

# CHAMPAIGN-URBANA 2002 ANNUAL WEATHER SUMMARY

## ILLINOIS STATE WATER SURVEY

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Champaign-Urbana temperature and precipitation records began in August 1888. Snowfall records began in 1903. The site was located at the Morrow Plots on campus from 1888 until 1984 before moving to its present location at the Water Survey Research Center. The site has been operated by the Illinois State Water Survey since 1948.

**January:** January 2002 was the 6<sup>th</sup> warmest January since 1888 with a mean temperature of 34.0°F (9.6°F above average). No temperature records were set during the month. The monthly precipitation total of 2.81 inches made this the 24<sup>th</sup> wettest January since 1888. The monthly total was largely due to a 2.70 rainfall event in the last three days of January. The monthly snowfall total of 0.8 inches made this the 8<sup>th</sup> lowest January snowfall since snowfall records began in 1903.

**February:** February 2002 was the 24<sup>th</sup> warmest February since 1889 with a mean temperature of 33.2°F (3.5°F above average). No temperature records were set during the month. February precipitation was 2.95 inches, 0.94 inches above average. The 2.01 inches on February 19 equaled the average February monthly and surpassed the former record on this date of 1.78 inches set in 1939.

**Winter season (December 2001, January and February 2002):** The winter of 2001-2002 was the 5<sup>th</sup> warmest at 34.1°F (6.2°F above average), the 26<sup>th</sup> wettest at 7.97 inches (1.31 inches above average), and the 9<sup>th</sup> lowest in snowfall at 5.9 inches (14.3 inches below average).

**March:** March 2002 was the 19<sup>th</sup> coolest March on record at 36.2°F (4.2°F below average). March precipitation was 3.10 inches (0.11 inches below average). March snowfall was 6.7 inches and the 19<sup>th</sup> snowiest March on record. Damaging straight-line winds struck on March 9. Winds at the Water Survey reached 45 miles per hour while Willard Airport showed a peak gust of 56 miles per hour. Damage reports included damage to roofs, lost siding, and tree limbs down.

**April:** April 2002 was the 27<sup>th</sup> warmest April on record at 52.7°F (1.2°F above average). April precipitation was 4.21 inches, the 37<sup>th</sup> wettest April on record. Record high temperatures were set on April 15 and 18, both 84°F.

**May:** May 2002 was the 14<sup>th</sup> coolest May since 1888 at 58.7°F (4.0°F below average). This was the 17<sup>th</sup> wettest May since 1888 at 6.29 inches (1.49 inches above average).

**Spring (March, April, May):** The spring of 2002 was the 16<sup>th</sup> coolest at 38.6°F (2.7°F below average). Precipitation was 13.60 inches (1.94 inches above average), the 24<sup>th</sup> wettest since 1888. Snowfall was 6.7 inches (2.9 inches above average), the 20<sup>th</sup> snowiest spring since 1903.

**June:** June 2002 was the 39<sup>th</sup> driest June at 2.78 inches (1.43 inches below average). June 2002 was the 15<sup>th</sup> warmest June on record at 73.9°F (2.1°F above average).

**July:** Only 2.73 inches of precipitation fell in July, making it the 42<sup>nd</sup> driest July on record. No measurable rain fell from June 26 to July 18. July 2002 was the 8<sup>th</sup> warmest July on record at 79.0°F (4.0°F above average). In addition, there were 19 days at or above 90°F.

**August:** August 2002 was the 6<sup>th</sup> wettest August on record with 7.27 inches (2.90 inches above average). The 3.02 inches of precipitation that fell on August 19 broke the old record for that date of 2.28 inches set in 1970. The 1.62 inches on August 22 broke the old record for that date of 1.22 inches set in 1904. No temperature records were set for August; however, at 75.0°F (2.0°F above average) this was the 18<sup>th</sup> warmest August on record.

**Summer (June, July, and August):** The summer of 2002 was the 7<sup>th</sup> warmest at 76.0°F (2.7°F above average). Precipitation was 12.78 inches (0.47 inches below average), the 41<sup>st</sup> wettest on record.

**September:** September was the 10<sup>th</sup> warmest September on record at 70.0°F (3.9°F above average). No temperature records were set in September. With 1.77 inches of precipitation (1.45 inches below average), September 2002 was the 33<sup>rd</sup> driest September on record. September had 5 days at or above 90°F. The entire year had 42 days at or above 90°F, twice the average.

