

# OKLAHOMA MONTHLY CLIMATE SUMMARY

## JUNE 2005



June played its role as a spring-to-summer transition month like an Academy Award winner, with a plethora of severe weather in its first half, and downright desert-like in its second half. The severe weather came in several waves, striking all but the southeastern third of the state with regularity in the month's first half. Straight-line winds, at times reaching 100 mph, roared through the state with each wave, leaving downed power lines and damaged structures in their wake. Tornadoes returned to the state as well after disappearing during May, with preliminary reports from the NWS noting seven twisters touching during the month. None were believed to be significant (F2 or greater), however. Flooding struck northwestern Oklahoma after some areas received more precipitation in three days than they had the entire year to that point. Some areas in Woods and Woodward counties were deluged with over eight inches of rain in the span of three days. The dryness in the southern half of the state was enough to counteract the flooding rainfall in the northern half to leave the state just below normal for the month, and a very unremarkable 50<sup>th</sup> wettest June on record. Statewide-averaged temperatures were a bit on the warm side, allowing the month to finish as the 37<sup>th</sup> warmest June on record.

### Precipitation

The state's precipitation represents "the haves" and "the have nots", a fairly significant development for a state suffering through a lengthening drought. The pattern is fairly simple as well: the northern half of the state received a surplus of rain, while the southern half was significantly below normal. The flooding rainfalls of the northwest centered on Harper, Woods and Woodward counties, where totals for the month approached 12 inches. As a whole, the north central section of the state was more than 2.5 inches above normal, the 13<sup>th</sup> wettest June on record for that area. In contrast, the southeastern corner of the state averaged less than two inches for the month, nearly a three-inch shortfall and the 16<sup>th</sup> driest June on record. Those rainfall totals did little to erase nearly three months worth of precipitation deficits, however, and for the year thus far, the state still falls nearly five inches below normal, the 25<sup>th</sup> driest such period on record. In fact, every section of the state, save for the Panhandle, remains well below normal for the January-June period, with south central and southeastern Oklahoma more than eight inches off their normal totals.

### Temperature

The month ended nearly a degree above normal and finished as the 37<sup>th</sup> warmest June on record, due mainly to its warm second half. The only section of the state that managed to remain cooler than normal throughout the month was the Panhandle, which found itself behind several stalled cold frontal boundaries. As expected, with its lack of precipitation, the southeastern section of the state was the warmest with an average temperature nearly two degrees above normal. The statewide-averaged temperature remained more than 1.5 degrees above normal for the year thus far, the 20<sup>th</sup> warmest such period on record.

<b>June 2005 Statewide Extremes</b>			
Description	Extreme	Station	Date
High Temperature	102°F	Cherokee, Grandfield	June 30th
Low Temperature	43°F	Kenton	June 5th
High Precipitation	11.60 in.	Freedom	
Low Precipitation	0.78 in.	Medicine Park	

### June Daily Highlights

**June 1-5:** The storminess of June began early on the 1<sup>st</sup>. The heaviest of the storms brushed northeastern Oklahoma with just over two inches of rainfall recorded by the Nowata Mesonet site. With the overnight rainfall adding moisture to the air, the day progressed as seasonably warm and humid, with light southerly breezes. After another warm day on the 2<sup>nd</sup>, successive bouts with severe thunderstorms occurred each day through the 5<sup>th</sup>. The storms started early on the 3<sup>rd</sup> in central and southwestern Oklahoma. Many severe wind and hail reports poured in with the storms that lasted throughout the day. Severe wind damage was reported in Altus as two buildings suffered significant roof damage and large trees were uprooted. Power lines were blown down in Carmen. A small tornado touched down near Hardy, in Kay County, late that evening. No damage was reported with the twister, however. The storms, which had been firing along a cold front and dry line that had pushed into the northwest returned on the 4<sup>th</sup>. A rain-wrapped tornado was spotted near Pumpkin Center, and hail covered the ground

in Yukon. Other tornadoes struck near Marlow and McCord, according to preliminary reports. Straight-line winds were the most dangerous severe threat on the 4<sup>th</sup>, however. Damaging winds of over 90 mph were reported in Tulsa, and numerous wind gusts greater than 70 mph were scattered across the state, associated with the storms. Hen egg to tea cup size hail fell in southwestern and central Oklahoma. Yet another line of storms formed on the 5<sup>th</sup> and pushed across central and south central sections of the state. Although not as widespread as on the previous day, more severe wind and hail reports occurred with these storms. A large supercell in southwestern Oklahoma dropped two confirmed tornadoes in Kiowa County, the second of which – rated an F1 on the Fujita Scale – damaged several structures near Mountain Park and Snyder.

**June 6-8:** The weather calmed for the next three days other than a few isolated severe storms which cropped up across the state. A warm period, the high pressure which moved over the state allowed for sunny skies and rising temperatures. Lows were mainly in the 70s during this time, and highs reached into the upper 90s. Heat indices had risen above 100 by the 8<sup>th</sup>.

**June 9-12:** Widespread severe weather returned once again during this five-day period. A multitude of hail and high wind reports were associated with these storms. Two-to-three inch hail was widespread in northwestern Oklahoma on the 9<sup>th</sup>, and winds greater than 60 mph dropped tree limbs and power lines across the area. Strong storms struck again on the 10<sup>th</sup> as a large cluster of cells repeatedly formed and dissipated over Alfalfa, Woods and Woodward counties. Flash flooding occurred in Carney, Mooreland and Waynoka. County roads were washed out over a large part of Woods County near Alva. The Cimarron River overflowed its banks near Waynoka on the 11<sup>th</sup> as the storms continued through the 13<sup>th</sup>. Some locations in Woods and Woodward counties received over eight inches of rainfall through this period. A 92 mph wind gust was recorded by the Bessie Mesonet site on the 12<sup>th</sup>, with several reports of 80 mph winds occurring during the same period in Washita and Caddo counties.

**June 13-17:** The 13<sup>th</sup> was a tranquil day with lows dropping into the upper-50s in the northwest to the mid-70s in the southeast. Highs soared that day into the 100s in the southwestern parts of the state, but remained in the 80s over the rain-cooled northwest. The weather remained rather passive for the next couple of days with lows in the 50s and 60s and highs in the 80s and 90s. Finally, late on the 15<sup>th</sup> and into the 16<sup>th</sup>, storms raced across the state from the Panhandle southeastward, bringing the state its most severe weather of the month. Strong straight-line winds were the main culprit of this outbreak, which saw winds of up to 100 mph measured by the Oklahoma Mesonet site at Marshall. Winds of 90 mph were reported near Coyle and Minco, with winds greater than 60 mph being too numerous to mention. Hail reports were not as widespread, but were still present with the storms. The largest hail report from this round of severe weather was of baseball-sized hail near Laverne. The winds left significant damage in their wake. A car wash collapsed on

a vehicle in Ringwood, and a nearby trailer home was thrown onto a county road. Several businesses in Hennessey were damaged by high winds in that area, estimated at 90 mph. The storms knocked out power to 42,500 homes across the state, and a utility worker was killed in the restoration efforts when he touched a live power line. The storms eventually exited the state on the 17<sup>th</sup>, making for a calmer afternoon.

**June 18-26:** The transition to summer from the spring-like weather began in earnest on the 18<sup>th</sup> as a large area of high pressure in the upper-levels settled over the southwestern U.S. The sinking air stifled any precipitation chances, and the temperatures settled into the 90s for the most part. The northern half of the state made a slower transition to the warm weather than the south due to the excessive rainfall that occurred previously, but eventually it, too, warmed up to summertime levels.

**June 27-30:** Triple-digit temperatures arrived with the end of the winter wheat harvest, as the late-June sun heated up the bare ground of the wheat belt across southwestern and north central Oklahoma more effectively. The month ended with its hottest temperature, 102 degrees, being recorded on the 30<sup>th</sup> at Cherokee and Grandfield.

<b>June 2005 Statewide Statistics</b>			
<b>Temperature</b>			
	<b>Average</b>	<b>Depart.</b>	<b>Rank (1892-2005)</b>
Month (June)	77.4°F	0.9°F	37th Warmest
Year-to-Date (Jan-Jun)	56.9°F	1.6°F	20th Warmest
<b>Precipitation</b>			
	<b>Total</b>	<b>Depart.</b>	<b>Rank (1892-2005)</b>
Month (June)	4.10 in.	-2.47 in.	50th Wettest
Year-to-Date (Jan-Jun)	14.39 in.	-4.76 in.	25th Driest
Depart. = Departure from 30-year normal			

## June 2005 Severe Weather

### Significant Tornadoes (F2 or greater)

No significant tornadoes were reported in the state.

