OKLAHOMA MONTHLY CLIMATE SUMMARY
MAY 2004

Oklahoma Climatological Survey

May was a record-setting month for Oklahoma. Normally the state's wettest month, the 2004 version finished as the driest May since record-keeping began in 1892. The dearth of precipitation is reflected in the lack of widespread thunderstorm activity, which is the primary source for rainfall during the state's warm months. There were still several instances of violent weather, however. The most notable occurred on the 29th, as a large tornadic supercell marched eastward across the state. Just skirting northern Oklahoma City, the massive rotating thunderstorm traversed the state, dropping 10 tornadoes along its path. Fifteen tornadoes touched down during May, according to preliminary statistics from the National Weather Service, five fewer than the 20 the month has averaged since 1950. Oklahoma's streak without a significant tornado ended late into the night on May 29th at 381 days with an F3 tornado that touched down in Lincoln and Creek counties. As is often the case for a warm-season month with diminished precipitation, the statewide-averaged temperature finished above the established normal, the 15th warmest May on record.

Precipitation

The statewide-averaged precipitation was over four inches below the established normal for May at just over one inch, a total which was matched by nearly every region of the state. Joining the statewide total as the driest on record for May was the central region of the state, which had less than an inch of precipitation, on average. Only the northeast and southeast had a reasonable amount of rainfall, with each totaling over two inches. Unfortunately, due to those regions' lofty precipitation expectations during May, those regions still finished with the 17th and 9th driest precipitation amounts in the last 113 years, respectively. The precipitation totals in the western half of the state were particularly bleak. Fourteen of the 116 Oklahoma Mesonet sites reported less than one-tenth of an inch of rainfall, and 64 of the sites reported less than an inch. The Mesonet sites at Arnett and Kenton reported no precipitation for the month. The extreme northeast and southeast corners of the state did receive ample precipitation, but the coverage of the heavy rain was quite limited. The Mesonet sites at Jay and Broken Bow both reported over five inches of rainfall, which are reflected in the northeast and southeast regionally-averaged totals, respectively. Naturally, the seasonal and year-to-date totals suffered accordingly, due to the arid May. The spring season finished over three inches below normal to rank as the 25th driest on record. The year-to-date total was a bit closer to normal at 2.4 inches below normal – the 44th driest such period on record.

May 2004 Statewide Extremes

Description	Extreme	Station	Date
High Temperature	105ºF	Buffalo	May 19th
Low Temperature	30ºF	Hooker	May 14th
High Precipitation	5.29 in.	Jay	
Low Precipitation	0.00 in.	Arnett, Kenton	

Temperature

The lack of precipitation hints at a lack of cloudiness, which translates to warmer temperatures. The state experienced just that, and the statewide-averaged temperature was nearly three degrees above normal, the 15th warmest May since 1892. The Panhandle, north central, and west central sections all had average temperatures of over four degrees above normal, each finishing in the top-ten warmest Mays on record for those areas. The spring season's statewide-averaged temperature was quite warm at nearly 62 degrees, 2.6 degrees above the established normal, and the 7th warmest such period on record. The year-to-date temperature is similar, nearly two degrees above normal, and the 21st warmest January-May on record.

May Daily Highlights

May 1-7: The month's first day would not be an accurate preview for the remainder of the month, as showers and storms overnight and gusty north winds behind a cold front produced a dank, dreary day. High temperatures struggled to rise above 60 degrees on the 1st, but temperatures rebounded into the 70s the following day, continuing to climb throughout the period. Gage reached a very unseasonable 33 degrees low temperature on the 2nd, and Oklahoma City set a record low of 38 degrees on the same day, which broke the old record of 39 degrees, set in 1961. Fair skies and southerly winds were the rule through the 7th, with temperatures reaching the 80s and 90s by the end of the period.

May 8-13: Temperatures remained quite warm, and the southerly winds carried moisture into the state from the Gulf of Mexico. This set the stage for the month's first real bout with severe weather on the 13th. A small upper-level disturbance on the 11th and 12th produced a modicum of rainfall for central and southern Oklahoma, but a cold front on the 13th was the real weather-maker. The front moved over the state in the afternoon before stalling out over central Oklahoma. Temperatures fell behind the front from the 80s to the 50s and 60s, with gusty northerly winds up to 40 mph. There were severe thunderstorms in southwest and central Oklahoma, with small hail being the largest threat from those storms. The northeast received the most severe weather, with large hail, high winds, and heavy rainfall. The Oklahoma Mesonet site at Jay in Delaware County reported over four inches of rainfall, and Wynona reported nearly 3.5 inches. The state's first confirmed tornado touched down northwest of Coweta in Wagoner County that afternoon. The twister was rated an F1, and traveled a total of 2.6 miles before dissipating. Roof damage and downed trees and power lines were reported by residents in the path of the tornado.

May 14-22: The rain disappeared and the temperatures soared during this period. Near-freezing temperatures greeted the Panhandle on the 14th, but very pleasant weather followed. Warm and windy weather was the norm, and the state's first triple-digit temperatures since August 28th, 2003, were reported on the 19th. Buffalo reached 105 degrees, the state's highest reported temperature during May.

May 23-29: Another cold front entered the state on the 23rd, ushering in another period of severe weather. Severe storms erupted in central Oklahoma on the 23rd, bringing a few reports of small hail. Stronger storms struck the western half of the state on the 24th, with very large hail being reported with the storms, and a couple of F1 tornadoes spotted in Caddo County near Alfalfa and Eakly. Roof and tree damage were reported with both twisters. Grapefruit-sized hail was reported in Manitou in Tillman County, and non-thunderstorm wind gusts of up to 79 mph were reported late on the 24th in Cushing, damaging trees and power lines. Agra received similar non-thunderstorm wind gusts, thought to be mixing of strong low-level jet winds from aloft down to the surface. After a few isolated storms in southern Oklahoma on the 25th, more widespread severe weather struck on the 26th associated with a surface low in the northwest, complete with a warm front through northern Oklahoma and a dryline through west central sections. A weak tornado touched down in Noble County and traveled into Pawnee County before dissipating. Another tornado touched down later in Osage County. The most severe weather of the month occurred on the 29th, as a large tornadic supercell formed in Custer County and traveled to the east-northeast before exiting the state into Arkansas. The storm produced damaging winds, up-to softball-sized hail, and 10 tornadoes. The tornadoes, which were often rain-wrapped and therefore obscured from sight, did particularly severe damage in Geary and the Deer Creek area in far northwest Oklahoma City. Several houses were destroyed in Deer Creek, and the main building at Deer Creek High School had its roof peeled back. About 15 houses or mobile homes were damaged or destroyed in Creek County, and numerous reports of roof damage were reported from Geary. About 9000 customers were without power due to the storms. Three homes were damaged in Mayes County. A 19 year old man died when his vehicle struck horses which had roamed onto the road after the fence enclosing them was destroyed by a tornado near Piedmont. A century-old farmhouse near Geary was completely destroyed by the tornado that struck that area. Baseball-sized hail shattered the windshields of the Okarche police department's vehicles, and 100 mph non-tornadic winds were estimated by National Weather Service employees along the storm's path. Seven homes in Blaine County were reported destroyed by tornadoes, with 85 additional homes affected. Seven homes and two businesses in Oklahoma County were destroyed, and 185 had minor damage.

May 30-31: The final two days of the month were relatively calm after the previous bouts of severe weather. Temperatures in the 80s and 90s returned to the state, and skies were mostly sunny.