**October:** October 2002 was the 21<sup>st</sup> coolest October on record at 52.5°F (1.8°F below average). The first fall frost occurred on October 14<sup>th</sup> when the minimum temperature reached 31°F. October was the 33<sup>rd</sup> wettest October on record with 3.17 inches (0.36 inches above average). The 0.59 inches of precipitation on October 29<sup>th</sup> broke the old record for that date of 0.56 inches set in 1921.

**November:** With an average temperature of 39.4°F (1.9°F below average), November 2002 was the 25<sup>th</sup> coolest November on record. The precipitation total of 0.86 inches (2.59 inches below average) ranks this as the 11<sup>th</sup> driest November on record. The snowfall total of 0.5 inches (1.6 inches below average) is the 6<sup>th</sup> lowest snowfall for November, although 34 years are tied for first place with no measurable snow.

**Fall (September, October, and November):** The fall of 2002 was the 30<sup>th</sup> coolest at 53.9°F. Precipitation was 4.80 inches (3.68 inches below average), the 25<sup>th</sup> driest fall on record. Snowfall was 0.5 inches (1.7 inches below average) and tied for the 6<sup>th</sup> lowest on record.

**December:** December 2002 ended as the 33<sup>rd</sup> warmest December on record at 31.9°F (2.4°F above average). December 2002 was the 38<sup>th</sup> driest December on record with 1.54 inches (1.22 inches below average). The heaviest precipitation occurred during thunderstorms on December 18 (0.83 inches). This was followed a week later by a 7.5 inch snowfall. The 7.5 inches of snow that fell during that storm was only measurable snow for the month, making December 2002 the 23<sup>rd</sup> snowiest December on record.

**Entire year:** Annual precipitation for 2002 was 39.48" (normal – 41.05"), making it the 38<sup>th</sup> wettest year on record. The mean annual temperature for 2002 was 53.1°F (normal – 51.7°F), which made this the 16<sup>th</sup> warmest year since 1888. The snowfall for the snowfall season of October 2001 to April 2002 was 12.6", which is well below the 1971-2000 normal of 26.2". It ranks as the 14<sup>th</sup> lowest snowfall on record.

*Prepared by Jim Angel, State Climatologist*

## 2002 ANNUAL CLIMATE SUMMARY FOR CHAMPAIGN-URBANA

Month	Temperature (°F)					Precipitation		Degree Days			Wind (mph)		
	Avg Max	Avg Min	Avg Mean	High	Low	Total (in)	Snow (in)	Heat	Cool	Corn	Dir	Speed	Peak Gust
Jan	43.1	24.8	34.0	64	6	2.81	0.8	954	0	24	SW	7.1	31.1
Feb	42.3	24.1	33.2	59	1	2.95	3.4	885	0	12	S	7.7	35.5
Mar	45.8	26.5	36.2	69	1	3.10	6.7	887	0	52	W	6.9	45.1
Apr	63.4	41.9	52.7	86	24	4.21	0.0	398	35	248	S	7.0	33.0
May	70.0	47.4	58.7	93	35	6.29	0.0	233	44	354	S	5.3	29.4
Jun	84.6	63.2	73.9	93	53	2.78	0.0	7	281	692	SW	3.9	22.8
Jul	89.7	68.2	79.0	98	60	2.73	0.0	0	438	836	NE	3.4	23.0
Aug	84.6	65.4	75.0	94	57	7.27	0.0	0	318	760	NE	3.5	24.7
Sep	81.8	58.2	70.0	92	44	1.77	0.0	24	182	597	NE	3.0	24.1
Oct	62.3	42.6	52.5	89	31	3.17	0.0	415	34	228	NE	3.4	31.8
Nov	47.9	30.9	39.4	66	19	0.86	0.5	759	0	51	W	6.6	32.3
Dec	39.9	23.8	31.9	59	9	1.54	7.5	1018	0	12	W	6.6	28.6
2002	63.0	43.1	53.0	98	1	39.48	18.9	5580	1332	3866	SW	5.4	45.1
Depart	1.6	1.1	1.3			-1.57	-7.3	-245	346	210		-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. Depart = Departures from the 1971-2000 30-year average.

