

Champaign-Urbana 1998 Annual Weather Summary

ILLINOIS STATE WATER SURVEY

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The development of the El Nino through the latter half of 1997 persisted into the beginning of 1998, and its effects were felt in the Midwest. January 1998 was the twelfth warmest on record, with only five days with the mean temperature at or below normal. Record high minimum temperatures were set on four consecutive days – January 3, 4, 5, and 6. The minimum temperature (52°F) on January 5 broke the record of 47°F established in 1890.

February 1998 was the second warmest February on record in Champaign-Urbana. The daily mean temperature was above average every day during the month, ranging from 18°F above average on February 24 to 5°F above average on February 28. February 28 marked the 35th consecutive day of above average daily mean temperature. The mean minimum temperature for the month (32.4°F, 12.1°F above average) was the warmest on record. This was only the fourth February on record to have no measureable snowfall (the other years were 1921, 1957, and 1987). The only snow in February 1998 occurred on February 28 when snow was observed mixed with rain showers.

The winter season (December 1997, January, February) was the third warmest on record. The mean temperature was 34.7°F, 7.6°F above average. The average winter maximum temperature (40.9°F) was the eighth highest on record, and the average winter minimum (28.5°F) was the second highest. Winter snowfall was only 4.6 inches, 16.5 inches below average and the sixth lowest total snowfall. There were no temperatures below zero – the lowest temperature was 6°F on January 13. This was the second warmest lowest temperature for a winter season, tying with the winters of 1982-1983 and 1952-1953.

More snow fell in March than did during the entire prior winter season. During the first fifteen days of March snow was observed on eight days, during which 6.0 inches of snow accumulated. The first half of the month was very cold, and the mean temperature for the period was 11°F below average. The minimum temperature of 4°F observed on March 12 tied the record for this date, first set in 1948. The weather turned much warmer after March 20, with highs in the 60s and 70s and lows mostly in the 50s. The mean temperature for the last 16 days of the month was 10.7°F above average. The minimum temperature of 60°F on March 30 was a new record high minimum for the date, breaking the old record of 55°F set in 1910.

April was near normal in both temperature and precipitation, but highly variable day to day. There were no temperature or precipitation records set. The first big severe weather outbreak of the season occurred on April 7 as a strong cold front moved through Illinois. There were numerous reports of funnel clouds and several tornado touchdowns reported. Four people were injured near Arthur, IL, about 35 miles south of Champaign. There were many reports of hail, some as large as 2 inches. Snow plows had to be used to clear hail off roads in parts of Douglas County.

May was a warm, wet month. Rainfall totaled 7.82" making this the eighth wettest May on record. The average monthly minimum temperature of 57.1°F was the sixth highest on record, and the monthly mean temperature (67.3°F) was the tenth highest for May. The high temperature of 92°F on May 19 was a new record, breaking the old record of 90°F set in 1951.

Total precipitation for the spring season (March, April, May) was 18.78 inches, 7.57 inches above average, making this the third wettest spring on record. The last spring freeze occurred on March 24, a month earlier than the mean date of April 25.

The wet weather continued into June and the summer season. June precipitation was 8.72 inches, 4.65 inches above the average and the fourth wettest June on record. Total precipitation for 1998 through the end of June was 31.53 inches, 79 percent of the average annual total. Normally only 48 percent of the annual average precipitation is accumulated through June. Heavy rain on the morning of June 16 prompted the issuance of an Urban and Small Stream Flood Advisory for Champaign and some surrounding counties.

The mean temperature for June was only 0.6°F below average, but the weather varied greatly from week to week. The first 15 days of the month were very cool. The mean temperature for this period was 64.8°F, 6.0 degrees below average. A new record low of 43°F was set on June 6 (old record 47°F in 1910). The high temperatures of 59°F on June 5 and 62°F on June 6 were the second lowest high temperatures for their respective dates (lowest for June 5, 54°F in 1894; for June 6, 58°F in 1928). The temperature climbed to 90°F for the first time in the month on June 24, and was followed by five consecutive days of 90-degree weather. The mean temperature the last two weeks of the month was 4.0 degrees above average.

Severe thunderstorms rolled across east-central Illinois on June 12-13, causing wind damage in many locations. A semi-tractor trailer was overturned by thunderstorm winds near Homer, southeast of Champaign. A severe thunderstorm on June 29 produced widespread damage in the southwest half of Champaign County. The automatic weather observation station at Willard Airport recorded a wind gust of 74 mph, and the FAA control tower reported a gust to 83 mph. Freight cars on a train were blown over in Tolono. Two semi-tractor trailers were blown over on Interstate 57 just southwest of Champaign.

