Oklahoma Monthly Climate Summary

MAY 2010

OKLAHOMA CLIMATOLOGICAL SURVEY

May's dull beginning gave continued hope that Oklahoma's benign severe weather season would continue. With only three tornadoes during the year's first four months and a relatively quiet first nine days of May, there was substantial reason for optimism. Unfortunately, Mother Nature had other ideas and the floodgates to one of the most violent months in recent memory were thrown open on the 10th. That day saw at least 31 tornadoes in the state, killing two and producing hundreds of million dollars in damage. The severe weather continued unabated virtually every day through the end of the month with innumerable reports of large hail, damaging winds and tornadoes. A hailstorm on the 16th tore a swath of damage through the state from the northwest down through Oklahoma City. Damages from this event were again thought to run into the hundreds of millions of dollars. Other high-count tornado days occurred on the 13th and the 19th. At month's end, the preliminary tornado count was nearing 60, which would place it ahead of the May 2003 count of 59 but still well behind the record of 90 tornadoes during May 1999. Climatologically speaking, the month ended as the 50th dries on a statewide basis and the 57th coolest. The climatological spring – March-May – ended as the 44th warmest and the 30th driest.

May 2010 Statewide Extremes

Description	Extreme	Station	Day
High Temperature	100°F	Tipton	30
Low Temperature	28°F	Boise City	2
High Precipitation	8.65 in.	Ada	
Low Precipitation	0.73 in.	Retrop	--

PRECIPITATION

The statewide average rainfall total was more than 4 inches but still suffered a deficit of nearly an inch. Southwestern Oklahoma was particularly dry with an average of less than 2 inches, the 13th driest May since 1895 for that region. West central Oklahoma was also dry as a whole with a deficit of more than 2 inches, although the ranking of 36th driest was a bit inflated by the more than 6 inches of rainfall that fell in Cheyenne. Wet conditions largely mirrored areas with enhanced thunderstorm activity. North central Oklahoma saw between 6-8 inches with Cherokee coming in with a state best of 8.16 inches. Retrop brought up the rear with a total of 0.73 inches. All areas were dry through the spring except the Panhandle, which came in a hundredth of an inch above normal. Southern Oklahoma experienced a parched season and ranked as the 15th- and 17th-driest spring for the southwest and southeast regions, respectively.

TEMPERATURE

Temperatures were cool in the Panhandle and north central Oklahoma and well above normal in the southeast and west central Oklahoma. As a whole, the statewide average was nearly an exact match with normal. The spring was just slightly above average in temperature across the state and the January-May period remained more than a degree below normal to rank as the 31st coolest such period.

May 2010 Statewide Statistics

Temperature

	Average	Depart.	Rank (1895-2010)
Month (May)	68.0°F	0.1°F	57th Coolest
Season-to-Date (Mar-May)	59.3°F	0.2°F	44th Warmest
Year-to-Date (Jan-May)	49.8°F	-1.3°F	31st Coolest

Precipitation

	Average	Depart.	Rank (1895-2010)
Month (May)	4.35 in.	-0.86 in.	50th Driest
Season-to-Date (Mar-May)	9.12 in.	-2.56 in.	30th Driest
Year-to-Date (Jan-May)	13.14 in.	-1.75 in.	57th Driest

Depart. = departure from 30-year normal

MAY DAILY HIGHLIGHTS

MAY 1-8: An upper-level trough brought the state showers and storms overnight on the first and helped to produce scattered light rain in the afternoon. High temperatures were in the 60s and 70s to start out the month. The lowest temperature of the month, 28 degrees, was recorded by the Boise City Mesonet station on the second. The third began cold with lows in the 30s and 40s as an upper-level low moved across northern Texas, bringing rain to the far south. The weather warmed

considerably after that to the 80s and 90s on the fourth due to strong southerly winds. A cold front on the fifth cooled things down a bit into the 70s and 80s. A surface low-pressure system in the Panhandle kicked up southerly winds on the sixth and the dew points surged along with the temperatures. The 40-mph winds were accompanied by temperatures into the 80s and 90s. The surface low brought a cold front with it that cooled the state down once again on the seventh. High pressure followed the front and the eighth was unusually cool in the morning with lows in the 30s and 40s although highs did manage to rebound into the 60s and 70s.

MAY 9-10: The ninth began with seasonable temperatures in the 50s. A powerful upper-level storm moving in from the west helped to set off showers and storms in the afternoon. More than an inch of rain fell in the east and a few instances of large hail were reported. The setup for the tornado outbreak on the 10th began with strong southerly winds pumping lots of low-level moisture into the state. A dryline moving in from the west brought clear skies and plenty of heat to southwestern Oklahoma. At the same time, a warm front was advancing northward into the state with increased dew points and clearings skies. The instability increased throughout the afternoon with the heat and humidity. The dryline pushed into Oklahoma at about 2 p.m. and dew points rose to 70 degrees near I-35. Thunderstorms finally developed along the dryline in northwestern Oklahoma at about 2:40 p.m. and quickly became severe. The first tornado touched down at about 3:30 p.m. in Grant County near Wakita. While that tornado was weak (EF0), a stronger EF3 twister touched down in Grant County and traveled through Kay County into Kansas. Tornadoes continued to touch down in northern Oklahoma but the show in central Oklahoma was just getting started. The first tornado to impact central Oklahoma touched down in Canadian County southwest of Yukon at approximately 4:50 p.m. An EF4 tornado that would go on to cause significant damage in Oklahoma City formed in north Norman before traveling across I-40 in Choctaw. One person was killed by that storm after becoming trapped under an overturned RV. Another EF4 tornado formed near the National Weather Center in Norman and tracked along State Highway 9. This tornado did significant damage in eastern Norman, near Lake Thunderbird and eastward into Pottawatomie County. One fatality was reported with this tornado. While tornadoes continued in central and northern Oklahoma, more tornadoes were forming in southern Oklahoma. The main tornado threat shifted to eastern Oklahoma after 6 p.m. Numerous tornadoes were sighted across portions of Osage County and along the I-40 corridor from Okfuskee County eastward to Sequoyah County. While the tornado counts remain preliminary at the time of this document, at least 31 tornadoes touched down on the 10th. Tornadoes were not the only hazard that day. Softball-grapefruit size hail fell in several areas, at times producing as much structural damage as the tornadoes. Softball size hail was reported near Billings while grapefruit size ice fell in Moore.

