

SEVERE STORMS – Hazard Description

What are severe storms?

Severe storms in Sangamon County are thunderstorms with winds of 50 knots (58 mph) or more or thunderstorms with damaging hail.

(from: Federal Emergency Management Agency)

“All thunderstorms are dangerous. Every thunderstorm produces lightning. In the United States an average of 300 people are injured and 80 people are killed each year by lightning. Although most lightning victims survive, people struck by lightning often report a variety of long-term, debilitating symptoms.”

Facts about thunderstorms:

- Thunderstorms may occur singly, in clusters, or in lines.
- Some of the most severe occur when a single thunderstorm affects one location for an extended time.
- Thunderstorms typically produce heavy rain for a brief period, anywhere from 30 minutes to an hour.
- Warm, humid conditions are highly favorable for thunderstorm development.
- About 10% of thunderstorms are classified as severe – one that produces hail at least $\frac{3}{4}$ of an inch in diameter, has winds of 58 miles per hour or higher, or produces a tornado.

Facts about lightning:

- Lightning’s unpredictability increases the risk to individuals and property.
- Lightning often strikes outside of heavy rain and may occur as far as 10 miles away from any rainfall.
- “Heat lightning” is actually lightning from a thunderstorm too far away from thunder to be heard.
- Most lightning deaths and injuries occur when people are caught outdoors in the summer months during the afternoon and evening.

Facts about hail:

- As a thunderstorm grows, updrafts will push water droplets into a region of the atmosphere which is below the freezing temperature. These water droplets collide with other droplets just before freezing, which is why some hailstones can grow to several inches in diameter. The stronger the updraft associated with a thunderstorm, the larger the hail associated with the storm will be.

The consequences of severe storms.

Element	Consequence
Rain	flooding, poor visibility, auto accidents, sewer backup, crop damage
Wind	building damage, downed power lines, auto accidents, tree damage, crop damage
Lightning	injury, death, fire, power outage, damage to electronics/appliances
Hail	building damage, vehicle, damage, crop damage

The extent of previous occurrences of severe storms in Sangamon County.

Figure 6-1 presents data on thunderstorms with high winds that have occurred in Sangamon County over the 53 year period from January 1, 1955 through April 30, 2007. During 44 of these years there was at least one thunderstorm with severe winds. Wind speeds are available for 95 of these thunderstorms and ranged from 50 knots to 95 knots. The thunderstorm with 95 knot wind speeds occurred in 1957 and produced the one F4 tornado that hit Sangamon County during this time period. The winds associated with thunderstorms in Sangamon County have otherwise averaged 55 knots (about 63 mph).

Figure 6-1

**171 THUNDERSTORM & HIGH WIND event(s) were reported
In Sangamon County, Illinois between 01/01/1955 and 4/30/2007.
From: National Climatic Data Center**

