OKLAHOMA MONTHLY CLIMATE SUMMARY
MAY 2009

OKLAHOMA CLIMATOLOGICAL SURVEY

Oklahoma's transition from wet and stormy to the summer doldrums, normally seen sometime around mid-June, seemed to occur about a month early. The first half of May provided a couple of month's worth of rainfall in some parts of the state. The weather calmed considerably during the latter half, however, with only a brief interruption by a summer-like storm system. Severe weather was widespread and frequent through the 16th. Abundant reports of large hail and wind gusts greater than 70 mph were accompanied by extensive flooding. Only five confirmed tornadoes touched down during May, one of those being a significant EF2 twister that struck Anadarko. That tornado and the associated rear-flank downdraft winds caused widespread damage in that city. The month as a whole was close to normal with a statewide average of nearly 5 inches of rainfall to rank as the 52nd wettest on record. That statistic is deceiving, however, as most of the northwestern half of the state was below normal. The east's robust rainfall totals between 10-20 inches buoyed the monthly total. The statewide average temperature was a different story, however, falling below normal by more than two degrees to rank as the 19th coolest May since 1895. That propelled the spring season to finish as the 58th coolest on record with slightly below normal temperatures. The January-May period remained well above normal and ranked as the 35th warmest such period on record. The spring season was also the 29th wettest on record while the January-May period was slightly below normal but still ranked as the 45th wettest.

Precipitation

The southeast was nearly 5 inches above normal for the month and ranked as the 7th wettest May on record for that region. On the opposite end of the map and scale was the Panhandle at more than 2 inches below normal, the 6th driest May on record for that region. The rain tapered off from east to west, generally, with high totals of more than 17 inches in the southeast at Broken Bow and 10.85 inches in the northeast at Pryor, to low totals of 0.55 inches at Goodwell in the northwest and 1.65 inches at Mangum in the southwest. The spring finished with a little more than 12 inches of rainfall averaged across the state, a surplus of less than an inch. All areas of the state were near normal or above for spring rainfall except for the Panhandle and west central Oklahoma, both of which were more than 2 inches below normal. Southeastern and south central Oklahoma were well above normal with surpluses of more than 6 inches and 4 inches, respectively. It was the 10th wettest spring for the southeast and the 11th wettest for south central Oklahoma. For the January-May period, the Panhandle, north central and west central regions were below normal by 2-3 inches, while the southeast and south central areas were above normal by 2-4 inches.

May 2009 Statewide Extremes

Description	Extreme	Station	Day
High Temperature	96ºF	Altus	31
Low Temperature	37ºF	Camargo	3
High Precipitation	17.31 in.	Broken Bow	
Low Precipitation	0.55 in.	Goodwell	

Temperature

With the exception of the Panhandle, all regions of the state were below normal by at least a degree, on average, and all were ranked in the top-25 coolest on record since 1895. The Panhandle finished with the 35th coolest May on record. The state's highest temperature, 96 degrees, was recorded by the Altus Mesonet site on May 31 and the coolest reading of 37 degrees was recorded at Camargo on May 3.

May 1-2: A wet start to the month was a continuation of the rains which began at the end of April. Storms in the early morning of the first dropped nearly 8 inches of rainfall in about 10 hours at the Pryor Mesonet site. Rains of more than 3 inches surrounded that total and produced 20 instances of flash flooding. Baseball ball size hail was reported near Okarche soon after midnight with other severe storms. Other reports of quarter- to golfball-size hail were scattered about central Oklahoma with those storms. More severe storms formed in Texas and moved into southwestern Oklahoma later that afternoon with quarter size hail. The storms continued overnight in the northeast with more heavy rainfall, then again in the southeast later that afternoon. More than 2 inches fell in the southeast with those storms.

May 3-7: The heavy rains held off for a couple of days on the third and fourth, as did the warmth. Highs rose in to the 50s and 60s after lows in the 40s and 50s. Severe storms and heavy rainfall returned on the fifth and sixth thanks to a stalled cold front along the Red River. Large hail and heavy rains were again a frequent culprit with these storms. A complex of severe storms the morning of the fifth began in western Oklahoma and marched east. Hail to the size of tennis balls was reported near Carnegie and flash flooding occurred near Turner Falls. More flooding occurred on the sixth in the southeast. The Broken Bow Mesonet site recorded over 3 inches of rain on that day. The state received a much-needed break on the seventh as skies cleared and the warm front in northern Texas moved into Oklahoma. Temperatures on the hot and humid day rose into the 80s and 90s.

May 8-11: The warm front that had moved north created a very unstable atmosphere on the eighth. Storms struck northern Oklahoma early on the eighth with very heavy rains and damaging winds. The roof was blown off a school gym in Picher and wind gusts of 75 mph were reported in Ottawa County. Baseball size hail was reported in Sequoyah County. Storms formed along the warm front, now moving south as a cold front, later that evening. Baseball size hail fell in Love County with wind gusts of 70 mph. Heavy rains caused flash flooding near Turner Falls yet again. The storms continued overnight on the ninth along the cold front. More than 2 inches of rain fell in the southeast after midnight. With the rain and cloudiness, highs rose only into the 60s and 70s across the state. More storms overnight on the 10th brought more than 5 inches of rain to Idabel and 4 inches in Broken Bow. Flash flooding was reported in Choctaw County with the rains. The 11th saw more storms across the state with more than 2 inches falling in southeast Oklahoma. The rains brought cool weather with highs in the 40s and 50s, more than 10-15 degrees below seasonal normals.

May 12-16: The 12th was rather quiet compared to the weather of the previous days. A weak upper-level disturbance produced a few showers and storms over extreme eastern Oklahoma. The highest totals were around an inch. A cold front overnight on the 13th produced severe weather in central Oklahoma. Severe winds and some large hail were reported with the storms. Some of the highest wind gusts were associated with dying storms during heat burst events. More storms formed in northern Oklahoma that night and moved south, quickly exceeding severe limits. Anadarko was struck by an EF-2 tornado to go along with baseball size hail and flash flooding. Southeastern Anadarko was hit by the tornado while even more damage was done to other parts of the city by rear flank downdraft winds. Much of Anadarko was without power for days after millions of dollars in damage to its electric power infrastructure. Preliminary estimates indicate 40 homes and businesses were either damaged or destroyed by the tornado and straight-line winds. An EF-1 tornado that touched down near Billings left damage in its wake as well. Three other weak tornadoes touched down on the 13th but did little damage. Bartlesville was struck by a severe storm with winds estimated between 70-100 mph that tore the roof off of a homeless shelter and left many damaged trees and out-buildings in its aftermath. Davis had an estimated wind gust of 89 mph as the storms continued overnight into the 14th. The cold front of the 13th returned as a warm front on the 14th and the state received a brief lull in the severe weather with highs in the 70s and 80s, but the front's passage also brought more moisture which fueled more severe storms on the 15th and 16th. The storms began in the evening of the 15th on the returning cold front, producing more heavy rains with severe winds and hail. The storms eventually died down early on the afternoon of the 16th. Sunshine and light winds brought more mild weather with highs in the 60s and 70s. Total rainfall over this 5-day period ranged from 4-5 inches in the southeast to less than an inch in the northwest.

May 17-21: An upper-level ridge and surface high pressure brought tranquil, if not cool, weather for the next few days. Lows were well below seasonal normals during this period with 40s and 50s being registered at most Mesonet sites. High temperatures were seasonable, however, in the 70s and 80s.

May 22-26: Moisture streamed back into the state on southerly winds on the 22nd, with a few showers scattered about. A summer-like pattern set up with a dome of high pressure over the state and a storm system approaching from the Gulf of Mexico and the southeastern U.S. Heavier rains fell on the 23rd with storms moving from the southeast to the northwest. A few of those storms contained dime-to-quarter size hail. Low temperatures during this period were warm, generally in the 60s. As the low pressure system curved northeastward in Arkansas, the rainfall in Oklahoma tapered off, only to return as a low pressure system moved in from the west. Most of the rain on the 25th and 26th occurred in the west and central portions of Oklahoma. The storms continued overnight into the 26th before dissipating. A strong cold front moved into Oklahoma the afternoon of the 26th and generated a few storms. Northerly winds gusting to 40 mph trailed the front and the weather cooled considerably following its passage.

