Oklahoma Monthly Climate Summary

MAY 2011

OKLAHOMA CLIMATOLOGICAL SURVEY

Even though severe weather only struck on a few days during May, those instances gave the month more than its money's worth. The most violent weather occurred on May 24 when several long-track violent tornadoes tore their way through Oklahoma from west to east. While the exact details of the twisters are still being discovered, their 10 confirmed fatalities are unfortunately all too certain. Those casualties make the month the deadliest due to tornadoes in Oklahoma since May 1999. One of those deadly tornadoes reached EF-5 levels and clipped the Oklahoma Mesonet site northwest of El Reno just minutes after killing five people on and north of Interstate 40. The site's instruments recorded a maximum wind gust of 151 mph during the tornado's passage. The 151 mph wind gust tops the previous Mesonet record of 113 mph, recorded at the Lahoma site on August 17, 1994. Preliminary reports from the National Weather Service indicate at least 27 tornadoes touched down during May along with dozens of reports of golf ball- to softball-size hail. A National Weather Service research team from Topeka measured a 6-inch diameter hailstone near Gotebo on May 23, one of the largest stones ever reported in Oklahoma.

May 2011 Statewide Extremes

Description	Extreme	Station	Day
High Temperature	108°F	Altus	8, 27
Low Temperature	26°F	Boise City	2
High Precipitation	12.52 in.	Vinita	--
Low Precipitation	0.19 in.	Boise City, Buffalo	--

PRECIPITATION

The other big weather story during May was the continuing drought in far western Oklahoma versus the excessively wet weather in the east. Much of the northwestern one-quarter of the state saw less than a half-inch of rain while the eastern one-third received 6-10 inches. Oklahoma City experienced its 13th wettest May since 1890 with 9.21 inches, a surplus of 3.77 inches. The extremes evened out for a statewide average of 4.37 inches, the 51st driest May since records began in 1895 at less than an inch below normal. The contrast in moisture from west to east is exemplified by comparing the weather fortunes of the northwest and southeast corners of the state. The Panhandle received an average of 0.33 inches during May, more than 3 inches below normal with a rank of fourth driest on record. Meanwhile, the southeast enjoyed a surplus of more than an inch at 7.71 inches, the 29th wettest May in that area. The Mesonet site at Vinita led the state's rainfall totals with 12.52 inches. Boise City and Buffalo ended up at the other end of the gauge with totals of 0.19 inches.

TEMPERATURE

The statewide average temperature was near normal at 67.8 degrees, the 55th coolest May on record. Grandfield was the warmest site in the state with an average temperature of 73.7 degrees and Boise City came in an unsurprising last with 60.6 degrees. The highest temperature of the month was 108 degrees at Altus on the 27th. The lowest temperature of 26 degrees was recorded at Boise City on the second.

May 2011 Statewide Statistics

Temperature

	Average	Depart.	Rank (1895-2011)
Month (May)	67.8°F	-0.1°F	55th Coolest
Season-to-Date (Mar-May)	60.4°F	1.3°F	24th Warmest
Year-to-Date (Jan-May)	51.3°F	0.2°F	44th Warmest

Precipitation

	Average	Depart.	Rank (1895-2011)
Month (May)	4.37 in.	-0.84 in.	51st Driest
Season-to-Date (Mar-May)	8.39 in.	-3.29 in.	25th Driest
Year-to-Date (Jan-May)	10.03 in.	-4.86 in.	18th Driest

Depart. = departure from 30-year normal

MAY DAILY HIGHLIGHTS

MAY 1-2: A stalled frontal boundary in southeastern Oklahoma set the stage for showers and storms in that part of the state. Some of the storms produced small hail and severe winds. The Oklahoma Mesonet site at Durant measured a wind gust of 65 mph early on the first along with several reports of quarter size

hail in the area. Flooding was a problem in Latimer and Haskell counties associated with some hefty rain totals. Over the two-day period, the southeastern quarter of the state received 4-5 inches with diminishing totals to the northwest. Very little rainfall was received in northwestern Oklahoma. Highs struggled out of the 40s on the first but rebounded into the 60s in some areas that saw clearing skies on the second. The lowest reading of the month, 26 degrees, occurred at Boise City on the second.

MAY 3-9: Very little rain fell over this seven-day period. Temperatures started out cool on the third but southerly winds soon kicked the temperatures up into record territory. By the seventh and eighth, triple-digits were common in the southwest with 90s elsewhere. Altus reached 108 degrees on the eighth, the highest temperature ever recorded in Oklahoma that early in the year. The reading tied for the highest in the state during the month. The heat continued into the ninth with 90s and 100s common once again.

MAY 10-12: A low pressure system in the Northern Plains kicked up southerly winds and brought Oklahoma plenty of warm, moist air. Rain and a few storms hit the state on the 10th. Another warm morning on the 11th gave way to widespread storms that afternoon. Winds of over 70 mph were associated with the storms in eastern Oklahoma. Two tornadoes touched down in Delaware and Kiowa counties with damage done to mobile homes. A cold front on the 12th kicked off yet another round of storms, mainly in eastern Oklahoma, again with associated severe weather. Rainfall totals over this three-day period were generally three-quarters of an inch to 2 inches with very little falling in northwestern Oklahoma.

MAY 13-17: Canadian air that flowed into the state after the cold front kept this period unseasonably cool. Lows in the 30s and 40s were common through the 16th. High temperatures ranged from the 60s and 70s early to the 70s and 80s on the 17th as southerly winds returned ahead of an approaching upper-level storm.

MAY 18-20: This three-day period was the beginning of a longer duration of active weather. An upper-level disturbance helped stir the pot over these three days. While there was some severe weather with the storms, heavy rains were more plentiful. The period was very warm as well. A warm front cut off cool weather in the north and highs in the 60s from warmer weather in the south and highs near 100 degrees. Two tornadoes touched down in southwestern Oklahoma on the 19th. After several rounds of storms, a broad area of 3-5 inches had fallen across southwestern and central Oklahoma, providing much-needed drought relief. Eastern Oklahoma saw 2-4 inches as well. Numerous reports of baseball- to softball-size hail were scattered throughout the state with the storms.

MAY 21-23: The unsettled weather continued with the dryline in western Oklahoma setting off rounds of severe storms over these three days. At least 10 tornadoes touched down over the period according to preliminary reports, including several significant tornadoes in eastern Oklahoma. More than 30 reports of 2-inch or greater hail were reported, including a 6-inch monster stone that fell two miles north of Gotebo on the 23rd. Three EF-2 and an EF-3 tornado touched down in eastern Oklahoma on the 22nd. The tornadoes produced significant damage in some areas. The EF-3 tornado had a width of nearly three-quarters of a mile at one point. Widespread flooding occurred on the 23rd in eastern Oklahoma, primarily, as 7-10 inches of rain fell in the extreme northeast. The Oklahoma Mesonet site in Vinita recorded 9.67 inches on the 23rd and Miami received 7.87 inches.

MAY 24: The most significant severe weather of the month occurred on the 24th. A strengthening surface low pressure system in northwest Oklahoma combined with a powerful upper-level low to produce a series of tornadic supercells across western, central and eastern Oklahoma. The day included several violent EF-4 tornadoes and an EF-5 twister as well. The EF-5 tornado first touched down near Binger and traveled across Interstate-40 near Calumet and El Reno, killing five on or near the highway. As it traveled on, it struck the Oklahoma Mesonet site northwest of El Reno. The site registered a maximum wind gust of 151 mph as well as a large and sudden pressure drop associated with the tornado. It caused significant and catastrophic damage along its path, killing nine people. Two EF-4 tornadoes touched down in Grady and McClain Counties as well near Chickasha and Bradley. Both tornadoes lifted as they approached Cleveland County and more populous areas, but significant damage was reported in Chickasha and Goldsby. The Chickasha tornado killed one person. An EF-3 tornado formed near Canton Lake and traveled towards Fairview before lifting, causing damage to recreational vehicles around Canton Lake. Another EF-3 tornado touched down near Lookeba. Other EF-2 and EF-1 tornadoes were reported across central and eastern Oklahoma. Large hail and severe straight-line winds were associated with the severe storms across the state.

