

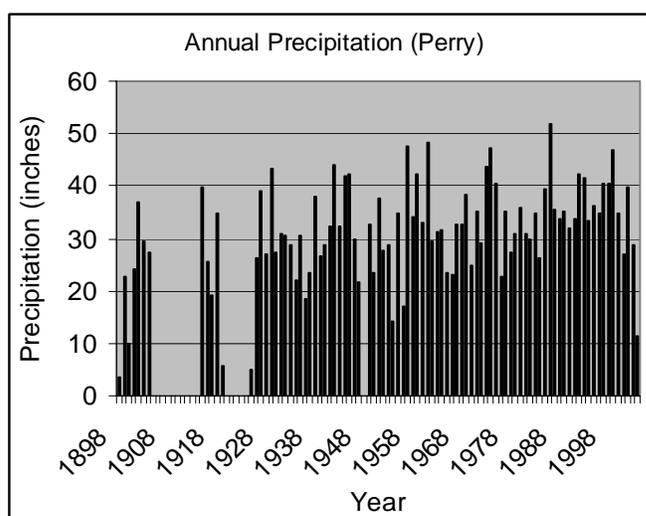
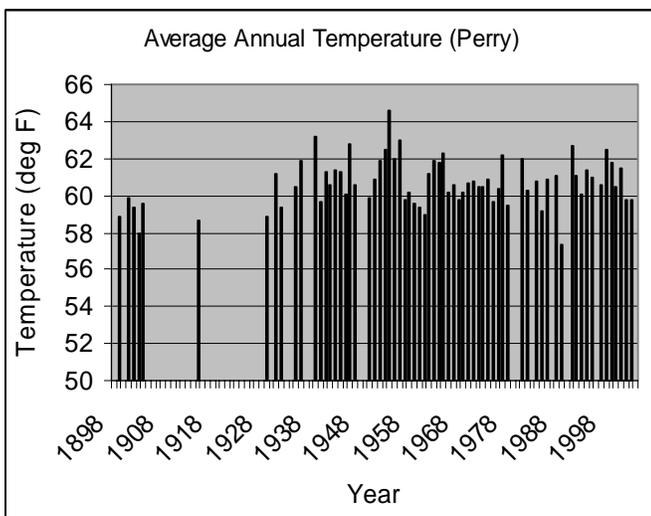
The Climate of Noble County

Noble County is part of the Central Great Plains, encompassing some of the best agricultural land in Oklahoma. Extreme northeastern Noble County is part of the Crosstimbers, which has slightly more vegetation and more irregular terrain. Average annual precipitation ranges from about 33 inches in western Noble County to 39 inches in the east. May and September 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 four 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 95 degrees in July to an average low of 25 degrees in January. Noble County averages a growing season of 206 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 nine miles-per-hour. Relative humidity, on average, ranges from 42% to 93% during the day. During the year, humidity is highest in May 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 50% in winter to nearly 75% in summer.

Thunderstorms occur on about 50 days each year, predominantly in the spring and summer. During the period 1950 - 2003, Noble County recorded 35 tornadoes. The most recent significant tornado (F2 intensity or greater) occurred on May 3, 1999. The F4 tornado passed through parts of Logan, Payne and Noble counties and affected the towns of Cimarron City, Mulhall and Perry. Two people were killed and 26 injured by this storm. Typically, there are about 3 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 (1894-2003)				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	47.5	24.7	36.1	81	(20th, 1986)	-20	(18th, 1930)			5	24	*
Feb	54.1	29.8	41.9	91	(22nd, 1996)	-17	(12th, 1899)		*	2	17	*
Mar	63.7	38.3	51.0	97	(15th, 1935)	1	(11th, 1948)		*	*	9	
Apr	73.6	47.7	60.7	102	(12th, 1972)	16	(3rd, 1936)	*	1		1	
May	81.2	57.6	69.4	103	(30th, 1985)	30	(1st, 1903)	*	4			
Jun	89.3	66.3	77.8	109	(19th, 1918)	44	(11th, 1903)	1	16			
Jul	94.8	70.8	82.8	114	(18th, 1936)	50	(5th, 1915)	7	26			
Aug	94.3	69.6	82.0	117	(11th, 1936)	45	(31st, 1915)	7	25			
Sep	86.0	61.7	73.9	109	(4th, 2000)	30	(30th, 1984)	2	12		*	
Oct	75.6	50.0	62.8	99	(3rd, 1951)	15	(30th, 1917)		1		1	
Nov	60.6	37.7	49.2	88	(8th, 1980)	9	(17th, 1959)			*	9	
Dec	50.0	28.1	39.0	86	(24th, 1955)	-18	(22nd, 1989)			3	21	*
Annual	72.7	48.6	60.6	117	(Aug 11, 1936)	-20	(Jan 18, 1930)	17	84	10	83	1