### Hail (2 inches in diameter or greater)

Size (in.)	Location	County	Date
3.00	Vici	Dewey	06/09/05
3.00	5 SSE Roosevelt	Kiowa	06/05/05
2.75	6 S Laverne	Harper	06/16/05
2.75	Boise City	Cimarron	06/10/05
2.75	1 S Vici	Dewey	06/09/05
2.50	4 W Vici	Dewey	06/09/05
2.50	4 SE Roosevelt	Kiowa	06/05/05
2.50	5 S Sterling	Comanche	06/04/05
2.00	4 N Mountain Park	Kiowa	06/05/05
2.00	10 WSW Guthrie	Logan	06/04/05

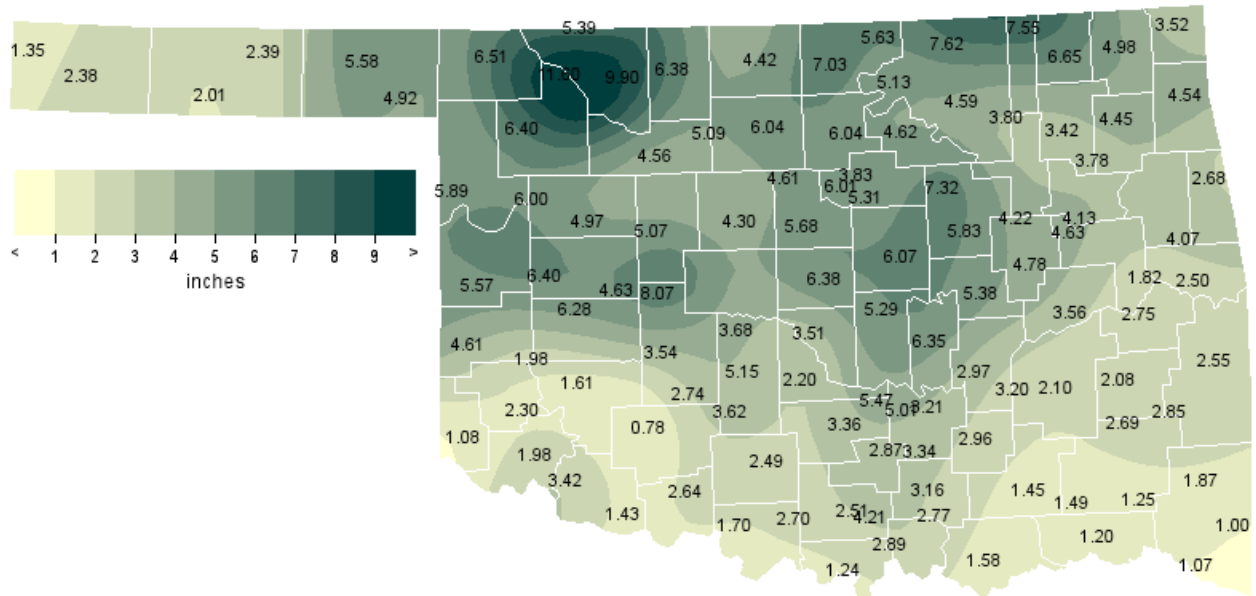
### Flooding

Location	County	Date
Chickasha	Grady	06/04/05
5 S Calvin	Hughes	06/04/05
Yukon	Canadian	06/09/05
Carney	Lincoln	06/09/05
1 S Carney	Lincoln	06/09/05
Waynoka	Woods	06/10/05
3 S Waynoka	Woods	06/10/05
1 N Mooreland	Woodward	06/10/05
Woodward	Woodward	06/12/05
Shattuck	Ellis	06/12/05
3 S Jay	Delaware	06/13/05
Kinta	Haskell	06/17/05

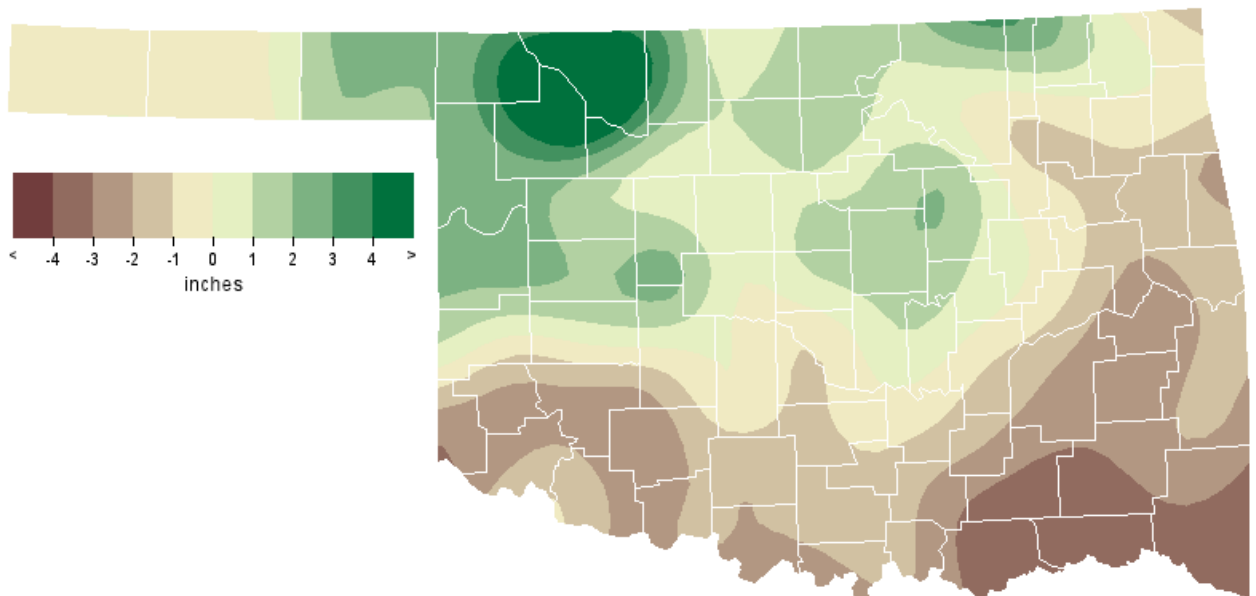
### Wind Gusts (70 mph or greater)

Speed (m.p.h)	Location	County	Date
100	4 SSE Marshall	Logan	06/16/05
92	4 WNW Bessie	Washita	06/12/05
90	9 N Coyle	Payne	06/16/05
90	Tulsa	Tulsa	06/04/05
89	2 SSW Minco	Grady	06/16/05
85	Dover	Kingfisher	06/16/05
80	1 N Lookeba	Caddo	06/12/05
80	Colony	Washita	06/12/05
80	N Eakly	Caddo	06/12/05
80	Tulsa	Tulsa	06/04/05
80	West Siloam Springs	Delaware	06/04/05
79	6 SSW Washington	McClain	06/17/05
76	Goodwell	Texas	06/06/05
76	Guymon	Texas	06/06/05
75	4 S Marlow	Stephens	06/17/05
75	6 N Tishomingo	Johnston	06/17/05
75	3 SSE Marshall	Logan	06/16/05
75	Frederick	Tillman	06/05/05
75	16 W Checotah	McIntosh	06/04/05
75	7 E Okemah	Okfuskee	06/04/05
73	12 W Stillwater	Payne	06/16/05
73	Oktaha	Muskogee	06/04/05
72	1 E McAlester	Pittsburg	06/13/05
70	4 S Marlow	Stephens	06/17/05
70	1 S Orlando	Logan	06/16/05
70	12 ESE Waynoka	Woods	06/16/05
70	2 SSW Minco	Grady	06/16/05
70	El Reno	Canadian	06/16/05
70	Okeene	Blaine	06/16/05
70	Wellston	Lincoln	06/16/05
70	Arapaho	Custer	06/12/05
70	Grandfield	Tillman	06/05/05
70	Anadarko	Caddo	06/04/05
70	Kiowa	Pittsburg	06/04/05
70	Porter	Wagoner	06/04/05

