

# The Climate of Lincoln County

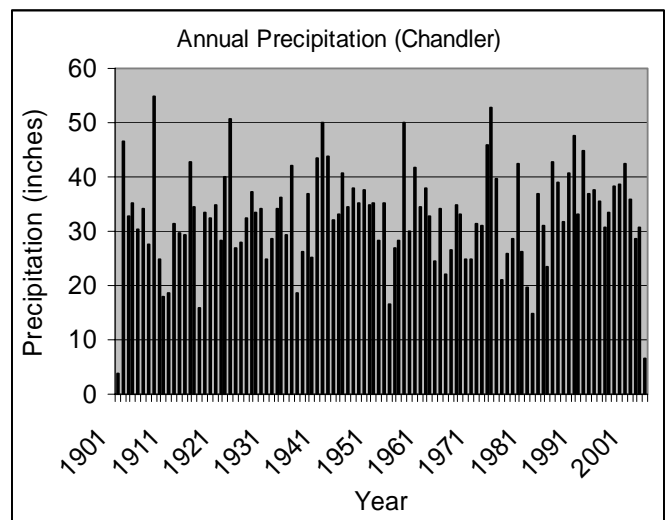
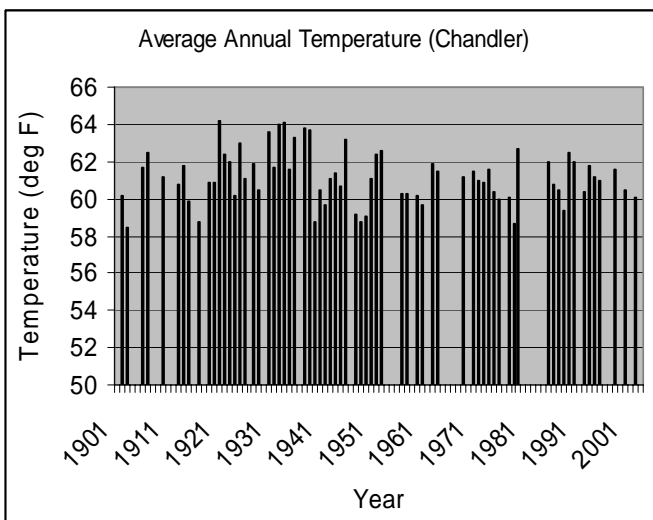


Lincoln County is part of the Crosstimbers. This region is a transition from the Central Great Plains that is characterized by a more irregular landscape and thicker vegetation. Average annual precipitation ranges from about 36 inches in northwestern Lincoln County to 42 inches in the southeast. May and October are the wettest months, on average, but much of the spring through fall receives sufficient rainfall. Nearly every winter has at least one inch of snow, with one year in five having ten or more inches.

Temperatures average near 61 degrees, with a slight increase from north to south. Temperatures range from an average daytime high of 94 degrees in July to an average low of 27 degrees in January. Lincoln County averages a growing season of 211 days, but plants that can withstand short periods of colder temperatures may have an additional three to six weeks.

Winds from the south to southeast are quite dominant, averaging just over eight miles-per-hour. Relative humidity, on average, ranges from 42% to 93% during the day. During the year, humidity is highest in June and lowest in March and April. Winter months tend to be cloudier than summer months. The percentage of possible sunshine ranges from an average of about 55% in winter to nearly 80% in summer.

Thunderstorms occur on about 49 days each year, predominantly in the spring and summer. During the period 1950 - 2003, Lincoln County recorded 68 tornadoes. The most recent significant tornado (F2 intensity or greater) occurred on May 3, 1999. This F3 tornado moved 16 miles through parts of Lincoln and Creek Counties near Sparks, Davenport, Stroud and Milfay. There were no deaths and 13 injuries. Typically, there are about 4 events each year of hail exceeding one inch in diameter. As information collection improves, both the number of reported tornadoes and the number of severe hail events have increased.



