

Champaign-Urbana 1999 Annual Weather Summary

ILLINOIS STATE WATER SURVEY

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A major snowstorm kicked off the new year in central Illinois. Snow began in Champaign-Urbana around 2:00 p.m. on January 1 and ended about 25 hours later. A total of 15 inches of snow accumulated, which is the most ever recorded in a 24-hour period (the last hour of the storm was light flurries). Strong winds caused blizzard-like conditions and much blowing and drifting of the snow. A total of 18.7 inches of snow fell during the month, 10.6 inches above average, making this the fifth snowiest January. The record January snowfall is 28.3 inches in 1979. Total precipitation for January was 4.88 inches, the ninth wettest on record. Arctic air poured in behind the storm. The cold air, clear skies, and deep snow cover combined to create ideal conditions for record lows in the Midwest. A record low of -10°F was set in Champaign-Urbana on January 4, breaking the old record of -8°F set in 1919. The low temperature on January 5 of -25°F shattered the previous record low of -18°F set in 1924. This also tied the all-time record low for Champaign-Urbana, previously recorded on February 9, 1899, February 13, 1905, and January 19, 1994. Another record low was set on January 9 when the temperature dropped to -15°F, breaking the previous record of -13°F in 1982.

The cold weather lasted only a couple of weeks, and the latter half of January was much warmer than normal. The high temperature of 62°F on January 27 tied the record for this date originally set in 1914. The mean temperature the first 15 days of the month was 13.4°F, 9.8°F below normal. The mean temperature the last 16 days of the month was 36.1°F, 11.5°F above normal.

The mild weather continued into February. The mean temperature was 7.4°F above average, making this the twelfth warmest February on record. The maximum temperature of 70°F on February 11 was a new record for the date, breaking the old record of 65°F set in 1932. It was one degree shy of tying the record high for the month. This was the second consecutive February with no daily maximum temperatures below 32°F, and they are the only two times this has occurred since records began in Champaign-Urbana in 1889. Normally there are 11 days with maximum temperatures equal to or less than 32°F. The only significant snowfall during February came on February 23-24 when 2.1 inches fell. Total snowfall for the month was only 2.8 inches. Normal snowfall is 7.0 inches.

The winter season (December 1998, January, February) was much warmer than normal. The mean temperature was 31.9°F, 4.8°F above average, the tenth warmest winter on record. The average winter maximum temperature of 40.0°F was the 11th warmest on record. The average winter minimum temperature of 23.7°F was the 19th warmest. Winter snowfall was 26.1 inches, 5.0 inches above normal. Precipitation totaled 8.25 inches, 1.43 inches above normal. There were seven days with temperatures below 0°F, one less than normal.

Six weeks of mild weather ended as much colder conditions became established the first two weeks of March. Daily mean temperatures were below normal on all but three days from March 1-15. Five inches of snow fell on March 8-9, the most since the blizzard on January 1-2. This was the last measurable precipitation for the month until some light rain on March 31. Temperatures were close to normal the last two weeks of the month, and the mean temperature for the month as a whole was only 2.1°F below normal. There were 15 days with clear skies, eight greater than average and the highest number of clear days in March in the past 40 years.

April temperatures and precipitation were slightly above normal. There were 20 cloudy days observed during the month, the highest total for April since April 1967. The first severe weather of the season for Champaign County

came on April 8. An intense low pressure system in Kansas spawned a line of severe thunderstorms early in the day which progressed across Iowa and Missouri and into Illinois by evening. There were numerous reports of tornadoes in Illinois, including one just southeast of Rantoul. More severe weather occurred on April 10, with ¼ inch hail reported in Champaign and 1 inch hail in Mahomet.

May was slightly warmer and slightly drier than normal. The first temperature of 80°F or higher for the year occurred on May 3 (81°F). There were ten days with temperatures of 80°F or higher during the month, two more than normal.

Spring (March, April, May) precipitation was 10.19 inches, 1.02 inches below normal. The average mean temperature for the month was 51.9°F, 0.4°F above normal. The last spring freeze (32°F or lower) occurred on March 28 (29°F), four weeks earlier than the median date of April 25.