MAY 25-31: The state went back into a dry pattern following the unsettled weather of the previous week. Very little rain fell during this period – mostly confined to isolated thunderstorms associated with the various frontal boundaries the state was dealing with. The dryline plagued western Oklahoma with strong gusty winds behind it and triple-digit temperatures. Altus reached 108 degrees on the 27th to tie the earlier mark at the same location for highest reading of the month. East of the dryline, temperatures were moderated by more moisture, but accordingly the apparent temperature felt a bit higher. A few storms struck in the northwest on the 31st with small hail and strong winds, but rainfall was limited.

MAY 2011 SEVERE WEATHER

Wind Gusts (70 mph or greater)

Speed (m.p.h)	Location	County	Day
76	4 NW Skiatook	Osage	11
70	7 NNW Inola	Rogers	11
70	Spiro	LeFlore	12
73	1 S Ratliff City	Carter	22
70	Cameron	LeFlore	22
70	Summerfield	LeFlore	22
151	5 WNW El Reno	Canadian	24
100	5 NW Hollow	Craig	24
70	Mannford	Creek	24
70	Tulsa	Tulsa	24
70	2 N Jamesville	Muskogee	24
70	Bokoshe	LeFlore	24

Significant Tornadoes (EF2 or greater)

EF-rating	County	Day
2	Delaware	22
3	Delaware	22
2	Adair/Delaware	22
2	Delaware	22
3	Blaine/Major	24
5	Caddo/Canadian/Kingfisher/Logan	24
4	Grady/McClain	24
4	Grady/McClain	24
2	Payne	24
2	Wagoner	24
2	LeFlore	24
2	Muskogee	24
2	Osage	24

Flooding

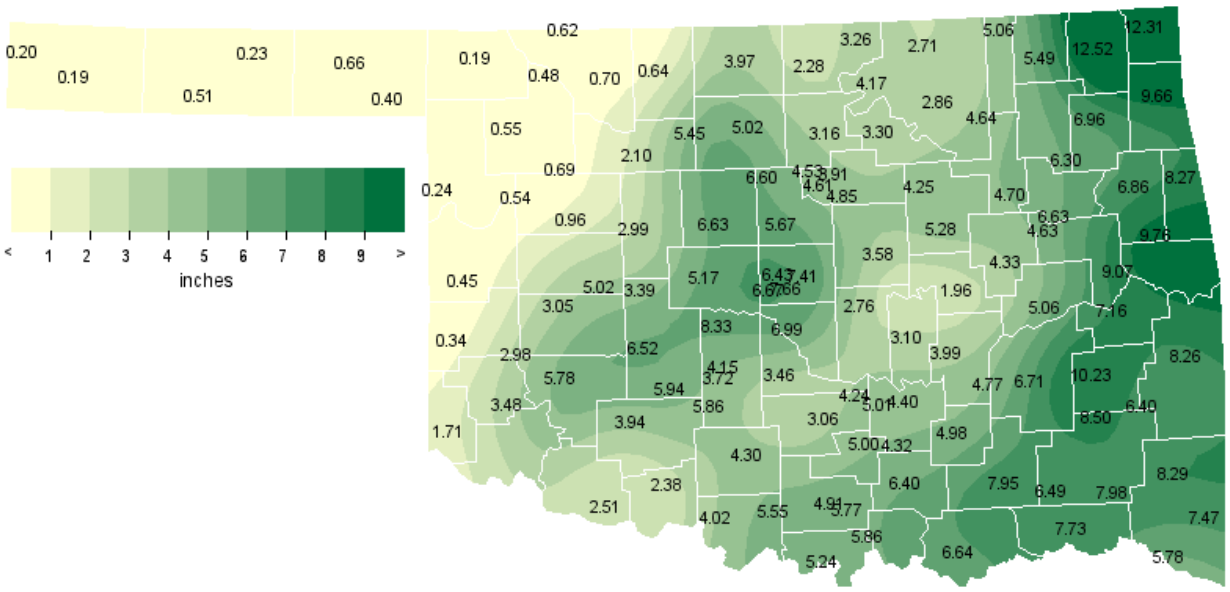
Location	County	Day
Pocola	LeFlore	1
7 NW Wilburton	Latimer	1
Panola	Latimer	1
5 S Stigler	Haskell	1
4 E Sallisaw	Sequoyah	1
1 S Wister	LeFlore	2
10 S Heavener	LeFlore	2
4 SE Yukon	Canadian	11
Arkoma	Leflore	12
Pocola	Leflore	12
Lahoma	Garfield	23
N Kingfisher	Kingfisher	23
Miami	Ottawa	23
2 E Lenapah	Nowata	23
10 E Nowata	Nowata	23
Centralia	Craig	23
8 N Vinita	Craig	23
Welch	Craig	23
5 N Vinita	Craig	23
5 E Pyramid Corners	Craig	23
Miami	Ottawa	23
8 E Nowata	Nowata	23
Tahlequah	Cherokee	23
3 WSE Hulbert	Cherokee	23
Westville	Adair	23
Chelsae	Rogers	23

MAY 2011 SEVERE WEATHER (CONT.)

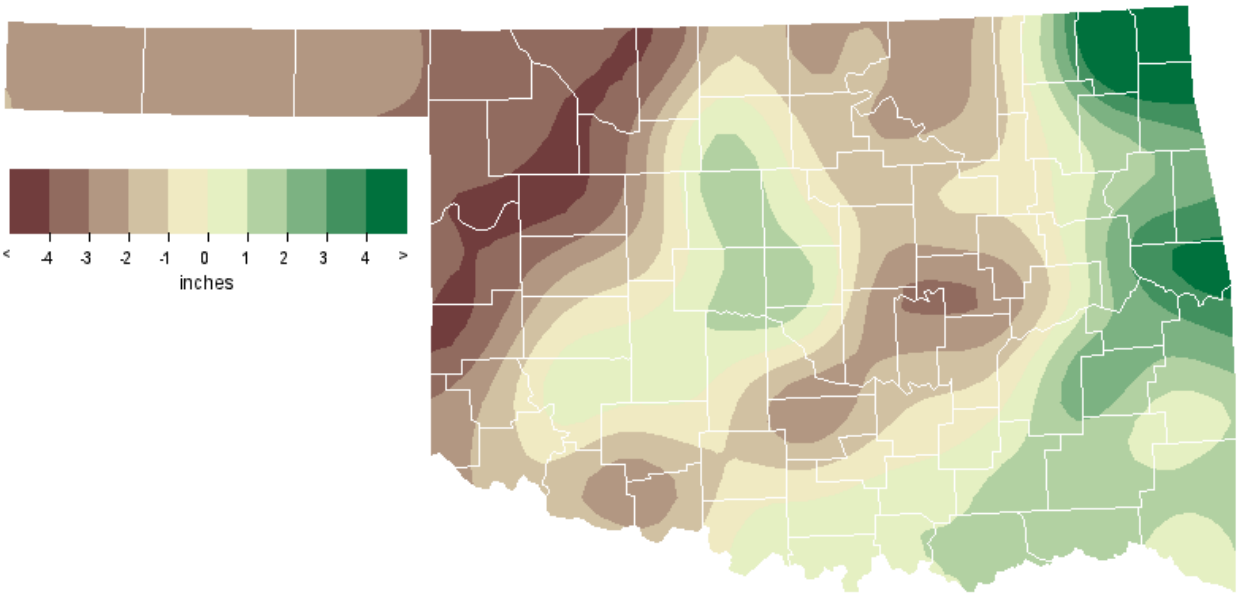
Hail (2 inches in diameter or greater)

Size (in.)	Location	County	Day
3.00	Sallisaw	Sequoyah	12
2.75	Sallisaw	Sequoyah	12
2.50	Afton	Ottawa	12
2.00	Sallisaw	Sequoyah	12
2.00	Wyandotte	Ottawa	12
2.75	10 ENE Cooperton	Kiowa	19
2.75	Chattanooga	Comanche	19
2.00	1 S Byng	Pontotoc	21
4.50	WSW Lone Grove	Carter	22
4.25	Lone Grove	Carter	22
4.25	2 N Peggs	Cherokee	22
4.00	Lone Grove	Carter	22
2.75	3 SSW Springer	Carter	22
2.75	Springer	Carter	22
2.75	Gene Autry	Carter	22
2.75	S Ada	Pontotoc	22
2.75	Ryan	Jefferson	22
2.75	Peggs	Cherokee	22
2.50	Dougherty	Murray	22
2.50	3 S Ada	Pontotoc	22
2.00	3 W Scraper	Cherokee	22
2.00	2 SE Catoosa	Rogers	22
6.00	2 N Gotebo	Kiowa	23
3.50	2 S Gotebo	Kiowa	23
3.20	5 WNW Apache	Caddo	23
3.00	6 N Ringwood	Alfalfa	23
3.00	2 SE Gotebo	Kiowa	23
3.00	1 N Okarche	Kingfisher	23
2.75	N Okarche	Canadian	23
2.50	4 N Ringwood	Major	23
2.50	1 E Gotebo	Kiowa	23
2.50	1 SW Okarche	Canadian	23
2.50	N Okarche	Canadian	23
2.50	4 NNW Bethany	Canadian	23
2.00	5 W Braman	Kay	23
2.00	Greenfield	Blaine	23
2.00	5 E Kingfisher	Kingfisher	23
2.00	3 E Kingfisher	Kingfisher	23
2.00	3 SSE Piedmont	Canadian	23
2.00	4 SE Piedmont	Canadian	23
2.00	Oklahoma City	Oklahoma	23
3.00	5 ESE Fay	Blaine	24
2.75	2 SW Newcastle	McClain	24
2.50	3 N Washington	McClain	24
2.50	Noble	Cleveland	24
2.00	4 ENE Noble	Cleveland	24