May 27-31: The strong cold front meant a much cooler day on the 27th. Lows were in the 40s and 50s for the next few days, well below seasonal normals. Highs rebounded quickly into the 70s and 80s, however, peaking on the month's last day with readings well into the 90s.

May 2009 Statewide Statistics

Temperature

	Average	Depart.	Rank (1895-2009)
Month (May)	65.7ºF	-2.2ºF	19th Coolest
Season-to-Date (Mar-May)	58.7ºF	-0.4ºF	58th Coolest
Year-to-Date (Jan-May)	52.0ºF	0.9ºF	35th Warmest

Precipitation

	Total	Depart.	Rank (1895-2009)
Month (May)	4.99 in.	-0.22 in.	52nd Wettest
Season-to-Date (Mar-May)	12.26 in.	0.58 in.	29th Wettest
Year-to-Date (Jan-May)	14.13 in.	-0.76 in.	45th Wettest

Depart. = Departure from 30-year normal

Record Event Reports

Description	Day	Location	Record	Previous Record	Year
Daily Maximum Rainfall	1	Tulsa	3.01 inches	2.1 inches	1944
Warmest Minimum Temperature	8	Oklahoma City	71 F	70 F	1927
Daily Maximum Rainfall	16	McAlester	1.02 inches	0.91 inches	1989

May 2009 Severe Weather

Significant Tornadoes (EF2 or greater)

EF-rating	Location	County	Date
2	Near Gracemont-Anadarko	Caddo	13

Hail (2 inches in diameter or greater)

Size (in.)	Location	County	Day
2.75	3 SE Okarche	Canadian	1
2.00	6 SE Okarche	Canadian	1
2.50	2 SE Carnegie	Caddo	5
3.00	2 W Lebanon	Love	8
3.00	1 N Vian	Sequoyah	8
3.00	6 NNE Gore	Sequoyah	8
2.50	3 N Gore	Sequoyah	8
2.00	Healdton	Carter	8
2.00	2 N Norman	Cleveland	12
2.75	2 W Anadarko	Caddo	13
2.50	2 S Greenfield	Blaine	13
2.00	2 SSE Greenfield	Blaine	13
2.00	Carnegie	Caddo	13
2.00	Duncan	Stephens	13
2.75	Lawton	Comanche	14
2.00	Velma	Stephens	14

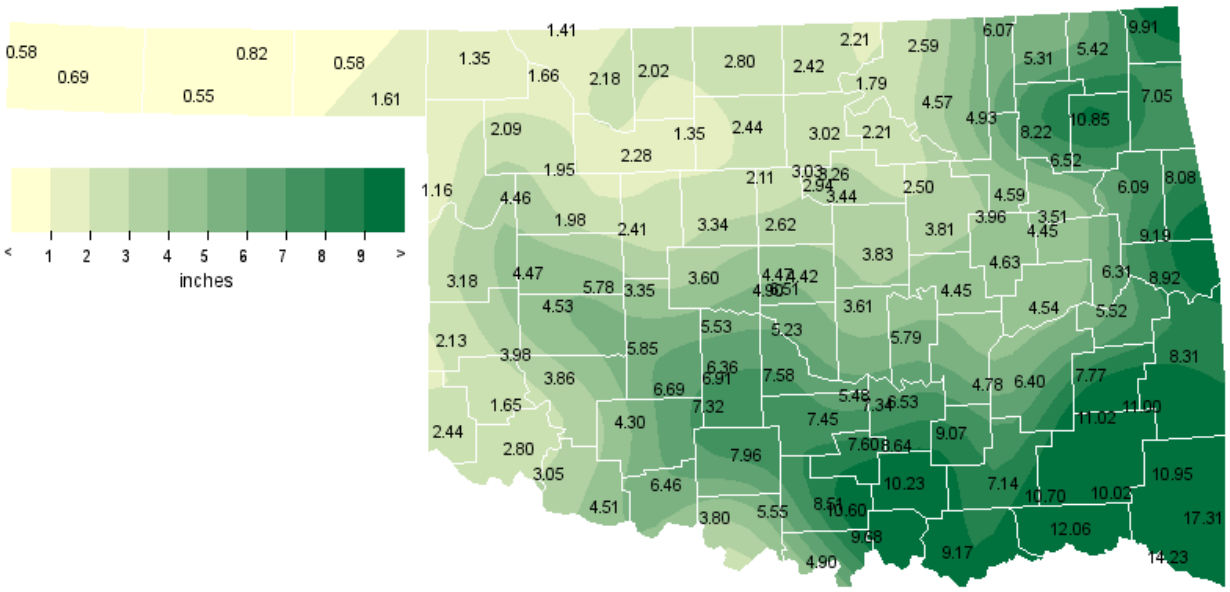
Wind Gusts (70 mph or greater)

Speed (m.p.h)	Location	County	Day
75	Peoria	Ottawa	8
70	5 E Marietta	Love	8
70	3 ENE Marietta	Love	8
70	1 W Erick	Beckham	12
80	Ochelata	Washington	13
74	2 WNW Warr Acres	Oklahoma	13
70	3 W Central High	Comanche	13
70	2 SSW Bartlesville	Washington	13
70	10 NE Eufaula	McIntosh	13
70	Eufaula	McIntosh	13
89	Davis	Murray	14
70	2 NNW Blackwell	Kay	15
70	1 E Ponca City	Kay	15
70	1 NW Tahlequah	Cherokee	15

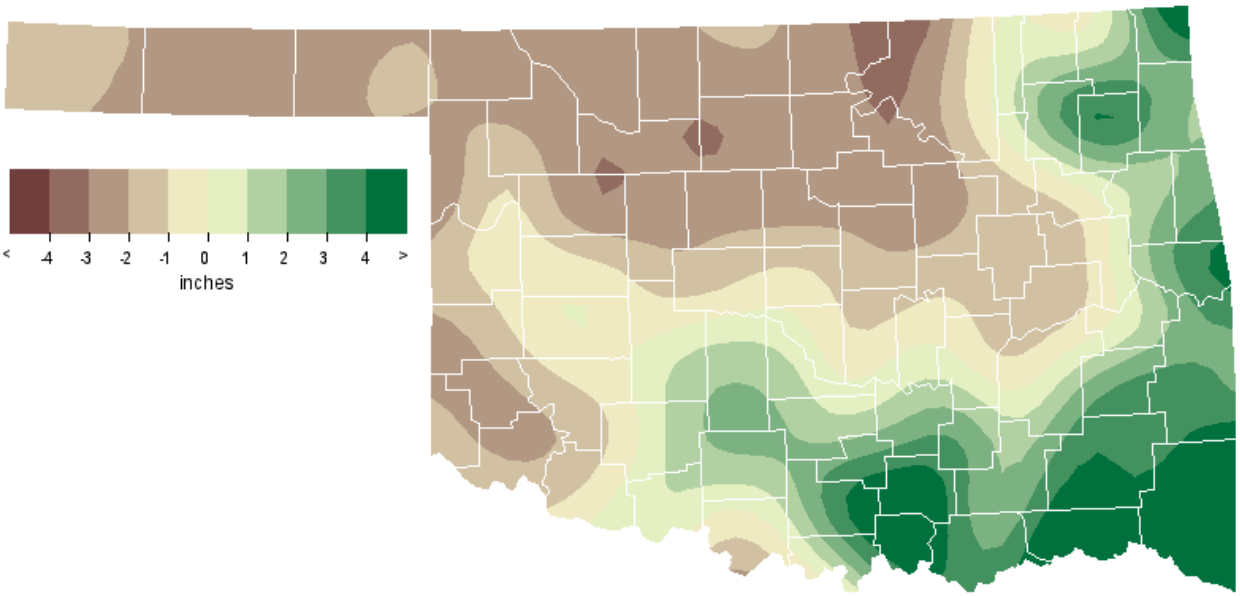
Flooding

Location	County	Day
Pryor	Mayes	1
5 SW Zena	Delaware	1
5 ENE Peggs	Cherokee	1
Chelsea	Rogers	1
Locust Grove	Mayes	1
Watts	Adair	1
Owasso	Tulsa	1
Claremore	Rogers	1
3 E Owasso	Rogers	1
Verdigris	Rogers	1
4 E Owasso	Rogers	1
Inola	Rogers	1
Tulsa	Tulsa	1
Colcord	Delaware	1
Fairland	Ottawa	1
7 N Welch	Craig	1
4 W Commerce	Otawwa	1
Copan	Washington	1
Wann	Nowata	1
Welch	Craig	1
Turner Falls	Murray	5
Davis	Murray	6
Turner Falls	Murray	6
Turner Falls	Murray	8
8 W Hugo	Choctaw	10
1 N Hugo	Choctaw	10
3 NE Swink	Choctaw	10
Durant	Bryan	11
2 N Anadarko	Caddo	13
2 SSE Tulsa	Tulsa	13
3 N Jenks	Tulsa	13
1 ENE Lake Ellsworth	Comanche	14