Temperature (deg Fahrenheit)												
	AVERAGES (1971-2000)			EXTREMES (1901-2003)				AVG # DAYS PER MONTH (1971-2000)				
	Daily Max	Daily Min	Daily Avg	Record High		Record Low		Max>100	Max>90	Max<32	Min<32	Min<0
Jan	48.6	26.7	37.7	87	(21st, 1909)	-20	(22nd, 1930)			4	22	*
Feb	54.9	31.4	43.2	92	(22nd, 1996)	-19	(13th, 1905)		*	2	15	*
Mar	64.3	40.3	52.3	102	(19th, 1907)	-5	(12th, 1948)		*	*	7	
Apr	73.0	48.6	60.8	102	(12th, 1972)	20	(3rd, 1936)	*	*		1	
May	80.1	58.0	69.0	100	(31st, 1934)	30	(1st, 1903)		2			
Jun	87.8	66.6	77.2	109	(22nd, 1936)	43	(4th, 1954)	*	12			
Jul	93.6	71.0	82.3	115	(19th, 1936)	50	(9th, 1905)	5	24			
Aug	93.3	69.5	81.4	118	(10th, 1936)	47	(31st, 1915)	5	23			
Sep	84.8	62.0	73.4	110	(2nd, 1939)	32	(27th, 1942)	1	9			
Oct	74.5	50.7	62.6	99	(16th, 1917)	14	(30th, 1917)		1		1	
Nov	61.5	39.3	50.4	88	(4th, 1914)	8	(15th, 1940)			*	8	
Dec	51.9	30.1	41.0	84	(24th, 1955)	-13	(23rd, 1989)			2	18	*
Annual	72.5	49.6	61.0	118	(Aug 10, 1936)	-20	(Jan 22, 1930)	13	72	8	72	1

Precipitation (inches)										
	AVERAGE	EXTREMES (1901-2003)			AVG # DAYS PER MONTH (1971-2000)					
	1971-2000	Monthly Max	Daily Max		any	meas	0.10"+	0.25"+	0.50"+	1.00"+
Jan	1.47"	6.46" (1949)	3.50"	(30th, 1982)	6	3	3	2	1	*
Feb	2.05"	6.21" (1985)	4.15"	(23rd, 1985)	6	4	3	2	1	1
Mar	3.17"	10.04" (1990)	3.05"	(15th, 1944)	7	6	5	4	3	1
Apr	3.31"	9.83" (1945)	4.10"	(17th, 1990)	8	6	5	3	2	1
May	5.38"	16.19" (1902)	5.40"	(24th, 1908)	10	8	7	5	3	2
Jun	4.24"	12.00" (1916)	4.82"	(9th, 1974)	8	7	5	4	3	1
Jul	2.55"	10.82" (1950)	4.00"	(2nd, 1922)	5	4	3	3	2	1
Aug	2.58"	10.47" (1906)	5.32"	(15th, 1964)	7	5	4	3	2	1
Sep	4.23"	11.56" (1923)	6.03"	(3rd, 1933)	8	6	5	4	3	1
Oct	3.81"	13.58" (1908)	6.45"	(21st, 1908)	6	5	4	3	2	1
Nov	2.98"	8.18" (1931)	3.85"	(7th, 1918)	6	5	4	3	2	1
Dec	1.99"	5.21" (1984)	2.96"	(23rd, 1932)	6	4	3	2	2	1
Annual	37.75"	16.19" (May 1902)	6.45"	(Oct 21, 1908)	81	63	51	38	25	12