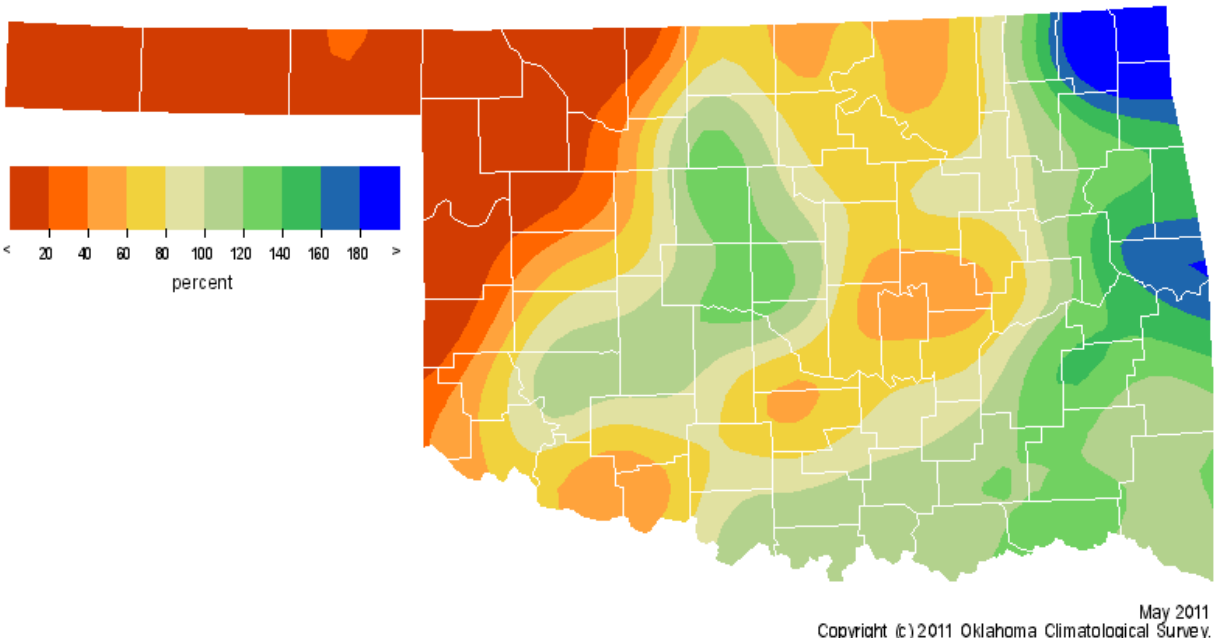
MAY 2011 OBSERVED PRECIPITATION



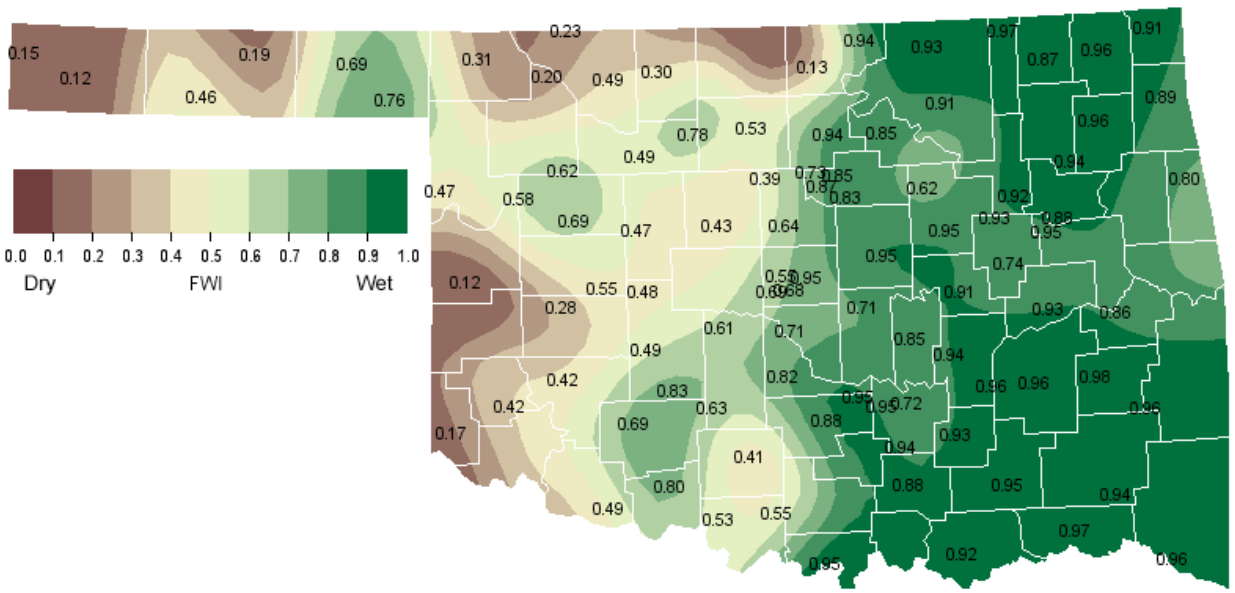
MAY 2011 DEPARTURE FROM NORMAL PRECIPITATION



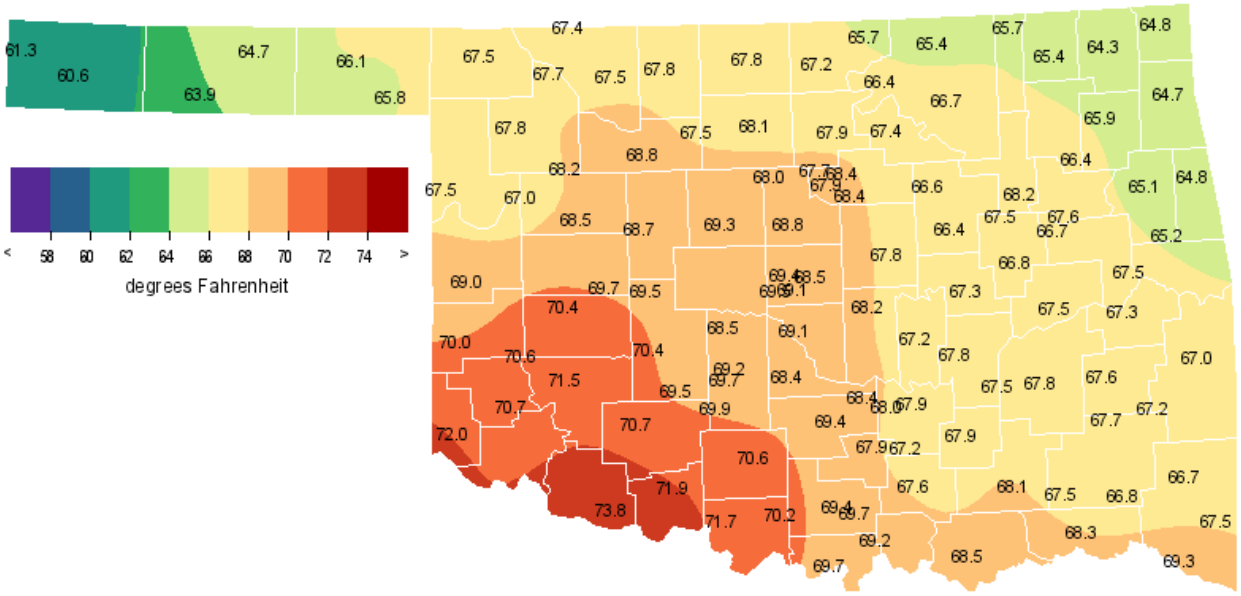
MAY 2011 PERCENT OF NORMAL PRECIPITATION