May 2004 Statewide Statistics

Temperature

	Average	Depart.	Rank (1892-2004)
Month (May)	70.8ºF	2.9ºF	15th Warmest
Season-to-date (Mar-May)	61.7ºF	2.6ºF	7th Warmest
Year-to-Date (Jan-May)	52.7ºF	1.7ºF	21th Warmest

Precipitation

	Total	Depart.	Rank (1892-2004)
Month (May)	1.10 in.	-4.11 in.	1st Driest
Season-to-Date (Mar-May)	8.51 in.	-3.17 in.	25th Driest
Year-to-Date (Jan-May)	12.49 in.	-2.40 in.	44th Driest

Depart. = Departure from 30-year normal

May 2004 Severe Weather

Significant Tornadoes (F2 or greater)

F-rating	Location	County	Date
F3	6.2 WNW - 4.9 NNE Depew	Lincoln, Creek	05/29/04

Hail (2 inches in diameter or greater)

Size (in.)	Location	County	Date
4.25	8 N Perryton	Beaver	05/21/04
4.25	Manitou	Tillman	05/24/04
4.25	3 E Custer City	Custer	05/29/04
2.75	Mountain View	Kiowa	05/12/04
2.75	4 SE Bryan's Corner	Beaver	05/21/04
2.75	Chattanooga	Comanche	05/24/04
2.75	8 S Taloga	Dewey	05/29/04
2.75	1 S Okarche	Canadian	05/29/04
2.75	Okarche	Canadian	05/29/04
2.75	5 SSW Cashion	Kingfisher	05/29/04
2.50	3 N Gotebo	Kiowa	05/12/04
2.50	8 E Manitou	Tillman	05/24/04
2.50	4 N Putnam	Dewey	05/29/04
2.50	Thomas	Custer	05/29/04
2.50	5 W Thomas	Custer	05/29/04
2.25	Altus	Jackson	05/24/04
2.25	2 SSE Anadarko	Caddo	05/24/04
2.00	Granite	Greer	05/24/04
2.00	Altus	Jackson	05/24/04
2.00	3 NNW Hydro	Blaine	05/24/04
2.00	6 N Lamont	Grant	05/26/04
2.00	5 W Custer City	Custer	05/29/04
2.00	McCurtain	Haskell	05/30/04

Wind Gusts (70 mph or greater)

Speed (m.p.h)	Location	County	Date
79	Cushing	Payne	05/25/04
76	Cushing	Payne	05/24/04
70	Guymon	Texas	05/19/04
70	2 S Leedey	Dewey	05/29/04
70	11 W Edmond	Oklahoma	05/29/04
70	Panama	LeFlore	05/30/04

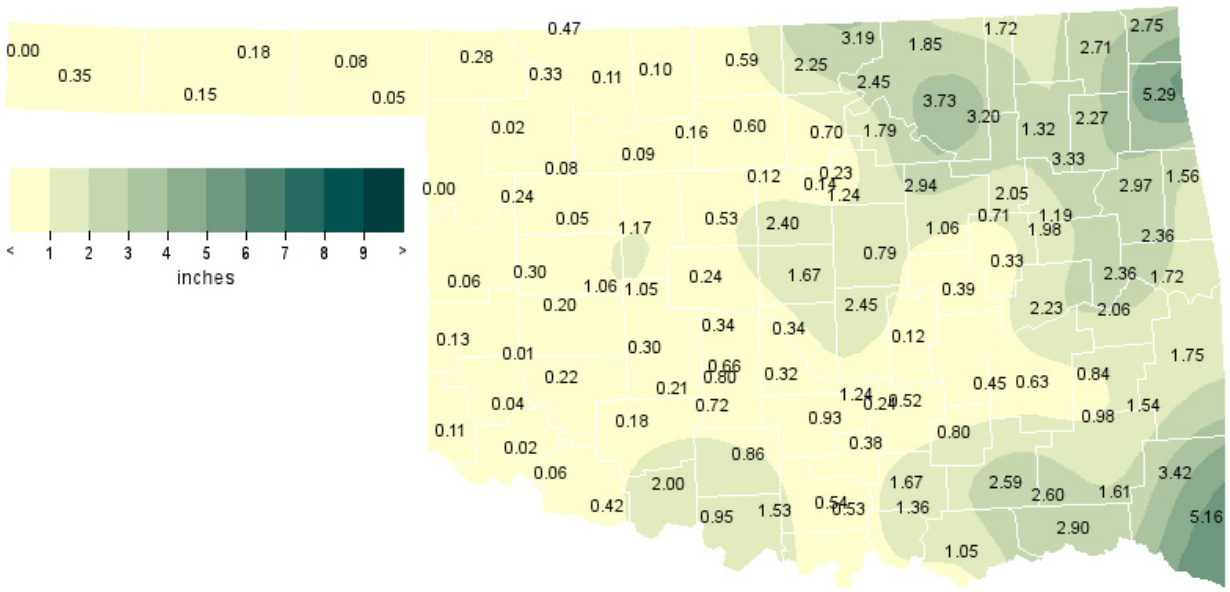
Flooding

Location	County	Date
6 N Jay	Delaware	05/13/04
Oolagah	Rogers	05/13/04
Tulsa	Tulsa	05/13/04
Bixby	Tulsa	05/13/04
Coweta	Wagoner	05/13/04
Tahlequah	Cherokee	05/13/04
Shamrock	Creek	05/23/04

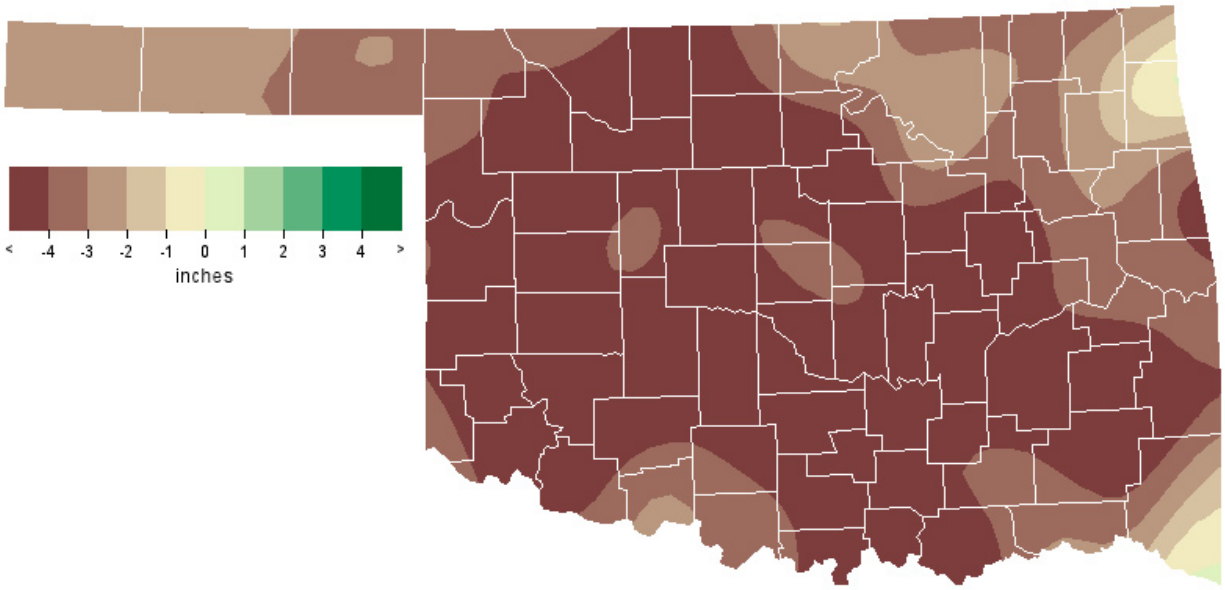
Record Event Reports

Description	Day	Location	Record	Previous Record	Year
Minimum Temperature	2	Oklahoma City	38 degrees	39 degrees	1961