Year	Location*	Date	Time	Magnitude
1955	1 SANGAMON	5/26/1955	1:33 PM	59 kts.
1956	2 SANGAMON	6/26/1956	2:12 PM	50 kts.
	3 SANGAMON	8/12/1956	9:30 PM	0 kts.
1957	4 SANGAMON	6/11/1957	1:15 PM	66 kts.
	5 SANGAMON	6/14/1957	2:05 PM	95 kts.
	6 SANGAMON	7/13/1957	7:40 PM	0 kts.
	7 SANGAMON	7/13/1957	7:40 PM	50 kts.
	8 SANGAMON	9/1/1957	1:30 PM	0 kts.
1959	9 SANGAMON	9/26/1959	4:00 PM	65 kts.
1961	10 SANGAMON	6/6/1961	3:08 PM	53 kts.
	11 SANGAMON	7/22/1961	4:16 PM	58 kts.
1962	12 SANGAMON	4/30/1962	12:30 PM	0 kts.
	13 SANGAMON	7/11/1962	6:00 PM	60 kts.
	14 SANGAMON	7/13/1962	1:17 PM	74 kts.
1963	15 SANGAMON	4/17/1963	6:49 PM	50 kts.
	16 SANGAMON	4/19/1963	3:00 AM	57 kts.
1964	17 SANGAMON	4/21/1964	5:00 AM	0 kts.
	18 SANGAMON	6/21/1964	5:00 AM	51 kts.
1965	19 SANGAMON	6/20/1965	6:05 PM	0 kts.
	20 SANGAMON	7/17/1965	3:45 AM	0 kts.
	21 SANGAMON	8/27/1965	8:30 AM	0 kts.
	22 SANGAMON	8/30/1965	8:35 PM	0 kts.
1966	23 SANGAMON	7/5/1966	9:35 PM	52 kts.
1967	24 SANGAMON	4/16/1967	9:40 PM	56 kts.
	25 SANGAMON	4/16/1967	10:41 PM	58 kts.
	26 SANGAMON	4/21/1967	1:50 PM	0 kts.
	27 SANGAMON	7/10/1967	3:50 PM	53 kts.
1969	28 SANGAMON	6/28/1969	8:00 PM	55 kts.
	29 SANGAMON	8/9/1969	2:12 AM	0 kts.
	30 SANGAMON	10/10/1969	8:13 PM	0 kts.
	31 SANGAMON	10/10/1969	8:20 PM	0 kts.
1970	32 SANGAMON	5/9/1970	1:05 PM	53 kts.
	33 SANGAMON	6/14/1970	2:30 PM	51 kts.
	34 SANGAMON	7/19/1970	4:50 PM	0 kts.
	35 SANGAMON	7/31/1970	2:34 PM	0 kts.
1972	36 SANGAMON	9/28/1972	9:30 PM	53 kts.
1973	37 SANGAMON	3/31/1973	3:57 PM	50 kts.
	38 SANGAMON	6/18/1973	4:45 PM	70 kts.
1974	39 SANGAMON	3/4/1974	4:30 PM	0 kts.

	40 SANGAMON	3/29/1974	2:00 PM	65 kts.
	41 SANGAMON	4/21/1974	3:43 PM	50 kts.
	42 SANGAMON	5/30/1974	2:15 PM	0 kts.
	43 SANGAMON	7/28/1974	3:24 PM	50 kts.
1975	44 SANGAMON	5/26/1975	12:30 PM	0 kts.
	45 SANGAMON	5/30/1975	1:25 PM	0 kts.
	46 SANGAMON	11/9/1975	10:00 PM	0 kts.
	47 SANGAMON	11/9/1975	10:01 PM	51 kts.
	48 SANGAMON	11/29/1975	10:56 PM	66 kts.
1977	49 SANGAMON	5/4/1977	4:55 PM	74 kts.
	50 SANGAMON	8/6/1977	4:00 PM	0 kts.
	51 SANGAMON	10/1/1977	1:20 AM	0 kts.
1978	52 SANGAMON	5/12/1978	4:23 PM	50 kts.
	53 SANGAMON	5/12/1978	5:14 PM	57 kts.
	54 SANGAMON	7/26/1978	3:25 PM	50 kts.
	55 SANGAMON	8/27/1978	2:45 PM	0 kts.
1980	56 SANGAMON	4/8/1980	12:00 AM	52 kts.
	57 SANGAMON	9/6/1980	6:38 PM	0 kts.
1981	58 SANGAMON	4/3/1981	11:25 PM	0 kts.
	59 SANGAMON	6/15/1981	6:48 PM	0 kts.
1982	60 SANGAMON	4/16/1982	6:35 PM	56 kts.
	61 SANGAMON	6/7/1982	10:35 PM	0 kts.
1983	62 SANGAMON	5/1/1983	7:00 PM	0 kts.
1986	63 SANGAMON	7/29/1986	2:14 AM	61 kts.
	64 SANGAMON	7/29/1986	2:40 AM	0 kts.
	65 SANGAMON	7/31/1986	3:06 AM	52 kts.
	66 SANGAMON	7/31/1986	3:40 AM	0 kts.
	67 SANGAMON	7/31/1986	3:45 AM	0 kts.
1987	68 SANGAMON	5/21/1987	8:57 PM	0 kts.
	69 SANGAMON	8/3/1987	7:30 PM	0 kts.
	70 SANGAMON	8/3/1987	8:12 PM	0 kts.
	71 SANGAMON	8/16/1987	8:32 PM	70 kts.
1988	72 SANGAMON	4/5/1988	6:36 PM	52 kts.
	73 SANGAMON	11/15/1988	10:00 PM	0 kts.
1989	74 SANGAMON	5/25/1989	12:30 AM	0 kts.
1990	75 SANGAMON	5/9/1990	12:30 PM	0 kts.
1991	76 SANGAMON	10/4/1991	5:00 PM	58 kts.
	77 SANGAMON	12/8/1991	3:00 PM	0 kts.
1992	78 SANGAMON	7/2/1992	3:30 PM	0 kts.
	79 SANGAMON	7/2/1992	8:00 PM	0 kts.
	80 SANGAMON	7/3/1992	12:35 AM	52 kts.
	81 SANGAMON	7/9/1992	5:38 PM	0 kts.
	82 SANGAMON	7/9/1992	5:54 PM	0 kts.
	83 SANGAMON	9/9/1992	5:40 PM	0 kts.

