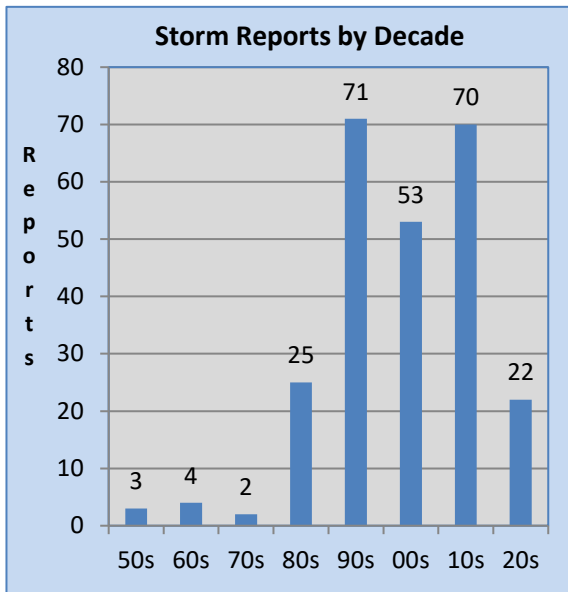


# Waushara County Severe Weather Facts (1950-2023)

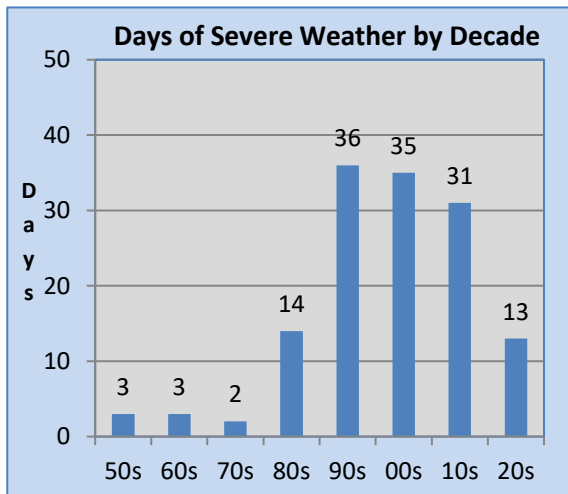
Updated: 01/01/24: Next Update January 2025

## Storm Reports by Decade



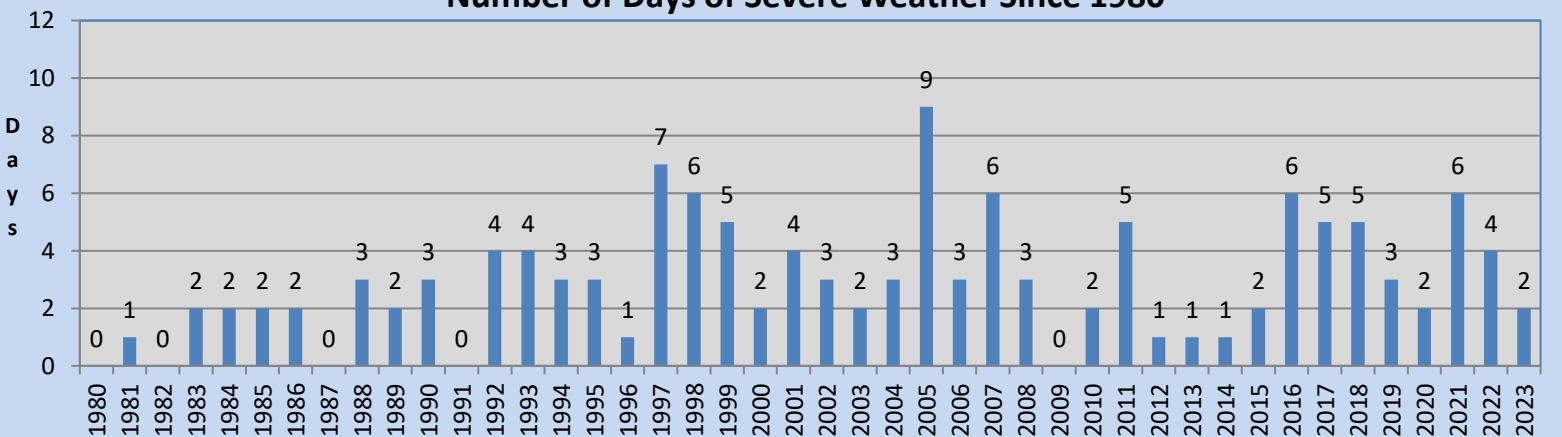
Since 1950 there have been 250 documented reports of large hail, damaging winds and tornadoes across Waushara County. The population boom of the 1980s and 1990s combined with the SKYWARN program led to an increase in the number of reports of severe weather during both decades. The number of reports actually decreased 10% from the 2014-2023 period compared to the 2000s, but most counties in northeast Wisconsin saw an increase in the number of 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. 2011 was the most active year with 24 reports followed by 16 reports in 2005, 15 reports in 1993, 14 reports in 1998, 13 reports in 1997, and 11 reports in 2016 and 2017. Since 1980, there were no reports of severe weather in a year: 1980, 1982, 1987, 1991 and 2009. In 2021, the latest report of severe during the year occurred on December 15<sup>th</sup> when damage was reported near Plainfield. In 2023, there was one report of large hail on June 10 and one report of strong winds/wind damage on July 28.

