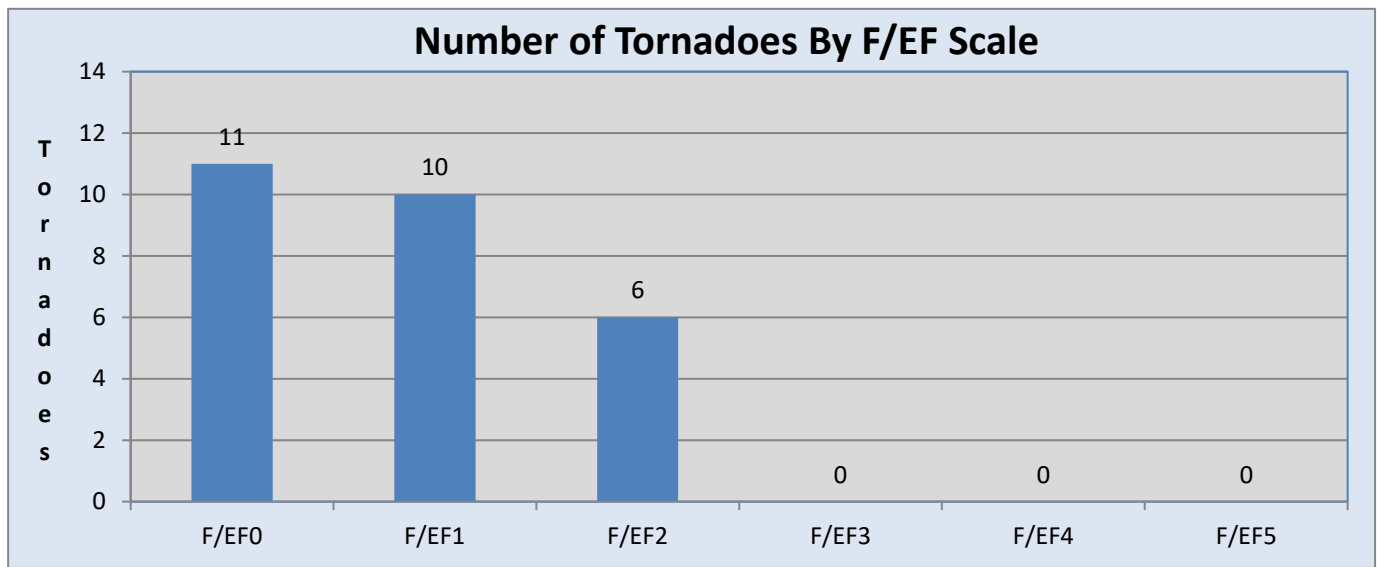
Calumet County Severe Weather Facts (1950-2023)

F/EF2 or Greater Tornadoes in Calumet County

Event #	Month	Day	Year	Time (CST)	Start / End Location	F/EF Rank
1	5	8	1964	18:30-19:06	Winneconne - Wrightstown	2
2	7	8	1965	17:00	Lake Winnebago - 1 N Sherwood	2
3	6	30	1967	23:49-23:59	Chilton - 7 E Chilton	2
4	8	9	1979	18:20	Rockland Beach	2
5	4	4	1981	00:35	4 W Kiel	2

Additional tornado data can be found on the NWS Green Bay webpage at: <http://www.weather.gov/grb/severeclimate>

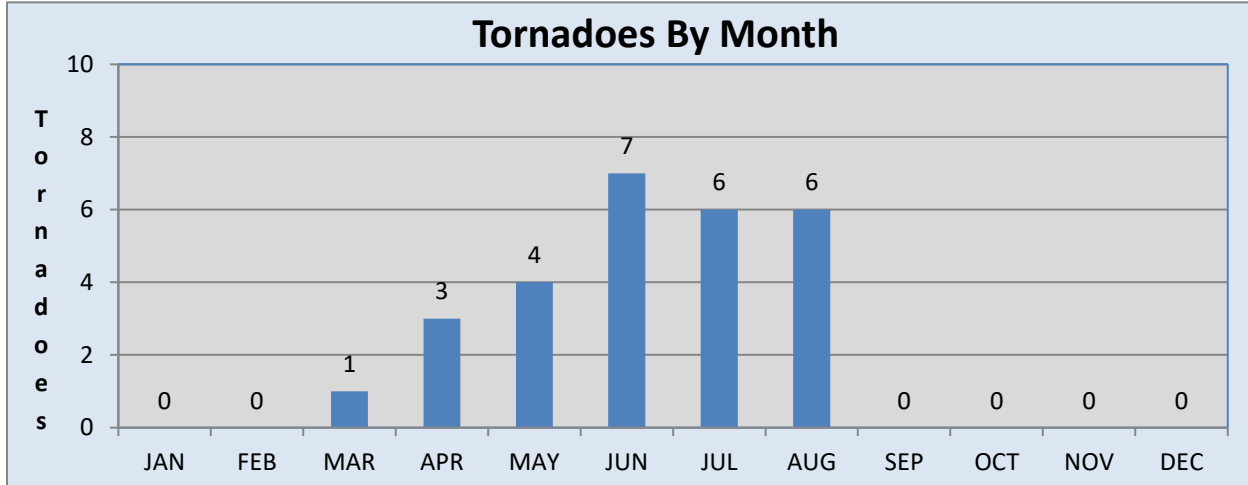
Overall, F/EF2 tornadoes account for 22% of all tornadoes in the county. F/EF1 tornadoes 37% and F/EF0 tornadoes 41%.