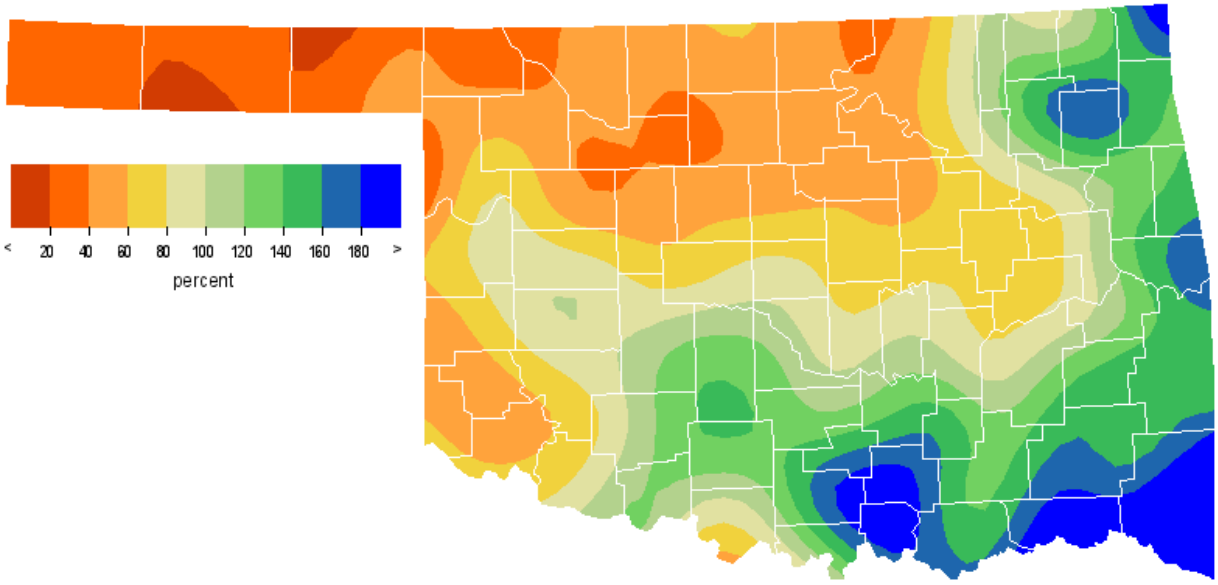
May 2009 Observed Precipitation



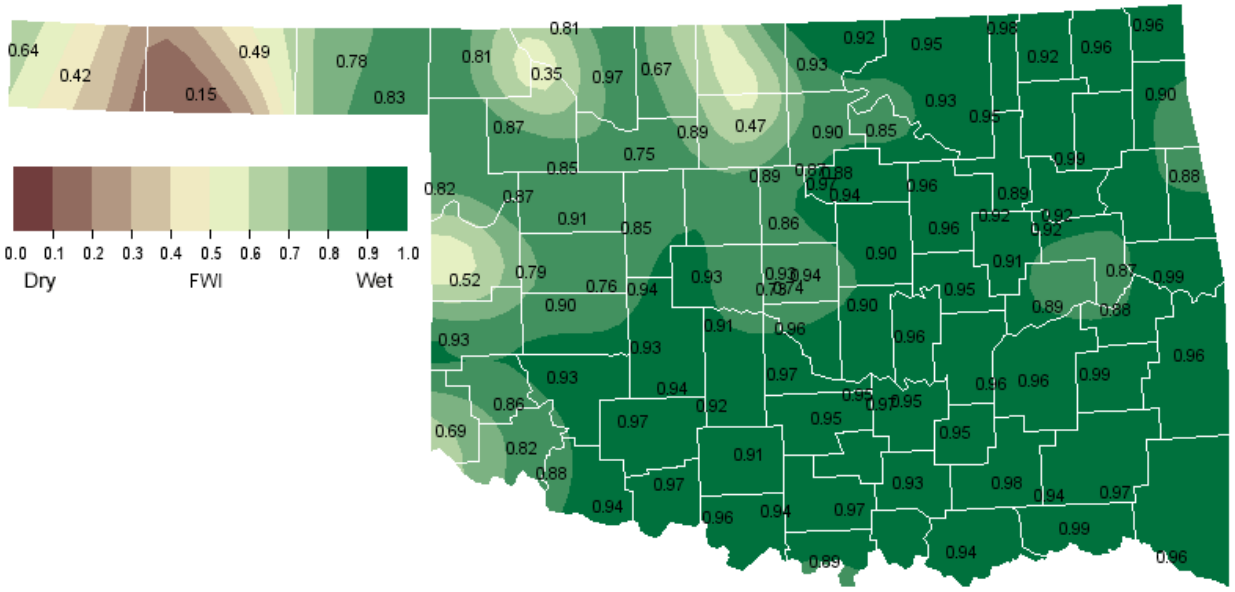
May 2009 Departure from Normal Precipitation



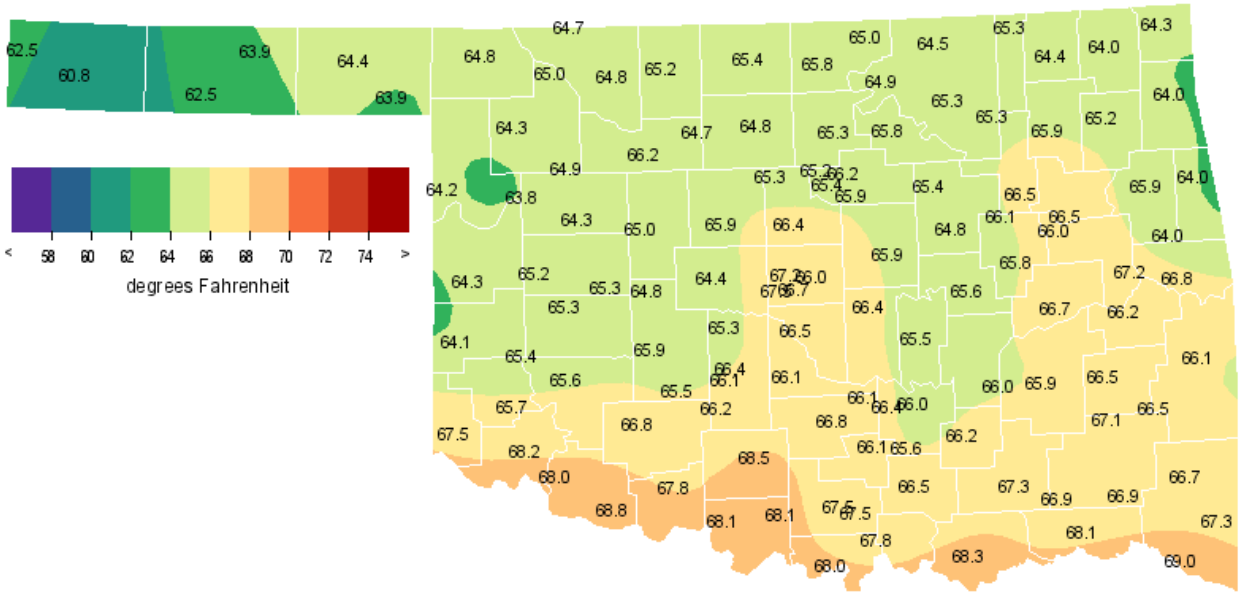
May 2009 Percent of Normal Precipitation