Snow and Sleet (inches)											
	AVERAGE	EXTREMES (1901-2003)				AVG # DAYS PER MONTH (1971-2000)					
	1971-2000	Monthly Max	Daily Max		Greatest Depth		any	meas	0.50"+	1.00"+	Pot. Glazing
Jan	3.3"	24.0" (1930)	11.0"	(7th, 1988)	11.0"	(9th, 1930)	2	1	1	1	2
Feb	2.1"	20.0" (1978)	6.0"	(28th, 1922)	7.0"	(9th, 1978)	2	1	1	1	2
Mar	0.4"	13.5" (1924)	7.5"	(12th, 1968)	9.0"	(5th, 1989)	*	*	*	*	*
Apr		1.0" (1938)	1.0"	(8th, 1938)	0.1"	(8th, 1938)					
May		0.0" (1949)	0.0"	(24th, 1949)							
Jun		0.0" (1949)	0.0"	(8th, 1949)							
Jul											
Aug		0.9" (1944)	0.9"	(16th, 1944)							
Sep											
Oct	0.0"	1.0" (1993)	1.0"	(30th, 1993)	1.0"	(30th, 1993)	*	*	*	*	*
Nov	0.5"	6.0" (2001)	5.0"	(22nd, 1929)	6.0"	(29th, 2001)	1	*	*	*	*
Dec	1.0"	11.5" (1958)	9.0"	(29th, 1954)	9.0"	(29th, 1954)	1	*	*	*	1
Annual	7.3"	24.0" (Jan 1930)	11.0"	(Jan 7, 1988)	11.0"	(Jan 9, 1930)	5	3	3	3	6

## **TEMPERATURE AND PRECIPITATION**

From Chandler Cooperative Observer Station (341684); August 1901 – December 2003

Latitude: 3542N      Longitude: 09653W      Elevation: 924 ft

Exceedence values (2 in 10 years)				
Month:	Maximum Temperature Higher Than:	Minimum Temperature Lower Than:	Precipitation Less Than:	Precipitation More Than:
January	76	0	0.38	2.13
February	80	4	0.53	2.67
March	89	15	0.95	4.08
April	91	28	1.81	5.07
May	95	39	2.58	7.62
June	100	50	1.84	6.66
July	107	57	1.00	4.43
August	108	55	0.85	4.06
September	103	40	1.24	5.85
October	95	28	1.18	4.58
November	83	16	0.48	3.92
December	75	4	0.53	2.39
<b>Annual</b>	<b>109</b>	<b>-2</b>	<b>28.29</b>	<b>40.53</b>

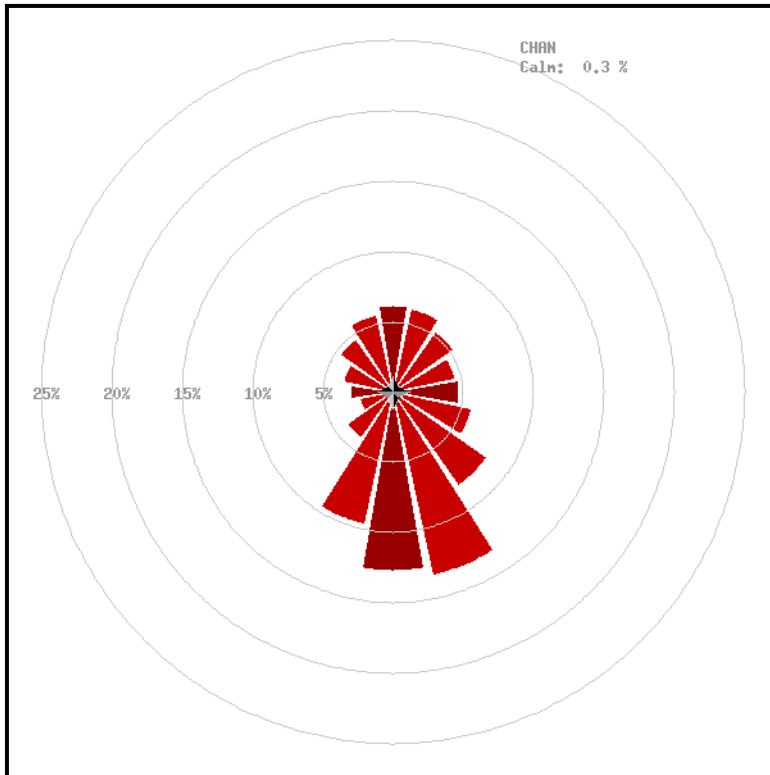
First Freezing Temperature in Fall			
Probability	24 F or Lower	28 F or Lower	32 F or Lower
1 Year in 10 Earlier Than –	November 11	October 24	October 12
2 Years in 10 Earlier Than –	November 3	October 30	October 18
5 Years in 10 Earlier Than –	November 19	October 10	October 29
Last Freezing Temperature in Spring			
Probability	24 F or Lower	28 F or Lower	32 F or Lower
1 Year in 10 Later Than –	March 31	April 10	April 20
2 Years in 10 Later Than –	March 24	April 3	April 15
5 Years in 10 Later Than –	March 14	March 25	April 5