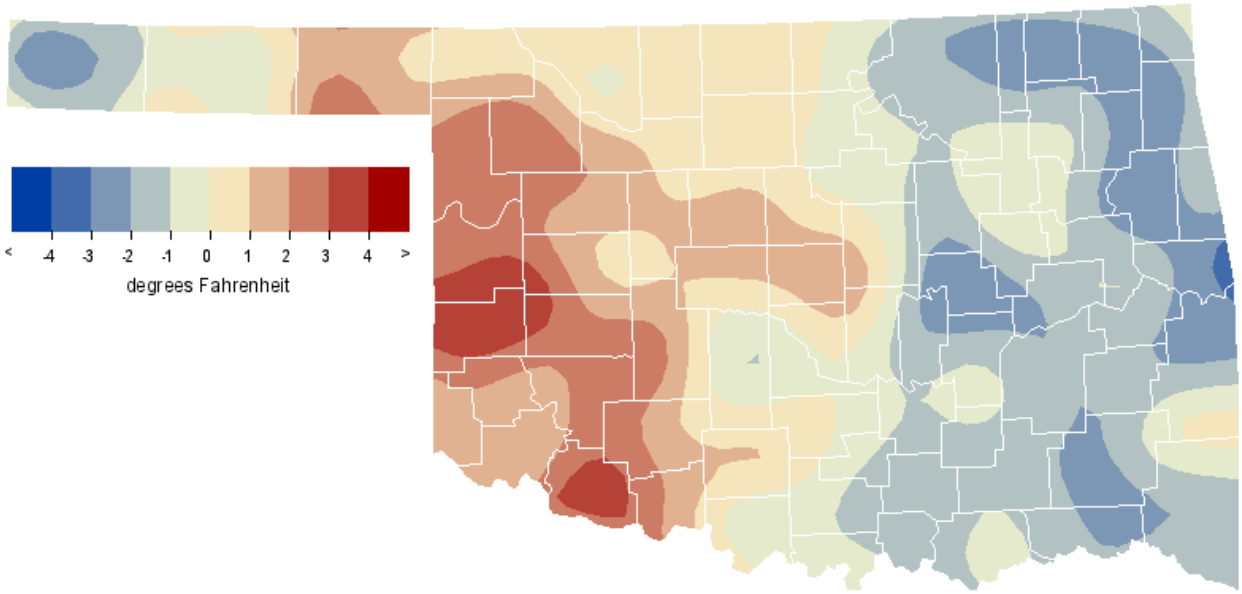
MAY 2011 AVERAGE SOIL MOISTURE AT 25CM



MAY 2011 AVERAGE TEMPERATURE



MAY 2011 DEPARTURE FROM NORMAL TEMPERATURE

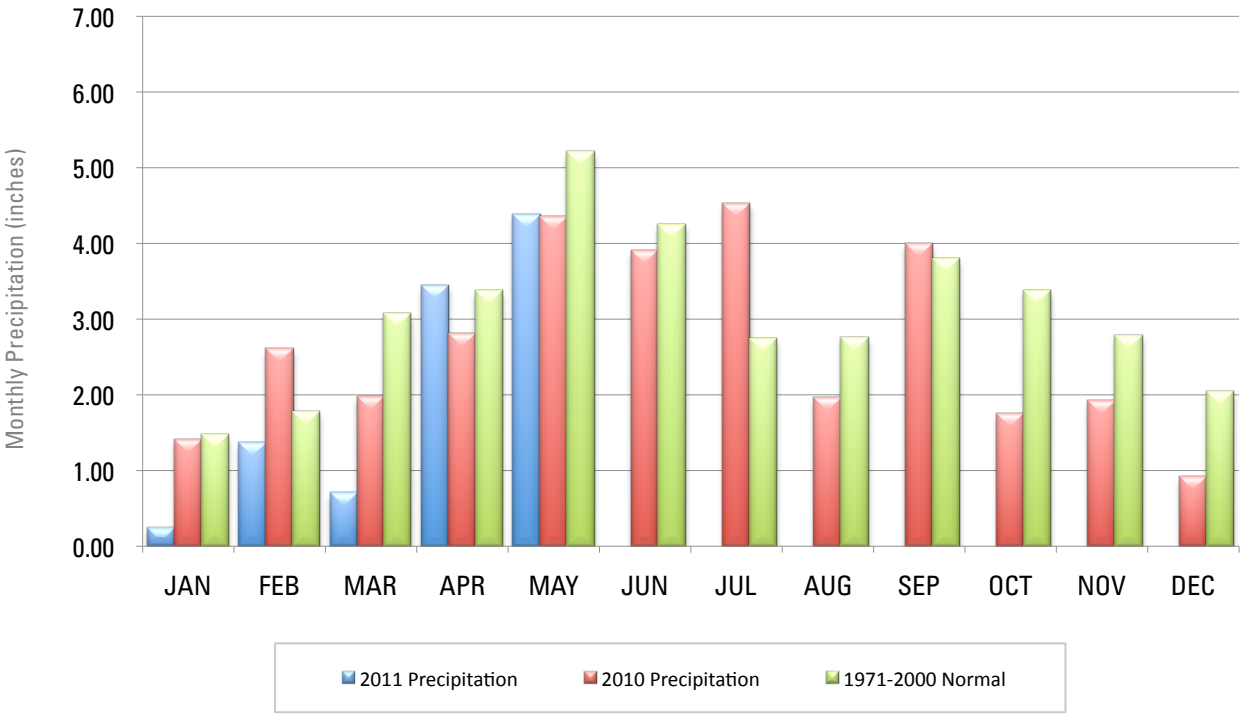


MESONET MONTHLY SUMMARY FOR MAY 2011

NAME	MEAN TEMP	HIGH TEMP	HIGH DAY	LOW TEMP	LOW DAY	HDD	CDD	TOT PPT	HIGH 24-HR	HIGH DAY
PANHANDLE										
Arnett	67.5	101	9	31	3	100	178	.24	.22	11
Beaver	66.1	107	29	31	3	106	141	.66	.62	11
Boise City	60.6	99	29	26	2	183	48	.19	.09	24
Buffalo	67.5	104	29	33	3	98	174	.19	.10	11
NORTH CENTRAL										
Alva	67.5	104	8	35	1	102	179	.70	.38	20
Blackwell	67.2	95	8	36	2	104	173	2.28	.87	20
Breckinridge	68.0	97	8	37	3	91	185	5.02	3.66	20
Cherokee	67.8	105	8	33	1	103	190	.64	.41	20
Fairview	68.8	104	8	35	2	90	207	2.10	.79	23
Freedom	67.6	104	8	35	3	99	181	.48	.25	20
Lahoma	67.5	102	8	35	1	101	179	5.45	3.21	23
NORTHEAST										
Bixby	68.2	90	9	35	3	95	195	4.70	1.51	20
Burbank	66.4	91	9	36	2	112	155	4.17	1.38	23
Claremore	67.0	89	22	37	3	****	****	3.76	1.68	20
Copan	65.7	89	22	35	2	122	143	5.06	2.19	11
Foraker	65.3	90	9	37	2	120	130	2.71	1.03	11
Inola	66.4	88	29	32	3	117	160	6.30	1.94	20
Jay	64.8	86	29	33	3	138	131	9.66	3.89	23
Miami	64.8	87	8	35	3	139	133	12.31	7.87	23
WEST CENTRAL										
Bessie	70.4	106	8	37	2	70	237	3.05	2.31	20
Butler	70.1	105	8	32	3	79	238	.56	.32	20
Camargo	67.1	103	8	31	3	109	173	.54	.35	20
Cheyenne	69.0	101	8	38	1	86	208	.45	.33	11
Erick	69.9	105	8	31	3	77	230	.34	.27	11
CENTRAL										
Acme	69.8	96	7	32	3	74	223	5.86	3.11	19
Bowlegs	67.2	90	22	32	3	103	172	3.10	1.81	20
Bristow	66.4	90	22	33	3	119	163	5.28	2.10	23
Lake Carl Blac	67.7	92	8	34	3	104	189	4.53	1.39	11
Chandler	67.8	93	22	35	3	92	179	3.58	1.63	20
Chickasha	69.2	97	7	33	3	80	210	4.15	1.70	20
El Reno	67.8	96	8	33	3	****	****	5.17	2.52	20
Guthrie	68.7	94	9	37	3	80	196	5.67	1.92	11
Kingfisher	69.4	99	8	35	3	83	219	6.63	1.87	23
Marena	67.9	92	8	37	2	90	180	4.61	1.36	11
Minco	68.5	94	8	37	2	87	196	8.33	3.29	19
Marshall	68.0	96	8	33	2	102	194	6.60	2.41	20
EAST CENTRAL										
Cookson	65.2	87	28	31	3	135	142	9.76	2.76	20
Eufaula	67.6	88	28	35	3	93	173	5.06	1.17	20
Haskell	66.8	88	22	34	3	108	162	4.63	1.61	23
Hectorville	67.5	89	22	36	3	96	173	*****	*****	***
Holdenville	67.8	89	28	35	3	95	180	3.99	2.09	20
McAlester	67.7	89	28	33	3	99	183	6.71	2.38	20
Okmulgee	66.7	88	22	32	3	114	167	4.33	1.97	23
SOUTHWEST										
Altus	*****	***	***	***	***	****	****	*****	*****	***
Apache	69.5	97	28	36	3	79	219	5.94	1.75	11
Fort Cobb	70.4	100	28	36	3	64	232	6.52	4.05	19
Grandfield	73.7	107	27	35	3	55	325	2.51	1.37	20
Hinton	69.4	100	8	35	2	81	219	3.39	1.69	20
Hobart	71.5	105	8	34	3	64	266	5.78	3.04	19
SOUTH CENTRAL										
Ada	67.9	90	28	33	3	94	183	4.40	1.73	20
Ardmore	69.7	93	28	36	3	72	219	5.77	2.96	20
Burneyville	69.7	94	28	31	3	80	226	5.24	1.67	1
Byars	68.4	91	22	36	3	84	190	4.24	2.19	20
Centrahoma	67.8	90	28	32	3	101	189	4.98	1.91	20
Durant	68.4	91	28	36	3	82	189	6.64	2.10	1
Fittstown	67.2	90	28	32	3	97	165	4.32	1.52	20