1993	84 Divernon	8/19/1993	4:00 PM	N/A
1994	85 Riverton	4/15/1994	3:34 AM	N/A
	86 Pawnee	4/26/1994	8:34 PM	N/A
	87 Pleasant Plains	6/16/1994	4:25 PM	N/A
	88 Pleasant Plains	6/23/1994	2:12 PM	N/A
	89 Pleasant Plains	7/2/1994	11:05 AM	N/A
	90 Cantrall	7/20/1994	5:25 PM	N/A
	91 Springfield	7/20/1994	5:40 PM	N/A
1995	92 Chatham	5/16/1995	7:30 PM	N/A
	93 Divernon	6/8/1995	7:22 AM	N/A
	94 Divernon	6/8/1995	8:15 AM	N/A
	95 Pleasant Plains	6/21/1995	8:10 PM	N/A
1996	96 Illiopolis	4/19/1996	6:17 PM	0 kts.
	97 Glenarm	5/8/1996	11:20 AM	70 kts.
1997	98 Springfield Airport	4/5/1997	3:15 PM	50 kts.
	99 Dawson	4/5/1997	3:40 PM	0 kts.
	100 Pleasant Plains	8/3/1997	11:15 PM	0 kts.
	101 New Berlin	8/15/1997	2:55 AM	0 kts.
1998	102 Pleasant Plains	3/27/1998	6:25 PM	0 kts.
	103 Glenarm	5/22/1998	8:30 AM	0 kts.
	104 Chatham	6/4/1998	6:58 PM	0 kts.
	105 Pleasant Plains	6/11/1998	2:00 PM	61 kts.
	106 Farmingdale	6/18/1998	6:40 PM	61 kts.
	107 Williamsville	6/28/1998	7:00 PM	0 kts.
	108 Countywide	6/29/1998	4:10 PM	61 kts.
	109 Divernon	7/22/1998	2:20 PM	0 kts.
	110 Pleasant Plains	11/10/1998	4:35 AM	55 kts.
	1999	111 Pleasant Plains	4/8/1999	8:10 PM
112 Divernon		6/1/1999	6:01 PM	61 kts.
113 Riverton		6/4/1999	4:12 PM	61 kts.
114 Auburn		6/8/1999	1:45 PM	0 kts.
115 Pleasant Plains		8/12/1999	8:00 PM	0 kts.
116 Auburn		8/12/1999	9:10 PM	52 kts.
117 Pleasant Plains		8/23/1999	6:20 PM	0 kts.
2000	118 Chatham	4/20/2000	5:03 AM	0 kts.
	119 New Berlin	5/26/2000	10:50 PM	0 kts.
	120 Illiopolis	6/14/2000	11:35 AM	0 kts.
	121 Springfield	6/20/2000	6:45 PM	0 kts.
	122 Springfield	6/23/2000	5:35 PM	0 kts.
	123 Auburn	7/5/2000	4:15 PM	0 kts.
	124 Springfield	8/17/2000	5:15 PM	0 kts.
	125 Riverton	8/17/2000	6:20 PM	0 kts.
2001	126 Springfield	2/9/2001	8:20 AM	50 kts.
	127 Springfield	5/22/2001	12:00 PM	50 kts.
	128 Chatham	5/26/2001	12:30 PM	50 kts.
	129 Springfield Airport	7/4/2001	9:30 PM	50 kts.
	130 Springfield Airport	7/17/2001	4:02 PM	54 kts.
	131 Springfield	7/23/2001	4:05 PM	52 kts.
	132 Springfield	8/2/2001	5:45 PM	50 kts.
	133 New City	10/24/2001	11:24 AM	50 kts.
2002	134 Pleasant Plains	4/19/2002	7:00 PM	64 kts.