Calumet County Severe Weather Facts (1950-2023)

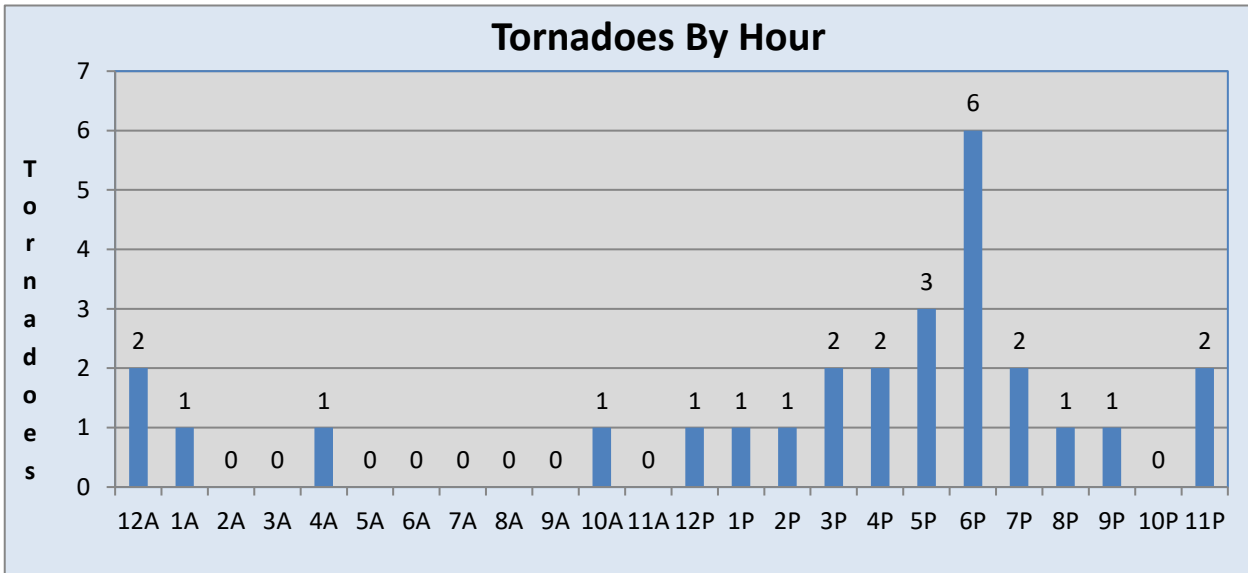
Tornadoes by Month

Documented tornadoes have occurred in Calumet County from March through August. The earliest documented tornado during the year occurred on March 11, 1973, when a F1 tornado touched down two miles east of Calumetville. The tornado season peaks in June through August which accounts for 70% of all tornadoes during the year. The latest documented tornado on record during a given year occurred on August 28, 2018 when an EF0 tornado touched down nearly two miles east of New Hostein.



Tornadoes by Hour

In Calumet County, 18 out of the 27 (67%) documented tornadoes have occurred between 2 PM and 10 PM CST. There have been no documented tornadoes between 2 AM and 4 AM CST, and from 5 AM and 10 AM CST.