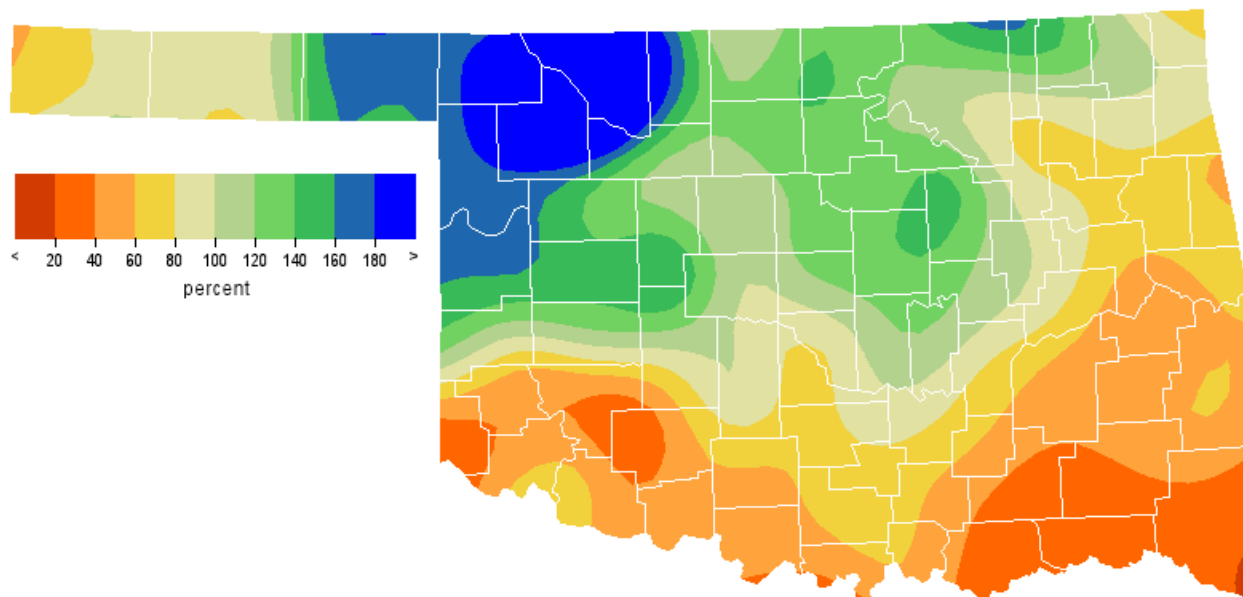
### June 2005 Observed Precipitation



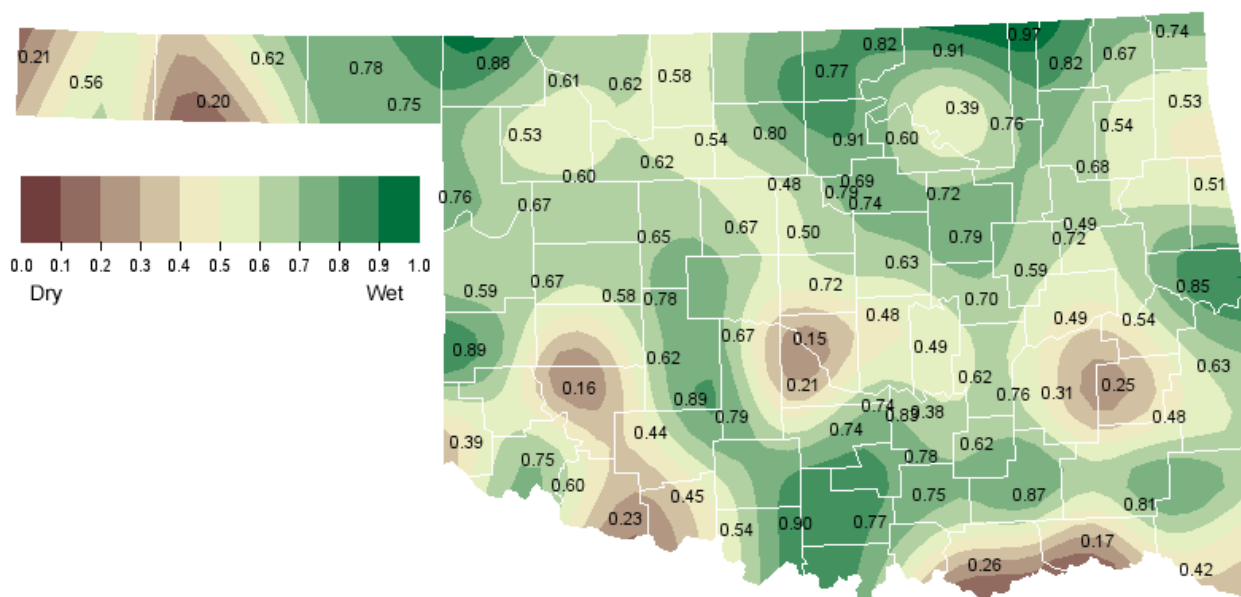
### June 2005 Departure from Normal Precipitation



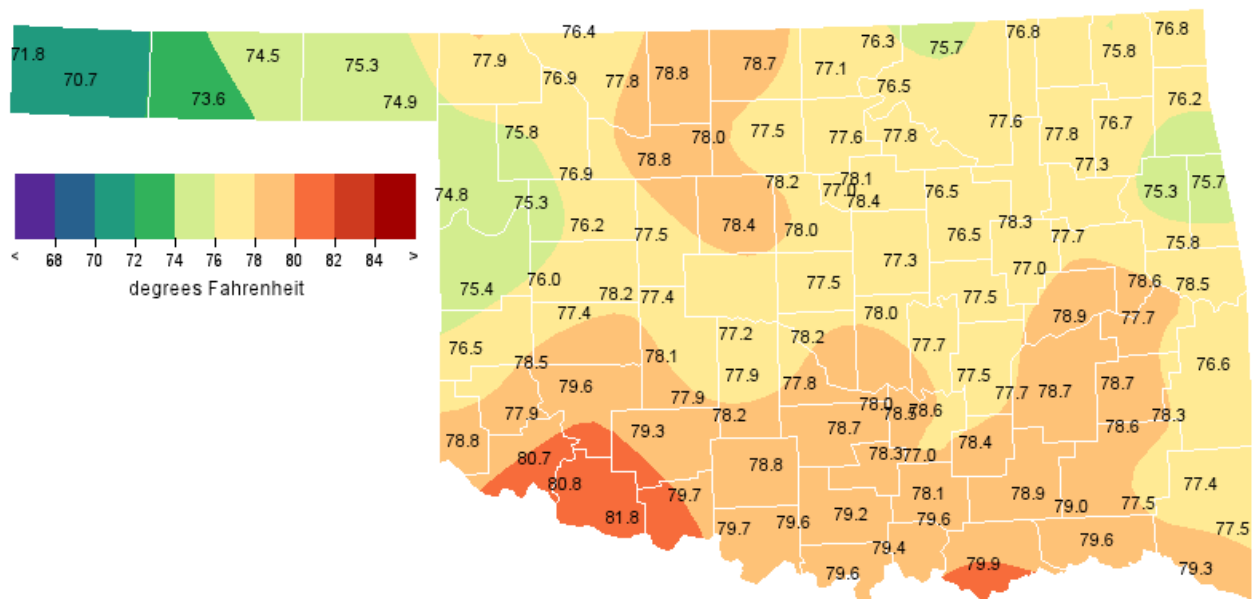
## June 2005 Percent of Normal Precipitation