	135 Mechanicsburg	6/4/2002	5:45 PM	50 kts.
	136 Buffalo	7/26/2002	10:05 PM	50 kts.
	137 Sherman	8/19/2002	4:53 AM	52 kts.
2003	138 Springfield	4/24/2003	5:45 PM	52 kts.
	139 Chatham	5/9/2003	7:10 PM	60 kts.
	140 Springfield Arprt	6/29/2003	5:05 PM	55 kts.
	141 Andrew	7/8/2003	6:17 PM	60 kts.
	142 Springfield Airport	7/8/2003	10:05 PM	52 kts.
	143 Springfield	7/21/2003	3:30 AM	52 kts.
2004	144 Springfield	4/20/2004	11:30 PM	50 kts.
	145 Countywide	5/24/2004	11:05 PM	69 kts.
	146 Springfield	5/31/2004	6:30 PM	52 kts.
	147 Chatham	8/17/2004	8:30 PM	50 kts.
	148 Springfield	8/27/2004	7:10 PM	52 kts.
	149 Springfield	10/29/2004	11:30 PM	50 kts.
2005	150 Springfield	6/8/2005	2:33 PM	50 kts.
	151 Chatham	6/8/2005	2:35 PM	55 kts.
	152 Springfield	6/8/2005	2:50 PM	50 kts.
	153 Chatham	6/13/2005	5:23 PM	60 kts.
	154 Chatham	6/13/2005	10:00 PM	50 kts.
	155 Curran	8/18/2005	9:30 PM	55 kts.
	156 Salisbury	11/5/2005	9:00 PM	50 kts.
	157 Springfield	11/28/2005	12:50 AM	50 kts.
2006	158 Auburn	1/2/2006	7:20 AM	60 kts.
	159 New Berlin	3/12/2006	8:04 PM	60 kts.
	160 Auburn	3/12/2006	8:30 PM	52 kts.
	161 Loami	3/12/2006	8:30 PM	50 kts.
	162 Springfield	3/12/2006	8:30 PM	58 kts.
	163 Auburn	3/13/2006	2:46 AM	60 kts.
	164 Pawnee	3/13/2006	3:20 AM	60 kts.
	165 Springfield	4/2/2006	5:01 PM	52 kts.
	166 Springfield	4/16/2006	12:45 PM	55 kts.
	167 Springfield Airport	4/18/2006	11:04 PM	51 kts.
	168 Pleasant Plains	5/24/2006	2:30 PM	52 kts.
	169 Cantrall	7/19/2006	4:03 PM	56 kts.
	170 Chatham	7/19/2006	4:44 PM	52 kts.
	171 New Berlin	8/18/2006	8:20 PM	50 kts.
	TOTALS:			