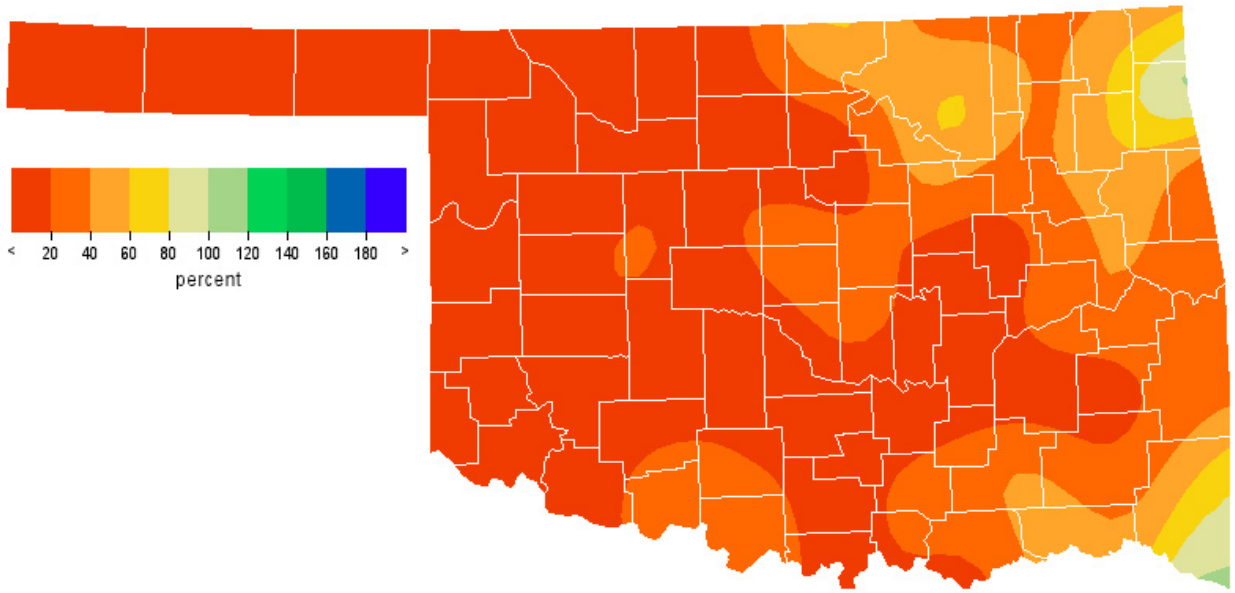
May 2004 Observed Precipitation



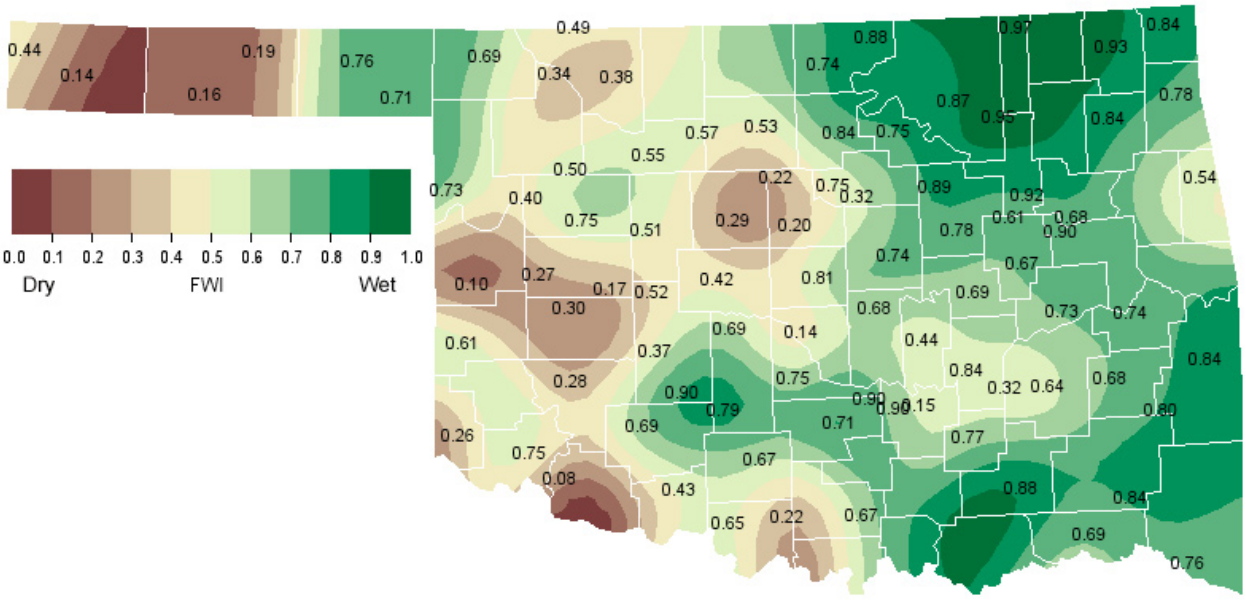
May 2004 Departure from Normal Precipitation



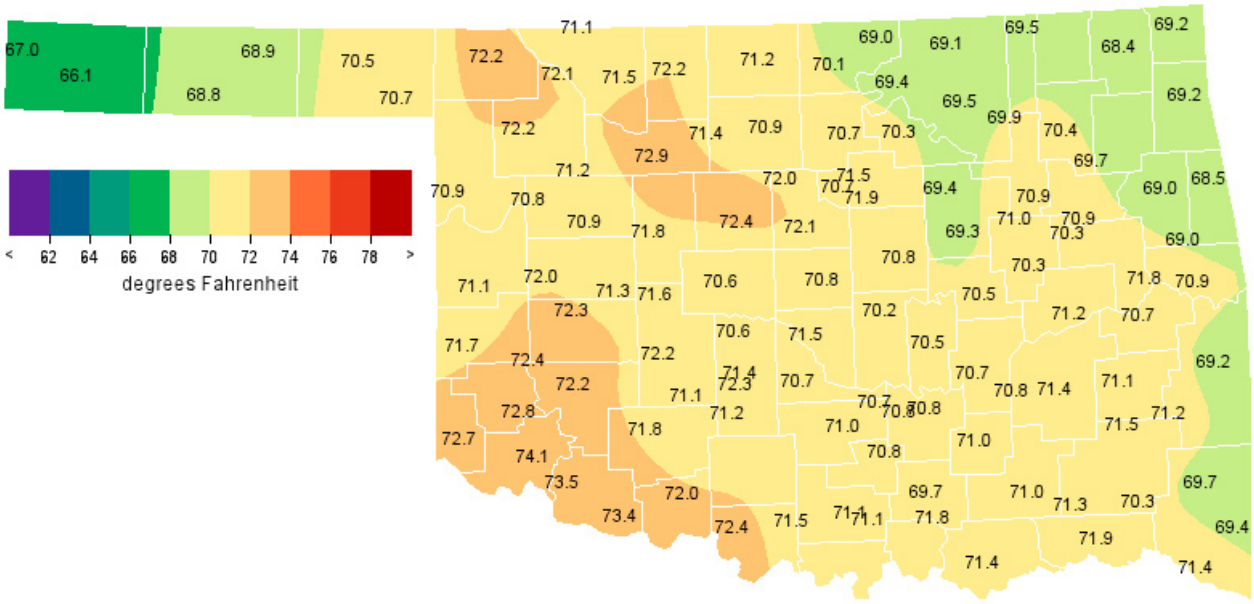
May 2004 Percent of Normal Precipitation