MAY 11-13: The state received a relatively calm two-day break, although a tornado did touch down in Woodward County on the 11th and two more elsewhere on the 12th. Lows dropped to the 40s behind the dryline and cold front on the 11th but the warm front returned in the afternoon as the dryline retreated. Dew points were once again into the 60s and 70s. Highs rose into the 70s and 80s for the most part, although 90s were reported behind the dryline in the southwest. Severe weather erupted once again on the 11th with the aforementioned tornado. A larger outbreak of severe weather occurred the next two days with storms firing in the afternoon in the west and marching east overnight. The storms eventually formed into a bow echo as they marched into northeastern Oklahoma early on the 13th. Along with the large hail and severe straight-line winds of up to 80 mph, the storms dropped nine tornadoes along their path. At least five of the tornadoes were classified as EF2. Following the passage of the storms and the front, things cooled off significantly. Highs only rose into the 60s after the frontal passage.

MAY 14-16: The previous day's cold front became a stationary front overnight on the 14th. Showers and storms developed north of the front and brought heavy rainfall to the southeast in the morning, then across south central Oklahoma into the northeast that afternoon. Cloudy conditions and the front kept most of Oklahoma well below seasonal averages in the 60s. A quiet day was in store on the 15th. Lows dropped into the 50s for the most part. More showers formed later that afternoon in the northwest, but produced light rain for the most part. Highs were in the 60s and 70s. A warm front returned the heat and moisture on the 16th and set the stage for yet another outbreak of severe weather. This time large hail was the culprit and central Oklahoma was the prime target. Storms formed in northwestern Oklahoma and marched southeast. Hail to the size of softballs fell in Blaine County near Okeene early on in the event. Northwest Oklahoma City through Midwest City were then devastated by the hailstorm. Widespread roof, tree and car damage occurred throughout this path. Temperatures rose into the 70s behind the front to 80s ahead of the front.

MAY 17-18: Most of the state got another brief respite from the severe weather during this two-day period. Storms still occurred in the west with an inch of rain falling at Kenton on the 17th and more than an inch falling in Arnett on the 18th. Severe weather reports were scattered in the west, including reports of a tornado near Guymon. Highs were in the 70s and 80s for the most part.

MAY 19-20: A large storm system moved through Oklahoma on the 19th and brought yet another outbreak of severe weather. Strong storms formed along a warm front before sunrise and covered a large portion of the state. More storms erupted later that afternoon along the warm front and produced at least 12 tornadoes in Oklahoma. Two main thunderstorms formed along the front … the first in Roger Mills and Dewey counties and

the second in Blaine County. A very visible and photographic tornado touched down just north of Hennessey. More tornadic storms developed further east along the dry line and to the south. No significant widespread damage was reported. The severe weather continued overnight into the 20th. Heavy rains fell overnight on the 20th in eastern Oklahoma.

MAY 21-26: A pleasant day was in store for Oklahoma after nearly two straight weeks of violent weather. Highs rose into the 80s after lows in the 40s and 50s gave the state a good rest. More calm weather was had on the 22nd, although winds kicked up from the south gusting to over 40 mph. Most of the state was hot on the 23rd and only Kenton had appreciable rainfall with about an inch. Two tornadoes were reported to have touched down in Cimarron County with those storms. Widespread severe weather occurred on the 24th in the Panhandle and the northwest. Large hail and severe winds were reported with the storms and a possible tornado was sighted in Woodward County. The severe weather shifted into a heavy rain event on the 25th with more than 3 inches falling in northern Oklahoma. More storms and more heavy rains were found in the north associated with an outflow boundary. Highs were mostly in the 80s on the 26th.

MAY 27-31: The 27th-29th period was fairly uneventful. A few storms on the 27th along an outflow boundary produced about a third of an inch of rain in eastern Oklahoma. High temperatures skyrocketed into the 90s during this period. A cold front on the 30th helped cool things down a bit and brought about some heavy rains in central Oklahoma. The storms were severe in north central Oklahoma with lots of large hail and high winds across the area. The heat multiplied ahead of the cold front and Tipton reached the month's highest temperature of 100 degrees, the year's first triple-digit temperature. The front stalled overnight and produced more storms with heavy rainfall. The Ada Mesonet site recorded over 3 inches of rainfall. Two more tornadoes were reported in the Panhandle with severe weather that evening.