Ketchum Ranch	70.7	97	22	35	3	66	242	4.30	2.80	20
Lane	68.2	91	28	34	3	90	188	7.95	3.63	1
SOUTHEAST										
Antlers	*****	***	***	***	***	****	****	*****	*****	***
Broken Bow	67.5	93	28	38	3	84	162	7.47	3.40	1
Clayton	67.7	90	28	36	3	91	176	8.50	2.76	20
Cloudy	66.8	89	28	37	3	94	151	7.98	2.59	1
Hugo	68.4	91	28	37	3	83	188	7.73	2.18	1

NAME	MEAN TEMP	HIGH TEMP	HIGH DAY	LOW TEMP	LOW DAY	HDD	CDD	TOT PPT	HIGH 24-HR	HIGH DAY
Goodwell	63.9	103	29	31	2	128	93	.51	.42	11
Hooker	64.7	105	29	30	3	115	107	.23	.23	11
Kenton	61.2	98	29	28	2	171	54	.20	.15	1
Slapout	65.8	104	29	34	3	111	137	.40	.40	11
May Ranch	67.4	103	8	37	14	98	173	.62	.26	31
Medford	67.9	99	8	34	2	98	187	3.97	2.76	20
Newkirk	65.7	91	9	37	2	115	137	3.26	1.91	11
Red Rock	67.9	94	8	35	2	100	188	3.16	1.27	11
Seiling	68.2	104	8	35	3	89	189	.69	.40	20
Woodward	67.8	102	8	35	1	98	185	.55	.27	20
Nowata	65.4	88	22	35	3	132	146	5.49	2.79	23
Pawnee	67.4	91	9	36	2	97	172	3.30	.95	11
Porter	67.6	89	28	35	3	98	177	6.63	2.62	23
Pryor	65.9	88	29	34	3	126	154	6.96	2.12	20
Skiatook	66.9	88	22	39	2	100	160	4.64	1.64	11
Vinita	64.4	87	22	34	3	145	125	12.52	9.67	23
Wynona	66.7	90	22	37	1	106	158	2.86	.83	24
Putnam	68.5	103	8	33	2	90	200	.96	.57	24
Retrop	70.6	105	8	37	3	67	242	2.98	1.75	20
Watonga	68.7	102	8	36	2	86	202	2.99	1.62	20
Weatherford	69.7	103	8	36	1	79	223	5.02	3.64	20
Ninnekah	69.7	97	7	33	3	74	220	3.72	1.68	20
Norman	69.1	93	7	36	3	73	199	6.99	2.43	20
Oilton	66.6	91	22	33	3	117	168	4.25	1.01	11
OKC East	69.0	92	7	39	3	78	203	7.66	2.93	19
OKC North	69.4	94	8	39	2	70	207	6.43	1.49	20
OKC West	69.6	93	8	41	3	65	208	6.67	2.34	19
Okemah	67.2	89	22	31	3	107	177	1.96	1.30	20
Perkins	68.4	92	9	38	2	84	190	4.85	1.23	24
Shawnee	68.2	91	22	37	2	91	191	2.76	1.73	20
Spencer	68.4	91	7	39	2	82	188	7.41	2.37	19
Stillwater	68.3	92	9	36	2	94	198	3.91	.93	11
Washington	68.4	94	22	36	3	82	187	3.46	1.53	20
Sallisaw	67.1	91	28	34	3	****	****	7.45	2.75	20
Stigler	67.3	89	28	35	3	102	171	7.16	1.92	20
Stuart	67.5	88	28	36	3	98	176	4.77	1.45	20
Tahlequah	65.2	86	28	31	3	134	140	6.86	2.37	23
Webbers Falls	67.5	90	28	37	3	96	174	9.07	3.13	23
Westville	64.7	86	29	31	3	139	131	8.27	2.32	20
Hollis	72.0	106	8	36	3	55	273	1.71	.95	20
Mangum	70.7	106	8	32	3	66	243	3.48	1.38	20
Medicine Park	70.7	99	28	39	3	60	236	3.94	1.91	11
Tipton	*****	***	***	***	***	****	****	*****	1.15	19
Walters	71.9	102	28	38	3	57	269	2.38	1.76	20
Madill	69.2	92	28	33	3	81	210	5.86	1.96	20
Newport	69.4	91	28	33	3	72	208	4.91	2.05	20
Pauls Valley	69.4	95	22	35	3	77	212	3.06	2.07	20
Ringling	70.2	97	22	32	3	66	228	5.55	2.81	20
Sulphur	67.9	90	28	31	3	93	183	5.00	2.04	20
Tishomingo	67.6	91	28	33	3	94	175	6.40	2.23	1
Vanoss	68.0	91	22	32	3	94	187	5.01	2.54	20
Waurika	71.7	99	22	35	3	57	264	4.02	2.57	20
Idabel	69.2	92	28	40	3	70	200	5.78	2.14	20
Mt Herman	66.6	87	28	35	3	97	147	8.29	2.88	1
Talihina	67.2	88	28	34	3	104	173	6.40	2.00	1
Wilburton	67.6	89	28	35	3	100	182	10.23	4.00	20
Wister	66.9	90	28	35	3	108	168	8.26	2.24	1