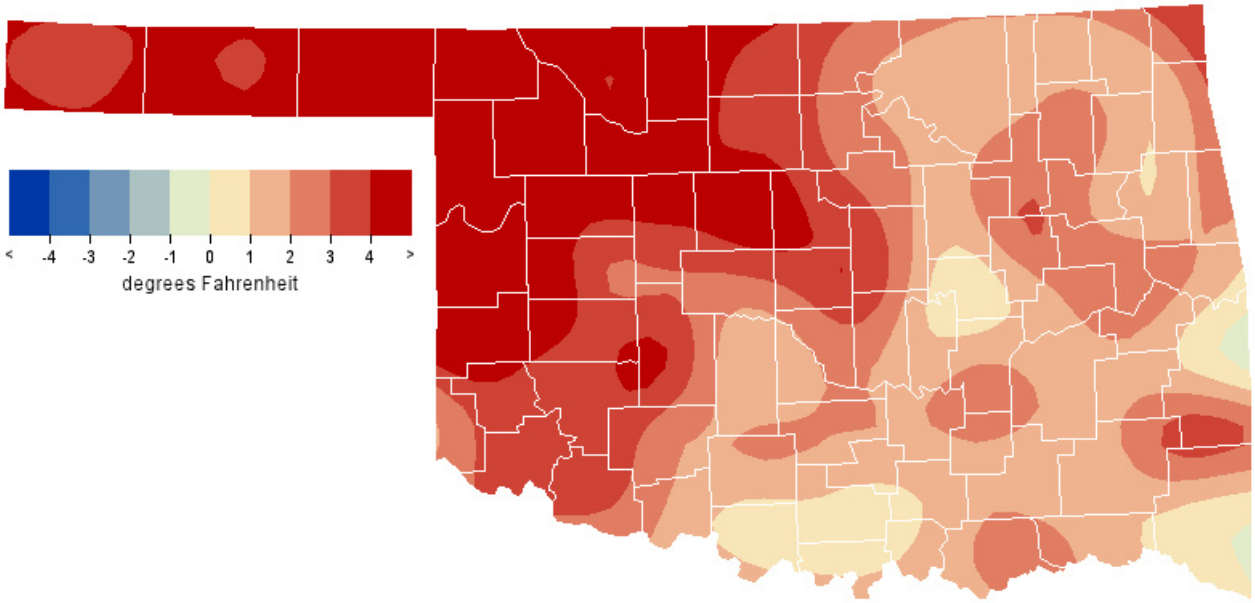
May 2004 Average Soil Moisture at 25cm



May 2004 Average Temperature



May 2004 Departure from Normal Temperature



Mesonet Monthly Summary for May 2004

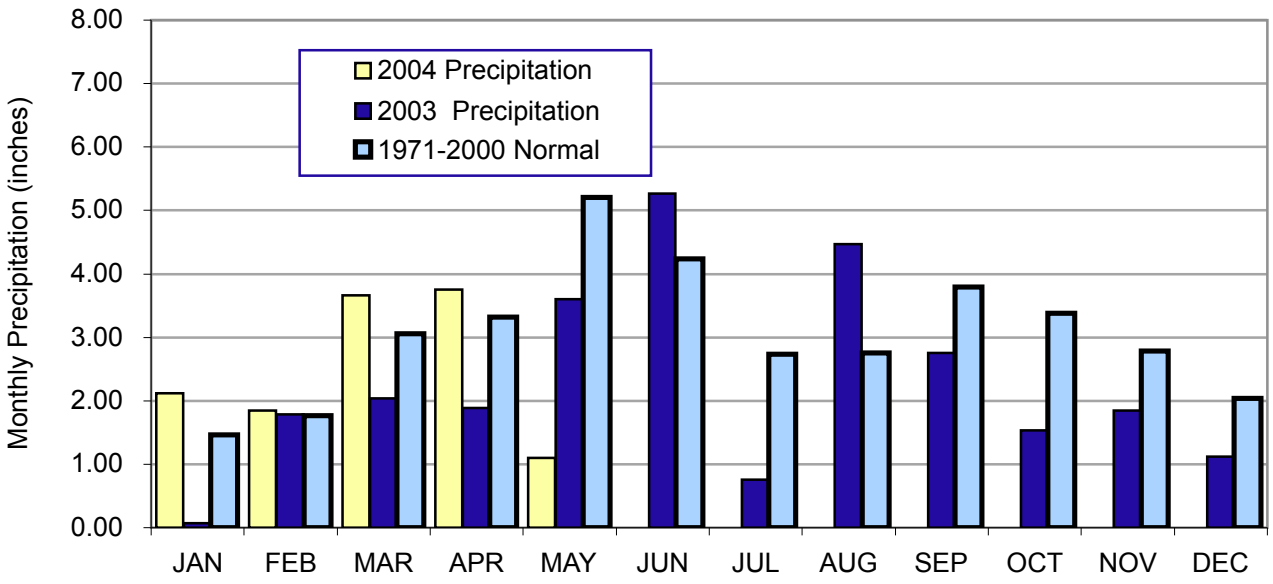
NAME	MEAN TEMP	HIGH TEMP	HIGH DAY	LOW TEMP	LOW DAY	HDD	CDD	TOT PPT	HIGH 24-HR	HIGH DAY
PANHANDLE										
Arnett	71.0	98	19	38	2	53	238	.00	.00	1
Beaver	70.4	103	19	35	14	61	229	.08	.07	11
Boise City	66.1	97	19	31	14	84	118	.35	.34	20
Buffalo	72.2	105	19	35	3	57	279	.28	.28	11
NORTH CENTRAL										
Blackwell	70.1	92	24	36	3	59	217	2.25	1.33	13
Breckenridge	70.9	95	24	35	3	62	244	.60	.44	13
Cherokee	*****	***	***	***	***	****	****	*****	*****	***
Fairview	72.8	101	24	39	3	48	291	.09	.04	13
Freedom	72.1	102	19	38	3	53	273	.33	.27	29
Lahoma	71.4	99	24	39	3	54	253	.16	.15	13
May Ranch	71.1	102	19	37	3	62	252	.47	.34	29
NORTHEAST										
Bixby	70.8	90	23	38	3	51	232	2.05	1.58	13
Burbank	69.5	88	20	36	3	60	198	2.45	2.11	13
Copan	69.4	88	28	37	3	****	****	1.72	1.55	13
Foraker	69.1	88	20	38	3	****	****	1.85	1.23	13
Jay	69.2	89	28	32	3	67	196	5.29	4.41	13
Miami	69.2	87	28	35	3	65	196	2.75	2.15	13
Nowata	*****	***	***	***	***	****	****	*****	*****	***
Pawnee	70.3	89	20	36	3	54	217	1.79	1.69	13
WEST CENTRAL										
Bessie	72.3	97	24	41	3	40	266	.20	.12	26
Butler	72.0	99	24	36	2	47	265	.30	.15	24
Camargo	70.8	100	24	36	3	54	233	.24	.24	29
Cheyenne	71.1	97	24	41	3	46	236	.06	.06	29
Erick	71.7	100	24	38	3	45	252	.06	.04	29
CENTRAL										
Bowlegs	70.6	91	23	38	3	53	225	.12	.05	27
Bristow	69.3	90	23	35	3	****	****	1.01	.64	13
Chandler	70.8	91	23	38	3	49	229	.79	.67	13
Chickasha	71.5	95	23	36	2	****	****	.66	.64	13
El Reno	70.6	94	23	35	15	56	229	.24	.16	26
Guthrie	71.7	94	23	39	2	****	****	2.40	2.19	29
Kingfisher	72.4	96	23	36	3	47	275	.53	.44	29
Marena	70.4	91	27	38	3	****	****	.14	.05	13
Minco	70.3	95	23	40	15	****	****	.30	.29	13
Oilton	69.4	91	23	35	3	62	198	2.94	1.40	13
EAST CENTRAL										
Calvin	70.7	89	30	37	2	50	225	*****	*****	***
Cookson	69.0	86	30	32	3	54	178	2.36	1.46	13
Eufaula	71.0	87	30	41	3	****	****	2.23	1.55	13
Haskell	70.2	88	23	38	3	51	211	1.98	1.65	13
McAlester	71.1	91	30	38	3	****	****	.61	.51	1
Okmulgee	70.3	89	20	35	3	58	222	.33	.29	1
Sallisaw	70.9	89	30	38	3	38	220	1.72	.94	13
SOUTHWEST										
Altus	74.2	101	24	40	2	28	313	.02	.01	26
Fort Cobb	72.0	95	23	42	3	****	****	.30	.29	24
Hinton	71.6	96	23	39	3	47	252	1.05	.79	24
Hobart	72.2	97	24	40	3	42	264	.22	.19	24
Hollis	72.7	100	24	39	2	33	272	.11	.11	24
Mangum	72.8	99	24	36	2	42	283	.04	.04	24
SOUTH CENTRAL										
Ada	70.6	91	23	38	3	****	****	.51	.36	11
Burneyville	72.1	92	30	38	2	37	257	.87	.46	13
Byars	70.7	89	23	42	3	48	224	1.24	.64	13
Centrahoma	70.9	93	30	36	2	47	232	.80	.41	11
Durant	71.3	87	29	42	2	****	****	1.03	.40	11
Ketchum Ranch	*****	***	***	***	***	****	****	.86	.65	13
Lane	71.0	89	30	40	2	36	222	2.59	1.34	28
Madill	71.2	89	23	39	2	39	232	2.01	1.02	27
Pauls Valley	71.0	90	23	41	2	43	228	.93	.36	11
SOUTHEAST										
Antlers	71.3	89	20	37	2	35	230	2.60	.80	27
Clayton	71.5	90	30	39	3	35	237	.98	.36	27
Cloudy	70.3	86	30	39	3	35	199	1.61	.66	28
Hugo	71.9	88	30	42	2	30	244	2.90	1.87	28
Idabel	71.4	89	20	42	2	28	227	*****	*****	***