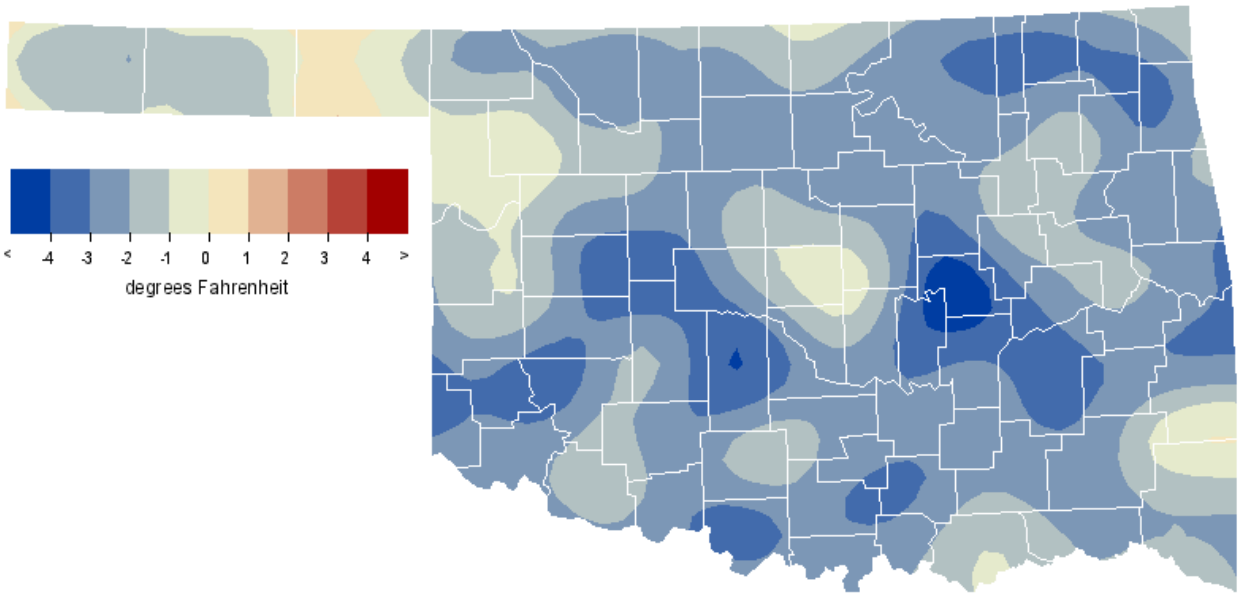
May 2009 Average Soil Moisture at 25cm



May 2009 Average Temperature



May 2009 Departure from Normal Temperature



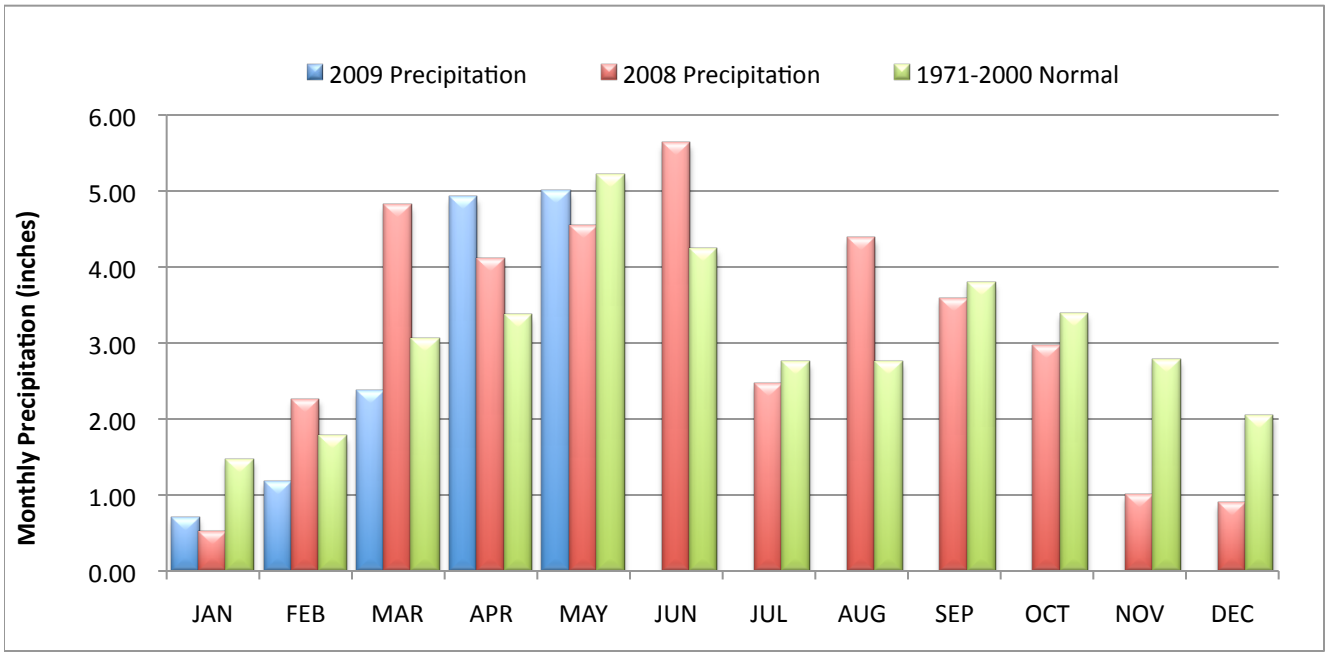
Mesonet Monthly Summary for May 2009

NAME	MEAN TEMP	HIGH TEMP	HIGH DAY	LOW TEMP	LOW DAY	HDD	CDD	TOT PPT	HIGH 24-HR	HIGH DAY
PANHANDLE										
Arnett	64.2	91	30	39	17	110	85	1.16	.38	25
Beaver	64.5	96	30	39	17	118	102	.58	.24	4
Boise City	60.7	91	12	38	10	162	30	.69	.35	24
Buffalo	64.8	95	30	38	17	116	110	1.35	.59	25
Goodwell	62.5	93	12	40	28	142	66	.55	.24	25
Hooker	63.8	94	30	41	17	118	81	.82	.32	25
Kenton	62.5	94	12	39	10	134	56	.58	.23	3
Slapout	63.9	94	30	39	17	122	90	1.61	.55	4
NORTH CENTRAL										
Alva	64.8	96	30	41	17	106	99	2.18	.65	25
Blackwell	65.8	94	31	45	17	83	108	2.42	.99	1
Breckinridge	64.9	93	30	43	17	96	92	2.44	.48	2
Cherokee	65.2	95	30	42	17	94	100	2.02	.51	1
Fairview	66.2	95	30	44	17	84	120	2.28	.67	15
Freedom	65.0	94	30	42	17	107	108	1.66	.60	25
Lahoma	64.7	95	30	42	17	97	88	1.35	.50	2
May Ranch	64.7	94	30	41	17	111	101	1.41	.38	25
Medford	65.4	95	31	42	17	93	107	2.80	1.80	1
Newkirk	65.0	91	30	45	17	97	97	2.21	.46	2
Red Rock	65.3	92	30	44	17	87	95	3.02	.98	13
Seiling	64.9	93	30	39	17	99	95	1.95	.52	25
Woodward	64.3	92	30	40	17	115	94	2.09	.50	2
NORTHEAST										
Bixby	66.4	89	31	47	18	59	104	4.59	1.04	5
Burbank	64.9	91	30	43	17	93	89	1.79	.43	15
Claremore	65.9	90	30	44	17	74	103	8.22	4.35	1
Copan	65.2	91	30	45	17	87	94	6.07	2.62	1
Foraker	64.6	90	30	45	17	100	86	2.59	.68	8
Inola	64.8	86	13	45	17	****	****	6.52	2.88	1
Jay	63.9	86	31	40	17	103	68	7.05	2.48	1
Miami	64.3	86	30	43	17	93	70	9.91	3.77	1
Nowata	64.4	88	30	42	17	91	74	5.31	1.17	8
Pawnee	65.8	92	30	45	17	82	106	2.21	.46	1
Porter	66.5	90	30	45	17	61	107	3.51	1.14	5
Pryor	65.2	88	30	43	17	78	85	10.85	7.70	1
Skiatook	65.3	87	30	48	17	88	97	4.93	1.17	13
Vinita	64.1	87	30	42	17	95	66	5.42	1.45	1
Wynona	65.2	89	30	45	17	92	98	4.57	.68	1
WEST CENTRAL										
Bessie	65.2	91	31	43	17	92	99	4.53	.97	5
Butler	65.3	92	13	40	17	90	99	4.47	1.27	25
Camargo	63.8	91	13	37	17	109	73	4.46	2.12	25
Cheyenne	64.3	92	13	43	17	107	86	3.18	.83	15
Erick	64.1	93	31	41	17	105	78	2.13	1.17	11
Putnam	64.3	91	13	41	17	108	85	1.98	.42	2
Retrop	65.3	92	31	44	17	92	101	3.98	2.58	11
Watonga	64.9	92	31	42	17	99	96	2.41	.50	26
Weatherford	65.3	93	31	44	17	92	100	5.78	1.61	2
CENTRAL										
Acme	66.2	91	31	44	17	77	115	7.32	1.90	5
Bowlegs	65.6	88	31	46	18	80	97	5.79	1.99	2
Bristow	64.8	88	31	43	18	87	82	3.81	.76	5
Lake Carl Blac	65.2	93	30	42	17	85	90	3.03	.69	13
Chandler	66.0	90	31	47	17	77	107	3.83	.74	15
Chickasha	66.4	92	31	45	17	71	114	6.36	1.60	2
El Reno	64.4	88	31	42	17	92	73	3.60	1.11	26
Guthrie	66.4	92	31	45	17	69	111	2.62	1.05	15
Kingfisher	65.9	93	31	44	17	75	103	3.34	1.75	15
Marena	65.4	90	30	44	17	85	98	2.94	.94	13
Minco	65.3	88	31	44	17	81	90	5.53	1.39	2
Marshall	65.2	93	31	43	17	85	92	2.11	.57	2
Ninnekah	66.1	92	31	46	4	75	108	6.91	1.27	11
Norman	66.5	90	31	47	17	71	118	5.23	1.46	2
Oilton	65.3	90	30	43	17	86	97	2.50	.82	15
OKC East	66.6	90	31	46	17	69	119	6.51	1.47	2
OKC North	67.1	91	31	47	17	64	130	4.47	1.90	15
OKC West	67.4	91	31	49	17	56	132	4.90	1.96	15
Okemah	65.6	88	31	45	17	79	96	4.45	1.18	12
Perkins	65.9	91	31	46	17	77	104	3.44	.74	15