## 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. The number of severe weather days decreased 3% from the 2014-2023 period compared to the 1990s. Many other counties in northeast Wisconsin saw an increase in the number of days of severe weather. The 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, Waushara County averages 3.1 days of severe weather per year. The long-term average from 1980-2023 is 2.9 days. The most active year was 2005 with nine days of severe weather; followed by seven days of severe weather in 1997, and six days in 1998, 2007 and 2016. In 2023, there were 2 days of severe weather: , there was one report of large hail on June 10 and one report of strong winds/wind damage on July 28.

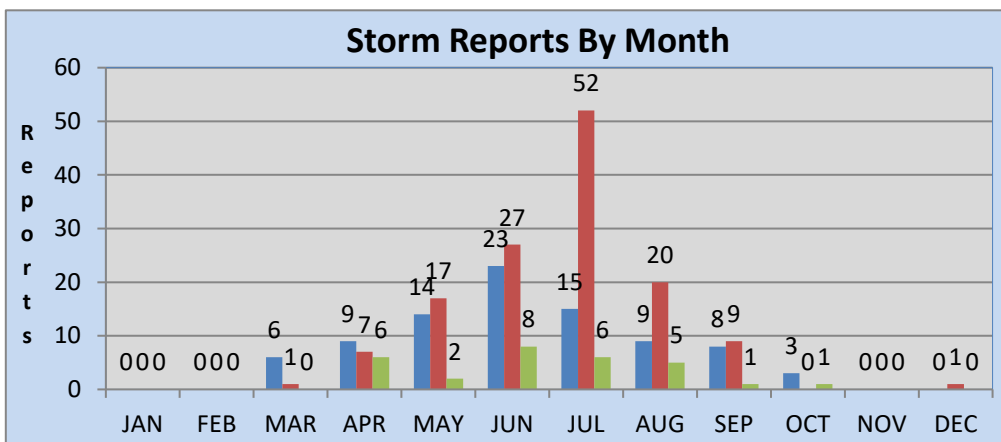
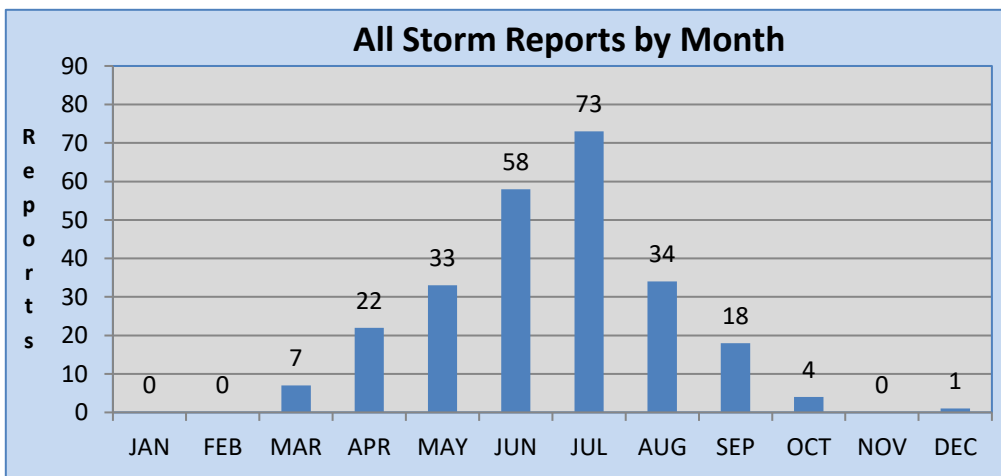
## Number of Days of Severe Weather Since 1980