### NUMBER OF DAYS WITH:

Mon	Temperature				Precipitation				Snow	Weather Phenomena								Sky Cover		
	>= 90°	<= 32°	<= 32°	<= 0°	>= 0.01	>= 0.10	>= 0.50	>= 1.00	>= 1.0	R	L	S	Z	IP	A	T	F	CLR	PC	CLD
Jan	0	5	25	0	8	3	3	2	0	5	2	5	0	0	0	1	1	14	8	9
Feb	0	3	26	0	6	5	1	1	2	4	1	6	0	1	0	1	0	12	9	7
Mar	0	5	19	0	12	6	2	0	1	12	0	8	3	5	0	2	7	6	8	17
Apr	0	0	6	0	10	6	3	1	0	11	3	1	0	0	0	6	1	7	11	12
May	1	0	0	0	15	14	6	1	0	17	1	0	0	0	0	10	0	8	12	11
Jun	9	0	0	0	10	5	1	1	0	11	0	0	0	0	1	10	0	7	16	7
Jul	19	0	0	0	8	5	3	0	0	9	0	0	0	0	1	6	1	11	13	7
Aug	8	0	0	0	9	7	5	2	0	10	0	0	0	0	0	7	0	11	11	9
Sep	5	0	0	0	7	4	1	0	0	9	0	0	0	0	0	1	4	15	9	6
Oct	0	0	2	0	8	5	4	0	0	16	3	0	0	0	0	1	2	8	10	13
Nov	0	1	19	0	9	3	0	0	0	7	2	7	0	1	0	1	0	9	10	11
Dec	0	8	26	0	6	4	1	0	2	7	1	3	0	0	0	2	6	11	8	12
2002	42	22	123	0	108	67	30	8	5	118	13	30	3	7	2	48	22	119	125	121
Dep	22	-20	4	-8	-10	-6	4	-3	-4	2	-22	-10	-6		-2	6	-27	11	11	-22

## 2002 GROWING SEASON SUMMARY

<b>Last 32°F temperature in spring:</b>	April 7 (30°F)
<b>First 32°F temperature in fall:</b>	October 14 (31°F)
<b>Length of growing season:</b>	190 days (+12)
<b>Growing season precipitation (4/1-9/30):</b>	25.05 inches (+0.13 inches)
<b>Total growing season Corn GDD (4/1-9/30):</b>	3,487 (+282)

### CHAMPAIGN – URBANA EXTREMES

Temperature and precipitation periods of record 1888 to 2002

t – indicates a tie with the most recent record given.

Month	Daily Temperature Extremes (°F)								Winds			
	2002		Period of Record		2002		Period of Record		2002		1989-2002	
	High Max	Date	High Max	Date	Low Min	Date	Low Min	Date	Peak Gust	Date	Peak Gust	Date
Jan	64	28	70	23/1909	6	01	-25	05/1999-t	31.1	14	44.3	11/1990
Feb	59	24	72	25/2000	1	28	-25	13/1905-t	35.5	1	55.2	11/1999
Mar	69	08	85	24/1910-t	1	04	-5	17/1906	45.1	9	58.9	15/1990
Apr	86	17	95	17/1894	24	05	15	02/1899	33.0	24	49.7	18/1995
May	93	31	97	31/1934	35	18	26	01/1903	29.4	6	45.1	09/1990
Jun	93	22	103	25/1988-t	53	07	34	06/1894	22.8	15	47.9	08/1993
Jul	98	21	109	14/1954	60	13	41	02/1904	23.0	18	38.5	28/1999
Aug	94	04	102	17/1988	57	07	37	30/1893-t	24.7	19	39.4	09/1995
Sep	92	07	102	05/1899	44	24	24	30/1899	24.1	20	45.8	08/1889
Oct	89	02	93	03/1954	31	14	12	30/1895	31.8	18	44.8	30/1996
Nov	66	08	80	01/1950	19	27	-5	25/1950	32.3	30	51.4	21/1994
Dec	59	30	71	04/1998	9	06	-20	24/1983-t	28.6	30	48.4	15/1992
Annual	98	07/21	109	07/14/1954	1	02/28	-25	01/05/1999	45.1	03/09	58.9	03/15/1990