Shawnee	66.4	90	31	46	17	73	117	3.61	.97	15
Spencer	66.0	89	31	45	17	79	111	4.42	1.10	15
Stillwater	66.2	92	30	44	17	72	109	3.26	.55	2
Washington	66.1	89	31	47	18	73	107	7.58	2.50	2
EAST CENTRAL										
Cookson	64.1	84	31	39	17	92	63	9.19	1.85	5
Eufaula	66.6	87	31	48	18	55	106	4.54	.88	5
Haskell	66.0	88	30	46	18	67	99	4.45	1.19	5
Hectorville	66.1	87	30	47	18	72	104	3.96	.89	2
Holdenville	*****	***	***	***	***	****	****	*****	*****	***
McAlester	65.8	87	31	44	18	68	92	6.40	1.12	5
Okmulgee	65.8	89	31	45	18	70	96	4.63	1.09	13
Sallisaw	66.7	88	31	44	17	53	107	8.92	1.35	5
Stigler	66.2	87	31	45	18	60	95	5.52	1.25	2
Stuart	65.9	87	31	45	18	70	99	4.78	1.07	5
Tahlequah	65.9	88	30	44	18	63	91	6.09	1.16	5
Webbers Falls	67.2	91	31	47	17	49	118	6.31	1.34	23
Westville	64.0	84	31	44	18	94	63	8.08	2.38	1
SOUTHWEST										
Altus	68.2	96	31	46	17	65	163	2.80	.85	11
Apache	65.4	90	31	44	17	86	99	6.69	1.62	13
Fort Cobb	65.8	91	31	45	4	75	101	5.85	1.41	13
Grandfield	68.8	95	31	47	17	57	174	4.51	1.46	11
Hinton	64.9	91	31	42	17	89	85	3.35	1.09	2
Hobart	65.5	93	31	44	17	86	102	3.86	1.93	11
Hollis	67.5	95	13	46	17	67	143	2.44	1.19	11
Mangum	65.7	95	31	43	17	80	103	1.65	.57	11
Medicine Park	66.8	91	13	46	4	74	129	4.30	1.10	15
Tipton	68.0	94	31	45	17	67	160	3.05	1.03	11
Walters	67.8	91	31	46	17	60	146	6.46	2.71	11
SOUTH CENTRAL										
Ada	66.0	89	31	45	18	72	103	6.53	1.23	11
Ardmore	67.4	91	31	48	17	50	126	10.60	2.06	11
Burneyville	68.0	93	31	46	17	47	140	4.90	1.30	11
Byars	66.1	90	31	46	17	76	110	5.48	1.36	2
Centrahoma	66.2	88	31	45	18	60	97	9.07	1.60	5
Durant	68.3	89	31	49	18	30	134	9.17	2.85	11
Fittstown	65.6	88	31	47	18	75	93	8.64	1.69	5
Ketchum Ranch	68.5	93	31	47	17	53	161	7.96	1.54	11
Lane	67.3	89	31	46	18	44	116	7.14	1.41	2
Madill	67.8	90	31	49	18	41	127	9.68	2.51	8
Newport	67.5	92	31	48	17	51	129	8.51	2.04	11
Pauls Valley	66.8	90	31	48	17	65	122	7.45	1.21	11
Ringling	68.0	91	31	48	4	50	144	5.55	1.52	11
Sulphur	66.2	90	31	47	17	65	101	7.60	1.49	5
Tishomingo	66.4	89	31	47	19	61	103	10.23	2.24	11
Vanoss	66.3	91	31	46	18	72	113	7.34	1.02	11
Waurika	68.1	93	8	48	17	54	151	3.80	.92	11
SOUTHEAST										
Antlers	66.9	90	31	41	18	49	108	10.70	2.29	2
Broken Bow	67.3	87	31	41	18	41	111	17.31	4.36	10
Clayton	67.1	89	31	41	18	45	109	11.02	1.79	5
Cloudy	66.9	87	31	43	18	44	103	10.02	2.53	2
Hugo	68.2	88	31	46	18	30	130	12.06	2.40	10
Idabel	69.0	90	31	46	18	21	145	14.23	5.62	10
Mt Herman	66.6	86	31	41	18	44	95	10.95	2.79	2
Talihina	66.5	88	31	42	18	47	93	11.00	1.85	14
Wilburton	66.5	88	31	43	18	54	100	7.77	1.19	14
Wister	66.2	88	31	42	18	54	90	8.31	2.24	2

May 2009 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	May-08
Panhandle	0.92	-2.45	6th Driest	6.37 (1951)	0.00 (1927)	1.77
North Central	2.14	-2.58	28th Driest	11.70 (1957)	0.25 (1924)	6.02
Northeast	5.57	0.09	47th Wettest	19.10 (1943)	1.38 (1917)	6.48
West Central	3.66	-1.24	51st Driest	12.40 (1982)	0.00 (1924)	4.12
Central	4.48	-1.15	54th Driest	12.53 (1902)	0.96 (1988)	6.26
East Central	6.07	0.18	50th Wettest	14.72 (1943)	1.25 (1941)	4.48
Southwest	4.09	-0.88	56th Driest	11.96 (1902)	0.38 (1984)	2.53
South Central	7.63	2.03	20th Wettest	12.66 (1982)	0.46 (1988)	4.33
Southeast	11.34	4.98	7th Wettest	14.36 (1990)	1.24 (1963)	5.21
Statewide	4.99	-0.22	52nd Wettest	10.68 (1957)	1.30 (1988)	4.68