NAME	MEAN TEMP	HIGH TEMP	HIGH DAY	LOW TEMP	LOW DAY	HDD	CDD	TOT PPT	HIGH 24-HR	HIGH DAY
Goodwell	68.8	99	19	32	14	64	182	.15	.09	11
Hooker	68.9	102	19	30	14	70	190	.18	.17	21
Kenton	66.9	95	19	33	14	75	135	.00	.00	1
Slapout	70.7	103	19	34	14	54	230	.05	.05	11
Medford	71.2	99	24	38	3	58	252	.59	.46	13
Newkirk	69.1	88	20	38	3	63	188	3.19	2.37	13
Red Rock	70.4	91	28	37	3	****	****	.70	.58	13
Seiling	71.2	100	24	36	15	55	248	.08	.05	29
Woodward	72.2	99	19	40	3	49	272	.02	.01	13
Alva	71.5	102	24	36	3	58	261	.11	.09	13
Pryor	*****	***	***	***	***	****	****	2.27	1.64	13
Skiatook	69.9	88	23	39	3	56	208	3.20	1.98	13
Vinita	68.4	87	23	35	3	69	174	2.71	2.49	13
Wynona	69.5	88	20	36	3	57	196	3.73	3.43	13
Porter	70.9	87	23	39	3	49	231	1.19	1.00	13
Inola	69.4	88	28	35	3	****	****	3.33	2.40	13
Claremore	70.4	90	23	37	3	55	222	1.32	1.10	13
Putnam	70.9	97	24	39	3	54	236	.05	.03	13
Retrop	72.4	97	26	41	15	41	272	.01	.01	24
Watonga	71.8	97	24	40	3	51	262	1.17	1.09	29
Weatherford	71.4	96	24	40	3	48	245	1.06	.53	24
Okemah	70.4	89	23	38	2	55	224	.39	.25	13
Perkins	71.9	93	23	38	3	47	261	1.24	.47	23
Shawnee	70.2	89	23	40	2	52	214	2.45	2.17	13
Spencer	70.6	93	23	38	3	****	****	1.67	1.65	13
Stillwater	71.4	92	23	37	3	51	250	.23	.10	11
Washington	70.7	94	23	40	3	44	221	.32	.21	13
Ninnekah	72.4	97	23	38	2	****	****	.80	.71	13
Acme	71.3	96	23	38	2	****	****	.72	.69	13
Norman	71.5	95	23	39	2	44	246	.34	.30	13
Marshall	72.0	94	24	35	3	55	271	.12	.09	13
Stigler	70.7	89	30	37	3	43	220	2.06	.90	13
Stuart	70.8	90	30	39	3	46	225	.45	.38	27
Tahlequah	68.9	87	28	34	3	57	180	2.97	2.55	13
Webbers Falls	71.8	90	30	39	3	40	251	2.36	1.94	13
Westville	68.4	86	28	34	3	****	****	1.56	1.07	13
Hectorville	70.9	90	23	40	3	****	****	.71	.57	13
Medicine Park	71.7	96	23	43	14	****	****	.18	.08	11
Tipton	73.4	99	23	40	2	30	292	.06	.04	13
Walters	71.9	98	23	42	2	36	251	2.00	.91	24
Apache	71.1	95	23	42	3	42	232	.21	.13	13
Grandfield	73.4	100	23	42	2	32	293	.42	.21	13
Ringling	71.5	94	23	40	2	38	240	1.53	.91	13
Sulphur	70.7	91	23	36	2	49	226	.38	.17	11
Tishomingo	69.5	87	23	39	2	****	****	1.67	1.14	13
Waurika	72.4	94	23	42	2	32	260	.95	.90	13
Vanoss	70.8	90	23	39	2	49	229	.24	.10	27
Bee	71.6	87	20	40	2	****	****	1.36	.78	28
Newport	71.2	91	23	41	2	37	228	.54	.20	11
Ardmore	71.2	90	23	41	2	41	232	.53	.30	27
Mt Herman	69.7	85	31	38	3	39	185	3.42	.94	28
Talihina	71.3	89	30	38	2	****	****	1.54	.46	27
Wilburton	71.1	90	30	38	3	39	229	.84	.37	27
Wister	69.2	89	30	37	3	****	****	1.75	.62	1
Broken Bow	69.3	87	31	36	3	36	170	5.16	1.76	28

May 2004 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	May-03
Panhandle	0.14	-3.23	3rd Driest	6.37 (1951)	0.00 (1927)	1.95
North Central	0.67	-4.05	3rd Driest	11.70 (1957)	0.25 (1924)	3.46
Northeast	2.55	-2.93	17th Driest	19.10 (1943)	1.38 (1917)	5.91
West Central	0.36	-4.54	4th Driest	12.40 (1982)	0.00 (1924)	2.59
Central	0.87	-4.75	1st Driest	12.53 (1902)	0.96 (1988)	3.47
East Central	1.61	-4.28	3rd Driest	14.72 (1943)	1.25 (1941)	5.06
Southwest	0.42	-4.55	2nd Driest	11.96 (1902)	0.38 (1984)	2.86
South Central	1.01	-4.59	4th Driest	12.66 (1982)	0.46 (1988)	4.85
Southeast	2.31	-4.05	9th Driest	14.36 (1990)	1.24 (1963)	4.10
Statewide	1.10	-4.11	1st Driest	10.68 (1957)	1.30 (1988)	3.84

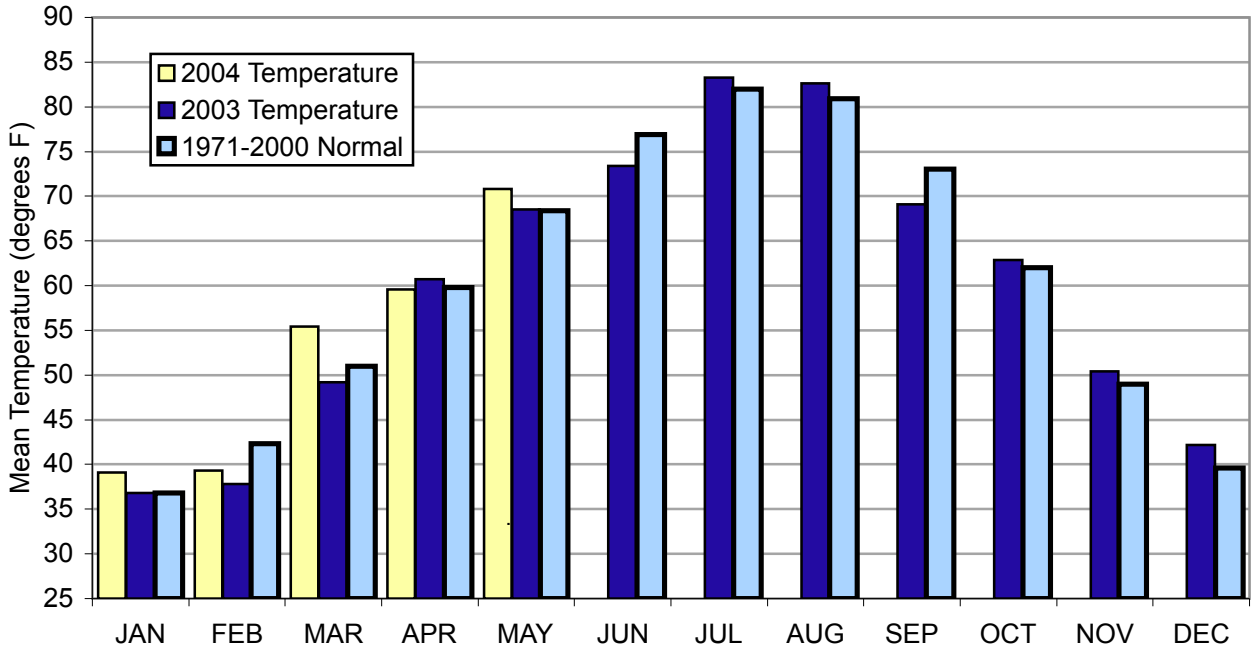
2003 and 2004 Statewide Precipitation Monthly Totals vs. Normal



May 2004 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	May-03 (F)
Panhandle	69.4	5.0	5th Warmest	72.0 (1896)	56.8 (1917)	65.9
North Central	71.3	4.2	8th Warmest	75.2 (1896)	60.7 (1907)	67.9
Northeast	69.7	2.5	20th Warmest	74.1 (1962)	61.2 (1907)	70.4
West Central	71.6	4.4	8th Warmest	75.6 (1896)	60.9 (1907)	74.8
Central	71.0	2.5	16th Warmest	75.5 (1896)	62.0 (1907)	71.1
East Central	70.4	2.1	24th Warmest	74.8 (1896)	62.2 (1907)	72.6
Southwest	72.5	2.9	15th Warmest	77.8 (1896)	62.8 (1907)	75.8
South Central	71.1	1.4	32nd Warmest	76.0 (1896)	63.6 (1907)	75.2
Southeast	70.7	1.9	31st Warmest	75.3 (1896)	62.8 (1907)	73.8
Statewide	70.8	2.9	15th Warmest	75.0 (1896)	61.5 (1907)	71.7

2003 and 2004 Statewide Temperature Monthly Averages vs. Normal



Mesonet Extremes for May 2004

Climate Division	High Temp (F)	Day	Station	Low Temp (F)	Day	Station	High Monthly Rainfall (inches)	Station	High Daily Rainfall (inches)	Day	Station
Panhandle	105	19th	Buffalo	30	14th	Hooker	0.35	Boise City	0.34	20th	Boise City
North Central	102	19th	Freedom	35	3rd	Breckenridge	3.19	Newkirk	2.37	13th	Newkirk
Northeast	90	23rd	Bixby	32	3rd	Jay	5.29	Jay	4.41	13th	Jay
West Central	100	24th	Erick	36	3rd	Camargo	1.17	Watonga	1.09	29th	Watonga
Central	97	23rd	Ninnekah	35	3rd	Bristow	2.94	Oilton	2.19	29th	Guthrie
East Central	91	30th	McAlester	32	3rd	Cookson	2.97	Tahlequah	2.55	13th	Tahlequah
Southwest	101	24th	Altus	36	2nd	Mangum	2.00	Walters	0.91	24th	Walters
South Central	94	23rd	Waurika	36	2nd	Centrahoma	2.59	Lane	1.34	28th	Lane
Southeast	90	30th	Wilburton	36	3rd	Broken Bow	5.16	Broken Bow	1.87	28th	Hugo
Statewide	105	19th	Buffalo	30	14th	Hooker	5.29	Jay	4.41	13th	Jay

June Climatological Outlook

June marks a transition from spring into summer, and is considered the first of the "climatological summer" months. About the middle of the month, weather patterns change from mild and wet to dry and hot. The transition is especially apparent across Western Oklahoma, where the wheat harvest replaces vegetation with exposed soil. Sunlight heats the bare ground more quickly, pushing temperatures higher. Buffalo and Mangum each average more than five days with temperatures at or above 100 degrees.