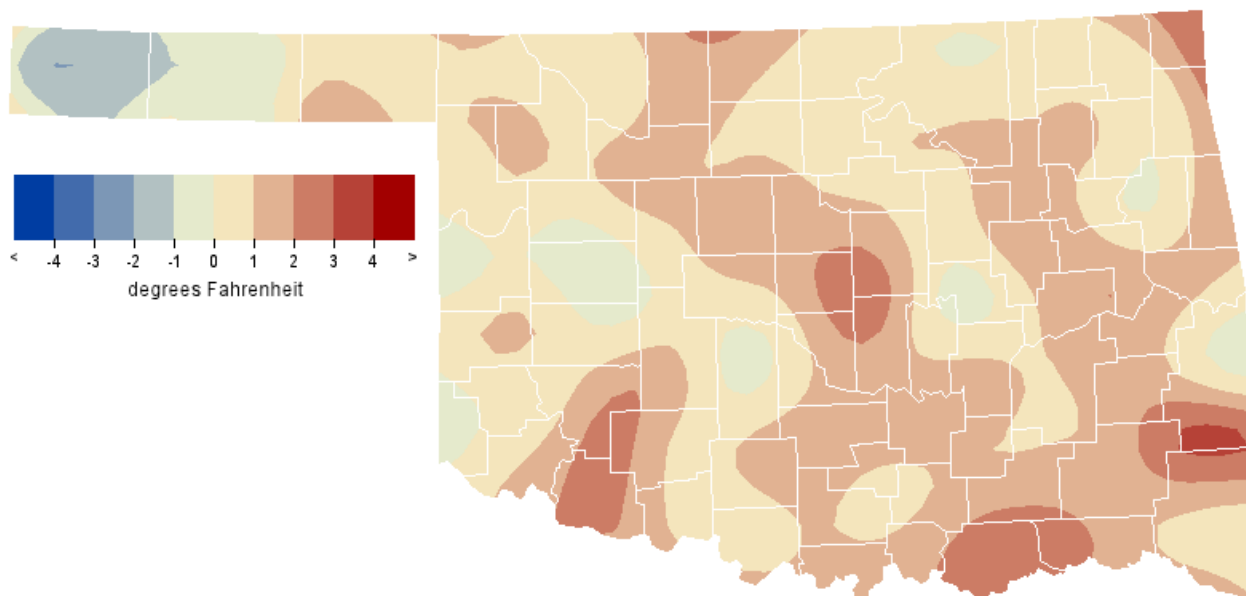
## June 2005 Average Soil Moisture at 25cm