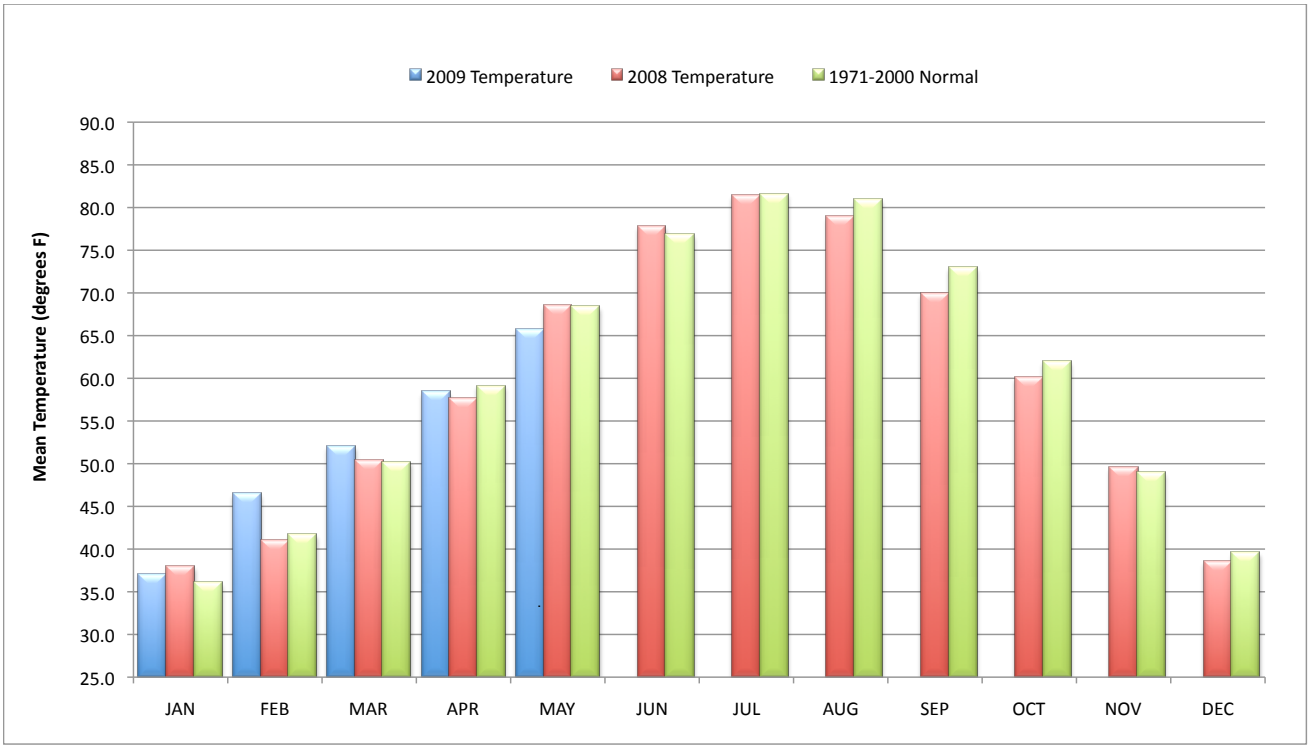
2008 and 2009 Statewide Precipitation Monthly Totals vs. Normal



May 2009 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	May-08 (F)
Panhandle	63.4	-1.0	35th Coolest	72.0 (1896)	56.8 (1917)	65.4
North Central	65.1	-2.0	23rd Coolest	75.2 (1896)	60.7 (1907)	67.0
Northeast	65.1	-2.1	24th Coolest	74.1 (1962)	61.2 (1907)	68.0
West Central	64.7	-2.5	19th Coolest	75.6 (1896)	60.9 (1907)	68.7
Central	65.9	-2.6	18th Coolest	75.5 (1896)	62.0 (1907)	69.0
East Central	65.9	-2.4	12th Coolest	74.8 (1896)	62.2 (1907)	68.9
Southwest	66.8	-2.8	16th Coolest	77.8 (1896)	62.8 (1907)	70.7
South Central	67.1	-2.6	12th Coolest	76.0 (1896)	63.6 (1907)	69.4
Southeast	67.1	-1.7	25th Coolest	75.3 (1896)	62.8 (1907)	66.5
Statewide	65.7	-2.2	19th Coolest	75.0 (1896)	61.5 (1907)	68.2

2008 and 2009 Statewide Temperature Monthly Averages vs. Normal



Mesonet Extremes for May 2009

Climate Division	High Temp (F)	Day	Station	Low Temp (F)	Day	Station	High Monthly Rainfall (inches)	Station	High Daily Rainfall (inches)	Day	Station
Panhandle	96	30th	Beaver	38	17th	Buffalo	1.61	Slapout	0.59	25th	Buffalo
North Central	96	30th	Alva	39	17th	Seiling	3.02	Red Rock	1.80	1st	Medford
Northeast	92	30th	Pawnee	40	17th	Jay	10.85	Pryor	7.70	1st	Pryor
West Central	93	31st	Weatherford	37	17th	Camargo	5.78	Weatherford	2.58	11th	Retrop
Central	93	31st	Kingfisher	42	17th	El Reno	7.58	Washington	2.50	2nd	Washington
East Central	91	31st	Webbers Falls	39	17th	Cookson	9.19	Cookson	2.38	1st	Westville
Southwest	96	31st	Altus	42	17th	Hinton	6.69	Apache	2.71	11th	Walters
South Central	93	31st	Ketchum Ranch	45	18th	Centrahoma	10.60	Ardmore	2.85	11th	Durant
Southeast	90	31st	Idabel	41	18th	Mt Herman	17.31	Broken Bow	5.62	10th	Idabel
Statewide	96	31st	Altus	37	17th	Camargo	17.31	Broken Bow	7.70	1st	Pryor

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.

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

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.

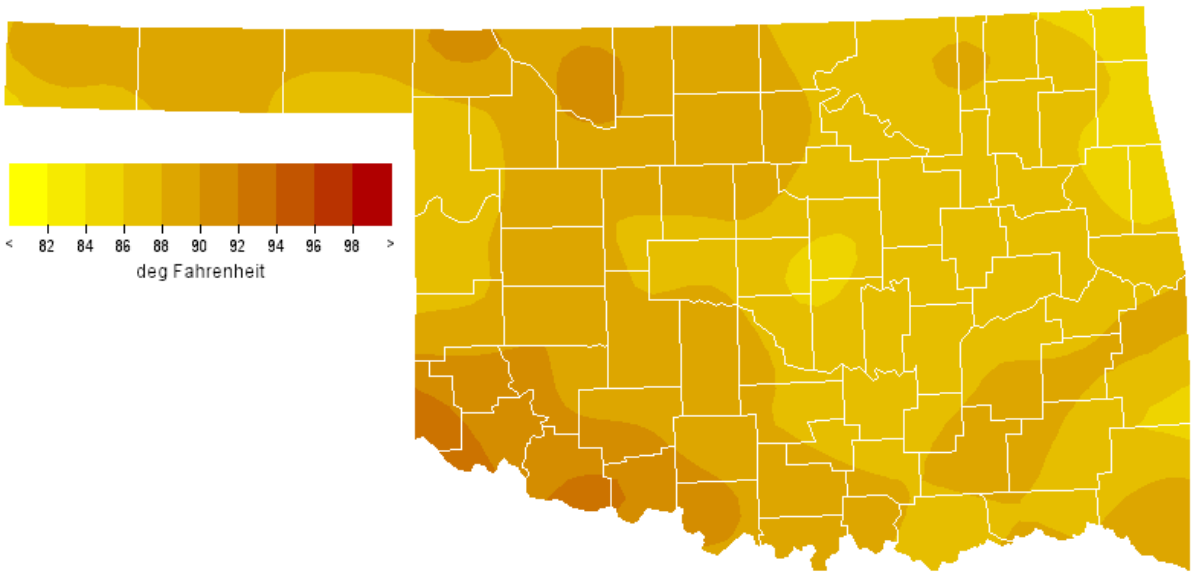
Flooding is a major hazard during June. Flooding can occur from localized heavy rainfall, or from persistent rains in a river basin. As much as twenty inches may have fallen near Hydro within a 14-hour period one June 22, 1948, although official reports showed 11.25 inches. Resulting flash floods killed 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.