*prior to 1993 specific locations were not recorded

Figure 6-2 shows hail events from January 1, 1955 – April 30, 2007. During 29 of these 53 years at least one hail event occurred in Sangamon County. The size of the hail reached a diameter of 2.5 inches during a 1974 hailstorm although most ranged from .75 – 1.75 inches. Thirteen of the hail events were associated with a tornado on the following dates – April 2, 1964, April 20, 2000, May 12, 2000, March 19, 2003, May 9, 2003, May 10, 2003, May 23, 2004, and March 12, 2006.

Figure 6-2

89 HAIL events were reported in Sangamon County, Illinois
Between 01/01/1955 and 04/30/2007

Year	Location*	Date	Time	Magnitude
1956	1 SANGAMON	5/22/1956	7:15 PM	1.75 in.
	2 SANGAMON	9/15/1956	12:22 AM	1.75 in.
1958	3 SANGAMON	7/30/1958	7:35 AM	0.75 in.
	4 SANGAMON	7/30/1958	7:35 AM	0.75 in.
1961	5 SANGAMON	4/24/1961	7:45 AM	0.75 in.
	6 SANGAMON	5/6/1961	4:12 PM	1.75 in.
1963	7 SANGAMON	4/29/1963	2:45 PM	1.75 in.
1964	8 SANGAMON	4/2/1964**	5:32 PM	1.00 in.
	9 SANGAMON	4/2/1964**	7:23 PM	0.75 in.
	10 SANGAMON	4/19/1964	9:00 PM	1.75 in.
1965	11 SANGAMON	4/15/1965	12:56 PM	0.75 in.
1967	12 SANGAMON	4/21/1967	1:20 PM	1.75 in.
1972	13 SANGAMON	3/12/1972	5:43 PM	1.00 in.
1973	14 SANGAMON	6/18/1973	4:40 PM	1.50 in.
	15 SANGAMON	10/3/1973	2:55 PM	0.75 in.
1974	16 SANGAMON	4/3/1974	12:42 PM	2.50 in.
	17 SANGAMON	5/30/1974	2:15 PM	0.75 in.
1975	18 SANGAMON	5/11/1975	4:00 PM	1.50 in.
1982	19 SANGAMON	5/20/1982	3:22 PM	1.00 in.
	20 SANGAMON	9/14/1982	1:02 PM	1.00 in.
1985	21 SANGAMON	6/2/1985	1:00 AM	1.75 in.
1986	22 SANGAMON	5/6/1986	5:31 PM	1.00 in.
	23 SANGAMON	5/6/1986	7:15 PM	1.00 in.
	24 SANGAMON	5/8/1986	7:15 PM	1.00 in.
	25 SANGAMON	7/10/1986	7:15 PM	0.75 in.
	26 SANGAMON	8/10/1986	12:44 AM	0.75 in.
1987	27 SANGAMON	6/2/1987	12:10 PM	1.00 in.
	28 SANGAMON	6/2/1987	12:45 PM	1.00 in.
1992	29 SANGAMON	2/15/1992	3:15 AM	1.75 in.
	30 SANGAMON	4/15/1992	3:50 PM	0.75 in.
1994	31 Springfield	5/24/1994	6:30 PM	0.75 in.
	32 Springfield	5/24/1994	6:37 PM	0.75 in.
1996	33 Springfield	4/18/1996	6:40 PM	1.75 in.
	34 Mechanicsburg	4/18/1996	7:31 PM	1.75 in.
	35 Springfield/Riverton	5/3/1996	8:25 PM	1.75 in.
	36 Divernon/Pawnee	6/2/1996	9:20 PM	1.75 in.
	37 Sherman	7/28/1996	6:40 PM	1.75 in.
	38 Williamsville	8/26/1996	2:45 PM	1.75 in.
1997	39 Pleasant Plains	3/28/1997	3:35 PM	1.75 in.
1998	40 New Berlin	4/7/1998	3:45 PM	1.75 in.
	41 Cantrall	4/7/1998	4:02 PM	1.75 in.
	42 Pawnee	4/7/1998	4:20 PM	1.75 in.
	43 Divernon	6/12/1998	4:57 PM	1.00 in.
1999	44 Divernon	5/5/1999	7:05 PM	0.88 in.
	45 Lanesville	6/4/1999	4:30 PM	0.75 in.
	46 Divernon	8/12/1999	9:15 PM	1.00 in.
2000	47 Springfield	4/20/2000**	7:30 AM	1.00 in.