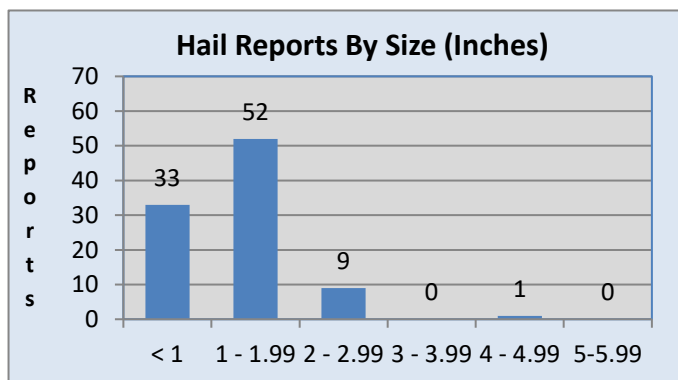


Calumet County Severe Weather Facts (1950-2023)

Predominant Storm Reports – Wind and Hail Only

During March and October, large hail is the dominant weather event that is reported to the National Weather Service. Typically during these months, the atmosphere is colder aloft to support large hail reaching the ground. For the remainder of the convective season, reports of high winds or wind damage are nearly as slightly more likely to be reported to the National Weather compared to large hail. June, August and September have a strong bias for strong winds or wind damage being reported across the county compared to large hail.

Month	% Hail Reports	% Wind or Wind Damage	Month	% Hail Reports	% Wind or Wind Damage
Jan	0.0	100	Jul	48.5	51.5
Feb	0.0	0.0	Aug	40.0	60.0
Mar	100	0.0	Sep	33.3	66.7
Apr	42.9	57.1	Oct	83.3	16.7
May	46.2	53.8	Nov	0.0	0.0
Jun	35.1	64.9	Dec	0.0	0.0
			Year	44.2	55.8



Large Hail in Calumet County

There have only been ten documented reports of large hail over two inches in diameter across the county. The largest hail stone of 4.0 inches in diameter occurred at St. John on March 29, 1998. The most recent large hail event over two inches occurred on July 16, 2008 when hail the size of two and a half inches was reported a half mile east of Chilton. Overall, hail ranging in size from three quarters to one inch accounted for 60% of the documented large hail reports. Large hail reports of two inches or greater only accounted for 11% of the total hail reports.

Hail over 2 inches

Rank	Month	Date	Year	Time	Location	Size
1	3	29	1998	12:25	St. John	4.00
2	7	5	1994	09:00	Chilton	2.75
3	7	16	2008	13:53	0.5 E Chilton	2.50
4T	7	16	2008	13:10	0.5 E High Cliff	2.00
4T	7	16	2008	13:08	High Cliff Junction	2.00
4T	7	1	2006	19:20	Potter	2.00
4T	5	12	2000	10:28	Stockbridge – Hayton	2.00
4T	8	23	1998	16:00	Sherwood	2.00
4T	8	14	1998	16:00	3 SSW Sherwood	2.00
4T	6	8	1973	17:15	2 SW Chilton	2.00

Calumet County Summary

In Calumet County, the severe weather season begins in earnest in April and wanes quickly by September. Severe weather usually occurs in the afternoon and early evening hours, with a secondary peak between midnight and 6 AM CST during the summer months. If you do experience severe weather, you are likely to see large hail early in the spring or late fall. Damaging wind or large hail will be the dominant severe weather report during the remainder of the convective season. In the NWS Green Bay County Warning Area which includes 22 counties from central to northeast Wisconsin, Calumet County ranks 15th in the total number of storm reports and 7th in the number of tornado reports since 1950.



One of the most severe storms to hit Calumet County (picture to the left of home damaged in Chilton) occurred during the late morning of May 12, 2000 when a single "high-precipitation" supercell thunderstorm developed in west-central Wisconsin, and moved east across the central and east central Wisconsin. Hail up to the size of baseballs, driven by winds in excess of 60 mph, produced **incredible damage** in Waushara, Winnebago, Calumet, and Manitowoc counties. Chilton and St. Nazianz were particularly hard-hit by very large hail and hurricane force wind gusts well over 75 mph. Total damage from the storm in Wisconsin was nearly \$122 million, much of that in the NWS Green Bay forecast area.

Green Bay Forecast Area Severe Weather Climatology Summary

Across the Green Bay forecast area which covers 22 counties in north-central and northeast Wisconsin, severe weather has been documented in every month except February. This includes a rare event on January 24, 1967 in which a line of thunderstorms produced damaging winds across Brown, Winnebago, and Outagamie counties during the early evening hours. Another rare late season thunderstorm produced one inch hail in Florence County on December 5, 2001 while one inch hail was reported four miles west of St. Nazianz in Manitowoc County on December 20, 1967.