MAY 2010 SEVERE WEATHER

Wind Gusts (70 mph or greater)

Speed (m.p.h)	Location	County	Day
75	4 N Ada	Pontotoc	10
80	4 SE Bristow	Creek	13
80	Pharoa	Okfuskee	13
70	Altus	Jackson	13
70	Perry	Noble	19
70	2 W Roff	Pontotoc	19
70	Muskogee	Muskogee	19
70+	2 WNW Wheeless	Cimarron	23
70	10 SW Beaver	Beaver	24

Flooding

Location	County	Day
Stillwater	Payne	19
Tulsa	Tulsa	19
1 S Kiefer	Creek	19
4 NE Owasso	Rogers	19
Muskogee	Muskogee	19
6 NE Broken Arrow	Wagoner	19
Jenks	Tulsa	19
Cheyenne	Roger Mills	25
5 N Gage	Ellis	26
Forgan	Beaver	26

Significant Tornadoes (EF2 or greater)

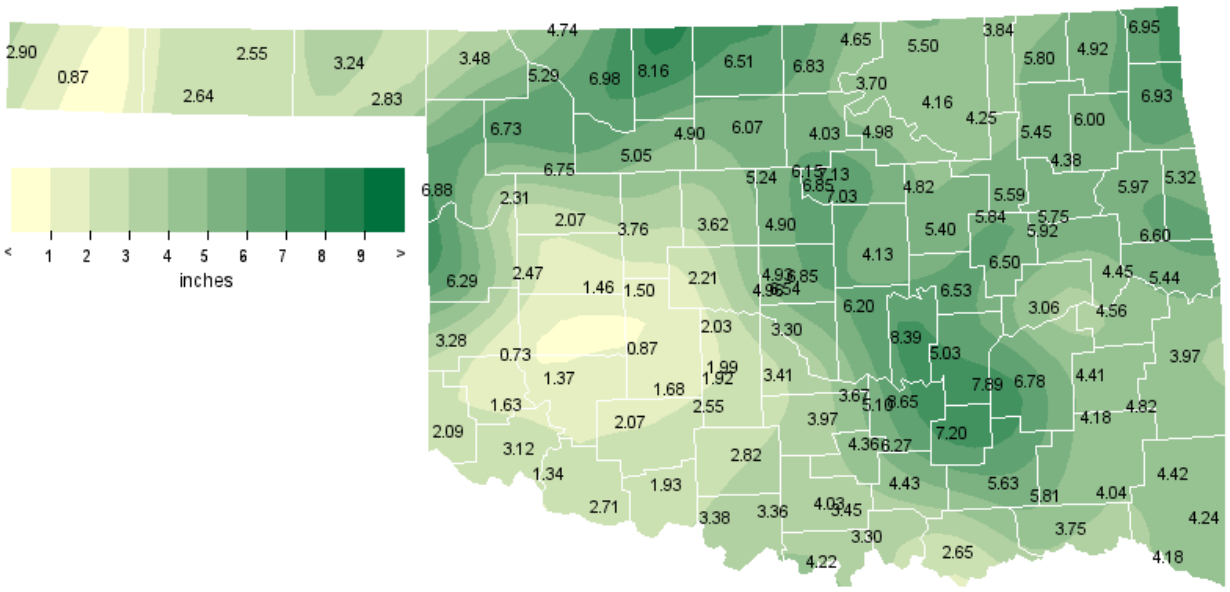
EF-rating	County	Day
3	Grant/Kay	10
4	Cleveland/Oklahoma	10
4	Cleveland/Pottawatomie	10
2	Cleveland	10
3	Pottawatomie	10
3	Pottawatomie/Seminole/Okfuskee	10
3	Carter	10
2	Okmulgee	10
2	McIntosh	10
2	Rogers	13
2	Rogers/Mayes	13
2	Creek/Tulsa	13
2	Wagoner	13
2	Okmulgee	13

MAY 2010 SEVERE WEATHER CONT.

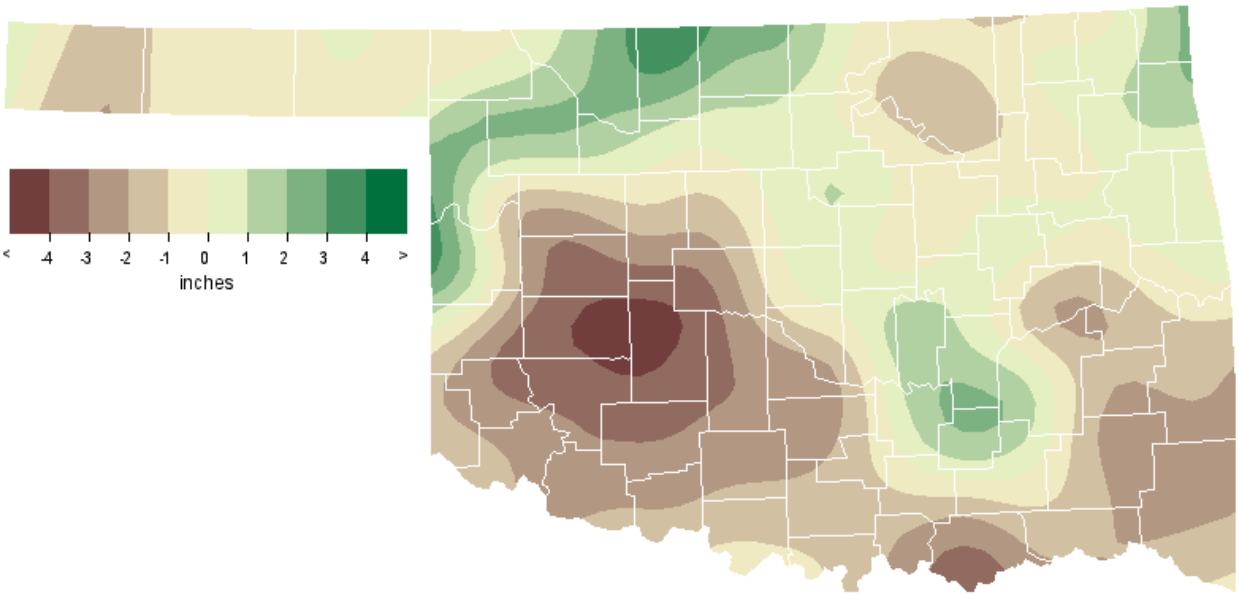
Hail (2 inches in diameter or greater)