Precipitation
Mean: 4.24 inches
Wettest June: 2007, 9.10 inches
Driest June: 1933, 0.46 inches
Wettest location: Durant, 5.49 inches
Driest location: Kenton, 2.18 inches
Most recorded: 18.87 inches, Meeker, 1932

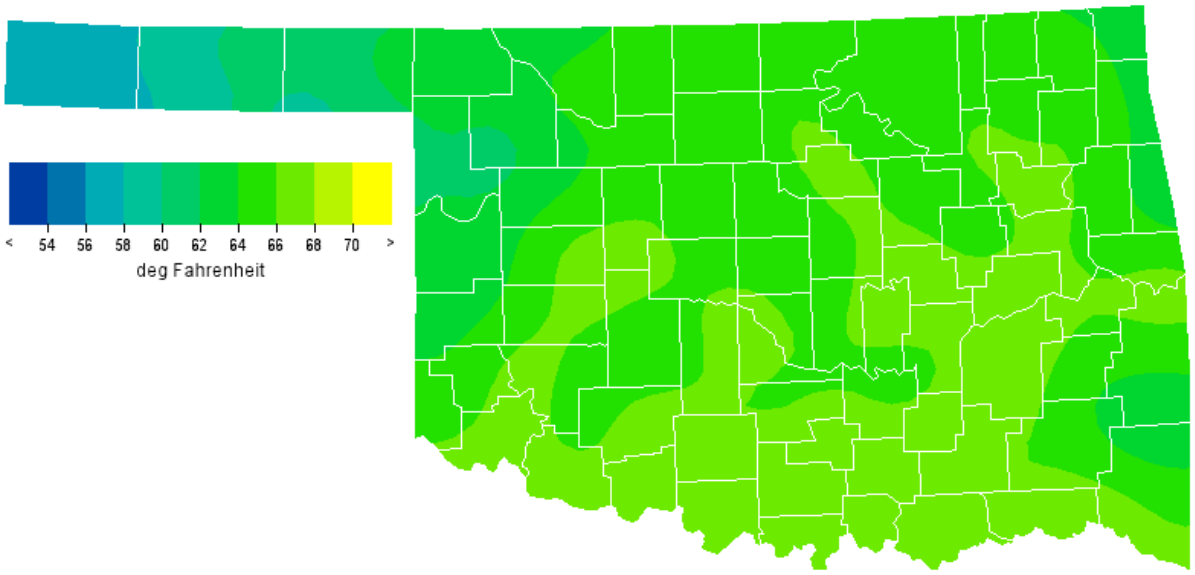
Springtime severe weather patterns are common in early June. The state averages nine tornadoes per year, with as many as 28 occurring in 1995 and as few as none in 1987. Especially violent tornadoes include one on June 1, 1917 that killed 14 people in Coalgate, one that left 35 dead in southwest Oklahoma 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)

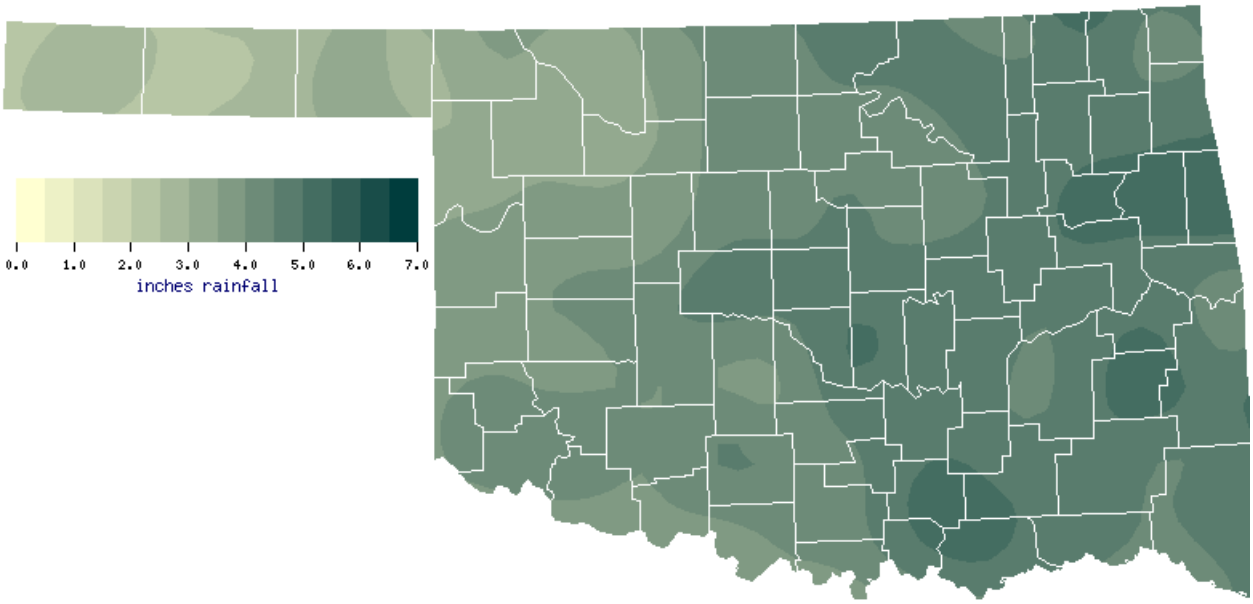
June Normal Daily Maximum Temperature (1971-2000)



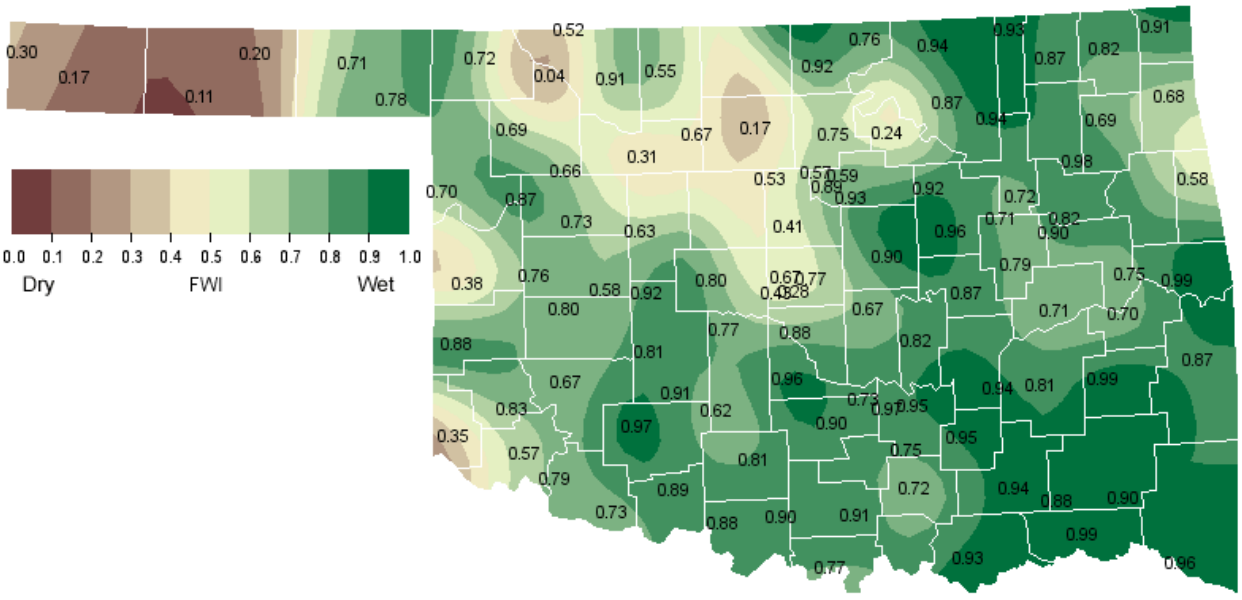
June Normal Daily Minimum Temperature (1971-2000)



June Normal Precipitation (1971-2000)