July had near normal temperatures and precipitation. There were only two days with a high temperature of 90°F or higher, five less than average.

August was slightly warmer and much drier than normal. All but 0.19 inches of the rain in August fell during the first ten days of the month. Although the official measurement at the Water Survey for the month of August was 1.94 inches, 3.50 inches of rain fell in an east-west band through central Champaign and Urbana. This difference was due to a narrow band of thunderstorms that moved through the area on August 5. Only one quarter to one half inch of rain fell in northern and southern portions of Champaign-Urbana, but upwards of 1.50" fell in the central portions of the twin cities.

For the summer season (June, July, August) temperatures were near normal and precipitation was slightly above normal.

September 1998 was the third warmest on record. The average monthly maximum temperature of 84.3°F was the fifth warmest, and the average monthly minimum temperature of 59.2°F was the seventh warmest on record. Seven days had a maximum temperature of 90°F or higher. The record is 15 days set in 1897. The maximum of 96°F on September 6 was the highest recorded this year. The total number of days with a temperature of 90°F in 1998 was 18. The average is 21. A heavy thunderstorm on September 20 ended a 41-day dry spell. From August 10 through September 19 only 0.21 inches of rain were recorded in Champaign. All but 0.02 inches of September's 2.19 inches of rain came during the last ten days of the month.

October temperatures were slightly above normal and precipitation was near normal. There were no temperature or precipitation records set during the month. The first freeze of the fall occurred on October 23, ending the growing season at 228 days, 28 more than average. Growing season precipitation (April 1-September 30) was 29.47 inches, 5.62 more than average.

November started out cold but ended up being a warm, dry month. The first frozen precipitation of the season occurred on November 3 when ice pellets (sleet) was observed. Some wet snow mixed with sleet and rain occurred again on November 7. On November 10 the first 60°F high for the month was recorded. The warm November contributed to making this the seventh warmest fall season (September, October, November) since records began in 1888. A run of five consecutive days of maximum temperatures equal to or greater than 60°F from November 26-30 tied the record for the longest run of such days for so late in the season. Interestingly, the first record was set over the same period in November 1927. There were no maximum temperature records set, but a record high minimum temperature of 56°F was set on November 29. A particularly strong low pressure system generated very strong winds across central Illinois on November 9-10. On the morning of November 10 high winds overturned a semi-tractor trailer west of Champaign, and trees and power lines were down throughout Champaign County.

The unseasonably warm weather during the last week of November continued through the first week of December and numerous temperature records tumbled. The records established were as follows:

December 3: Record high minimum temperature 52°F (old record 50°F in 1982).

December 4: Record high minimum temperature 60°F (old record 50°F in 1916). The all-time record high minimum is 61°F set on 12/2/1982.

Record high temperature 71°F (old record 64°F in 1916). *This was also the highest temperature ever recorded in December* (old record 70°F on 12/15/1948).

December 5: Record high minimum temperature 56°F (old record 53°F in 1956).

December 6: Record high temperature 69°F (old record 66°F in 1930).

The period from December 2-6 was the longest run of consecutive days (5) in December with a maximum temperature 60°F. The previous record was four days, set from December 14-17, 1948. The high temperature was 50°F for 15 consecutive days from November 22 to December 6. This was the second longest string of such days for so late in the season. The longest, 19 days, occurred December 8-26, 1889.

The record warmth early in the month was tempered by a change to colder than normal weather the last 10 days, and as a result this was only the twentieth warmest December since 1888. The first significant snowfall of the season. 5.0 inches, occurred on December 30.

The annual mean temperature was 53.0°F, only 1.5°F above average. Annual precipitation was 46.11 inches, 6.37 inches above average. This was the tenth greatest precipitation total for Champaign-Urbana. Annual snowfall was 13.4 inches, 15.1 inches below average. This was the fifteenth lowest snowfall on record since 1903.