The month of June began with severe weather on June 1. An approaching cold front triggered a line of strong thunderstorms which moved out of Missouri and into Illinois. Tornado watches covered most of Illinois by early evening. Local spotters reported a tornado on the ground in northwest Champaign County between Seymour and Mahomet. June average temperatures were close to normal (+0.3°F), but this does not tell the story of how temperatures varied during the month. The average maximum temperature was 1.3°F below normal, and the average minimum 1.9°F above normal. Temperatures varied a great deal from week to week. The first 90°F reading of the season occurred on June 6, followed by five more consecutive 90°F or higher days, the normal for June. The following week temperatures were much below normal, and on three days the maximum temperature failed to reach 70°F. There were no temperature records set or tied this month.

July was characterized by a hot first week, a cool second week, and finished with two weeks of hot, humid weather. The mean temperature for the month was 78.1°F, 3.0°F above average and the 17th warmest July on record. There were sixteen days with maximum temperatures of 90°F or higher, nine more than average and the 9th highest total for July. Thirteen of these days occurred between July 16 and July 31. There were ten consecutive days with 90°F or higher from July 18-27. There were no record temperatures during the month. Precipitation was 3.82 inches, 0.66 inches below normal. However, precipitation amounts across the area ranged from 2.65 inches in southeast Urbana to 5.01 inches in west Champaign.

Relief from the July heat came at the beginning of August as maximum temperatures dropped into the mid and low 80s. August temperatures were slightly below normal, and there were no days with temperatures of 90°F or higher, four less than normal. Rainfall was above normal. However, conditions overall during August were rather dry. Most of the August rainfall came in one storm on August 12 when 2.96 inches fell. Three-quarter inch hail was reported just north of Champaign with this storm. The remainder of the August rainfall came on only three other days. August rainfall was quite variable across Champaign-Urbana again this month, ranging from 3.13 inches just north of Champaign to 6.55 inches just west of Willard Airport.

The average mean temperature for the summer (June, July, August) was 73.8°F, 0.6°F above normal. Precipitation totaled 15.30 inches, 2.73 inches above normal. There were 22 days with temperatures of 90°F or higher, five more than average.

September was climatologically a very interesting month. Measurable precipitation occurred on only three days. Only 0.13" of rain fell in the 34-day period from August 25 through September 27. Through September 27 Champaign-Urbana was on track for the driest September on record, as was the entire state of Illinois. However, the slow-moving cold front that brought 1.78 inches of rain to Champaign-Urbana on September 28-29 ended the possibility of establishing a new record for a dry September.

The month began with a string of five days with temperatures at or above 90°F. From then on September was generally cool, occasionally interspersed with a few warm days. The air was uncharacteristically dry, with dewpoints in the 40s and 50s much of the month, even on the warm days. This contributed to the mean maximum and minimum temperature departures in opposite directions. The mean maximum for the month was 80.1°F, 2.4 degrees *above* normal, but the mean minimum was 51.2°F, 4.0 degrees *below* normal. The result was that the mean temperature for the month was only 0.8°F below normal. The dry air resulted in less cloudiness (nine more clear days than normal), and allowed nighttime temperatures to regularly drop into the 50s and 40s.

October temperatures varied week to week. The first and third weeks were much cooler than normal, and the second and fourth weeks were much warmer than normal. Pleasant fall weather persisted through the month with many dry, clear days. Measurable precipitation occurred on only five days, and rainfall was below normal for the month. The growing season came to an end on October 18 when the minimum temperature reached 32°F for the first time this fall, only one day earlier than the normal first fall freeze. This was followed by a 31°F reading on October 19. The 1999 growing season was 203 days. The normal length of the growing season in Champaign-Urbana is 185 days.

The pleasant but very dry fall weather continued throughout November. This was the fourth warmest November on record in Champaign-Urbana. The mean maximum temperature (58.9°F) was the second warmest on record (the warmest was 60.2°F in 1909). Record daily maximum temperatures were set on November 8 (77°F, old record 74°F in 1931) and on November 9 (74°F, old record 72°F in 1931). There were only four days this month with maximum temperatures below normal. Maximum temperatures were above normal each day from November 4-November 24. The November 1999 precipitation of 0.81 inches ranks this as the eighth driest November in Champaign-Urbana. The driest was November 1904, which had no measurable precipitation. There was measurable precipitation on only five days, five less than normal

There were 14 clear days reported during November. This has been exceeded only twice since 1961. Fifteen clear days were reported in November 1963 and November 1980. The eight cloudy days reported this month ties November 1984 with the fewest number of cloudy days since 1961.