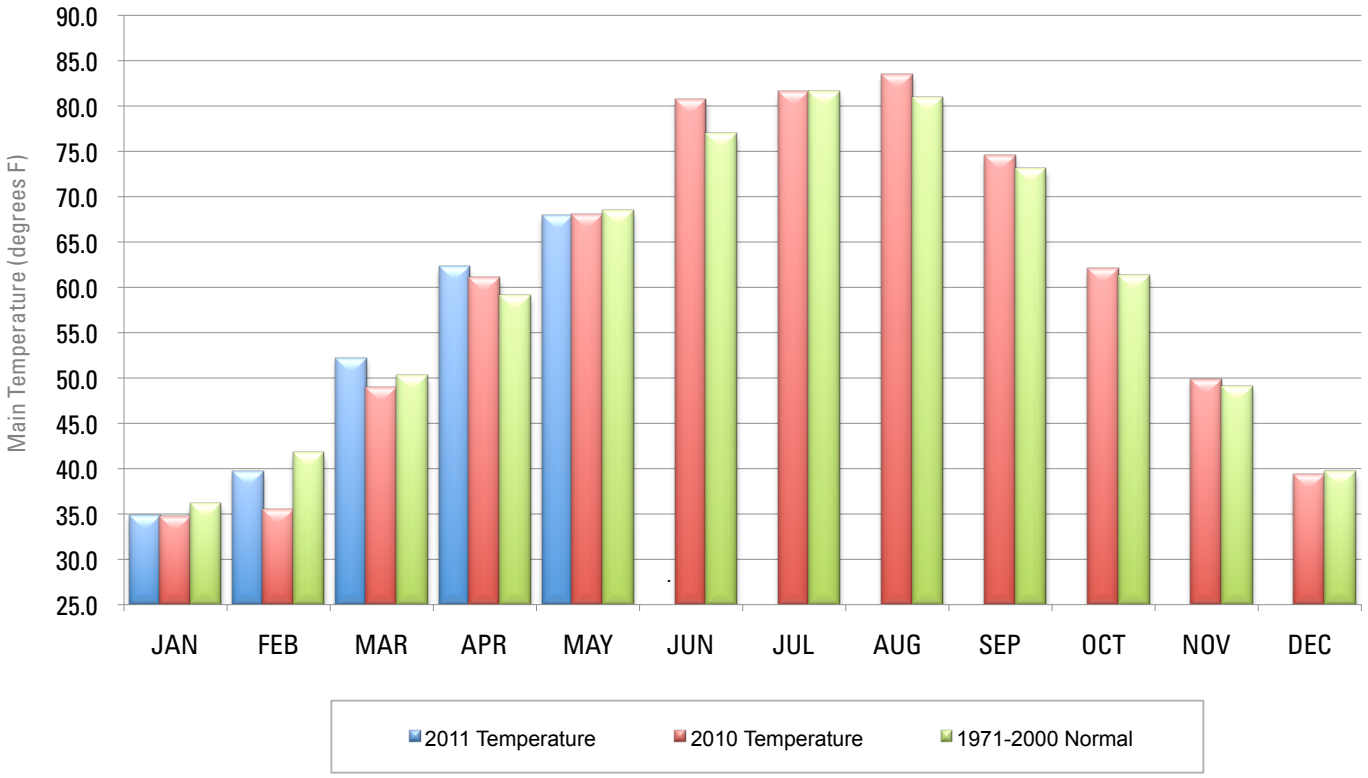
2010 AND 2011 STATEWIDE PRECIPITATION MONTHLY TOTALS VS. NORMAL



May 2011 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	May-10
Panhandle	0.33	-3.04	4th Driest	6.37 (1951)	0.00 (1927)	3.73
North Central	2.22	-2.50	32nd Driest	11.70 (1957)	0.25 (1924)	6.22
Northeast	6.24	0.76	37th Wettest	19.10 (1943)	1.38 (1917)	5.25
West Central	2.04	-2.86	22nd Driest	12.40 (1982)	0.00 (1924)	2.86
Central	5.15	-0.48	51st Wettest	12.53 (1902)	0.96 (1988)	4.97
East Central	6.42	0.53	47th Wettest	14.72 (1943)	1.25 (1941)	6.76
Southwest	3.96	-1.01	56th Driest	11.96 (1902)	0.38 (1984)	1.83
South Central	5.16	-0.44	55th Driest	12.66 (1982)	0.46 (1988)	4.61
Southeast	7.71	1.35	29th Wettest	14.36 (1990)	1.24 (1963)	5.15
Statewide	4.37	-0.84	51st Driest	10.68 (1957)	1.30 (1988)	4.67

2010 AND 2011 STATEWIDE TEMPERATURE MONTHLY TOTALS VS. NORMAL



May 2011 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	May-10 (F)
Panhandle	64.7	0.3	55th Warmest	72.0 (1896)	56.8 (1917)	64.6
North Central	67.6	0.5	52nd Warmest	75.2 (1896)	60.7 (1907)	66.2
Northeast	66.1	-1.1	39th Coolest	74.1 (1962)	61.2 (1907)	68.2
West Central	69.2	2.0	35th Warmest	75.6 (1896)	60.9 (1907)	67.4
Central	68.4	-0.1	58th Coolest	75.5 (1896)	62.0 (1907)	68.2
East Central	66.8	-1.5	29th Coolest	74.8 (1896)	62.2 (1907)	70.1
Southwest	71.1	1.5	31st Warmest	77.8 (1896)	62.8 (1907)	69.3
South Central	68.9	-0.8	39th Coolest	76.0 (1896)	63.6 (1907)	70.3
Southeast	67.6	-1.2	32nd Coolest	75.3 (1896)	62.8 (1907)	70.8
Statewide	67.8	-0.1	55th Coolest	75.0 (1896)	61.5 (1907)	68.3

RECORD EVENT REPORTS

Description	Day	Location	Record	Previous Record	Year
Minimum Temperature	3	McAlester	34	38	2004
Maximum Temperature	7	Oklahoma City	93	93	1955
Maximum Temperature	9	Oklahoma City	94	94	1895
Highest Minimum Temperature	9	Oklahoma City	71	70	1963
Daily Rainfall	19	Oklahoma City	3.86 inches	3.35 inches	1955
Highest Minimum Temperature	29	Oklahoma City	74	73	1989
Highest Minimum Temperature	29	Tulsa	77	76	1989

MESONET EXTREMES FOR MAY 2011

Climate Division	High Temp (F)	Day	Station	Low Temp (F)	Day	Station	High Monthly Rainfall (inches)	Station	High Daily Rainfall (inches)	Day	Station
Panhandle	107	29th	Beaver	26	2nd	Boise City	0.66	Beaver	0.62	11th	Beaver
North Central	105	8th	Cherokee	33	1st	Cherokee	5.45	Lahoma	3.66	20th	Breckinridge
Northeast	91	9th	Pawnee	32	3rd	Inola	12.52	Vinita	9.67	23rd	Vinita
West Central	106	8th	Bessie	31	3rd	Erick	5.02	Weatherford	3.64	20th	Weatherford
Central	99	8th	Kingfisher	31	3rd	Okemah	8.33	Minco	3.29	19th	Minco
East Central	90	28th	Webbers Falls	31	3rd	Westville	9.76	Cookson	3.13	23rd	Webbers Falls
Southwest	108	27th	Altus	32	3rd	Mangum	6.52	Fort Cobb	4.05	19th	Fort Cobb
South Central	99	22nd	Waurika	31	3rd	Sulphur	7.95	Lane	3.63	1st	Lane
Southeast	93	28th	Broken Bow	34	3rd	Talihina	10.23	Wilburton	4.00	20th	Wilburton
Statewide	108	27th	Altus	26	2nd	Boise City	12.52	Vinita	9.67	23rd	Vinita

JUNE 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

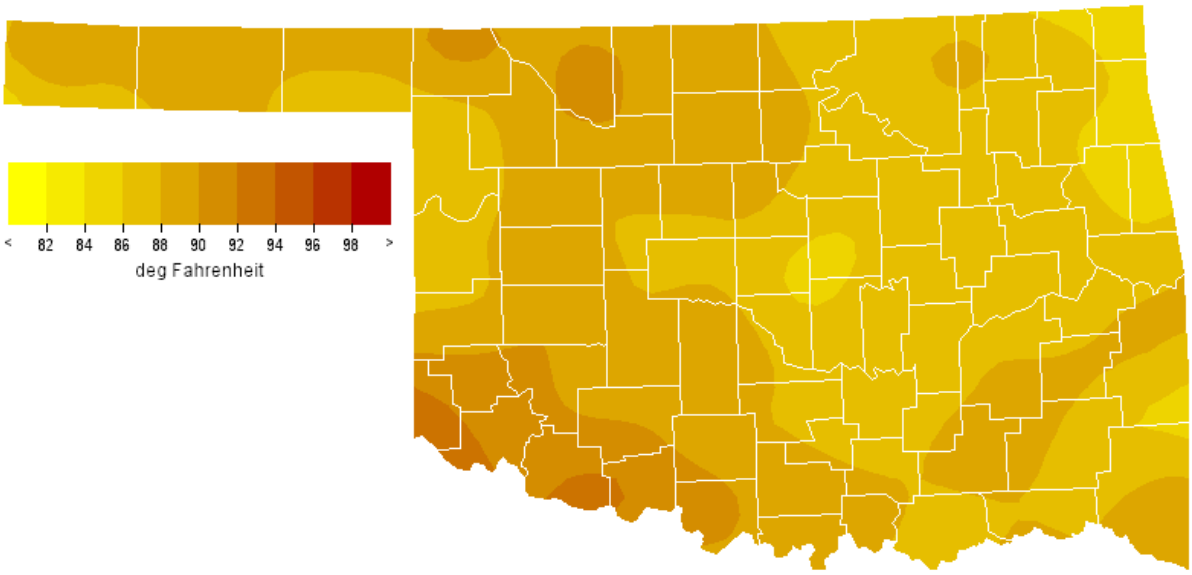
Mean	4.24 inches
Wettest June	2007, 9.10 inches
Driest June	1933, 0.46 inches
Wettest location	Durant, 5.49 inches
Driest location	Kenton, 2.18 inches
Most recorded	18.87 inches, Meeker, 1932