# Waushara County Severe Weather Facts (1950-2023)

## Storm Reports by Month

Severe weather has been recorded in Waushara County from March through October. Isolated reports of severe weather have been noted in March into April. The earliest documented report of severe weather during the year occurred on March 8, 2000. On this date, penny size hail was reported at Auroraville. The largest March outbreak occurred on March 29, 1998. On this date, there were six reports of penny to golf ball size across the county. The severe weather season begins in earnest in April, the peaks in July. The convective season wanes quickly by September. The warm season period of May through September accounts for 86% of all severe weather reports during the year. Severe weather can occur from time to time in September with isolated reports during October. The latest report of severe weather during the year occurred on December 15, 2021, a weakening line of severe thunderstorms brought damaging winds just south of Plainfield. The previous latest storm report during the year on record was October 8, 1992 when a F1 tornado touched down five miles northeast of Wild Rose while penny size hail was reported in Hancock.

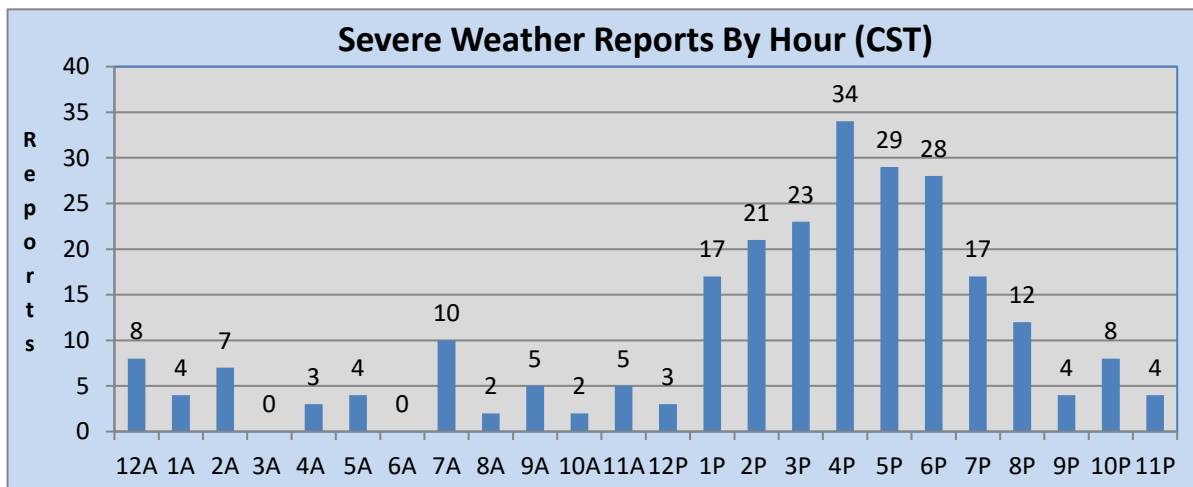
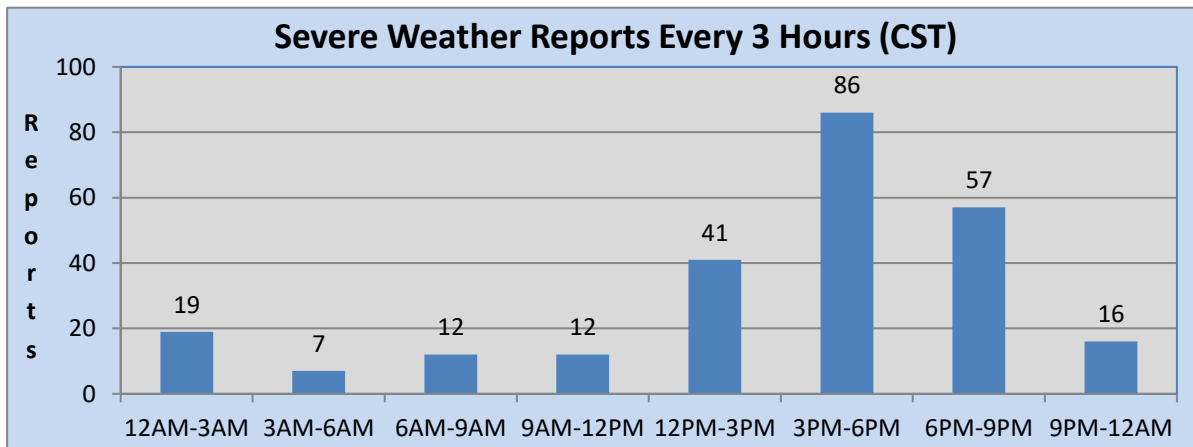