## June 2005 Average Temperature



## June 2005 Departure from Normal Temperature



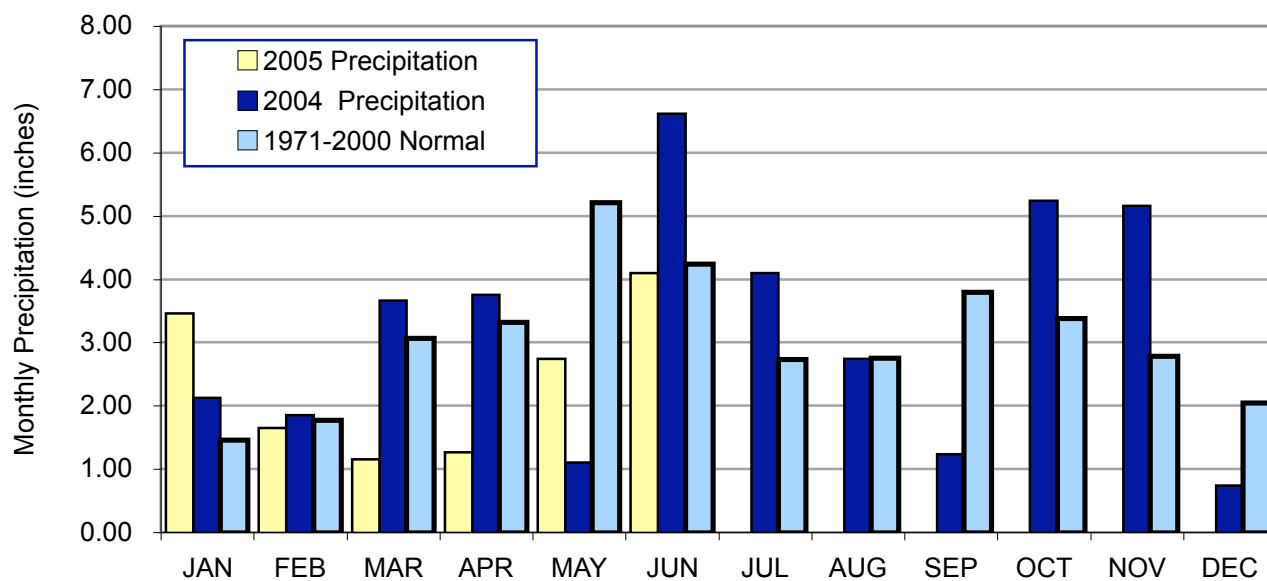
# Mesonet Monthly Summary for June 2005

NAME	MEAN HIGH			LOW			TOT HIGH			NAME	MEAN HIGH			LOW			TOT HIGH				
	TEMP	TEMP	DAY	TEMP	DAY	HDD	CDD	PPT	24-HR		DAY	TEMP	TEMP	DAY	TEMP	DAY	HDD	CDD	PPT	24-HR	DAY
<b>PANHANDLE</b>																					
Arnett	74.8	94	28	51	1	2	297	5.89	1.94	12	Goodwell	73.7	100	28	47	5	5	265	2.01	1.23	12
Beaver	75.3	98	28	47	5	****	****	5.58	2.37	16	Hooker	74.4	100	28	47	5	4	286	2.39	1.73	12
Boise City	70.7	96	28	43	5	16	186	2.38	.93	10	Kenton	71.9	100	28	42	5	11	217	1.35	.83	12
Buffalo	77.9	100	30	52	5	1	387	6.51	2.39	16	Slapout	75.0	97	30	48	5	****	****	4.58	2.09	12
<b>NORTH CENTRAL</b>																					
Blackwell	77.1	98	30	59	14	0	364	7.03	2.13	12	Medford	78.7	100	30	56	1	0	412	4.42	1.32	10
Breckinridge	77.4	98	30	57	5	0	373	6.04	2.15	10	Newkirk	76.2	95	30	58	14	0	337	5.63	1.68	11
Cherokee	78.7	102	30	54	1	0	412	6.38	3.95	10	Red Rock	77.5	98	30	58	2	0	376	6.04	1.50	16
Fairview	78.9	100	30	57	5	0	416	4.56	1.72	16	Seiling	76.9	98	30	53	5	0	358	6.49	2.50	12
Freedom	76.9	100	30	51	1	3	360	11.60	4.32	10	Woodward	75.8	95	8	53	1	3	327	6.40	2.26	12
Lahoma	78.0	101	30	57	5	0	389	5.09	1.75	16	Alva	77.8	100	30	52	1	0	385	9.90	4.59	10
May Ranch	76.4	97	29	53	5	3	344	5.39	2.37	12											
<b>NORTHEAST</b>																					
Bixby	77.8	95	30	57	2	****	****	4.17	2.04	17	Pryor	76.6	95	30	57	2	0	349	4.45	2.48	12
Burbank	76.5	96	30	58	2	0	345	5.13	1.66	11	Skiatook	77.6	95	30	59	2	0	377	3.80	1.76	12
Copan	76.9	96	30	59	2	0	358	7.55	2.06	12	Vinita	75.8	94	30	56	2	0	324	4.98	2.66	12
Foraker	75.8	93	30	56	2	0	323	7.62	2.31	12	Wynona	****	***	***	***	***	****	****	4.59	1.48	16
Jay	76.2	94	30	56	2	0	337	4.54	2.19	12	Porter	****	***	***	***	***	****	****	4.13	1.88	17
Miami	76.8	94	30	57	2	0	355	3.52	2.34	12	Inola	77.3	97	30	58	2	0	368	3.78	1.17	12
Nowata	****	***	***	***	***	****	****	6.65	2.09	1	Claremore	77.8	96	30	59	2	0	384	3.42	1.11	16
Pawnee	77.8	97	30	59	2	0	384	4.62	2.13	16											
<b>WEST CENTRAL</b>																					
Bessie	77.3	98	30	59	14	0	370	6.28	1.96	12	Putnam	76.2	97	30	55	5	0	336	4.97	1.30	16
Butler	76.0	97	30	55	14	0	330	6.40	1.21	12	Retrop	78.5	99	30	59	1	0	405	1.98	.78	12
Camargo	75.3	95	30	53	1	0	310	6.00	2.28	12	Watonga	77.5	98	30	58	1	0	376	5.07	1.38	12
Cheyenne	75.4	96	30	55	5	0	311	5.57	1.97	11	Weatherford	78.2	99	30	59	1	0	397	4.63	1.90	12
Erick	76.5	98	30	58	1	0	346	4.61	2.03	11											
<b>CENTRAL</b>																					
Bowlegs	77.7	97	30	59	2	0	380	6.35	1.78	13	Okemah	77.5	97	30	58	2	0	375	5.38	1.99	17
Bristow	76.5	95	30	54	2	0	345	5.83	2.23	16	Perkins	78.4	100	30	60	14	0	402	5.31	2.48	16
Chandler	77.3	95	30	60	2	0	369	6.07	2.62	16	Shawnee	78.0	97	30	60	1	0	390	5.29	1.75	16
Chickasha	77.9	100	30	59	21	0	389	5.15	2.69	4	Spencer	77.5	96	30	57	1	0	376	6.38	2.23	12
El Reno	76.6	95	30	57	14	****	****	3.47	1.79	16	Stillwater	78.1	97	30	59	1	0	394	3.83	2.21	16
Guthrie	78.1	97	30	58	1	0	392	5.68	2.66	16	Washington	77.8	98	30	61	21	0	383	2.20	.79	16
Kingfisher	78.4	100	30	58	1	0	402	4.30	1.91	16	Ninnekah	79.0	101	30	61	21	****	****	****	2.37	4
Marena	77.2	96	30	61	15	****	****	6.01	3.92	16	Acme	78.2	97	30	59	21	0	396	3.62	1.92	4
Minco	77.2	97	30	60	1	0	366	3.68	1.13	16	Norman	78.2	96	30	62	1	0	395	3.51	1.18	16
Oilton	76.6	94	30	53	2	0	347	7.32	2.64	16	Marshall	78.2	98	30	59	1	0	397	4.61	2.19	16
<b>EAST CENTRAL</b>																					
Calvin	77.4	98	30	57	2	0	371	2.97	.92	17	Stigler	77.7	99	30	57	2	0	381	2.75	1.85	17
Cookson	75.7	95	30	55	2	0	322	4.07	1.64	17	Stuart	77.6	98	30	58	2	0	379	3.20	1.11	13
Eufaula	78.8	100	30	58	2	0	415	3.56	1.53	17	Tahlequah	75.3	93	30	55	2	0	309	****	****	***
Haskell	77.7	97	30	57	2	0	380	4.63	1.88	17	Webbers Falls	78.6	100	29	58	2	0	407	1.82	.53	5
McAlester	78.7	98	30	60	2	0	412	2.10	1.30	17	Westville	75.6	96	30	55	2	0	318	2.68	.93	12
Okmulgee	77.0	96	30	56	2	0	359	4.78	1.88	17	Hectorville	78.3	97	30	58	2	0	400	4.22	1.77	17
Sallisaw	78.5	99	30	58	2	0	404	2.50	.64	17											
<b>SOUTHWEST</b>																					
Altus	80.7	101	30	62	1	0	472	1.98	.76	5	Medicine Park	79.3	99	30	61	1	0	430	.78	.32	10
Fort Cobb	78.1	98	30	61	1	0	394	3.54	1.41	12	Tipton	80.8	100	30	63	1	0	473	3.42	2.46	5
Hinton	77.4	98	30	58	14	0	371	8.07	3.29	12	Walters	79.7	100	30	61	21	0	440	2.64	1.78	13
Hobart	79.6	101	30	60	11	0	438	1.61	.48	11	Apache	77.9	98	30	60	1	0	387	2.74	.97	16
Hollis	78.8	100	30	59	1	0	414	1.08	.55	9	Grandfield	81.8	102	30	60	1	0	505	1.43	.94	5
Mangum	77.9	99	30	60	21	0	387	2.30	.55	16											
<b>SOUTH CENTRAL</b>																					
Ada	78.7	99	30	60	22	0	410	3.21	1.78	4	Ringling	79.5	99	30	61	1	0	436	2.70	1.46	4
Burneyville	79.8	100	30	60	15	****	****	1.24	.51	6	Sulphur	78.3	97	30	61	21	0	399	2.87	1.19	17
Byars	77.9	96	30	62	21	0	388	5.47	3.77	4	Tishomingo	78.1	98	30	61	4	0	392	3.16	1.32	4
Centrahoma	78.3	98	30	58	2	****	****	2.96	1.11	17	Waurika	79.8	100	30	61	21	0	444	1.70	.61	5
Durant	79.9	99	30	63	21	0	447	1.58	1.18	17	Vanoss	78.5	98	30	60	21	0	405	5.01	2.88	4
Ketchum Ranch	78.8	98	30	61	21	****	****	2.49	.69	17	Bee	79.7	99	30	62	22	0	440	2.77	1.14	4
Lane	78.9	98	30	61	20	0	416	1.45	.68	4	Newport	79.3	101	30	62	1	0	428	2.51	1.07	17
Madill	79.4	99	30	62	21	0	431	2.89	1.57	4	Ardmore	79.3	97	30	59	17	****	****	4.21	1.73	4
Pauls Valley	78.6	98	30	62	21	0	409	3.36	1.76	4	Fittstown	77.0	97	30	60	21	0	361	3.34	1.13	17
<b>SOUTHEAST</b>																					
Antlers	79.0	100	30	58	20	0	421	1.49	.63	17	Mt Herman	77.4	96	30	59	2	0	371	1.87	.84	7
Clayton	78.6	101	30	59	2	0	408	2.69	.79	17	Talihina	78.2	101	30	58	18	0	397	2.85	1.11	17
Cloudy	77.5	98	30	58	2	0	376	1.25	.65	5	Wilburton	78.8	101	30	60	15	****	****	2.08	1.04	17
Hugo	79.6	100	30	62	20	0	437	1.20	.78	17	Wister	76.6	99	30	57	15	0	349	2.55	1.95	17
Idabel	79.3	99	30	59	2	****	****	1.07	1.00	17	Broken Bow	77.5	100	30	56	19	0	374	1.00	.68	17

## June 2005 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	Jun-04
Panhandle	3.88	0.95	24th Wettest	7.70 (1962)	0.01 (1924)	4.99
North Central	6.54	2.60	13th Wettest	9.91 (1908)	0.43 (1933)	6.72
Northeast	4.91	0.29	50th Wettest	11.34 (1948)	0.08 (1933)	5.37
West Central	5.06	1.20	24th Wettest	9.25 (1989)	0.32 (1910)	6.10
Central	5.03	0.46	34th Wettest	11.34 (1908)	0.00 (1914)	7.60
East Central	3.27	-1.59	33rd Driest	12.69 (1935)	0.00 (1914)	6.15
Southwest	2.69	-1.47	39th Driest	8.79 (1962)	0.56 (1933)	6.76
South Central	2.94	-1.70	36th Driest	9.35 (1945)	0.00 (1914)	8.70
Southeast	1.81	-2.90	16th Driest	11.00 (1945)	0.00 (1914)	7.92
Statewide	4.10	-0.16	50th Wettest	8.73 (1908)	0.46 (1933)	6.73