Precipitation (inches)										
	AVERAGE	EXTREMES (1898-2003)			AVG # DAYS PER MONTH (1971-2000)					
	1971-2000	Monthly Max	Daily Max		any	meas	0.10"+	0.25"+	0.50"+	1.00"+
Jan	1.12"	5.85" (1949)	2.20"	(30th, 2002)	6	5	2	1	1	*
Feb	1.68"	5.23" (1915)	2.60"	(21st, 1997)	6	5	3	2	1	*
Mar	2.89"	7.40" (1973)	3.98"	(26th, 1967)	8	7	5	3	2	1
Apr	3.39"	12.04" (1994)	4.64"	(28th, 1994)	8	7	5	3	2	1
May	5.36"	16.86" (1955)	5.35"	(9th, 1955)	10	9	7	6	4	2
Jun	4.15"	9.79" (1916)	4.80"	(8th, 1901)	8	7	6	4	3	1
Jul	3.02"	8.85" (1960)	4.94"	(4th, 1960)	6	6	4	3	2	1
Aug	3.21"	9.88" (1992)	5.17"	(4th, 1992)	7	7	5	3	2	1
Sep	4.24"	14.41" (1986)	7.03"	(29th, 1986)	7	6	5	4	3	2
Oct	3.07"	9.47" (1941)	4.01"	(5th, 1998)	6	6	4	3	2	1
Nov	2.45"	6.60" (1931)	4.02"	(1st, 1998)	6	5	4	2	2	1
Dec	1.72"	5.69" (1999)	2.60"	(19th, 1933)	6	5	3	2	1	1
Annual	36.31"	16.86" (May 1955)	7.03"	(Sep 29, 1986)	84	75	53	37	23	11

Snow and Sleet (inches)											
	AVERAGE	EXTREMES (1894-2003)				AVG # DAYS PER MONTH (1971-2000)					
	1971-2000	Monthly Max	Daily Max		Greatest Depth		any	meas	0.50"+	1.00"+	Pot. Glazing
Jan	1.9"	20.0" (1949)	7.5"	(9th, 1930)	8.0"	(7th, 1940)	1	1	1	1	2
Feb	1.6"	15.7" (1929)	12.5"	(7th, 1929)	8.0"	(14th, 1917)	1	1	1	1	1
Mar	1.0"	17.0" (1970)	11.0"	(14th, 1999)	9.0"	(2nd, 1960)	*	*	*	*	*
Apr		6.0" (1938)	5.0"	(8th, 1938)	3.0"	(8th, 1938)					
May		0.0" (1952)	0.0"	(17th, 1952)							
Jun											
Jul											
Aug											
Sep		0.0" (1954)	0.0"	(29th, 1954)							
Oct		0.0" (1902)	0.0"	(28th, 1902)							
Nov	0.3"	7.0" (1988)	7.0"	(20th, 1988)	4.0"	(6th, 1951)	*	*	*	*	*
Dec	0.9"	9.6" (2000)	6.0"	(24th, 1918)	8.0"	(15th, 1932)	1	*	*	*	1
Annual	5.7"	20.0" (Jan 1949)	12.5"	(Feb 7, 1929)	9.0"	(Mar 2, 1960)	4	2	2	2	5