Size (in.)	Location	County	Day
4.75	6 E Billings	Noble	10
4.25	Cherokee	Alfalfa	10
4.25	10 NW Marietta	Love	10
4.00	1 ENE Moore	Cleveland	10
3.75	Del City	Oklahoma	10
2.75	Cherokee	Alfalfa	10
2.75	3 SE Renfrow	Grant	10
2.75	Moore	Cleveland	10
2.75	1 SE Moore	Cleveland	10
2.75	Council Hill	McIntosh	10
2.75	4 N Box	Sequoyah	10
2.50	Garber	Garfield	10
2.13	4 W Moore	Cleveland	10
2.00	1 SE Fairmont	Garfield	10
2.00	Oscar	Jefferson	10
2.75	8 W Sharon	Woodward	11
2.50	8 E Arnett	Ellis	11
2.50	2 S Harmon	Ellis	11
2.00	4 SE Woodward	Woodward	11
2.75	9 S Elk City	Beckham	12
2.50	9 S Fargo	Ellis	12
2.50	4 SW Canute	Washita	12
2.00	3 S Chilocco	Kay	13
4.25	5 NW Oklahoma City	Oklahoma	16
4.25	2 WSW Okeene	Blaine	16
2.75	8 WSW Fairview	Major	16
2.75	Okeene	Blaine	16
2.75	Piedmont	Canadian	16
2.50	Tinker Air Force Base	Oklahoma	16
2.00	Piedmont	Canadian	16
2.00	5 NNW Warr Acres	Oklahoma	16
2.00	2 WSW Nichols Hills	Oklahoma	16
2.00	The Village	Oklahoma	16
2.00	3 S Choctaw	Oklahoma	16
2.00	Allen	Pontotoc	16
3.25	4 N Eagle City	Blaine	19
3.00	2 SSE Noble	Cleveland	19
2.75	2 S Crescent	Logan	19
2.75	3 S Goldsby	McClain	19
2.75	2 S Noble	Cleveland	19
2.75	Goldsby	McClain	19
2.50	7 NNE Leedey	Dewey	19
2.50	Slaughterville	Cleveland	19
2.00	Leedey	Dewey	19
2.00	4 SSW Camargo	Dewey	19
2.50	6 ENE Wheeless	Cimarron	23
2.25	4 E Leedey	Dewey	24
2.00	4 WSW Baker	Texas	24
2.50	Enid	Garfield	30