## 2004 and 2005 Statewide Precipitation Monthly Totals vs. Normal

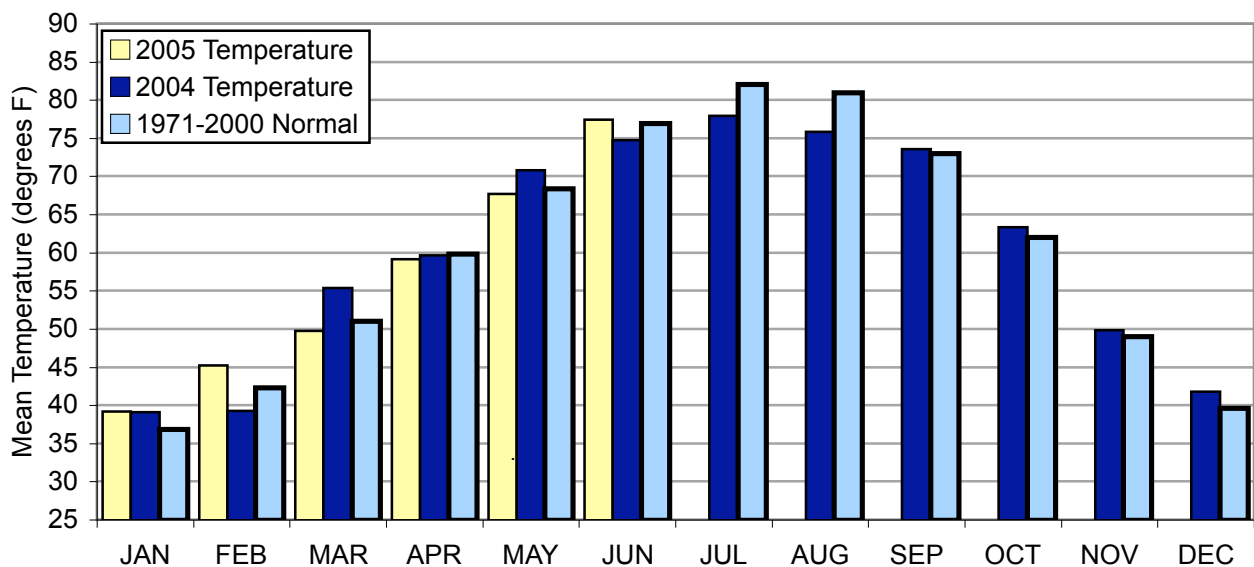




## June 2005 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	Jun-04 (F)
Panhandle	74.2	-0.2	56th Coolest	82.0 (1953)	67.7 (1903)	73.7
North Central	77.4	0.6	44th Warmest	85.7 (1953)	69.7 (1903)	74.8
Northeast	76.8	1.1	34th Warmest	83.7 (1953)	68.9 (1903)	73.9
West Central	76.8	0.4	52nd Warmest	85.6 (1953)	69.1 (1903)	75.0
Central	77.7	0.9	38th Warmest	84.4 (1953)	69.9 (1903)	74.5
East Central	77.5	1.3	36th Warmest	84.4 (1953)	69.8 (1903)	75.0
Southwest	79.3	0.9	40th Warmest	86.7 (1953)	71.5 (1903)	76.5
South Central	78.8	1.1	33rd Warmest	85.2 (1953)	71.1 (1903)	75.7
Southeast	78.2	1.8	29th Warmest	83.9 (1953)	70.3 (1903)	74.8
Statewide	77.4	0.9	37th Warmest	84.6 (1953)	69.8 (1903)	74.8

## 2004 and 2005 Statewide Temperature Monthly Averages vs. Normal



## Mesonet Extremes for June 2005

Climate Division	High Temp (F)	Day	Station	Low Temp (F)	Day	Station	High Monthly Rainfall (inches)	Station	High Daily Rainfall (inches)	Day	Station
Panhandle	100	30th	Buffalo	42	5th	Kenton	6.51	Buffalo	2.39	16th	Buffalo
North Central	102	30th	Cherokee	51	1st	Freedom	11.60	Freedom	4.59	10th	Alva
Northeast	97	30th	Pawnee	56	2nd	Vinita	7.62	Foraker	2.66	12th	Vinita
West Central	99	30th	Weatherford	53	1st	Camargo	6.40	Butler	2.28	12th	Camargo
Central	100	30th	Chickasha	53	2nd	Oilton	7.32	Oilton	3.92	16th	Marena
East Central	100	29th	Webbers Falls	55	2nd	Cookson	4.78	Okmulgee	1.88	17th	Okmulgee
Southwest	102	30th	Grandfield	58	14th	Hinton	8.07	Hinton	3.29	12th	Hinton
South Central	101	30th	Newport	56	21st	Burneyville	5.47	Byars	3.77	4th	Byars
Southeast	101	30th	Wilburton	56	19th	Broken Bow	2.85	Talihina	1.95	17th	Wister
Statewide	102	30th	Cherokee	42	5th	Kenton	11.60	Freedom	4.59	10th	Alva

# July Climatological Outlook

July in Oklahoma means summer. By the beginning of the month, the jet stream and its accompanying weather systems have retreated to the U.S.-Canadian border. The western arm of a broad area of high pressure at the earth's surface, centered in the central Atlantic Ocean, has migrated northward and spreads across the state. Winds are persistently from the south, but not as strong as during preceding months. As a result, the seventh month of the year is the Oklahoma's warmest with an average temperature of 82 degrees and is the 4<sup>th</sup> driest month with a statewide-averaged precipitation of 2.73 inches.

### **Precipitation**

Mean: 2.73 inches  
Wettest year: 1950, 9.26 inches  
Driest year: 1980, 0.41 inches  
Wettest location: Carnasaw Fire Tower (McCurtain County), 4.50 inches  
Driest location: Altus and Reydon, 1.77 inches  
Most recorded: 18.83 inches, Wewoka, 1950

Oklahoma's hottest July, at least since record keeping began in 1892, occurred in 1954. That month produced the highest statewide-averaged temperature (88.6 degrees) of any month during the 110-year period of record. The thermometer indicated 120 degrees at Alva July 18, 1936, at Altus July 19, 1936, and at Tishomingo July 26, 1943. The lowest July statewide-averaged monthly temperature on record was 76.4 degrees in 1906. The lowest temperature ever reported in Oklahoma during July is 41 degrees at Goodwell, July 15, 1915. Humidity, vegetation, and elevation contribute to the variations in temperature across the state. The higher elevation and somewhat drier air in the panhandle lead to cooler nights and a greater range in daily temperatures than in other parts of the state. The more humid air in the southeast typically warms less in the daytime, but also retains more heat through the night. Southwestern Oklahoma suffers the most from the heat.

### **Temperature**

Mean: 82.0 degrees  
Hottest June: 1954, 88.6 degrees  
Coolest June: 1906, 76.4 degrees  
Hottest location: Waurika, 85.1 degrees  
Coolest location: Boise City, 77.2 degrees  
Hottest recorded: 120 degrees, Alva, July 18, 1936  
Altus, July 19, 1936  
Tishomingo, July 26, 1943  
Coldest recorded: 41 degrees, Goodwell, July 15, 1915

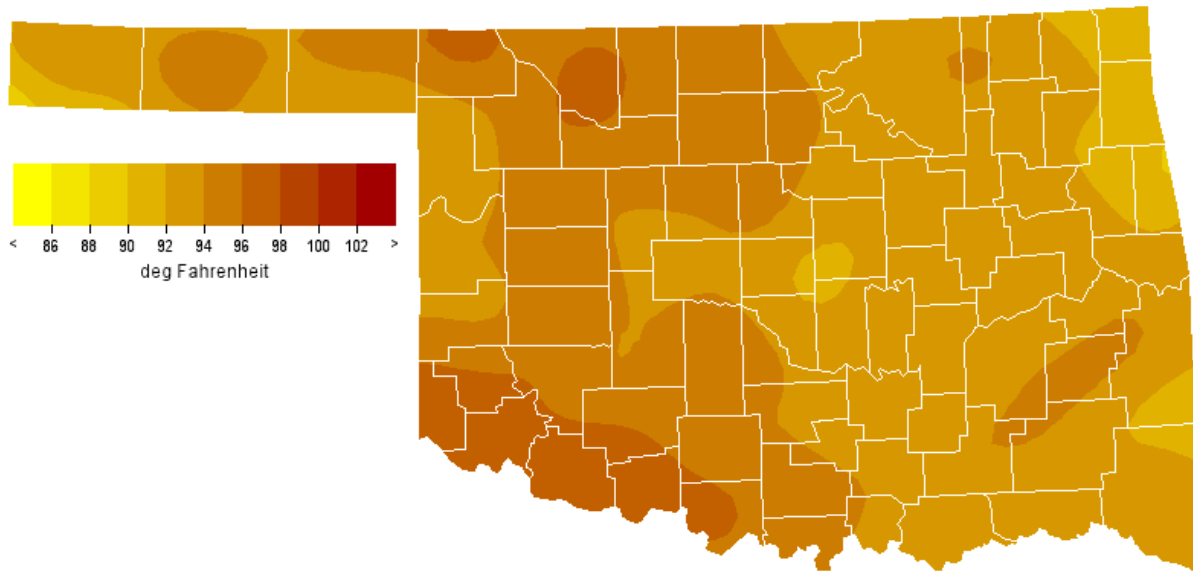
July precipitation, all rainfall unless you count an occasional hailstorm, is primarily a result of localized events. While the panhandle enjoys its summer rainy season and rain certainly doesn't disappear from north central Oklahoma, the forested southeast, though drier than it is in other months, still receives more precipitation than other parts of the state. The wettest July, based on a statewide average of rainfall, was 1950 (9.26 inches). The driest July occurred in 1980 (0.41 inches).

Oklahoma averages only 2.1 tornadoes in July each year. Since 1950, the July record for tornadoes is seven in 1956. Fifteen of those 52 months have been free of confirmed tornadoes. In the absence of well-organized systems, the vast majority of recorded July tornadoes have been of the weaker variety, and multiple occurrences on the same day are extremely rare. Only one fatality has been attributable to a tornado since 1950, that occurring in Murray County in 1955. Lightning, thunderstorm-induced winds, locally heavy rain, and, of course, heat are more likely to provide Oklahoma with its "weather misery" during the month.