Tornadoes

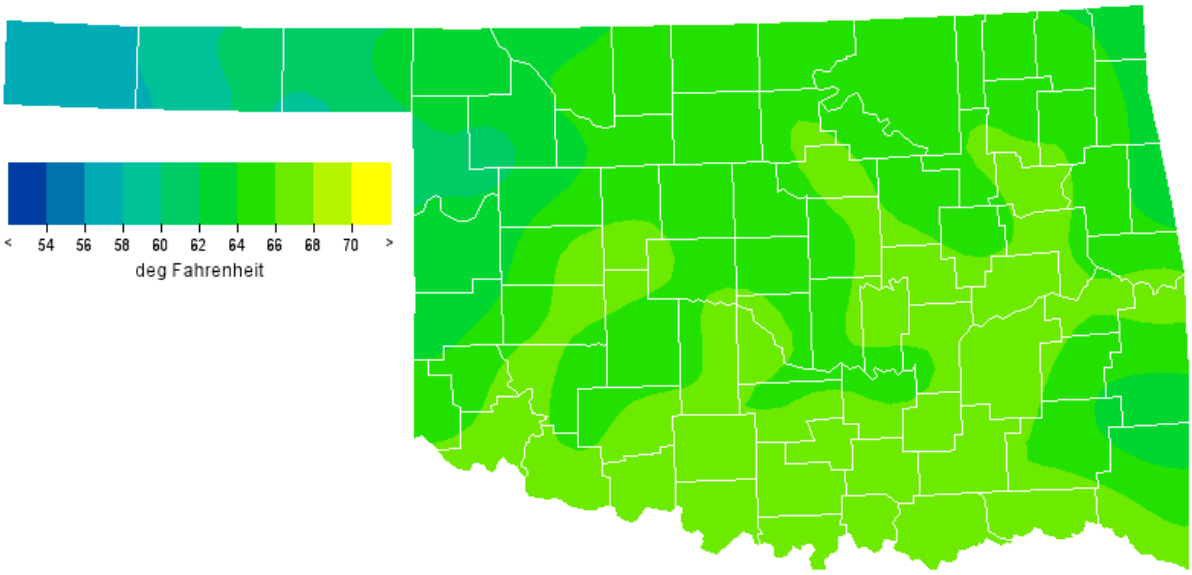
Average June Tornadoes	8.0
Most	28 (1995)

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.

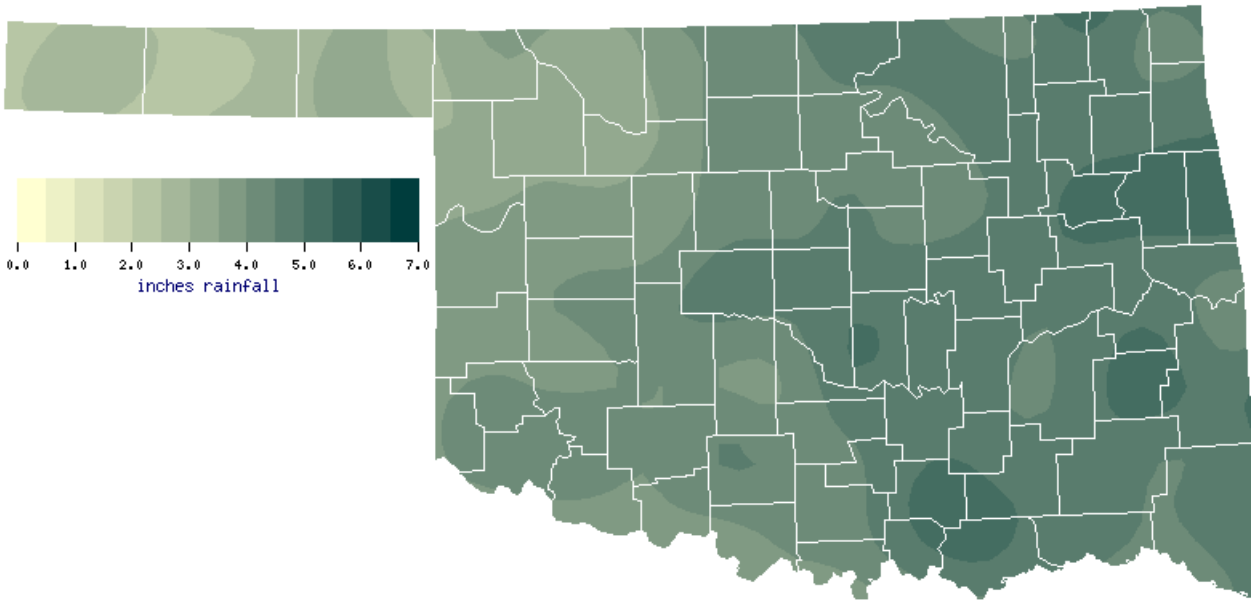
JUNE NORMAL DAILY MAXIMUM TEMPERATURE (1971-2000)



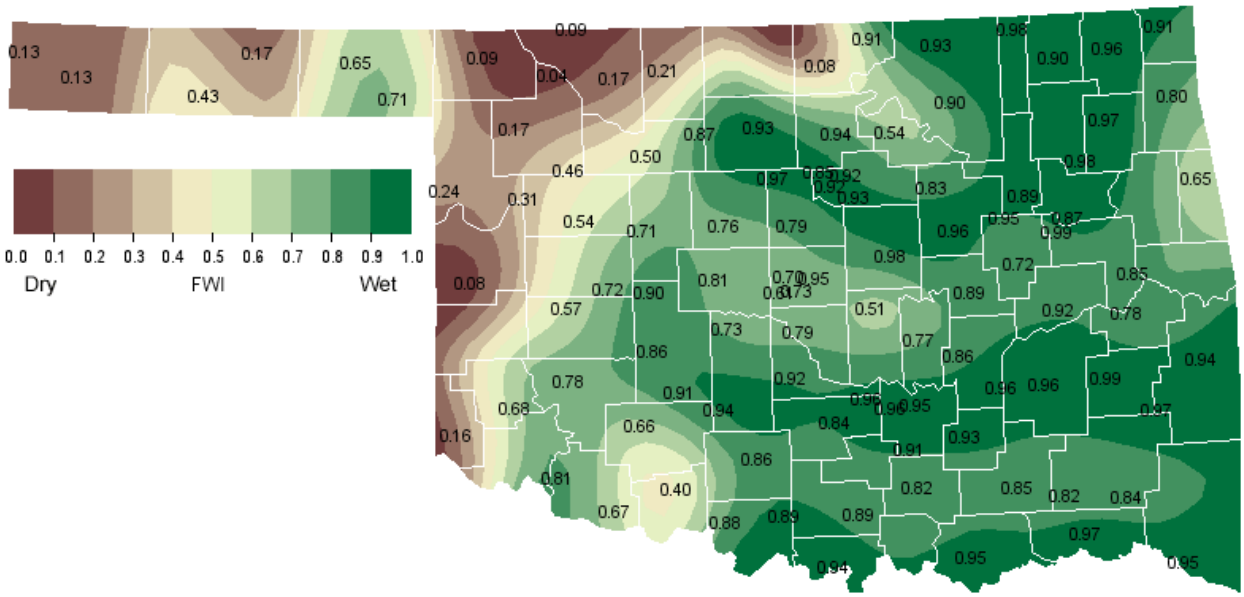
JUNE NORMAL DAILY MINIMUM TEMPERATURE (1971-2000)



JUNE NORMAL PRECIPITATION (1971-2000)