	48 Illiopolis	4/20/2000**	8:05 AM	1.75 in.
	49 Illiopolis	5/12/2000**	4:00 PM	0.75 in.
	50 Divernon	5/12/2000**	5:00 PM	1.00 in.
	51 Auburn	5/23/2000	12:55 AM	1.00 in.
	52 Springfield	5/26/2000	11:13 PM	1.00 in.
2001	53 Buffalo	8/18/2001	2:15 PM	1.00 in.
	54 Auburn	5/1/2002	2:00 PM	1.75 in.
	55 Springfield	5/6/2002	11:05 PM	0.75 in.
	56 Springfield	5/7/2002	12:05 AM	1.75 in.
2002	57 Auburn	5/27/2002	2:35 PM	2.00 in.
	58 Auburn	3/19/2003**	4:40 PM	1.75 in.
	59 Springfield	3/19/2003	6:58 PM	1.00 in.
	60 Loami	4/4/2003	3:22 PM	0.75 in.
	61 Pleasant Plains	4/4/2003	3:23 PM	1.75 in.
	62 Loami	4/24/2003	5:05 PM	1.00 in.
	63 Springfield	4/24/2003	5:45 PM	1.00 in.
	64 Jerome	5/8/2003	10:25 PM	0.88 in.
	65 Pleasant Plains	5/9/2003**	6:52 PM	1.00 in.
	66 Springfield	5/9/2003	9:53 PM	0.75 in.
	67 Loami	5/10/2003**	6:40 AM	1.75 in.
2003	68 Springfield	8/3/2003	10:53 PM	0.75 in.
2004	69 Loami	5/23/2004**	5:18 PM	1.00 in.
	70 Springfield	3/30/2005	3:50 PM	0.88 in.
	71 Springfield	5/11/2005	4:45 PM	0.88 in.
	72 Chatham	5/11/2005	4:53 PM	0.75 in.
	73 Riverton	9/19/2005	5:35 PM	1.00 in.
	74 Riverton	9/19/2005	9:04 PM	1.75 in.
2005	75 Springfield	11/5/2005	9:35 PM	0.88 in.
	76 Pleasant Plains	3/11/2006	6:34 PM	0.88 in.
	77 New Berlin	3/11/2006	6:51 PM	1.00 in.
	78 Springfield	3/11/2006	7:05 PM	0.75 in.
	79 New Berlin	3/12/2006**	7:53 PM	1.75 in.
	80 Springfield	3/12/2006**	8:15 PM	1.00 in.
	81 Springfield	3/12/2006**	8:27 PM	0.75 in.
	82 Auburn	4/30/2006	2:27 PM	0.75 in.
	83 Chatham	4/30/2006	2:39 PM	0.75 in.
	84 Riverton	6/26/2006	5:16 PM	0.88 in.
	85 Williamsville	7/19/2006	4:08 PM	0.88 in.
	86 Chatham	7/19/2006	4:44 PM	0.88 in.
	87 Springfield	9/22/2006	5:50 PM	0.75 in.
2006	88 Sherman	9/22/2006	5:54 PM	1.00 in.
2007	89 Sherman	4/3/2007	9:55 AM	0.01 in.
	TOTALS:			

*prior to 1993 specific locations were not recorded

The locations affected by severe storms.