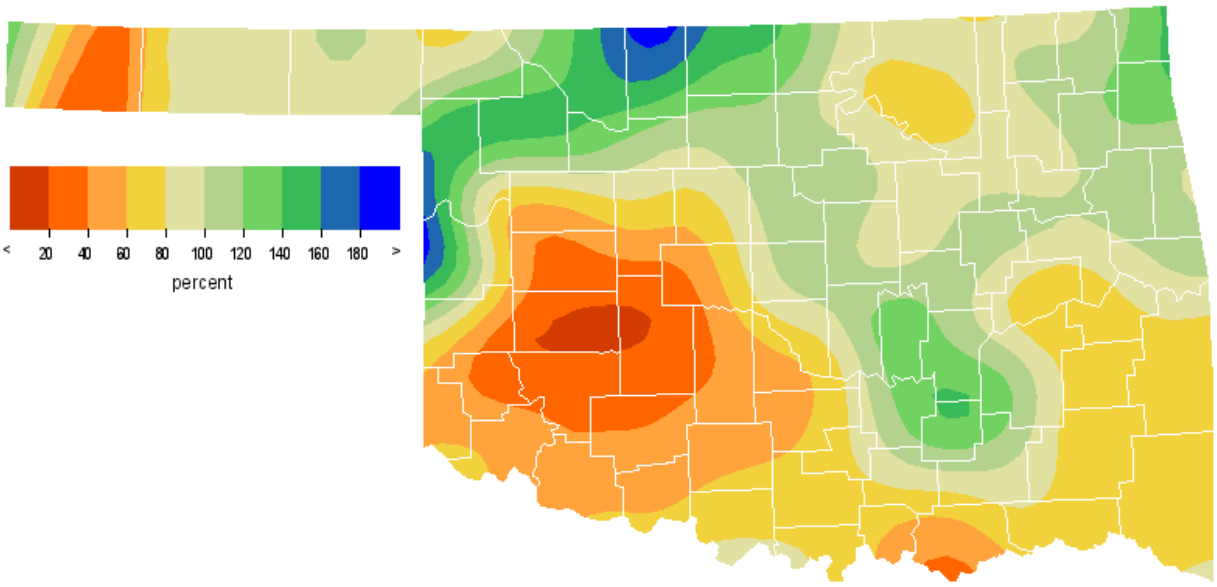
MAY 2010 OBSERVED PRECIPITATION



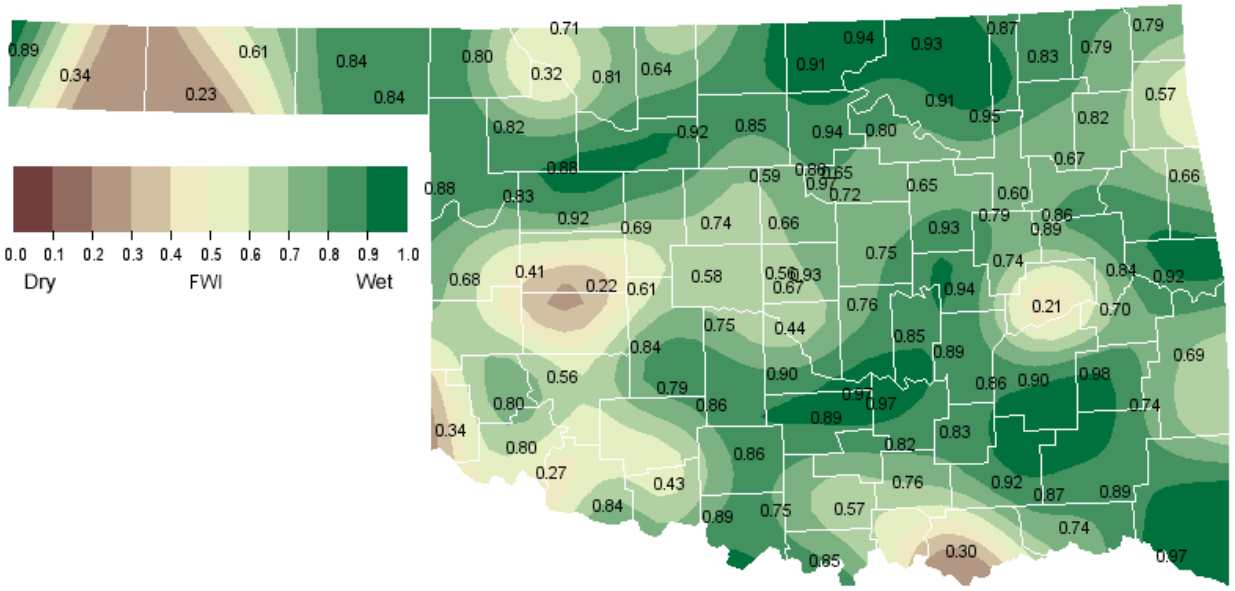
MAY 2010 DEPARTURE FROM NORMAL PRECIPITATION



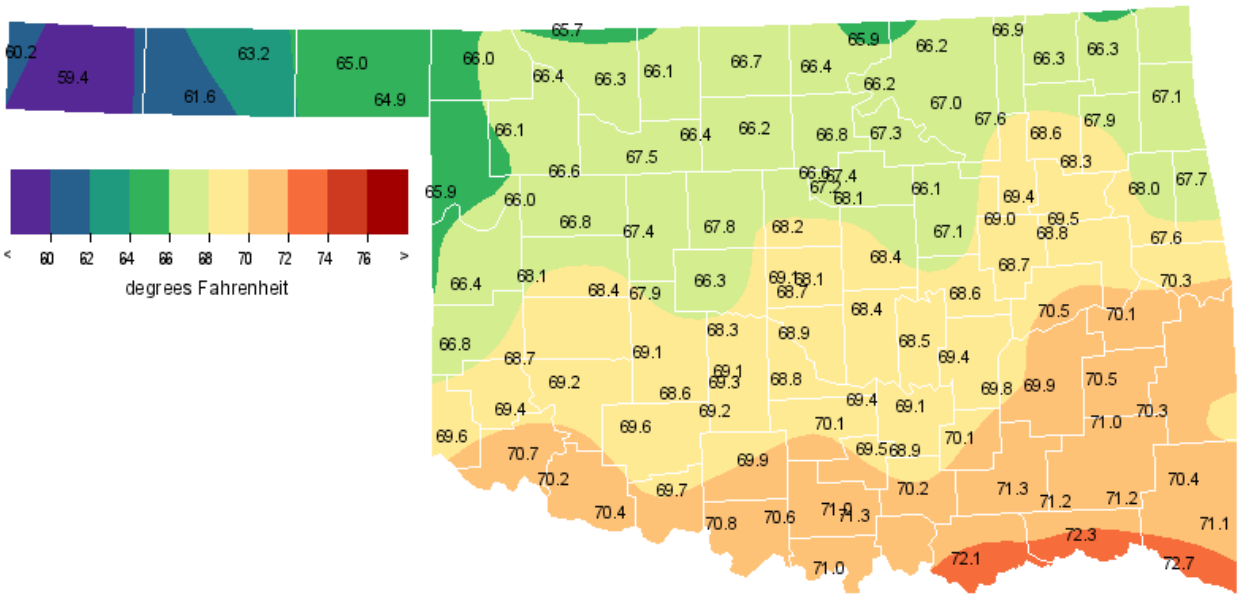
MAY 2010 PERCENT OF NORMAL PRECIPITATION