TEMPERATURE AND PRECIPITATION

From Perry Cooperative Observer Station (347012); November 1898 – December 2003

Latitude: 3617N Longitude: 09717W Elevation: 1024 ft

Exceedence values (2 in 10 years)				
Month:	Maximum Temperature Higher Than:	Minimum Temperature Lower Than:	Precipitation Less Than:	Precipitation More Than:
January	74	-1	0.28	1.57
February	79	2	0.51	2.39
March	89	13	1.15	3.53
April	91	27	1.64	4.92
May	96	38	2.83	7.17
June	102	50	2.30	6.35
July	107	56	1.12	4.75
August	107	55	1.54	4.61
September	102	40	1.18	5.75
October	95	29	0.99	3.70
November	82	16	0.29	3.39
December	74	4	0.44	2.07
Annual	109	-4	27.42	41.17

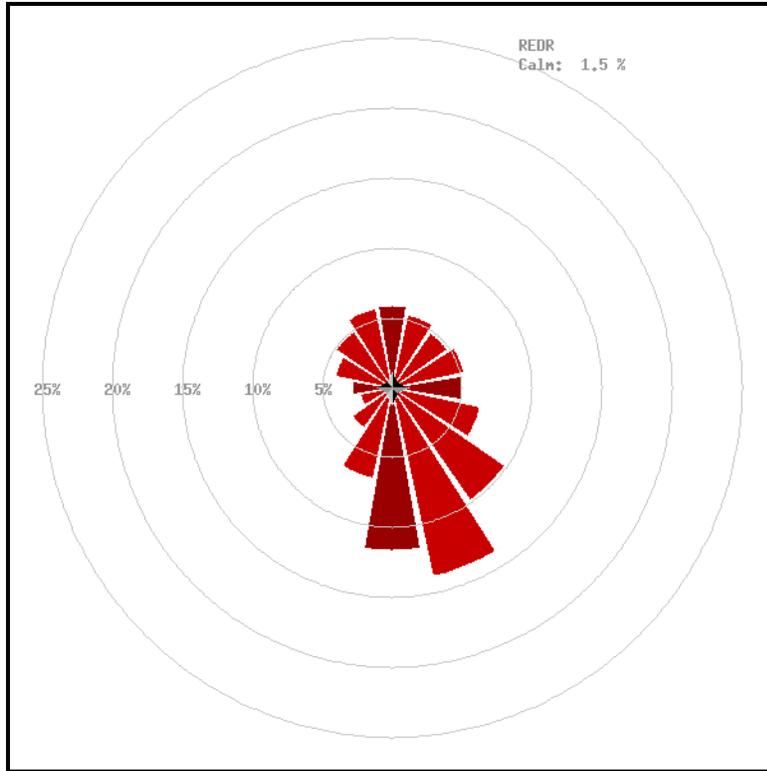
First Freezing Temperature in Fall			
Probability	24 F or Lower	28 F or Lower	32 F or Lower
1 Year in 10 Earlier Than –	November 2	October 22	October 16
2 Years in 10 Earlier Than –	November 6	October 30	October 20
5 Years in 10 Earlier Than –	November 20	November 7	October 29
Last Freezing Temperature in Spring			
Probability	24 F or Lower	28 F or Lower	32 F or Lower
1 Year in 10 Later Than –	April 1	April 11	April 21
2 Years in 10 Later Than –	March 27	April 6	April 15
5 Years in 10 Later Than –	March 18	March 27	April 6

Number of Days in Growing Season			
Probability	Higher than 24 F	Higher than 28 F	Higher than 32 F
9 Years in 10	229	202	182
8 Years in 10	233	213	191
5 Years in 10	247	228	206
2 Years in 10	269	242	222
1 Year in 10	279	248	230

WINDS

From Red Rock Mesonet Site (REDR); Jan 1994 – Dec 2001

Latitude: 3636N Longitude: 09715W Elevation: 961 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, Red Rock records a south-southeasterly wind about 14 percent of the time, with northerly winds just under 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: 65.3 mph
Maximum Sustained: 47.0 mph
Overall Average Speed: 9.6 mph