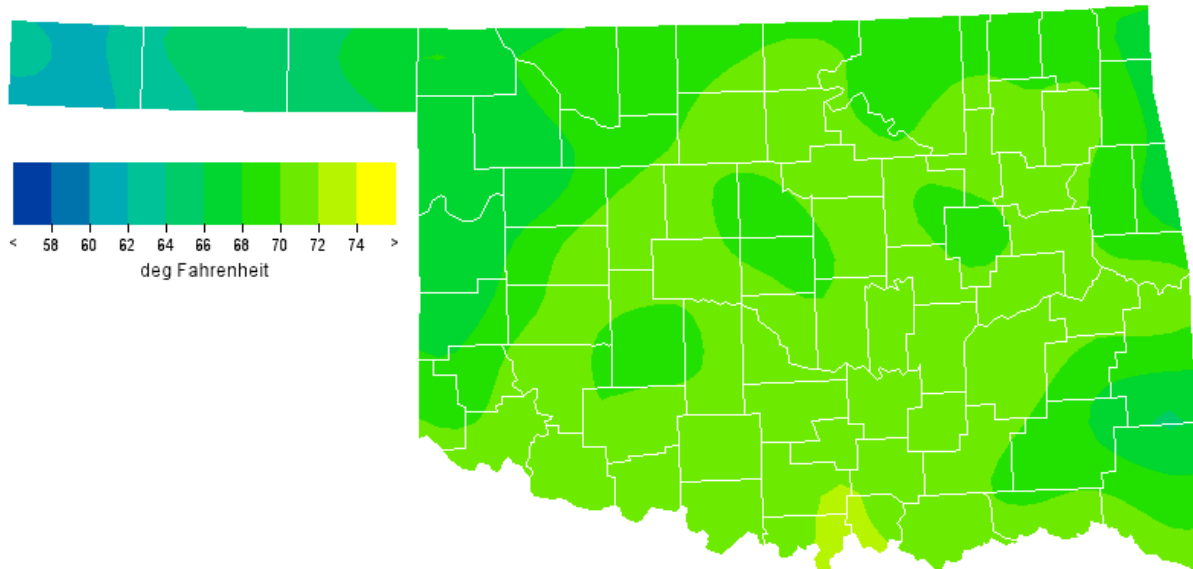
### **Tornadoes**

Average July Tornadoes: 2  
Most: 7 (1956)

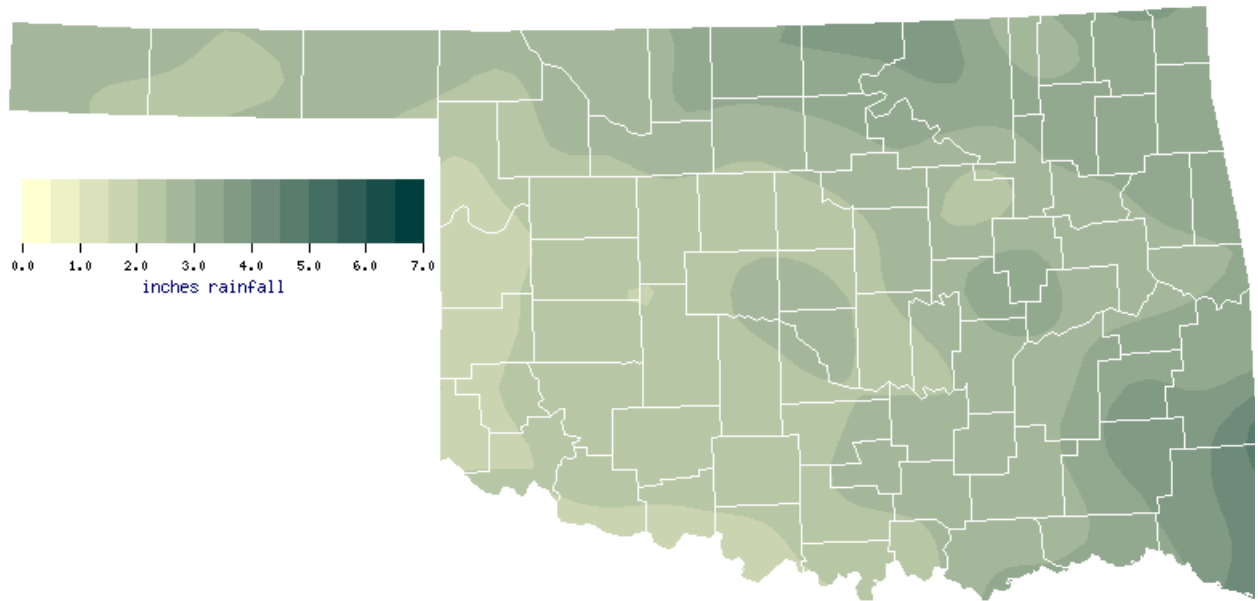
**July Normal Monthly Maximum Temperature (1971-2000)**



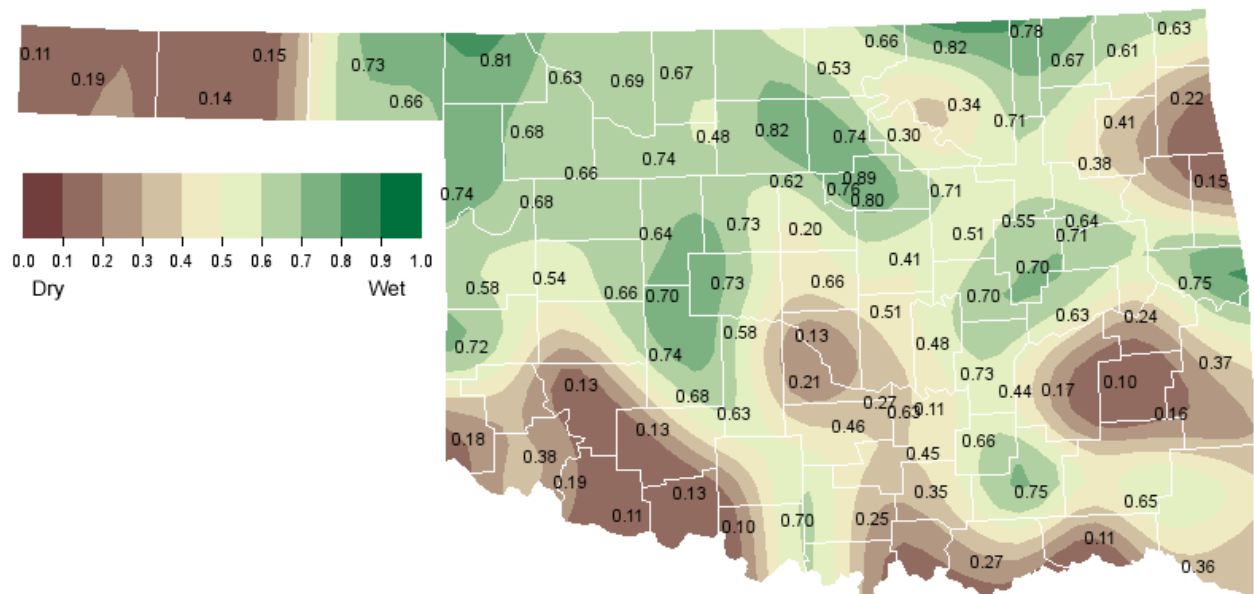
**July Normal Monthly Minimum Temperature (1971-2000)**