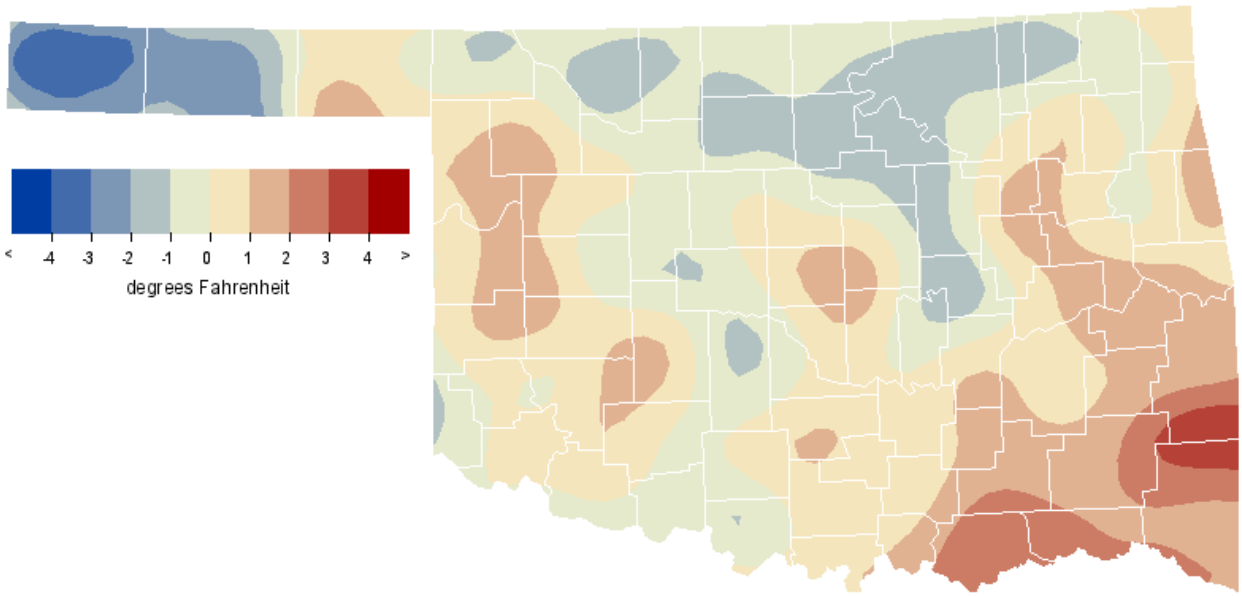
MAY 2010 AVERAGE SOIL MOISTURE AT 25CM



MAY 2010 AVERAGE TEMPERATURE



MAY 2010 DEPARTURE FROM NORMAL TEMPERATURE

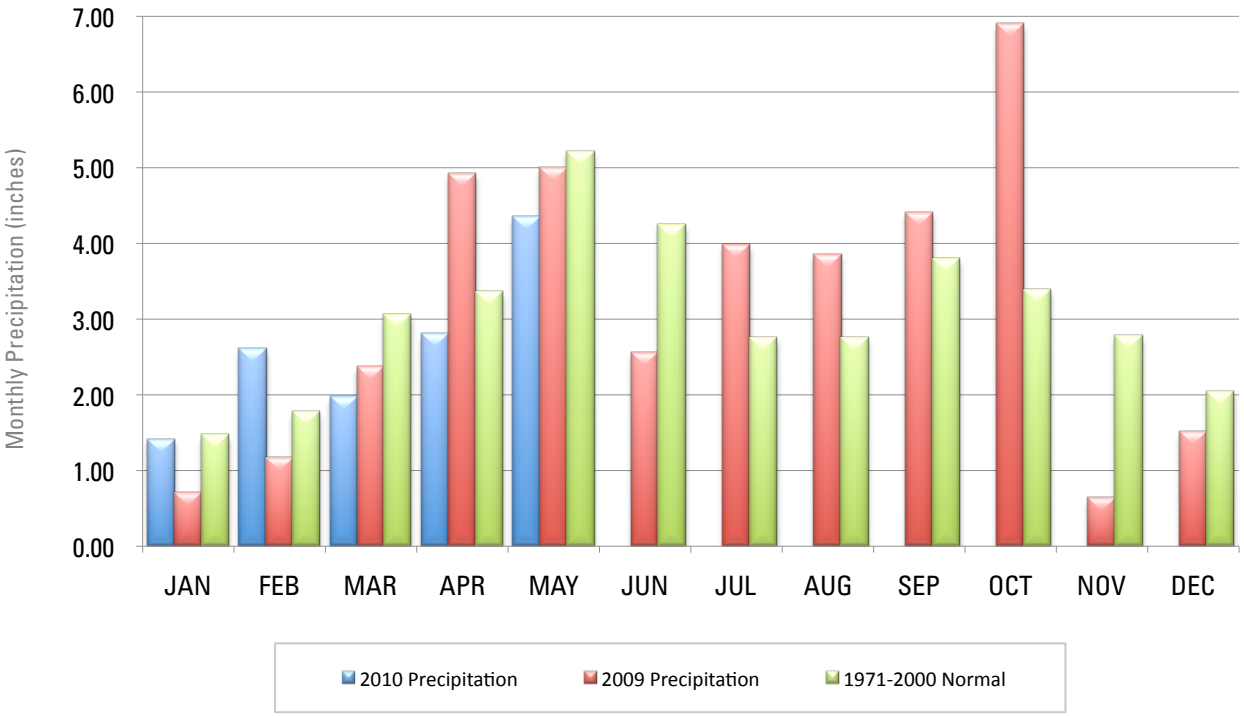


MESONET MONTHLY SUMMARY FOR MAY 2010

NAME	MEAN TEMP	HIGH TEMP	HIGH DAY	LOW TEMP	LOW DAY	HDD	CDD	TOT PPT	HIGH 24-HR	HIGH DAY
PANHANDLE										
Arnett	65.9	93	6	35	2	79	108	6.88	2.87	12
Beaver	65.0	96	6	33	2	108	108	3.24	1.79	26
Boise City	59.3	90	29	28	2	218	42	.87	.41	14
Buffalo	66.0	97	6	34	2	94	124	3.48	2.08	19
NORTH CENTRAL										
Alva	66.2	93	10	38	8	84	121	6.98	2.89	19
Blackwell	66.5	90	30	36	8	76	121	6.83	3.34	19
Breckinridge	66.2	89	30	39	8	85	121	6.07	1.99	19
Cherokee	66.2	92	30	34	8	89	125	8.16	3.02	25
Fairview	67.6	95	30	41	2	66	146	5.05	2.01	19
Freedom	66.4	93	10	37	8	79	121	5.29	2.76	19
Lahoma	66.3	92	30	39	8	86	127	4.90	1.91	19
NORTHEAST										
Bixby	69.4	90	30	41	8	37	172	5.59	2.62	19
Burbank	66.2	89	30	40	8	76	114	3.70	1.69	19
Claremore	68.6	89	27	39	8	44	157	5.45	2.63	19
Copan	66.9	88	30	38	8	70	130	3.84	1.42	19
Foraker	66.2	88	6	38	8	81	119	5.50	1.76	19
Inola	68.3	88	6	39	8	43	146	4.38	1.57	19
Jay	67.0	86	25	44	8	57	120	6.93	1.72	19
Miami	*****	***	***	***	***	****	****	6.95	2.55	14
WEST CENTRAL										
Bessie	*****	***	***	***	***	****	****	*****	*****	***
Butler	68.1	94	10	40	2	53	149	2.47	1.58	25
Camargo	66.0	92	10	35	2	82	112	2.31	.79	19
Cheyenne	66.4	90	10	43	8	70	114	6.29	2.48	25
Erick	66.7	93	10	36	8	72	126	3.28	1.55	12
CENTRAL										
Acme	69.2	95	30	42	3	44	174	2.55	1.81	14
Bowlegs	68.5	89	30	40	8	43	151	8.39	2.76	19
Bristow	67.0	88	30	35	8	62	125	5.40	1.53	19
Lake Carl Blac	66.6	91	30	38	8	72	122	6.15	2.61	19