Number of Days in Growing Season			
Probability	Higher than 24 F	Higher than 28 F	Higher than 32 F
9 Years in 10	224	209	190
8 Years in 10	231	212	195
5 Years in 10	251	232	211
2 Years in 10	270	247	227
1 Year in 10	279	253	232

## WINDS

From Chandler Mesonet Site (CHAN); Jan 1994 – Dec 2001

Latitude: 3565N Longitude: 09608W Elevation: 954 ft



Wind Roses show the prevailing direction from which the wind is blowing. North is up in the image. The circles show the percentage of time from which the wind is blowing in that direction. For example, Chandler records a south-southeasterly wind about 13 percent of the time, with northerly winds just over 6 percent of the time.

The table below shows the percentage of time the wind is blowing from each of the 16-point compass headings, and the percent of time the prevailing wind is recorded in each speed bin.

*Maximum Gust: 74.3 mph*  
*Maximum Sustained: 45.9 mph*  
*Overall Average Speed: 8.5 mph*

CHAN	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Totals
Calm																	0.3%
1- 5 mph	0.6	0.7	0.9	1.0	1.2	1.4	1.6	1.6	1.4	1.3	0.9	0.9	1.0	0.9	0.6	0.5	16.6%
6-10 mph	2.4	3.0	3.2	2.9	3.0	3.7	5.2	7.5	4.8	3.9	1.7	1.0	1.5	1.7	1.7	2.2	49.4%
11-15 mph	2.1	1.9	1.0	0.6	0.4	0.5	1.1	3.3	4.5	2.7	0.9	0.4	0.4	0.6	1.3	1.8	23.5%
16-20 mph	0.9	0.5	0.1	0.1	0.1	0.1	0.2	0.8	1.8	1.3	0.4	0.1	0.1	0.3	0.8	0.8	8.2%
21-25 mph	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.4	0.1	0.0	0.1	0.1	0.2	0.2	1.8%
26-30 mph	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3%
31-35 mph	0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
35+ mph	0.0	0.0	0.0							0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
<b>Totals</b>	<b>6.2</b>	<b>6.1</b>	<b>5.3</b>	<b>4.6</b>	<b>4.7</b>	<b>5.7</b>	<b>8.2</b>	<b>13.3</b>	<b>12.8</b>	<b>9.6</b>	<b>4.0</b>	<b>2.4</b>	<b>3.1</b>	<b>3.7</b>	<b>4.6</b>	<b>5.6</b>	<b>100.0%</b>
CHAN	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
Max Gust	74	50	69	49	40	39	42	45	47	51	50	62	52	60	61	59	
Max 5 Min	45	36	46	34	27	25	30	31	32	35	35	38	36	40	42	43	
<b>Avg Speed</b>	<b>10.2</b>	<b>8.9</b>	<b>7.4</b>	<b>6.6</b>	<b>6.3</b>	<b>6.2</b>	<b>6.8</b>	<b>8.3</b>	<b>10.1</b>	<b>9.7</b>	<b>8.3</b>	<b>7.0</b>	<b>6.8</b>	<b>8.1</b>	<b>10.3</b>	<b>10.3</b>	

Due to rounding, column and row totals may not sum to exactly 100.0%.