NOTE: The chart depicts storm type by month: (hail, wind/wind damage, tornadoes).

# Waushara County Severe Weather Facts (1950-2023)

## Storm Reports by Time of Day

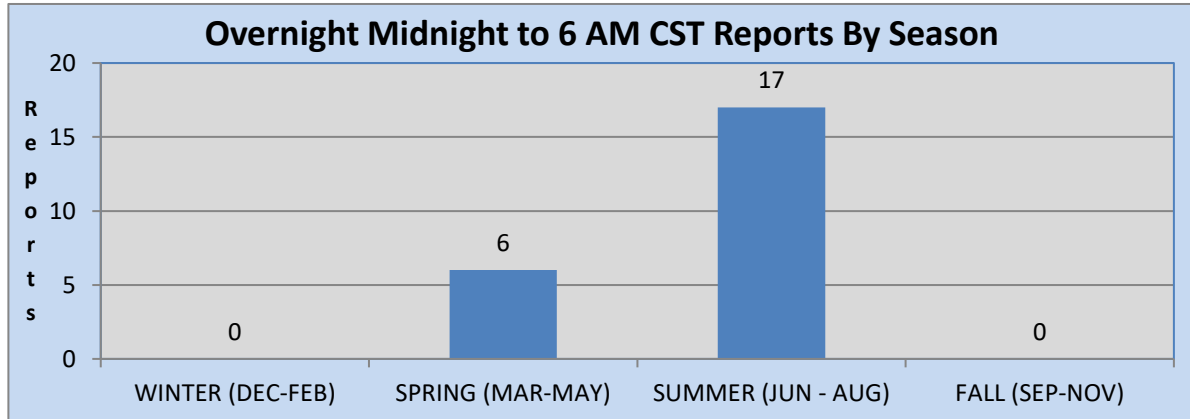
No matter the season, the afternoon and early evening hours are the peak time for severe weather across Waushara County. Overall, 72% of all severe weather reports occurred between 1 PM and 9 PM CST. Severe weather reports increased sharply after 1 PM CST with a peak in reports between 4 PM and 7 PM CST. The peak in the storm activity corresponds to peak afternoon heating when the atmosphere is most unstable. There was another peak in the number of reports between midnight and 6 AM CST between May and August. The overnight reports correspond to thunderstorms that develop across Minnesota and Dakotas and moves into the county after midnight.