Month	Daily Precipitation Extremes								Monthly Precipitation Extremes					
	2002		Period of Record		2002		1903-2002		Period of Record					
	Max 24-hour Precip	Date	Max 24-hour Precip	Date	Max 24-hour Snow	Date	Max 24-hour Snow	Date	High Precip	Year	Low Precip	Year	High Snowfall	Year
Jan	1.14	31	2.43	26/1967	0.3	5,6	11.4	31/1982	7.62	1950	0.06	1986-t	28.3	1979
Feb	2.01	19	2.30	22/1990	2.4	25	11.0	21/1912	6.05	1990	0.15	1947	18.5	1914-t
Mar	0.69	09	2.93	13/1917	6.1	26	14.0	20/1906	8.35	1922	0.38	1910	32.0	1906
Apr	1.66	27	3.09	20/1964	T	3	6.0	05/1920	9.55	1964	0.50	1899	8.0	1920
May	1.33	12	4.50	26/1921	0.0	-	2.5	02/1929	11.20	1943	0.22	1925	2.5	1929
Jun	1.41	11	3.89	19/1983					11.58	1902	0.32	1988		
Jul	0.88	28	4.43	30/1987					13.82	1992	0.47	1930-t		
Aug	3.02	19	5.32	12/1993					10.02	1993	0.06	1893		
Sep	0.98	20	3.91	15/1931					9.76	1926	0.06	1891		
Oct	0.95	18	3.72	21/1983	0.0	-	2.8	19/1989	9.01	1941	0.16	1964	3.3	1989
Nov	0.32	05	4.07	02/1936	0.4	24	9.1	27/1980	10.08	1985	0.00	1904	11.2	1932
Dec	0.83	18	2.97	13/1901	5.7	24	9.5	19/1973	6.63	1967	0.05	1890	19.1	1983
Annual	3.02	08/19	5.32	08/12/1993	6.1	3/26	14.0	03/20/1906	58.54	1993	18.28	1894	51.9	1977

## SEASONAL STATISTICS

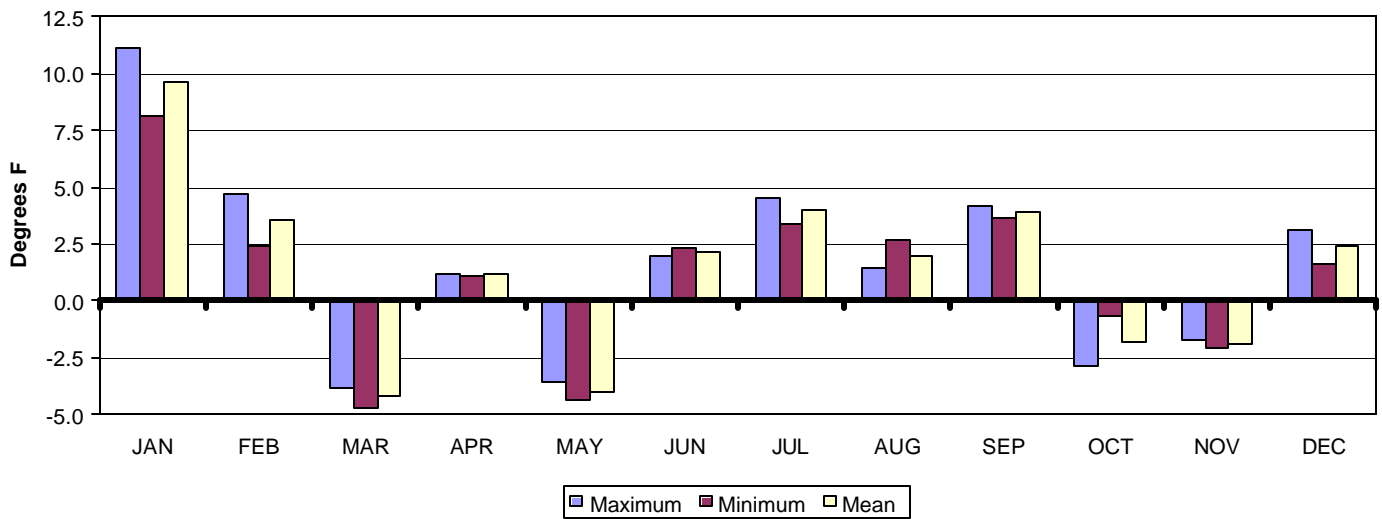
Season	Mean Temp (°F)	Depart* from Average	Precip (in)	Depart* from Average	Snowfall (in)	Depart* from Average
Winter**	34.1	6.2	7.97	1.31	5.9	-14.3
Spring	38.6	-2.7	13.60	1.94	6.7	2.9
Summer	76.0	2.7	12.78	-0.47		
Fall	53.9	0.0	5.80	-3.68	0.5	-1.7

\*All climatological averages based on 1971-2000 data

\*\*December 2001 – February 2002

### 2002 Monthly Temperatures

Departures from Average



### 2002 Monthly Precipitation & Snowfall

Departure from Average