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1998 Annual Weather Summary for Champaign-Urbana

Mon	-----Temperature(F)-----					--Precip--		--Degree Days--				-Wind(mph)-	
	Monthly		Extremes			Total (In)	Snow (In)	Corn				Peak Gust	
	Ave Max	Ave Min	Ave Mean	High Temp	Low Temp			Heat	Cool	Grow	Dir		Sp
Jan	38.8	26.6	32.7	58	6	2.23	1.7	994	0	18	S	6.6	35.6
Feb	46.4	32.4	39.4	64	22	1.80	T	710	0	23	NE	6.2	43.8
Mar	47.1	32.7	40.1	78	4	6.35	6.6	775	4	89	S	8.8	43.7
Apr	62.3	43.1	53.0	77	33	4.61	0.0	360	0	199	W	7.1	39.5
May	76.8	57.1	67.3	92	49	7.82	0.0	49	119	527	N	5.1	37.4
Jun	80.1	61.9	71.3	93	43	8.72	0.0	50	238	627	WSW	5.3	40.9
Jul	83.9	65.2	74.6	94	56	4.19	0.0	0	305	758	NE	3.3	34.8
Aug	84.7	65.6	75.2	93	58	1.94	0.0	0	321	773	NE	3.2	21.5
Sep	84.3	59.2	71.8	96	48	2.19	0.0	10	219	637	NE	3.9	29.5
Oct	67.3	45.4	56.4	82	31	2.94	0.0	270	11	292	SE	4.3	28.6
Nov	53.5	35.2	44.4	68	21	2.43	T	611	0	93	S	7.4	40.9
Dec	43.3	26.1	34.7	71	0	0.89	5.1	933	1	60	S	6.4	44.0
Tot/Ave	60.0	45.9	53.0	96	0	46.11	13.4	4762	1218	4096	S	5.6	44.0
Dep	-1.1	+4.0	+1.5			+6.37	-15.1	-1177	+246	+489	S	-1.3	

Degree Days: Heat and Cool base 65. Corn Growing Degree days base 50F with a cutoff at 86F. Departures from the 30- year average, 1961-1990.

Remarks: 10th greatest precipitation total for Champaign-Urbana. Record highest total is 58.54/1993.

Number of Days With:

Mon	-----Precipitation-----					-Temperature-----				---Weather Conditions----						-Sky Cover-			
	Snow					Max		Min		F	T	A	R	L	S	Z	CLR	PC	CLDY
	>=	>=	>=	>=	>=	>=	<=	<=											
Jan	11	6	2	0	1	0	10	25	0	5	0	0	8	10	9	3	3	6	22
Feb	11	5	1	0	0	0	0	16	0	3	2	0	9	9	1	0	3	9	16
Mar	16	8	5	4	2	0	3	18	0	2	2	0	13	8	9	1	3	13	15
Apr	12	10	5	0	0	0	0	0	0	4	5	0	13	1	0	0	8	10	12
May	13	11	5	3	0	1	0	0	0	8	9	3	13	4	0	0	10	11	10
Jun	16	14	5	3	0	6	0	0	0	2	13	1	16	1	0	0	3	12	15
Jul	8	5	4	1	0	2	0	0	0	8	6	0	8	2	0	0	8	12	11
Aug	9	5	1	0	0	2	0	0	0	14	5	0	10	2	0	0	8	9	14
Sep	6	3	1	1	0	7	0	0	0	6	2	0	11	6	0	0	12	9	9
Oct	11	6	1	1	0	0	0	2	0	4	3	0	13	5	0	0	12	3	16
Nov	8	6	2	0	0	0	0	12	0	1	3	0	8	6	2	0	7	9	14
Dec	7	4	0	0	1	0	6	22	1	4	0	0	6	9	4	2	10	8	13
Tot	128	83	32	13	4	18	19	95	1	61	50	4	128	63	25	6	87	111	167
Dep	+10	+10	+6	+2	-5	-2	-23	-24	-7	+12	+8	+0	+12	+28	-15	-3	-21	-3	+24

F=Fog; T=Thunder; A=Hail; R=Rain; L=Drizzle; S=Snow; Z=Freezing Precipitation. Departures from the 30-year average, 1961-1990.

Remarks: Last Spring frost (32F or lower) was Mar 24 and the first Fall frost was Oct 23. Growing season was 213 days (+28 days). Growing season precipitation (April 1 through Sep 30) was 29.47 inches (+5.62 inches)

Seasonal Statistics

	Mean Temp (°F)	Diff. From Avg.*	Precip (in)	Diff. From Avg.*	Snowfall (in)	Diff. From Avg.*
Winter*	34.7	+7.6	6.00	-0.82	4.6	-16.5
Spring	53.2	+1.7	18.78	+7.57	6.6	+1.5
Summer	73.6	+0.4	14.85	+2.25		
Fall	57.5	+3.1	7.56	-1.58	T	-2.3

**Dec. 97-Feb. 98

*All climatological averages based on 1961-1990 data