Precipitation

Mean: 4.24 inches
Wettest year: 1908, 8.73 inches
Driest year: 1933, 0.46 inches
Wettest location: Durant, 5.49 inches
Driest location: Kenton, 2.18 inches
Most recorded: 18.87 inches, Meeker, 1932

Rainfall across the state generally decreases from its springtime peak, but the Panhandle has its wettest months ahead of it. While most of the state follows the patterns of the Great Plains, weather patterns in far western Oklahoma are more controlled by the Rocky Mountains to the west, which typically develop late afternoon thunderstorms. Even with its peak rainfall occurring in June, most Panhandle locations are still drier than the rest of the state. Rainfall totals over an inch are rare, even in their rainy season. The Panhandle is also notable for dust storms during the dry years, especially during the 1930s and 1950s. In 1937, Goodwell reported 11 days with visibility less than one mile due to dust storms, and a dust storm near Hooker in 1957 led to a 12-car pile-up. A "black blizzard" was reported at Kenton in 1939, when rain washed thick dust from the air.

Flooding is a major hazard during June. Flooding can occur from localized heavy rainfall, or from persistent rains in a river basin. As much as twenty inches may have fallen near Hydro within a 14-hour period one June 22, 1948, although official reports showed 11.25 inches. Resulting flash floods killed 11 people who found themselves trapped along Route 66. Basin flooding in 1923 was described as "unusually disastrous" on the North Canadian, Arkansas, Cimarron, and Neosho rivers from June 7-11. The Washita River flooded Pauls Valley in 1941, contributing to an extensive development effort to control the river through a series of small dams upstream. In 1957, waters first topped the spillway at Lake Texoma, and the Red River remained in flood stage downstream of the dam for the entire month. Waurika, Guthrie, and areas north and east of the Arkansas River have frequently dealt with flooding in past Junes.

Temperature

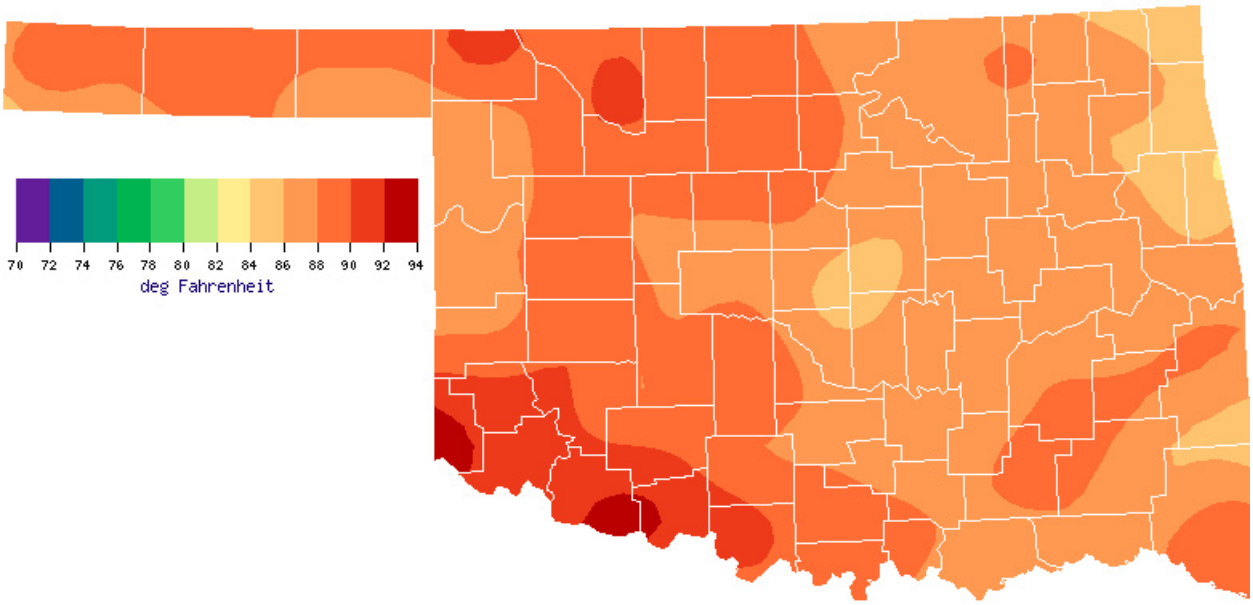
Mean: 76.9 degrees
Warmest June: 1953, 85.1 degrees
Coldest June: 1903, 70.3 degrees
Hottest location: Waurika, 80.3 degrees
Coolest location: Boise City, 72.6 degrees
Hottest recorded: 120 degrees, Tipton, June 27, 1994
Coldest recorded: 34 degrees, Kenton, June 13, 1919

Springtime severe weather patterns are common in early June. The state averages nine tornadoes per year, with as many as 28 occurring in 1995 and as few as none in 1987. Especially violent tornadoes include one on June 1, 1917 that killed 14 people in Coalgate, one that left 35 dead in southwest Oklahoma City on June 12, 1942, and a June 8, 1974 tornado that killed 14 in Drumright. Hail also plagues the state. Farmers have lost wheat crops to hailstorms just before the fields were ready for harvest. One hailstorm cut a 25-mile by 10-mile swath west of Gage on June 14, 1938. In 1993, hailstorms from Tyrone to Grove caused more than $70 million in damage to the wheat crop alone. Hail up to six inches in diameter was reported in Enid from the storm, and extensive property damage occurred in Blackwell. A nearly-stationary storm dropped hailstones on Woodward for one hour in 1957, causing extensive damage to property. Straight-line winds from thunderstorms have been recorded as high as 110 miles per hour, leaving many customers without power.

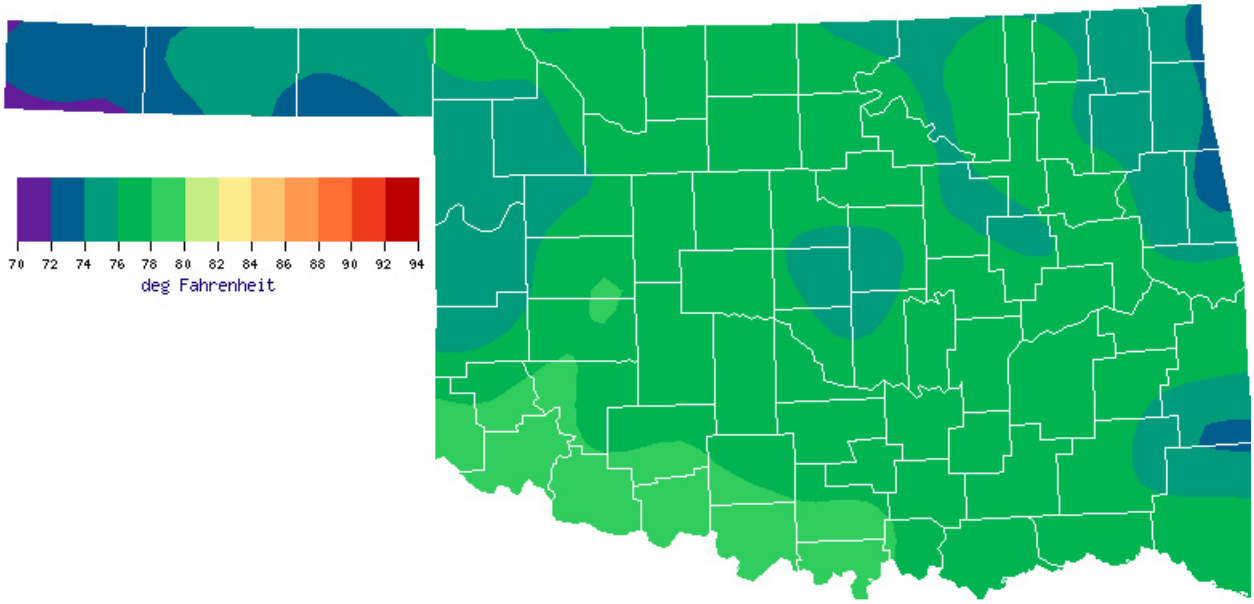
Tornadoes

Average June Tornadoes: 8.4
Most: 28 (1995)