Chandler	68.4	90	30	43	8	47	153	4.13	1.22	14
Chickasha	69.1	95	30	41	3	42	171	1.99	1.20	14
El Reno	66.3	91	30	39	8	83	122	2.21	.82	13
Guthrie	68.3	90	30	43	8	49	150	4.90	2.57	19
Kingfisher	67.8	94	30	40	8	61	149	3.62	1.11	13
Marena	67.2	89	30	42	8	62	129	6.85	3.00	19
Minco	68.3	93	30	42	8	55	157	2.03	1.16	14
Marshall	*****	***	***	***	***	****	****	5.24	3.45	19
EAST CENTRAL										
Cookson	67.7	86	28	36	8	49	133	6.60	1.87	10
Eufaula	70.4	90	29	49	8	21	188	3.06	.81	14
Haskell	68.8	89	6	40	8	39	158	5.92	1.79	14
Hectorville	68.9	88	29	45	8	41	162	5.84	2.27	19
Holdenville	69.4	89	30	40	8	33	168	5.03	1.53	14
McAlester	69.9	89	30	47	4	22	174	6.78	2.32	20
Okmulgee	68.7	88	29	39	8	44	157	6.50	1.74	14
SOUTHWEST										
Altus	70.7	98	10	43	3	42	219	3.12	.93	26
Apache	68.7	95	30	44	8	49	162	1.68	.86	14
Fort Cobb	69.1	97	30	43	3	46	174	.87	.46	13
Grandfield	70.4	98	30	41	8	42	209	2.71	2.41	14
Hinton	67.9	94	30	43	8	64	153	1.50	.86	13
Hobart	69.2	95	10	41	8	54	186	1.37	.92	13
SOUTH CENTRAL										
Ada	69.2	89	30	44	4	33	162	8.65	3.13	31
Ardmore	71.2	93	30	44	4	20	213	3.45	2.17	14
Burneyville	71.0	94	30	39	4	26	213	4.22	1.97	14
Byars	69.4	89	30	46	4	34	171	3.67	1.45	14
Centrahoma	70.0	89	30	45	4	24	179	7.20	2.27	20
Durant	72.1	93	30	47	4	12	231	2.65	.95	31
Fittstown	69.0	89	30	42	4	35	158	6.27	2.34	14
Ketchum Ranch	69.9	92	30	44	4	35	188	2.82	2.02	14
Lane	71.2	90	30	46	4	12	205	5.63	2.86	20
SOUTHEAST										
Antlers	71.2	92	27	43	3	14	207	5.81	3.00	20
Broken Bow	71.0	91	28	44	3	19	205	4.24	1.53	14
Clayton	71.0	90	30	44	8	21	206	4.18	2.28	20
Cloudy	71.2	89	27	46	3	14	208	4.04	2.51	20
Hugo	72.2	90	27	49	4	10	232	3.75	2.87	20