REDR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Totals
Calm																	1.5%
1- 5 mph	0.5	0.6	0.7	1.0	1.6	2.2	2.2	1.5	1.0	0.8	0.8	0.9	1.3	1.3	0.7	0.5	17.7%
6-10 mph	1.8	2.2	2.0	2.5	2.4	3.2	4.9	4.8	2.3	1.6	1.2	0.9	1.0	1.7	1.9	1.9	36.2%
11-15 mph	2.0	1.6	1.5	1.3	0.7	0.9	2.1	4.7	3.7	1.7	0.9	0.4	0.3	0.7	1.2	1.7	25.4%
16-20 mph	1.1	0.7	0.5	0.3	0.2	0.2	0.5	2.1	2.8	1.4	0.4	0.1	0.1	0.3	0.7	1.1	12.7%
21-25 mph	0.4	0.2	0.1	0.1	0.0	0.0	0.1	0.6	1.3	0.8	0.1	0.0	0.1	0.1	0.3	0.6	4.8%
26-30 mph	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.3	0.0	0.0	0.0	0.1	0.1	0.2	1.3%
31-35 mph	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2%
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	0.0%
Totals	5.9	5.3	4.8	5.3	5.0	6.5	9.8	13.8	11.6	6.6	3.6	2.4	2.9	4.2	4.9	5.9	100.0%
REDR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
Max Gust	58	65	52	47	45	46	56	60	56	56	55	59	60	61	55	62	
Max 5 Min	45	41	39	33	36	34	45	47	39	40	38	37	44	36	41	46	
Avg Speed	11.6	10.0	9.2	8.1	6.6	6.4	7.6	10.5	13.1	12.8	9.3	6.8	6.3	7.8	10.4	12.0	

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

HUMIDITY

From Red Rock Mesonet Site (REDR); Jan 1994 – Dec 2003

Latitude: 3636N Longitude: 09715W Elevation: 961 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	90	48	71	26	2.6
February	89	44	68	30	3.9
March	89	42	66	35	5.1
April	89	42	66	45	7.2
May	93	50	74	58	7.5
June	93	49	73	65	10.1
July	91	44	69	69	14.3
August	90	42	67	67	14.7
September	92	44	70	59	10.4
October	90	44	70	49	6.8
November	91	45	70	37	4.2
December	91	50	73	29	2.7
Annual	91	45	70	48	7.5

Vapor pressure is given in millibars.

SOIL TEMPERATURES

From Red Rock Mesonet Site (REDR); Jan 1994 – Dec 2003

Latitude: 3636N Longitude: 09715W Elevation: 961 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	41	39	42	37
February	44	43	48	39
March	48	49	55	44
April	57	59	66	53
May	67	70	78	64
June	74	80	88	73
July	79	86	94	79
August	80	85	94	78
September	73	76	83	70
October	64	64	70	58
November	54	51	56	46
December	45	41	45	39
Annual	61	62	68	57

Average daily maximum and minimum temperatures based on bare soil.

TORNADOES

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

Date	Path	Deaths	Injuries	Rating	Counties Affected
April 28, 1893	15 miles	6	20	F4	Noble, Osage
April 20, 1912	30 miles	3	12	F4	Noble, Pawnee
April 20, 1912	10 miles	0	14	F3	Noble
June 7, 1917	2 miles	0	0	F2	Noble
May 7, 1922	1 mile	1	1	F2	Noble
April 24, 1935	11 miles	0	1	F2	Garfield, Noble
May 28, 1935	20 miles	0	0	F2	Noble
May 2, 1942	85 miles	3	28	F4	Noble, Pawnee, Osage, Washington
January 26, 1944	20 miles	0	2	F2	Garfield, Noble
March 25, 1948	10 miles	0	0	F2	Noble
June 22, 1948	unknown	0	0	F2	Noble
April 3, 1968	10 miles	0	1	F2	Noble
April 26, 1991	66 miles	0	6	F4	Garfield, Noble, Osage
May 3, 1999	39 miles	2	26	F4	Logan, Payne, Noble

About the Data:

The temperature and precipitation data from Perry 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 1898, yielding a 106-year series of data. Extremes, frost and freeze data, and growing season lengths were determined using the entire 106-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 Red Rock (7 miles southeast of town), which has been operational since 1994. The Red Rock Mesonet site was chosen because it is the only Mesonet site in Noble 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

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.