Fall (September, October, November) precipitation totaled 4.64 inches, 4.50 inches below normal. This was the 11th driest fall on record. The average maximum temperature for the fall was 68.5°F, 4.1°F above average and tied for the fifth highest fall average maximum temperature. The mean temperature for the fall was 55.6°F, 1.2°F above average and the 21st warmest on record.

Warmer than normal weather continued through the first three weeks of December. The weather turned much colder on December 21, when a maximum temperature of 21°F was recorded. Temperatures remained below freezing through December 25. The first significant snowfall of the winter occurred on December 23-24 when 3.3 inches fell and insured Champaign-Urbana a white Christmas. Clear skies and snow cover on Christmas Day allowed the temperature to tumble to -5°F, the only sub-zero reading for the month, one less than average. The average mean temperature for the month was 31.9°F, 2.6°F above normal.

The 1999 annual mean temperature was 53.1°F, 1.6°F above average and the 14th warmest since 1888. The average annual maximum temperature was 63.4°F, 2.3°F above normal and the 11th warmest average maximum temperature since 1888. Precipitation was 39.54 inches, 0.17 inches below average. Snowfall for the year totaled 32.7 inches, 4.2 inches above average.

1999 Annual Climate Summary for Champaign-Urbana

MON	Temperature (°F)					Precipitation		Degree Days			Wind (mph)		
	Avg Max	Avg Min	Avg Mean	High Temp	Low Temp	Total (in)	Snow (in)	Heat	Cool	Corn Grow	Dir	Speed	Peak Gust
Jan	33.0	17.2	25.1	62	-25	4.88	18.7	1231	0	8	NE	7.1	33.8
Feb	43.8	27.7	35.7	70	14	2.48	2.8	811	0	29	S	8.3	55.2
Mar	47.7	28.1	37.9	71	18	1.90	5.2	832	0	58	NE	6.7	34.7
Apr	63.3	43.0	53.2	78	34	4.77	0.0	350	1	218	NE	7.8	43.4
May	75.6	53.3	64.3	85	44	3.52		76	67	467	S	5.9	38.2
Jun	81.6	62.6	72.1	94	46	6.14		18	237	656	S	4.1	30.7
Jul	88.1	68.0	78.1	96	56	3.82		0	413	826	SW	4.5	38.5
Aug	81.8	60.5	71.2	88	53	5.34		0	197	660	NE	3.5	31.6
Sep	80.1	51.2	65.7	94	38	1.91		81	107	497	N	3.9	27.9
Oct	66.4	41.5	54.0	80	27	1.92	0.0	339	5	277	N	4.6	27.0
Nov	58.9	35.5	47.2	78	22	0.81	0.0	525	0	156	S	6.6	35.0
Dec	40.3	23.4	31.9	60	-5	2.05	6.0	1020	0	23	N	7.3	32.9
Tot/Avg	63.4	42.7	53.1	96	-25	39.54	32.7	5283	1027	3875	S	5.9	55.2
Dep	+2.3	+0.8	+1.6			-0.17	+4.2	-656	+55	+268	S	-1.0	

Degree days: heating and cooling base 65°F. Corn Growing Degree Days base 50°F with a max temp cutoff at 86°F. Departures from the 1961-1990 30-year average.

Number of Days With:

MON	Precipitation					Temperature				Weather Phenomena						Sky Cover			
	Snow					Max		Min		R	L	S	Z	T	A	F	CLR	PC	CLD
	>= .01	>= .10	>= .50	>= 1.00	>= 1.0	>= 90	<= 32	<= 32	<= 0										
Jan	13	9	4	1	3	0	12	28	6	7	4	14	3	3	0	4	3	6	22
Feb	9	4	1	1	1	0	0	21	0	10	6	8	0	1	0	2	6	9	13
Mar	6	4	1	0	2	2	1	24	0	4	4	3	2	0	0	1	15	6	10
Apr	14	10	3	1	0	0	0	0	0	15	10	1	0	6	1	6	5	5	20
May	11	9	3	1	0	0	0	0	0	13	4	0	0	4	0	3	10	10	11
Jun	11	7	5	2	0	6	0	0	0	12	2	0	0	11	0	3	8	10	12
Jul	8	7	3	2	0	16	0	0	0	7	2	0	0	5	0	7	20	8	3
Aug	6	5	3	1	0	0	0	0	0	9	1	0	0	6	0	2	14	12	5
Sep	3	3	1	1	0	5	0	0	0	4	0	0	0	1	0	1	20	6	4
Oct	5	3	3	0	0	0	0	6	0	6	2	0	0	2	0	0	18	5	8
Nov	5	2	0	0	0	0	0	12	0	5	1	0	0	1	0	2	14	8	8
Dec	15	6	1	0	2	0	7	26	1	10	2	10	1	0	0	1	6	12	13
Total	106	69	28	10	8	27	20	117	7	102	38	36	6	40	1	32	139	97	129
Dep	-12	-4	+2	-1	-1	+7	-22	-2	-1	-14	+3	-4	-3	-2	-3	-17	+31	-17	-14