Severe storms can occur anywhere in Sangamon County and generally hit more than one location per event.

Previous occurrences of severe storms in Sangamon County.

Severe storms occur with regularity in Sangamon County. Some examples of damage done are:

- Power outages leaving thousands of people without electricity.
- Numerous trees damaged or destroyed.
- In July 1994 many windows were broken at the grade school in Cantrall.
- In July 2001 two semis were blown over on I-72 north of Curran.
- In February 1999 roof damage was done to the Illinois Supreme Court Building.
- Grain bins have been blown over and machine sheds damaged.
- In August 1987 fifty-eight people sustained minor injuries at the Illinois State Fair.
- Homes have been damaged and some mobile homes have been destroyed.
- Businesses have temporarily closed due to power outages.

Figures 6-3 and 6-4 show the breakdown of months and times of day that severe storms have occurred in Sangamon County from January 1955 through April 2007. Thunderstorms are most likely occur in Central Illinois in the months of April through August and during the evening hours of 4:00 – 9:00 PM. Hailstorms are most likely to occur during April and May and again the evening hours are the heaviest hit.

Figure 6-3 Thunderstorms in Sangamon County from 1/1/1955 – 4/30-2007

Month	# of Events
January	1
February	1
March	10
April	25
May	22
June	34
July	36
August	23
September	5
October	6
November	7
December	1
TOTAL	171

Time of Day	# of Events
Midnight – 5:00 AM	23
5:00 AM - Noon	10
Noon – 4:00 PM	38
4:00 PM – 9:00 PM	76
9:00 PM – Midnight	24
TOTAL	171

Figure 6-4 Hailstorms in Sangamon County from 1/1/1955 – 4/30-2007

Month	# of Events
January	0
February	1
March	11
April	23
May	27
June	8
July	6
August	5
September	6
October	1
November	1
December	0
TOTAL	89

Time of Day	# of Events
Midnight – 5:00 AM	7
5:00 AM - Noon	7
Noon – 4:00 PM	22
4:00 PM – 9:00 PM	43
9:00 PM – Midnight	10
TOTAL	89

Probability of future events.

Severe storms are expected in Sangamon County. During the 53 year period from 1955 – 2007 there were 171 thunderstorms with severe winds that occurred during 44 of the years. (There were no severe thunderstorms recorded during 9 of these years.) This indicates an 83% probability that in any given year at least one thunderstorm with severe winds will occur. During 36 years more than one such storm occurred. This indicates a 68% probability that in any given year more than one thunderstorm with severe winds will hit Sangamon County.

Hail events were reported during 29 of these 53 years. This indicates a 55% probability that in any given year a hailstorm will occur. During 19 years more than one hailstorm occurred. This indicates a 36% probability that in any given year more than one hailstorm will hit somewhere in Sangamon County.

SEVERE STORMS-Assessing Vulnerability

With the presence of lightning, high winds, driving rain, and hail posing the threat of injury and death, severe storms are a danger to people.

Building damage can occur from flying and falling debris, lightning strikes, blowing wind, hail, and rain if windows are broken, roofs are compromised, or other damage occurs. If one-third of the planning area were affected by a severe storm and 1% of the buildings sustained some damage then the costs could be:

$\$8,529,082,521$ (total value of all buildings) $\times .33 = \$2,814,597,232$ (value of 1/3 of buildings)

$\$2,814,597,232$ (value of 1/3 of buildings) $\times .01 = \$28,145,972$ (value of 1% of 1/3 of buildings = building value exposed to damage)

The critical facility that is most often a concern during a severe storm is the electrical supply infrastructure. Winds, lightning, and falling trees can damage power lines requiring many dollars and hours of work to repair. People's lives are disrupted by power outages and there is an economic impact to businesses when they are unable to operate.