## HUMIDITY

From Chandler Mesonet Site (CHAN); Jan 1994 – Dec 2003

Latitude: 3565N      Longitude: 09608W      Elevation: 954 ft

Mean Monthly Humidity and Moisture					
	Daily Maximum Relative Humidity	Daily Minimum Relative Humidity	Daily Average Relative Humidity	Daily Average Dewpoint (°F)	Daily Average Vapor Deficit
January	88	47	69	27	3.1
February	86	42	65	31	4.5
March	86	43	64	36	5.6
April	87	43	64	46	7.5
May	92	53	73	59	7.5
June	93	54	75	66	9.0
July	90	48	70	70	13.2
August	89	45	68	68	13.9
September	91	48	71	60	9.8
October	90	47	70	50	6.6
November	89	48	69	39	4.5
December	89	49	70	30	3.2
<b>Annual</b>	<b>89</b>	<b>47</b>	<b>69</b>	<b>49</b>	<b>7.4</b>

Vapor pressure is given in millibars.

## SOIL TEMPERATURES

From Chandler Mesonet Site (CHAN); Jan 1994 – Dec 2003

Latitude: 3565N      Longitude: 09608W      Elevation: 954 ft

Soil Temperatures at 10 cm (4-inch) depth				
	Average Temperature beneath sod	Average Temperature beneath bare soil	Average Daily Max Temperature	Average Daily Min Temperature
January	42	40	44	37
February	45	44	50	40
March	50	49	55	44
April	58	59	66	53
May	67	70	77	63
June	76	78	86	71
July	81	85	93	78
August	81	84	92	77
September	75	75	82	69
October	65	64	71	59
November	55	52	57	47
December	46	43	47	40
<b>Annual</b>	<b>62</b>	<b>62</b>	<b>69</b>	<b>57</b>

Average daily maximum and minimum temperatures based on bare soil.

## **TORNADOES**

Significant Tornadoes (F2 intensity or greater) affecting Lincoln County, 1880 – 2003. Source: *Significant Tornadoes, 1880-1989: Volume I* and National Weather Service, Norman office.

<b>Date</b>	<b>Path</b>	<b>Deaths</b>	<b>Injuries</b>	<b>Rating</b>	<b>Counties Affected</b>
October 28, 1896	8 miles	3	0	F3	Lincoln
March 30, 1897	18 miles	14	40	F4	Lincoln
May 29, 1909	15 miles	6	20	F4	Lincoln, Okfuskee, Creek
May 29, 1909	15 miles	1	20	F3	Lincoln, Creek
April 12, 1911	7 miles	0	2	F3	Lincoln
April 20, 1912	15 miles	0	0	F3	Oklahoma, Logan, Lincoln
November 15, 1918	5 miles	1	12	F3	Lincoln
March 28, 1924	50 miles	8	80	F4	Cleveland, Pottawatomie, Lincoln
April 8, 1925	20 miles	0	0	F2	Lincoln, Creek
May 2, 1942	55 miles	16	80	F4	Pottawatomie, Lincoln, Okfuskee, Creek
January 26, 1944	unknown	0	5	F2	Lincoln
April 9, 1944	unknown	0	0	F2	Lincoln
April 30, 1949	20 miles	3	8	F3	Cleveland, Pottawatomie, Lincoln
May 17, 1949	5 miles	0	13	F2	Lincoln
May 1, 1954	30 miles	0	65	F4	Pottawatomie, Lincoln, Creek
April 2, 1956	50 miles	5	98	F4	Lincoln, Creek
May 20, 1957	unknown	0	0	F2	Lincoln
May 5, 1960	110 miles	0	0	F3	Cleveland, Pottawatomie, Lincoln, Creek, Tulsa
May 5, 1960	70 miles	5	81	F5	Pottawatomie, Seminole, Lincoln, Okfuskee, Creek
May 26, 1963	30 miles	1	4	F3	Logan, Oklahoma., Lincoln
June 11, 1967	0.3 miles	0	0	F2	Lincoln
June 11, 1970	unknown	0	0	F2	Lincoln
October 5, 1970	25 miles	4	84	F4	Pottawatomie, Lincoln, Okfuskee
April 20, 1974	60 miles	0	3	F2	Grady, Canadian, Oklahoma, Lincoln
June 8, 1974	8 miles	0	8	F3	Lincoln
June 8, 1974	5 miles	0	0	F2	Lincoln, Creek
June 8, 1974	3 miles	0	0	F3	Lincoln
June 13, 1975	1.5 miles	0	0	F2	Lincoln
June 13, 1975	1.5 miles	0	3	F2	Lincoln
April 10, 1979	3 miles	0	1	F2	Pottawatomie, Lincoln