June 1, 2008 Soil Moisture Conditions at 25cm



June 2009 Drought Indices

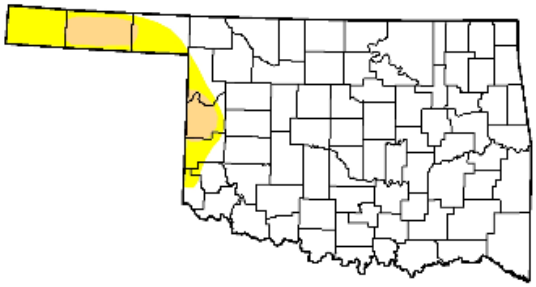
U.S. Drought Monitor

Oklahoma

May 26, 2009
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	89.1	10.9	3.8	0.0	0.0	0.0
Last Week (05/19/2009 map)	91.8	8.2	1.1	0.0	0.0	0.0
3 Months Ago (03/03/2009 map)	34.2	65.8	48.8	15.2	0.0	0.0
Start of Calendar Year (01/06/2009 map)	41.6	58.4	12.0	3.4	0.0	0.0
Start of Water Year (10/07/2008 map)	84.4	15.6	5.0	3.5	0.0	0.0
One Year Ago (05/27/2008 map)	88.7	11.3	8.2	6.9	5.1	0.0



Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements

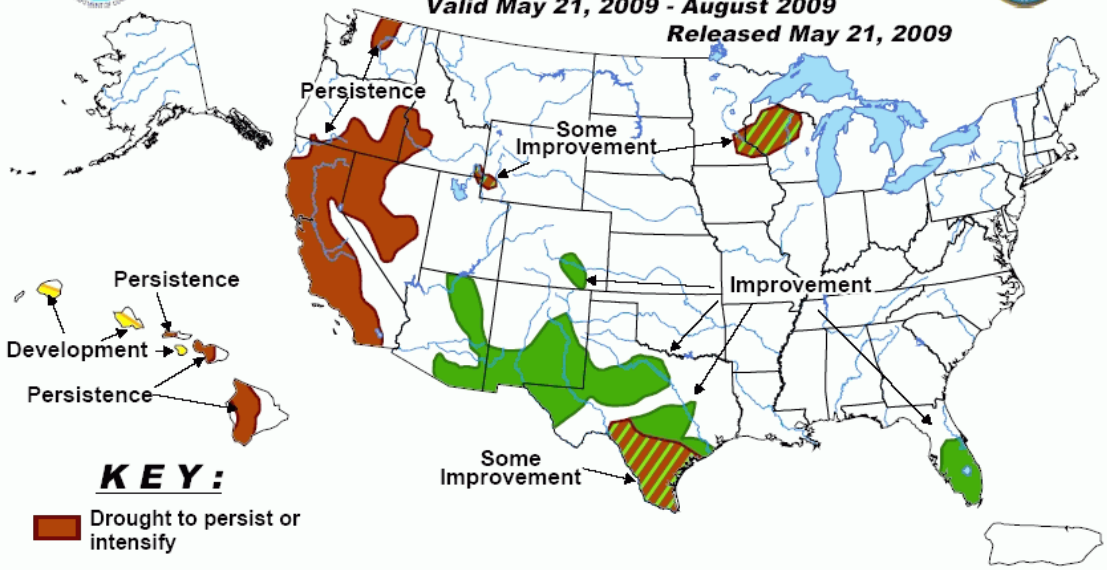
http://drought.unl.edu/dm

USDA National Drought Mitigation Center

Released Thursday, May 28, 2009
Author: A. Artusa/D. Miskus/M. Rosencrans, CPC/NOAA

U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period
Valid May 21, 2009 - August 2009
Released May 21, 2009

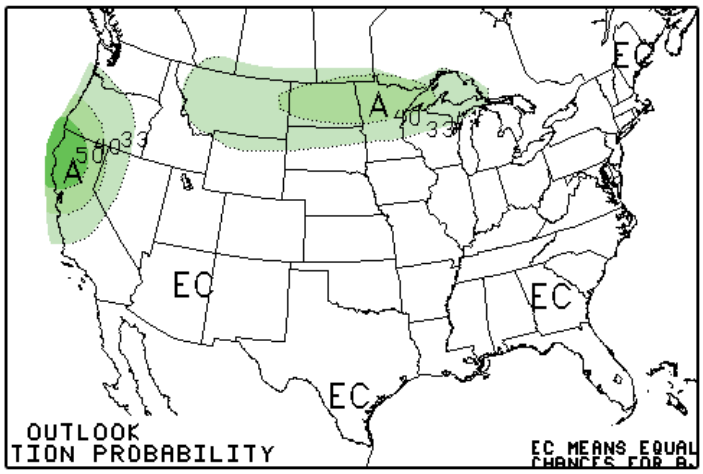


KEY:

- Drought to persist or intensify
- Drought ongoing, some improvement
- Drought likely to improve, impacts ease
- Drought development likely

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: the green improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels, but do not necessarily imply drought elimination.

June 2009 U.S. Precipitation Forecast



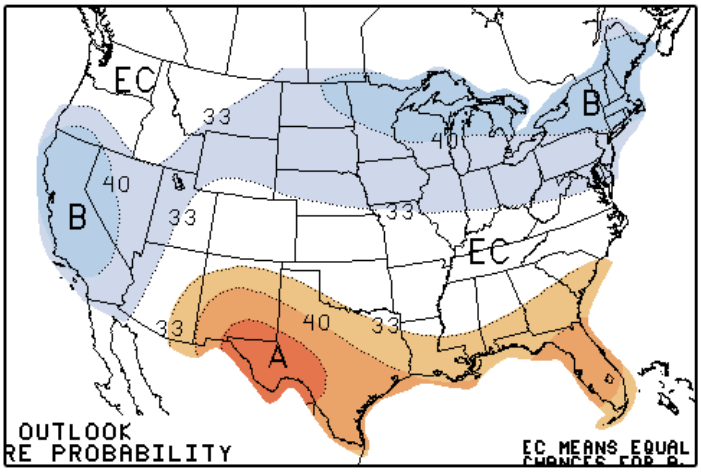
Percent Likelihood
of Above or Below
Average Precipitation*

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

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

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

June 2009 U.S. Temperature Forecast



Percent Likelihood
of Above and Below
Average Temperatures*

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

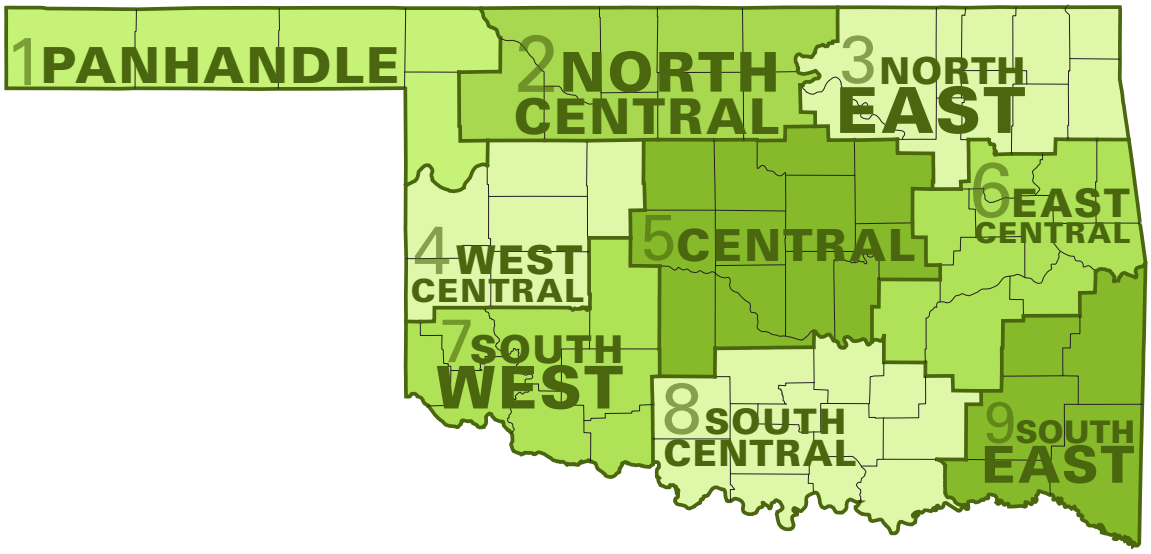
0% - 5%
5% - 10%
B = Below

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

June Climate Normals

Climate Division	Max. Temperature (°F)	Min. Temperature (°F)	Avg. Temperature (°F)	Precipitation (inches)
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.mesonet.org or
http://climate.ok.gov/
E-mail (ocs@ou.edu) or telephone (405/325-2541)

OKLAHOMA CLIMATOLOGICAL SURVEY

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