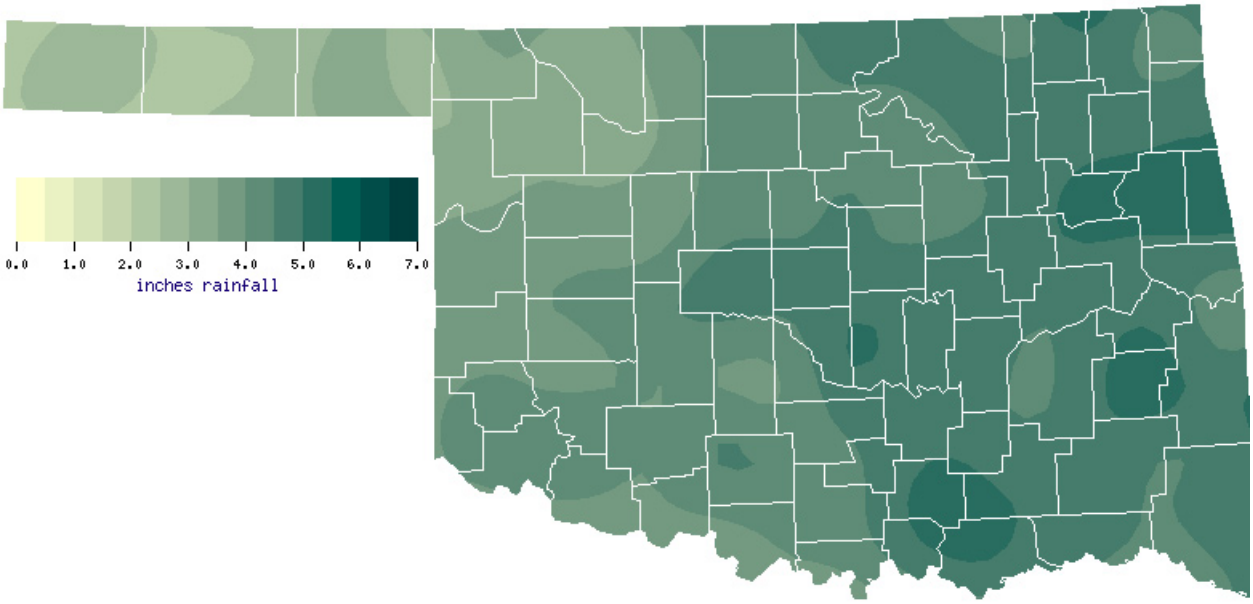
June Normal Monthly Maximum Temperature (1971-2000)



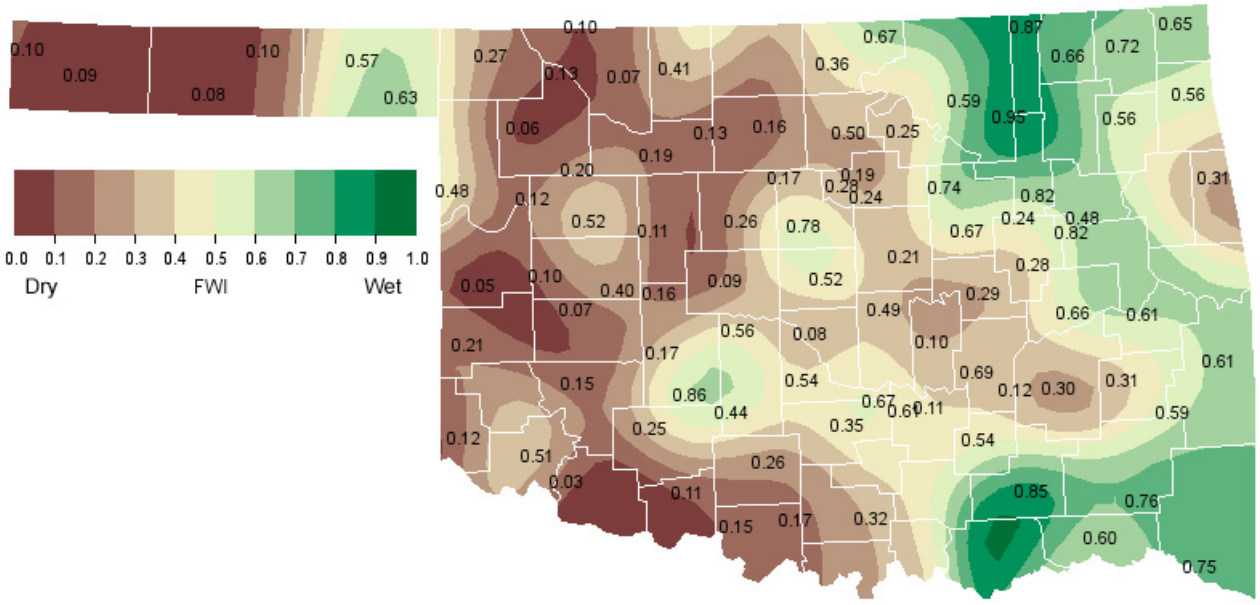
June Normal Monthly Minimum Temperature (1971-2000)



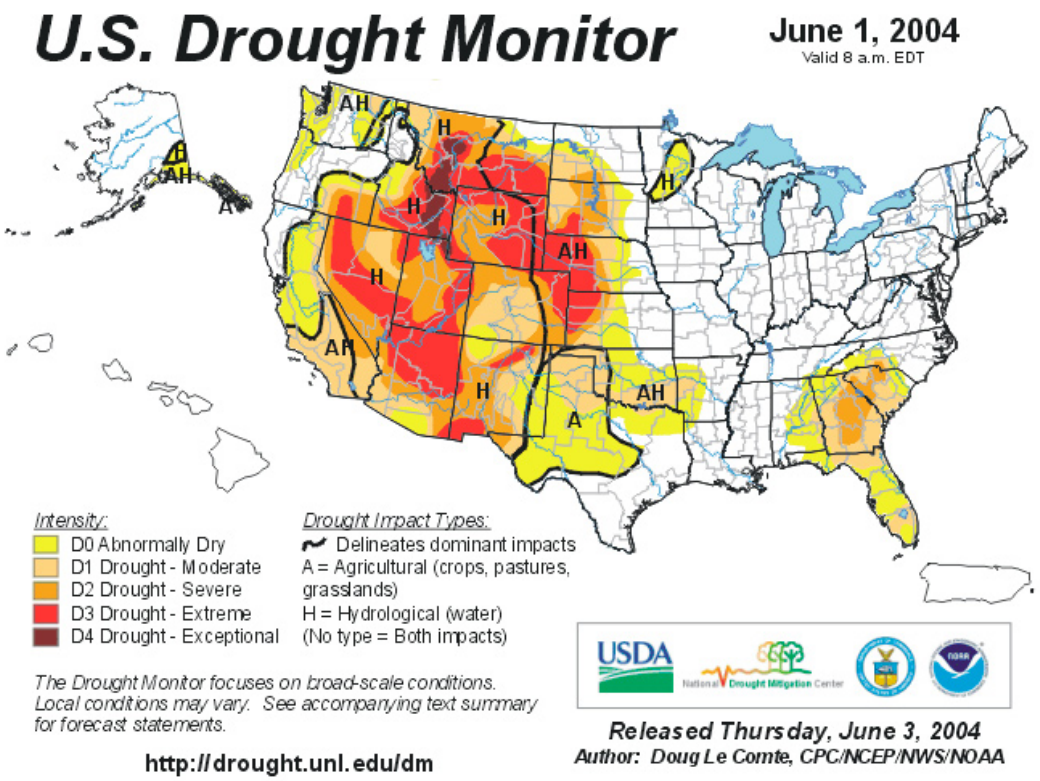
June Normal Precipitation (1971-2000)