# Waushara County Severe Weather Facts (1950-2023)

## Overnight 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 74% of all overnight reports during the year.



# Waushara County Severe Weather Facts (1950-2023)

## Waushara County Tornadoes

Event #	Date			Time	Start / End Location	F/EF Rank
	Month	Day	Year	(CST)		
1	4	15	1954	15:00	2 NE Neshkoro - Redgranite	2
2	4	3	1956	13:45-13:53	Berlin - Rural Winnebago County	4
3	4	19	1957	16:00-16:15	Wautoma - Saxeville	2
4	7	10	1966	22:00	Plainfield - Wautoma	1
5	5	18	1971	16:40-17:04	Adams-Friendship - Hancock	1
6	7	4	1985	17:03-17:17	1 N Redgranite - 1 SW Pine River	0
7	8	12	1985	19:30-19:45	1 N Richford	0
8	5	8	1988	17:06-17:12	2 SE Wautoma - 1 S Mount Morris	1
9	9	19	1988	16:05	1 E Plainfield	0
10	8	29	1992	19:10-19:55	Wautoma - Poy Sippi	3
11	10	8	1992	16:48	5 NE Wild Rose	1
12	6	8	1993	18:38-18:55	2.5 S Spring Lake - 2 W Auroraville	0
13	6	8	1993	19:15-19:35	0.5 E Dakota - 2 S Redgranite	0
14	6	8	1993	19:35-19:45	5 SE Redgranite - 3 SE Auroraville	0
15	8	27	1994	21:07	Hancock	1
16	7	16	1997	16:41-16:42	Hancock	0
17	6	16	1998	15:00	3 WNW Coloma	0
18	6	4	2005	13:54	1 E - 1.1 ENE Auroraville	0
19	6	4	2005	14:05	2 NW Borth	0
20	8	18	2005	17:32-17:36	6 WSW - 3.7 SW Wautoma	0
21	4	10	2011	17:35-17:42	2 NW Coloma Airport - 4 ESE Hancock	1
22	4	10	2011	18:06-18:32	1/1 SW Saxeville - 1 SE Hortonville	1
23	4	10	2011	18:53-19:04	0.3 NW Poy Sippi - 2.3 WSW Winchester	1
24	6	14	2017	13:49-13:52	2.4 ENE Wild Rose - 3.2 NW Saxeville	1
25	7	20	2018	11:55-11:56	1.4 NW Silver Lake	0
26	7	16	2016	16:35-16:36	3.2 NNE - 3.1 NNE Hancock	0
27	7	28	2021	22:06-22:08	1.9 W - 1.8 WSW Borth	0
28	8	8	2021	14:52-14:58	3.7 SSW - 1.1 W Coloma	1
29	6	15	2022	16:41-16:47	1.4 WNW Brushville - 1.4 NE West Bloomfield	1

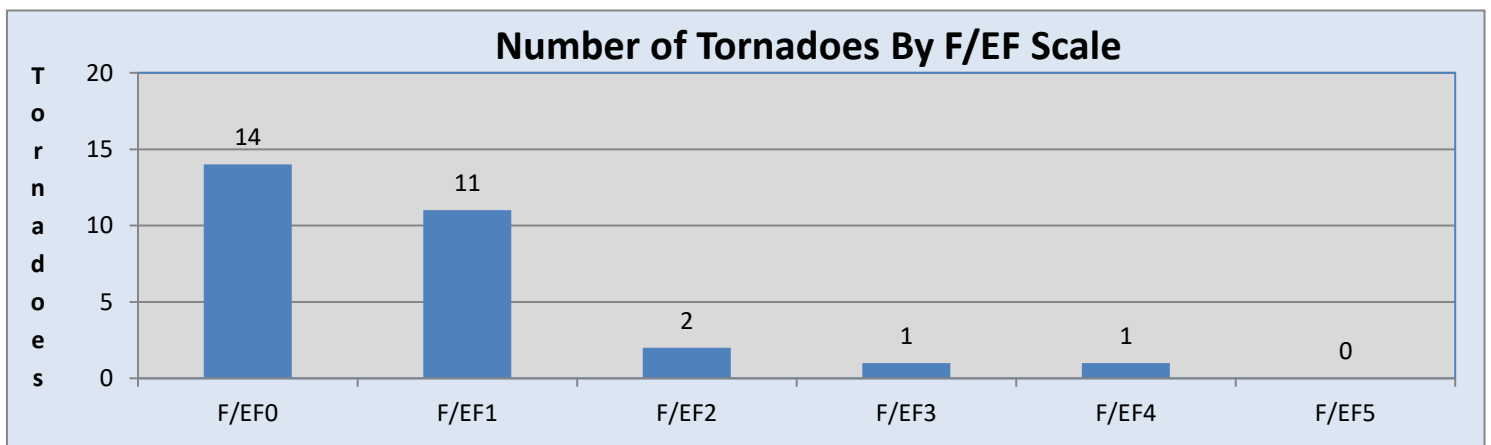
Additional tornado data can be found on the NWS Green Bay webpage at: <http://www.weather.gov/grb/severeclimate>