## July Normal Precipitation (1971-2000)

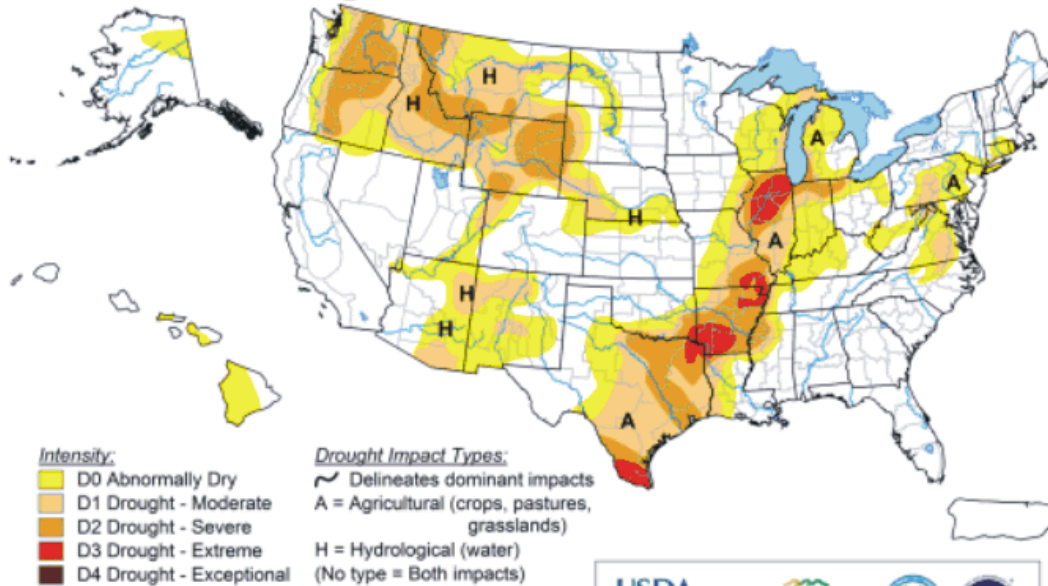


## July 1, 2005 Soil Moisture Conditions at 25cm



# U.S. Drought Monitor

July 5, 2005  
Valid 8 a.m. EDT



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

**Drought Impact Types:**  
 ~ Delineates dominant impacts  
 A = Agricultural (crops, pastures, grasslands)  
 H = Hydrological (water)  
 (No type = Both impacts)

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



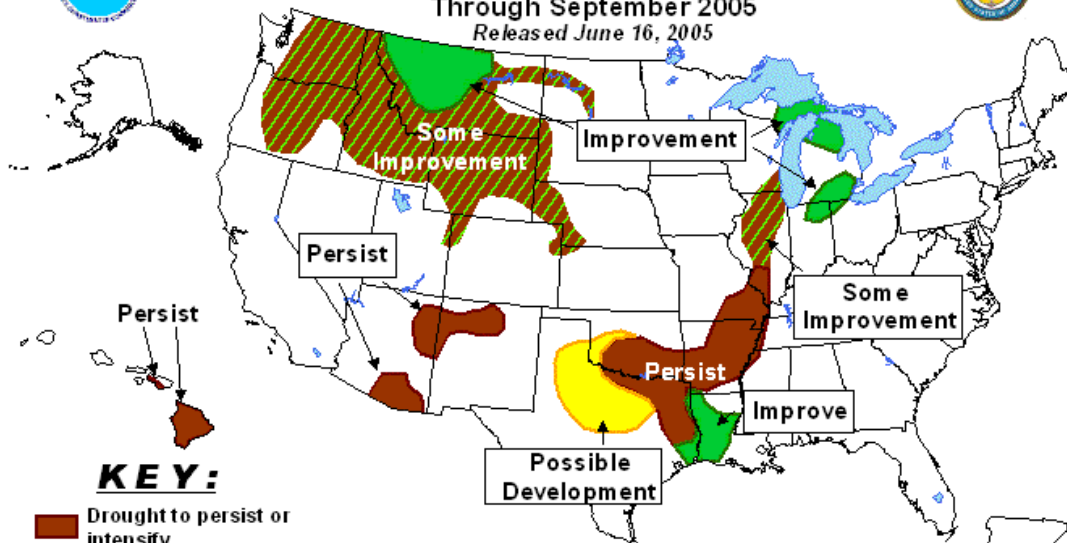
Released Thursday, July 7, 2005  
 Author: Richard Tinker, NOAA/NWS/NCEP/CPC

<http://drought.unl.edu/dm>



## U.S. Seasonal Drought Outlook

Through September 2005  
 Released June 16, 2005

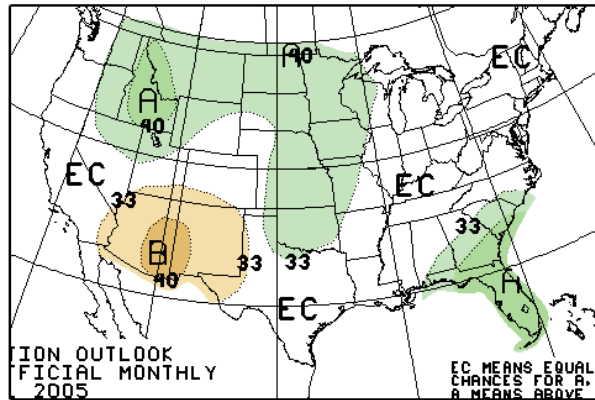


**KEY:**

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

Depicts general, large-scale trends based on subjectively derived probabilities guided by numerous indicators, including 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, so use caution if using this outlook for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are schematically approximated from the Drought Monitor (D1 to D4). For weekly drought updates, see the latest Drought Monitor map and text. NOTE: the green improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels, but do not necessarily imply drought.

## July 2005 U.S. Precipitation Forecast

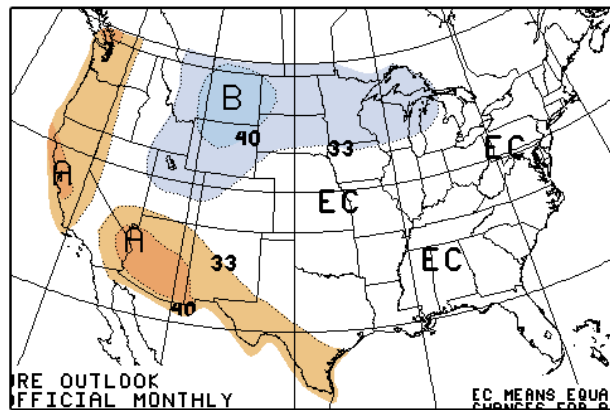


Percent Likelihood of Above or Below Average Precipitation\*

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

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

## July 2005 U.S. Temperature Forecast



Percent Likelihood of Above and Below Average Temperatures\*

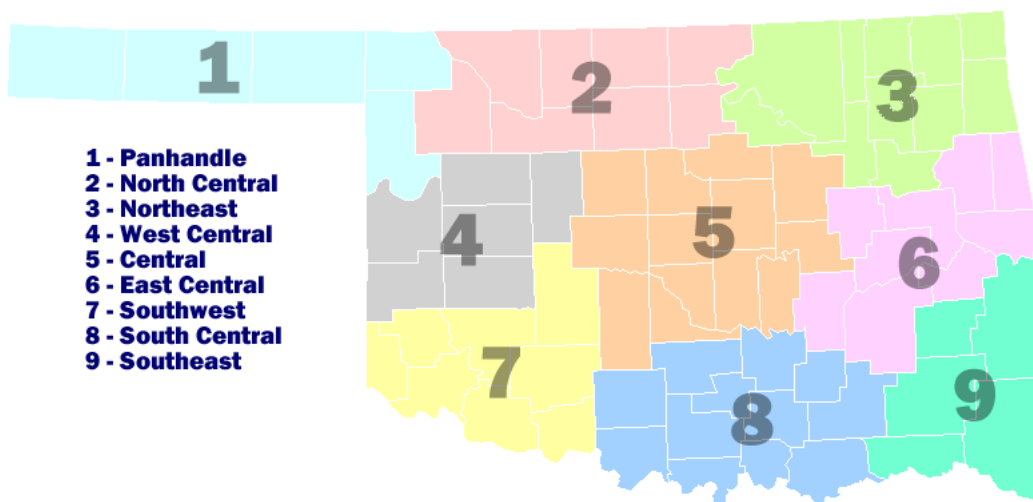
	10% - 20%	A = Above
	5% - 10%	
	0% - 5%	
	0% - 5%	B = Below
	5% - 10%	

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

## July Climate Normals

Climate Division	Max. Temperature (°F)	Min. Temperature (°F)	Avg. Temperature (°F)	Precipitation (inches)
1	94.2	65.6	79.9	2.5
2	94.9	69.4	82.2	2.98
3	92.8	69.9	81.4	3.14
4	94.4	69.2	81.8	2.1
5	93.7	70.5	82.1	2.53
6	92.7	70.1	81.5	2.97
7	96	70.1	83.1	2.12
8	94.3	71.1	82.7	2.53
9	93.4	69	81.2	3.59
Statewide	94	69.6	81.8	2.73

## 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](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](mailto:ocs@ou.edu)) or telephone (405/325-2541)



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