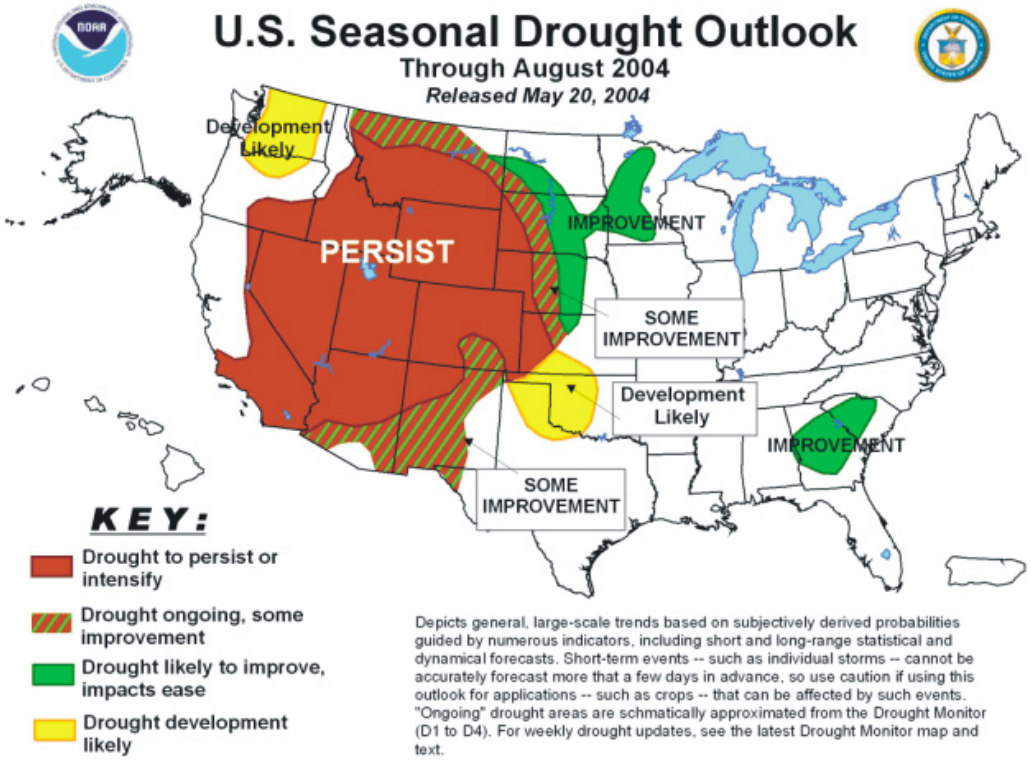


June 1, 2004 Soil Moisture Conditions at 25cm

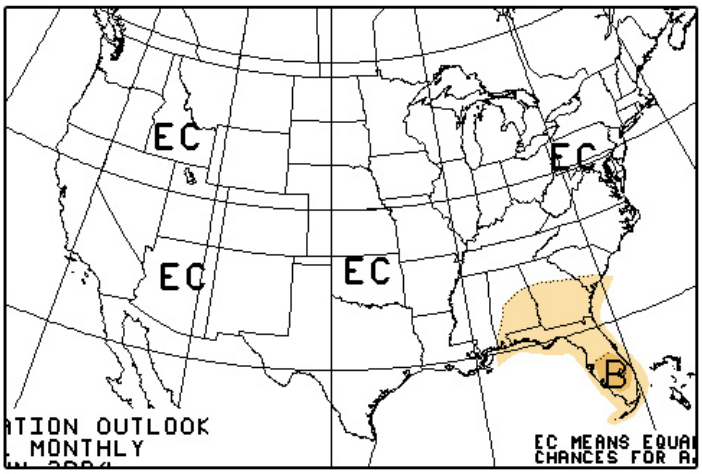


June 2004 Drought Indices





June 2004 U.S. Precipitation Forecast



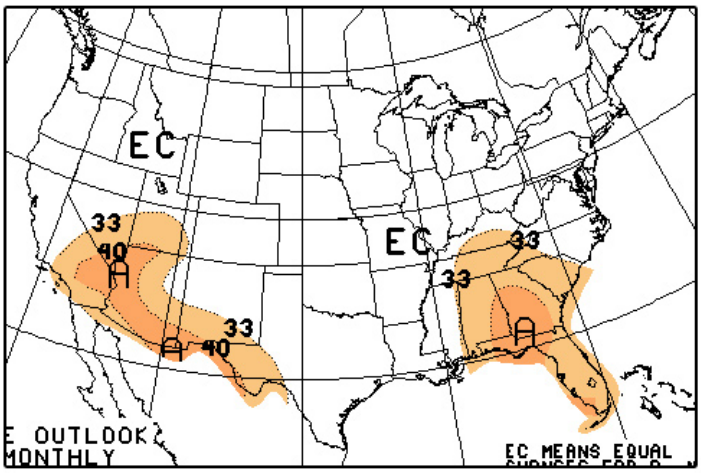
Percent Likelihood
of Above or Below
Average Precipitation*

5% - 10%
0% - 5%
A = Above

0% - 5%
5% - 10%
B = Below

*EC indicates no forecasted anomalies due to lack of model skill.

June 2004 U.S. Temperature Forecast



Percent Likelihood
of Above and Below
Average Temperatures*

10% - 20%
5% - 10%
0% - 5%
A = Above

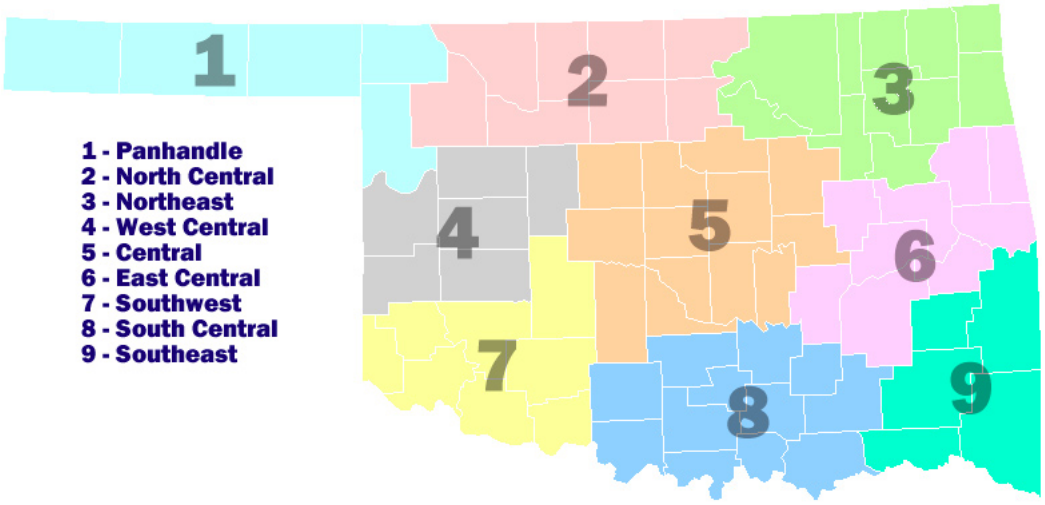
0% - 5%
5% - 10%
B = Below

*EC indicates no forecasted anomalies due to lack of model skill.

June Climate Normals

Climate Division	Max. Temperature	Min. Temperature	Avg. Temperature	Precipitation
1	88.9	60.6	74.8	2.90
2	88.9	64.5	76.7	3.92
3	86.8	65.3	76.1	4.59
4	88.6	64.7	76.6	3.78
5	87.7	66.0	76.8	4.45
6	86.8	65.9	76.3	4.70
7	90.5	65.9	78.3	4.01
8	88.5	66.9	77.7	4.56
9	87.9	65.2	76.6	4.63
Statewide	88.2	65.1	76.7	4.26

Oklahoma Climate Divisions



Interpretation Information

Mean Daily Temperature: Calculated from an average of the daily maximum and minimum temperatures. Daily averages are summed for each day, and then divided by the number of valid data points – typically the number of days in the month. Although this may differ from the "true" daily average, it is consistent with historical methods of observation and comparable to the normals and extremes for stations and regions of the state.

Degree Days: Degree Days are calculated each day of the month for which there is a temperature report and the mean temperature for the day is less than (Heating Degree Days) or greater than (Cooling Degree Days) 65 degrees. Daily values are summed to arrive at a monthly total. HDD/CDD are qualitative measures of how much heating/cooling was required to maintain a comfortable indoor temperature. Missing observations may result in an artificially high or low value.

Severe Weather Reports: Only the most significant events are listed. Tornadoes of F2 or greater strength (on the 0-5 Fujita scale), hail of two inches diameter or greater, and wind speeds of 70 miles per hour or above are listed. National Weather Service defines storms as severe when they produce a tornado, hail of three-quarters inch or greater, or wind speeds above 57 miles per hour (50 knots). For additional reports, contact the Oklahoma Climatological Survey, Storm Prediction Center, or your local National Weather Service forecast office.

Soil Moisture: The soil moisture variable displayed is the Fractional Water Index (FWI), measured at a depth of 25 cm. This unitless value ranges from very dry soil having a value of 0, to saturated soils having a value of 1.

Additional Resources

Sunrise / Sunset tables
U.S. Naval Observatory**:** http://aa.usno.navy.mil/data

Severe Storm Reports
Storm Prediction Center: http://spc.noaa.gov/climo/

National Climatic Data Center (more than about 4-5 months old):
http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storms

Seasonal Outlooks
Climate Prediction Center:
http://www.cpc.ncep.noaa.gov/products/OUTLOOKS_index.html

Climate Calendars and other local weather and climate information
Oklahoma Climatological Survey: http://climate.ocs.ou.edu or
http://www.ocs.ou.edu/
E-mail (ocs@ou.edu) or telephone (405/325-2541)

Oklahoma Climatological Survey

Oklahoma Climatological Survey is the State Climate Office for Oklahoma

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