JUNE 1, 2011 SOIL MOISTURE CONDITIONS AT 25CM



JUNE 2011 DROUGHT INDICES

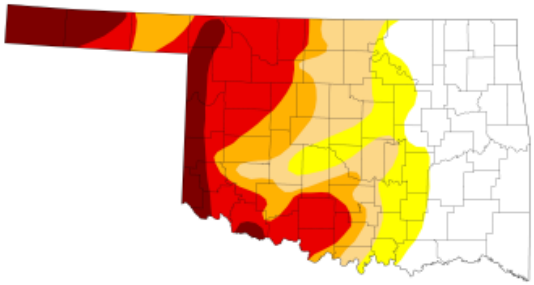
U.S. Drought Monitor

May 31, 2011
Valid 7 a.m. EST

Oklahoma

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	32.30	67.70	55.37	41.36	30.03	9.97
Last Week (05/24/2011 map)	32.30	67.70	55.37	41.31	29.09	10.26
3 Months Ago (03/01/2011 map)	0.02	99.98	58.68	18.16	0.00	0.00
Start of Calendar Year (12/28/2010 map)	13.82	86.18	47.90	1.50	0.00	0.00
Start of Water Year (09/28/2010 map)	66.28	33.72	4.21	0.00	0.00	0.00
One Year Ago (05/25/2010 map)	100.00	0.00	0.00	0.00	0.00	0.00



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

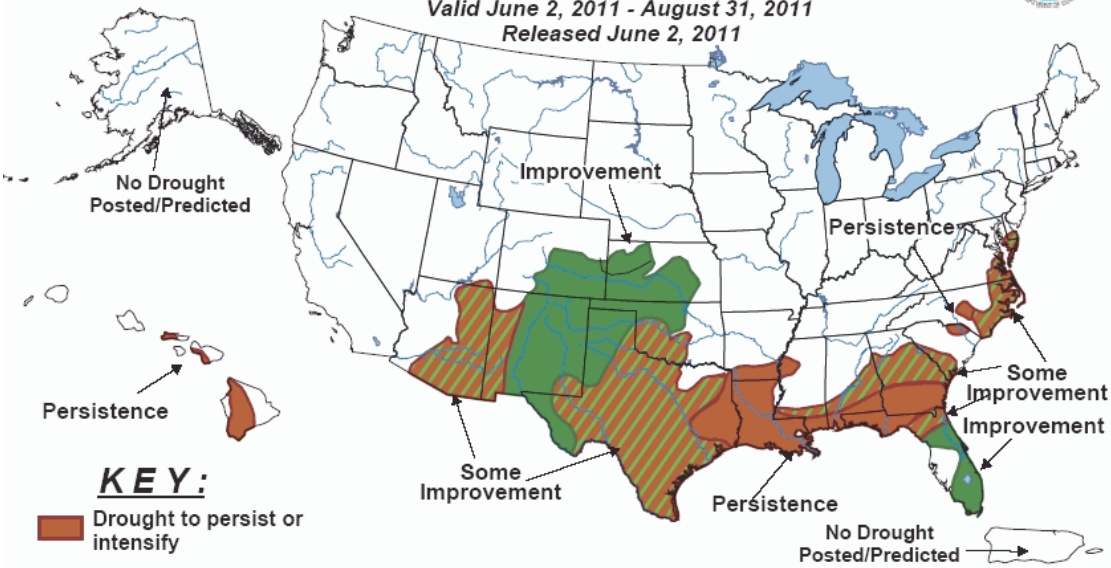
USDA · National Drought Mitigation Center

Released Thursday, June 2, 2011
Anthony Artusa, NOAA/NWS/NCEP/CPC

U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid June 2, 2011 - August 31, 2011
Released June 2, 2011

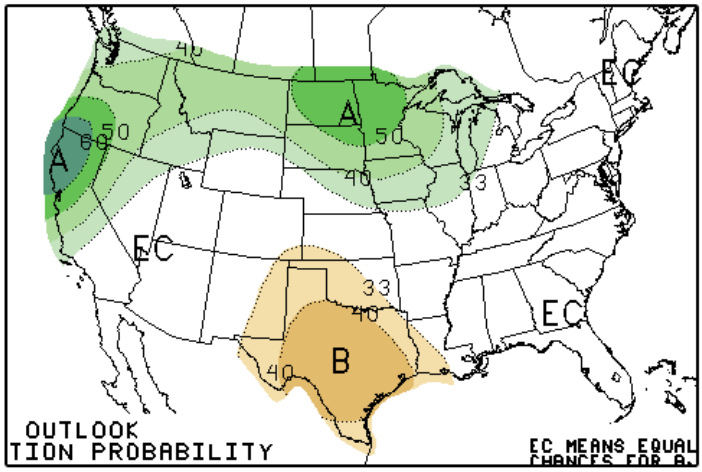


KEY:

- 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 2011 U.S. PRECIPITATION FORECAST



Percent Likelihood of Above or Below Average Precipitation*

- 5% - 10%
- 0% - 5%

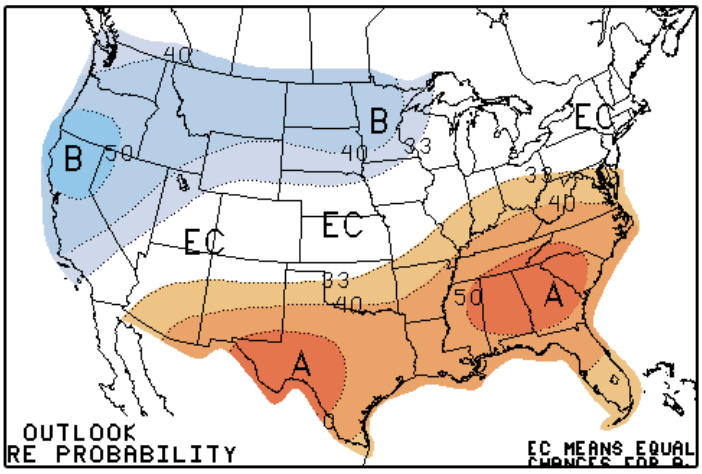
A = Above

- 0% - 5%
- 5% - 10%

B = Below

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

JUNE 2011 U.S. TEMPERATURE FORECAST



Percent Likelihood of Above or Below Average Temperatures*

- 10% - 20%
- 5% - 10%
- 0% - 5%

A = Above

- 0% - 5%
- 5% - 10%

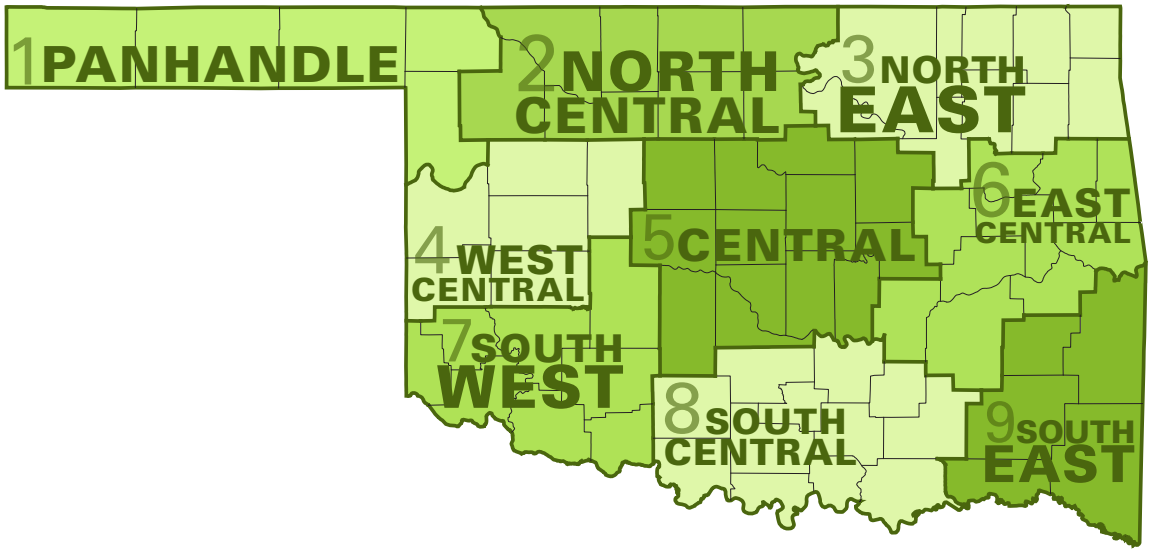
B = Below

*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/

OKLAHOMA CLIMATOLOGICAL SURVEY

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