Tornadoes have occurred from March through December, with an extremely rare tornado outbreak occurring on December 1, 1970. On this date four tornadoes were reported across central and northeast Wisconsin during the morning. A strong area of low pressure brought unseasonably mild temperatures and severe thunderstorms to portions of central and northeast Wisconsin as a cold front swept across the state. The first tornado was reported twelve miles southeast of Marshfield in Wood County around 7 AM CST while another tornado was reported in the town of Hull in Portage County around 9 AM CST. Later that morning, an EF2 tornado was reported in Waupaca and Shawano counties, from four miles southwest of Iola to near Marion and Pella. The last and strongest tornado occurred around 9:45 AM CST. The EF3 tornado traveled from Medina in southwest Outagamie County to far southeast Shawano County, destroying about 20 barns and five homes.

Here are the strongest documented tornadoes in the Green Bay forecast area which covers 22 counties in central, north-central and northeast Wisconsin.

F/EF4 Tornadoes

Event	Date			Time		Tor in GRB Service Area
#	Month	Day	Year	(CST)	Start / End Location	County or Counties
1	6	25	1950	21:00	1 W Woodboro - 5 NE Rhinelander	Oneida
2	9	26	1951	15:45-16:08	9 SSW Amherst - 2 SW Bear Creek	Portage-Waupaca
3	4	3	1956	13:45-13:53	Berlin - 2 W Omro	Waushara-Winnebago
4	8	19	1968	16:10	3 SW Pound - Marinette	Marinette
5	4	21	1974	14:40-15:08	5 S Ripon - Oshkosh	Winnebago
6	4	27	1984	15:20-15:40	1 NE Winneconne - Freedom	Winnebago-Outagamie
7	7	5	1994	15:43-15:55	2.5 NW Maribel - 0.5 W Cooperstown	Manitowoc

Calumet County Severe Weather Facts (1950-2023)

Green Bay Forecast Area Severe Weather Climatology Summary

The state record for the largest documented hail stone in Wisconsin occurred in Wausau on May 22, 1921. The hailstone measured 5.7 inches in diameter. More recently, a hailstone of 5.5 inches in diameter was reported in Port Edwards in southeast Wood County on June 7, 2007. In 2021, there were three reports of hail four inches in diameter or greater across northeast Wisconsin.

Hail	Month	Date	Year	Time (CST)	Start / End Location	County
5.70	5	22	1921	??	Wausau	Marathon
5.50	6	7	2007	15:23	Port Edwards - Wisconsin Rapids	Wood
4.50	9	7	2021	07:47-07:48	2 W Apple Creek	Outagamie
4.50	7	16	1997	14:15	8 NE Merrill	Lincoln
4.25	5	22	2011	15:05	0.8 NW Winchester	Winnebago
4.25	5	22	2011	14:35	0.5 E Redgranite	Waushara
4.10	9	7	2021	07:45-07:46	3 NE Greenville	Outagamie
4.00	9	7	2021	08:13-08:14	2 E Apple Creek	Outagamie
4.00	8	2	2015	13:32	2.8 S Brookside	Oconto
4.00	8	2	2015	13:24	0.5 E Abrams	Oconto
4.00	4	25	2008	17:50	0.8 SW Kings	Lincoln
4.00	7	1	2006	14:31	1 N Hayes - Suring	Oconto
4.00	3	29	1998	12:25	St. John	Calumet
3.75	9	7	2021	07:47-07:48	1 NW Little Chute	Outagamie
3.50	6	8	2000	22:30	10 W Middle Inlet	Marinette
3.25	7	1	2006	15:05	Oconto - 6 SE Oconto Falls	Oconto
3.00	10	24	2023	08:50-08:51	Nasonville	Wood
3.00	8	2	2015	14:06	Rudolph	Wood
3.00	5	22	2011	17:35	Plover	Portage
3.00	6	7	2007	15:50	5 W Langlade	Langlade
3.00	7	1	2006	19:29	Branch - Manitowoc	Manitowoc
3.00	4	18	2002	15:30	7 WSW Bloomville - 7 NW Bradley	Lincoln
3.00	8	9	2001	12:50	1S Sturgeon Bay	Door
3.00	6	5	1999	18:24	3 S - 8 SE Eagle River	Vilas
3.00	7	27	1989	10:50	1 N Oshkosh	Winnebago
3.00	8	19	1968	16:15	2 E Harmony	Marinette
3.00	7	19	1963	15:00	4 S Rhinelander	Oneida
3.00	7	1	1956	11:00	5 E Green Bay	Brown