Seasonal Statistics

	Mean Temp (°F)	Diff. From Avg.*	Precip (in)	Diff. From Avg.*	Snowfall (in)	Diff. From Avg.*
Winter**	31.9	+4.8	8.25	+1.43	26.1	+5.0
Spring	51.9	+0.4	10.19	-1.02	5.2	+0.1
Summer	73.8	+0.6	15.30	+2.73		
Fall	55.6	+1.2	4.64	-4.50	0.0	-2.3

**Dec. 98-Feb. 99

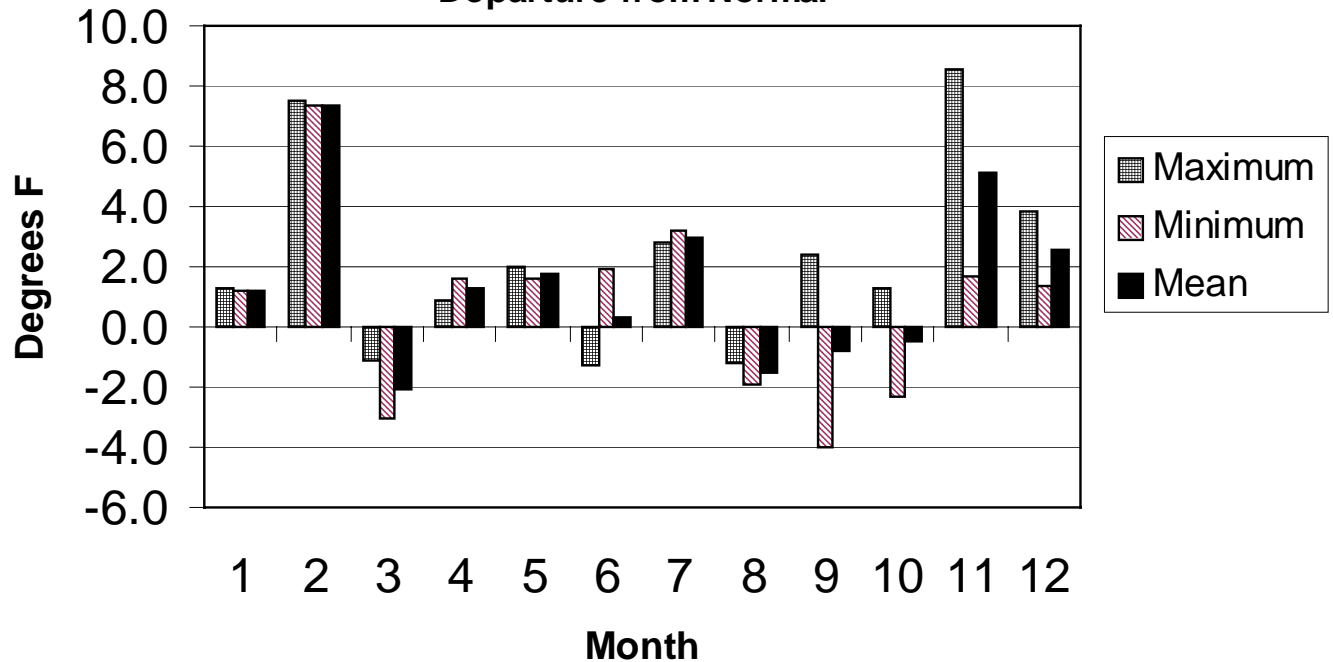
*All climatological averages based on 1961-1990 data

The 1999 Growing Season

Last 32°F temperature in spring:	March 28 (29°F)
First 32°F temperature in fall:	October 18 (32°F)
Length of growing season:	203 days (+18)
Growing season precipitation (4/1-9/30):	25.50 inches (+1.66 inches)
Total growing season Corn GDD (4/1-9/30):	3,324 (+150)

1999 Monthly Max, Min, and Mean Temperatures

Departure from Normal



1999 Precipitation and Snowfall

Departure from Normal