### F/EF2 or Greater Tornadoes in Waushara County

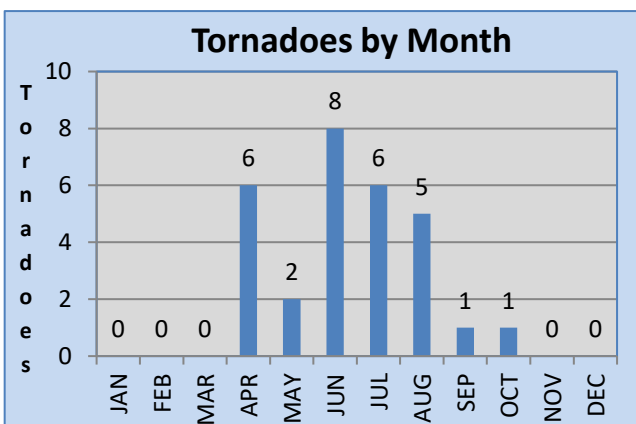
Event #	Date			Time	Start / End Location	F/EF Rank
	Month	Day	Year	(CST)		
1	4	15	1954	15:00	2 NE Neshkoro - Redgranite	2
2	4	3	1956	13:45-13:53	Berlin - Rural Winnebago County	4
3	4	19	1957	16:00-16:15	Wautoma - Saxeville	2
4	8	29	1992	19:10-19:55	Wautoma - Poyissippi	3

# Waushara County Severe Weather Facts (1950-2023)

Since record keeping began in 1950, there have been 29 documented tornadoes across the county. Two tornadoes were rated an F/EF3 or greater intensity. The strongest tornado was a F4 tornado which touched down near Berlin and moved across far southeast Waushara County before dissipating near Omro in Winnebago County on April 3, 1956. A F3 killer tornado touched down near Wautoma and moved to Poy Sippi on August 29, 1992. The tornado traveled 28 miles and at one point was 800 yards wide. The tornado caused one death and injured thirty people. The hardest hit area was just south of Wautoma where a woman was killed. A total of 48 homes were destroyed and 95 other homes sustained major damage. Two tornadoes were rated F/EF2, ten tornadoes were rated F/EF1, and fourteen tornadoes were rated F/EF0. The most active years were 1993, 2005 and 2011 with three tornadoes. On April 10<sup>th</sup>, 2011, three tornadoes struck the county between 6:30 PM and 7:30 PM CST. The three tornadoes on this date tied the record for most tornadoes on any single date. The previous record was three tornadoes on June 8, 1993. Two tornadoes were reported in 1985, 1988, 1992 and 2021. A tornado was reported in three consecutive years from 1992 to 1994. The last tornado to strike the county occurred on June 15, 2022 when an EF1 tornado touched 1.4 miles west northwest of Brushville and travelled to 1.4 miles northeast of West Bloomfield. Since 1950, tornadoes have touched down in 19 different years. A tornado strike in Waushara County occurs on average about every three years.



## Tornadoes by Month

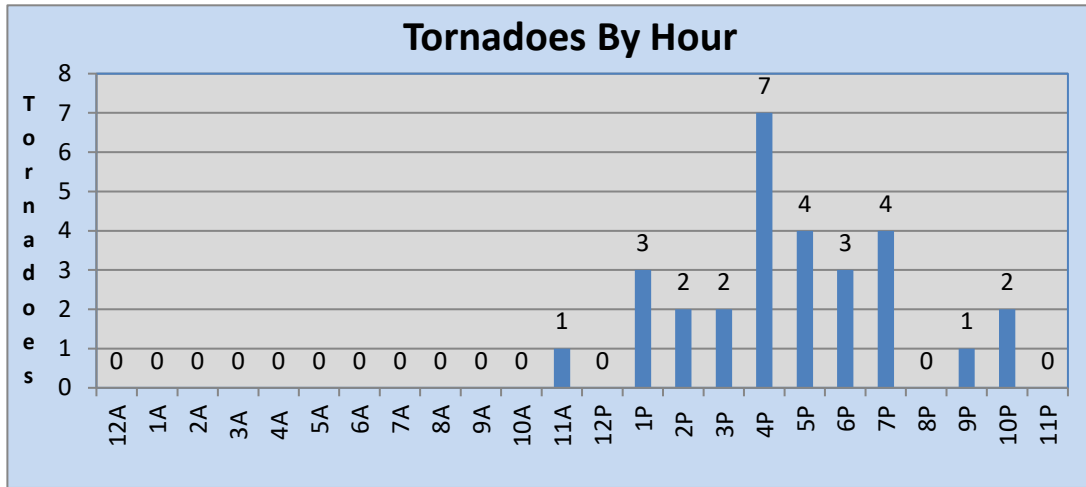


Documented tornadoes have occurred from April to October. The earliest documented tornado during the year occurred on April 3, 1956. On this date, a violent F4 tornado developed near Berlin, then clipped the far southeast portion of the county before dissipating near Omro in Winnebago County. The summer months of June, July and August accounted for 66% of all tornado reports. Overall, the warm season months of May through September account for 76% of all tornadoes during the year. The latest tornado on record during the year occurred on October 8, 1992. On this date, a F1 tornado touched down five miles northeast of Wild Rose.