<b>Date</b>	<b>Path</b>	<b>Deaths</b>	<b>Injuries</b>	<b>Rating</b>	<b>Counties Affected</b>
May 11, 1980	6 miles	0	1	F2	Lincoln
April 27, 1983	0.5 miles	0	0	F2	Lincoln
March 13, 1990	19 miles	0	1	F2	Cleveland, Pottawatomie, Lincoln
June 9, 1995	0.2 miles	0	0	F2	Lincoln
October 4, 1998	3 miles	0	0	F2	Lincoln
October 4, 1998	6 miles	0	0	F2	Lincoln
May 3, 1999	16 miles	0	13	F3	Lincoln, Creek

### ***About the Data:***

The temperature and precipitation data from Chandler are from the National Weather Service Cooperative Observer station, which records daily maximum and minimum temperatures, precipitation, and snowfall. The station has been in operation since 1901, yielding a 102-year series of data. Extremes, frost and freeze data, and growing season lengths were determined using the entire 102-year series. The means for temperature, precipitation, and snowfall were determined using a subset of the series, from 1971-2000, corresponding with official national standards set by the National Climatic Data Center.

Wind and humidity data are compiled from the Oklahoma Mesonet station at Chandler (3 miles north-northeast of town), which has been operational since 1994. The Chandler Mesonet site was chosen because it is the only Mesonet site in Lincoln County. The Oklahoma Mesonet is a cooperative project between Oklahoma State University and The University of Oklahoma. Data are collected and archived at the Oklahoma Climatological Survey. The Mesonet records a variety of weather information at 5-minute intervals throughout the day, with at least one reporting station in every county in Oklahoma. For more information on the Mesonet, see <http://www.mesonet.org/>.

Solar radiation (sunshine) data were obtained from the *Climatic Atlas of the United States*, U.S. Department of Commerce, 1968. Severe storm information is available from the National Climatic Data Center, <http://www.ncdc.noaa.gov/>, under Weather/Climate Events: Climatology & Extreme Events, U.S. Storm Events Database. The best site for online county tornado information for Oklahoma is through the National Weather Service, Norman Office, <http://www.srh.noaa.gov/oun/tornadodata/>.

The tables and summary were prepared by the Oklahoma Climatological Survey. For more information, please contact OCS at 405-325-2541. Many climate summary products are available on the worldwide web at <http://www.ocs.ou.edu/>.

### ***Need Additional Information?***

If you cannot find what you need here, or want some help interpreting what this means for your particular needs, please contact:

The Oklahoma Climatological Survey  
100 E. Boyd Street, Suite 1210  
Norman, OK 73019-1012  
Phone: 405-325-2541  
E-mail: [ocs@ou.edu](mailto:ocs@ou.edu)

In addition to maintaining records of all weather and climate information for Oklahoma, OCS has a staff of climatologists who specialize in tailoring information for particular needs. Whether you want to know how dry it has been or are planning a construction project, OCS can help.