# Waushara County Severe Weather Facts (1950-2023)

## Tornadoes by Hour

In Waushara County, 25 of the 29 (86%) documented tornadoes have occurred between 1 PM and 8 PM CST. There have been no documented tornadoes between the 11 PM and 1 PM CST.



## Predominant Storm Reports – Wind and Hail Only

In March, April and October, large hail is the dominant weather event reported to the National Weather Service. During these months, the atmosphere is colder aloft to support large hail. Over the remainder of the convective season, the dominant reports are strong wind gusts and wind damage. During the late spring into early fall, a warmer and moist atmosphere is more conducive for severe storms to produce damaging winds or strong winds gusts compared to large hail. Over the course of the year, nearly six out of ten reports are strong wind gusts and wind damage compared to large hail reports

Month	% Hail Reports	% Wind or Wind Damage	Month	% Hail Reports	% Wind or Wind Damage
Jan	0.0	0.0	Jul	22.4	77.6
Feb	0.0	0.0	Aug	31.0	69.0
Mar	85.7	14.3	Sep	47.1	52.9
Apr	56.3	43.8	Oct	100.0	50.0
May	45.2	54.8	Nov	0.0	0.0
Jun	46.0	54.0	Dec	0.0	100.0
			Year	39.4	60.6

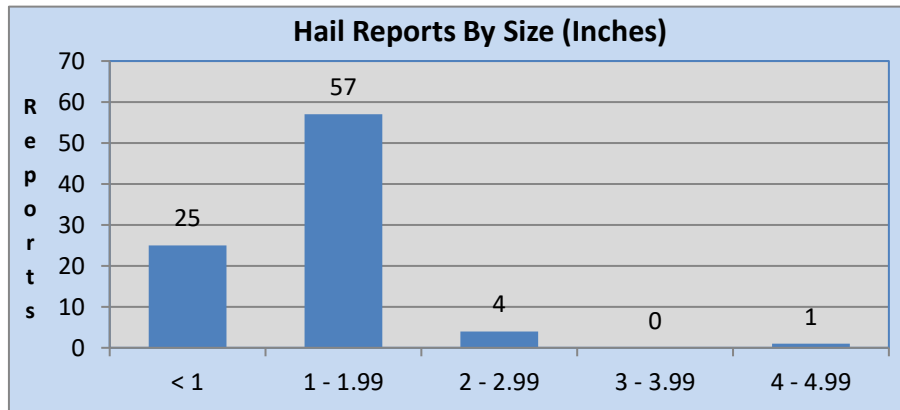
# Waushara County Severe Weather Facts (1950-2023)

## Large Hail in Waushara County

There have been five documented reports of hail two inches or greater in diameter across the county. The largest hail stone reported in the county was 4.25 inches which occurred from a half mile east of Redgranite on May 22, 2011. The last report of hail two inches or greater occurred on May 22, 2011, two miles southwest of Poy Sippi. Overall, hail ranging in size from three quarters to one inch accounted for 53% of the documented large hail reports. Large hail reports of two inches or greater only accounted for 6% of the total hail reports.

### Hail over 2 inches

Rank		Date			Time		Hail
#		Month	Day	Year	(CST)	Start / End Location	(Inches)
1		5	22	2011	14:35	0.5 E Redgranite	4.25
2		5	12	2000	09:25	1 W Coloma - Red Granite	2.75
3T		5	22	2011	14:45	2 SW Poy Sippi	2.00
3T		7	17	2006	16:16	Poy Sippi	2.00
3T		5	7	1964	17:30	9 SE Red Granite	2.00





# Waushara County Severe Weather Facts (1950-2023)

## Waushara County Summary

In Waushara County, the severe weather season begins in earnest in May, peaks in July and then 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 in the spring and later in the fall. Damaging winds or reports of strong wind gusts are 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, Waushara County ranks 11<sup>th</sup> in the total number of storm reports and tied 5<sup>th</sup> in the number of tornado reports since 1950.

## 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, a F2 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 F3 tornado travelled 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 (CST)	Start / End Location	Tor in GRB Service Area 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

# Waushara 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