NAME	MEAN TEMP	HIGH TEMP	HIGH DAY	LOW TEMP	LOW DAY	HDD	CDD	TOT PPT	HIGH 24-HR	HIGH DAY
Goodwell	61.7	92	29	31	2	174	71	2.64	.82	14
Hooker	63.2	93	29	32	2	140	84	2.55	1.02	16
Kenton	60.2	89	29	33	2	195	47	2.90	1.05	17
Slapout	64.9	97	6	35	2	102	99	2.83	.94	19
May Ranch	65.7	91	6	39	8	87	109	4.74	1.38	19
Medford	66.6	91	30	37	8	81	131	6.51	3.02	19
Newkirk	65.9	88	30	39	8	83	111	4.65	2.37	19
Red Rock	66.8	90	30	40	8	70	125	4.03	1.80	19
Seiling	66.6	94	10	36	8	77	125	6.75	2.88	19
Woodward	66.1	93	6	38	2	80	113	6.73	2.04	19
Nowata	66.3	88	27	35	8	75	115	5.80	1.71	14
Pawnee	67.3	89	30	43	8	60	131	4.98	2.42	19
Porter	69.5	89	27	43	8	33	173	5.75	1.90	19
Pryor	67.9	89	27	40	8	50	140	6.00	2.46	14
Skiatook	67.7	88	30	45	8	55	140	4.25	1.42	19
Vinita	66.3	87	25	36	8	71	110	4.92	1.37	14
Wynona	67.0	89	30	40	8	68	128	4.16	2.05	19
Putnam	66.8	92	10	41	8	73	129	2.07	.71	12
Retrop	68.7	94	10	40	8	56	171	.73	.32	14
Watonga	67.4	93	10	42	8	71	144	3.76	1.04	19
Weatherford	68.4	93	30	41	3	61	167	1.46	.80	25
Ninnekah	69.3	94	30	44	3	41	174	1.92	1.16	14
Norman	68.8	90	30	44	8	41	160	3.30	1.13	14
Oilton	66.2	88	30	35	8	75	111	4.82	1.87	19
OKC East	68.7	92	30	44	8	43	159	6.54	2.69	31
OKC North	69.1	91	30	46	8	37	163	4.93	2.21	31
OKC West	69.5	92	30	49	3	****	****	4.96	1.76	31
Okemah	68.7	90	30	42	8	44	157	6.53	1.83	14
Perkins	68.1	91	30	41	8	51	145	7.03	3.89	19
Shawnee	68.4	89	30	41	8	46	151	6.20	2.19	14
Spencer	68.1	90	30	44	8	49	145	6.85	1.68	30
Stillwater	67.4	91	30	39	8	60	134	7.13	2.98	19
Washington	68.8	91	30	42	4	41	158	3.41	2.73	14
Sallisaw	70.2	90	24	41	8	29	191	5.44	1.68	13
Stigler	70.1	89	30	45	8	25	184	4.56	1.40	13
Stuart	69.8	89	30	47	8	25	172	7.89	2.22	20
Tahlequah	68.1	87	27	38	8	46	142	5.97	1.98	19
Webbers Falls	*****	***	***	***	***	****	****	4.45	2.20	19
Westville	67.7	86	27	42	8	47	130	5.32	1.48	14
Hollis	69.6	94	4	41	2	48	190	2.09	.92	14
Mangum	69.4	98	10	38	8	55	192	1.63	.52	13
Medicine Park	69.6	94	30	49	2	43	185	2.07	.89	14
Tipton	70.2	100	30	40	3	50	211	1.34	.78	14
Walters	69.7	96	30	42	4	41	188	1.93	1.43	14
Madill	*****	***	***	***	***	****	****	3.30	.98	10
Newport	71.0	93	30	44	4	23	209	4.03	2.62	14
Pauls Valley	70.2	91	30	45	4	28	188	3.97	1.81	14
Ringling	70.6	92	30	43	4	30	203	3.36	2.26	14
Sulphur	69.5	90	30	41	4	35	175	4.36	1.64	14
Tishomingo	70.2	92	30	43	4	26	187	4.43	1.34	14
Vanoss	*****	***	***	***	***	****	****	5.10	1.52	14
Waurika	70.8	95	30	45	8	30	209	3.38	2.37	14
Idabel	72.8	90	27	49	3	11	251	4.18	1.24	20
Mt Herman	70.4	88	27	46	4	22	191	4.42	1.92	20
Talihina	70.3	89	30	44	4	22	187	4.82	2.23	20
Wilburton	70.4	90	25	42	8	23	192	4.41	1.09	20
Wister	*****	***	***	***	***	****	****	3.97	1.95	20

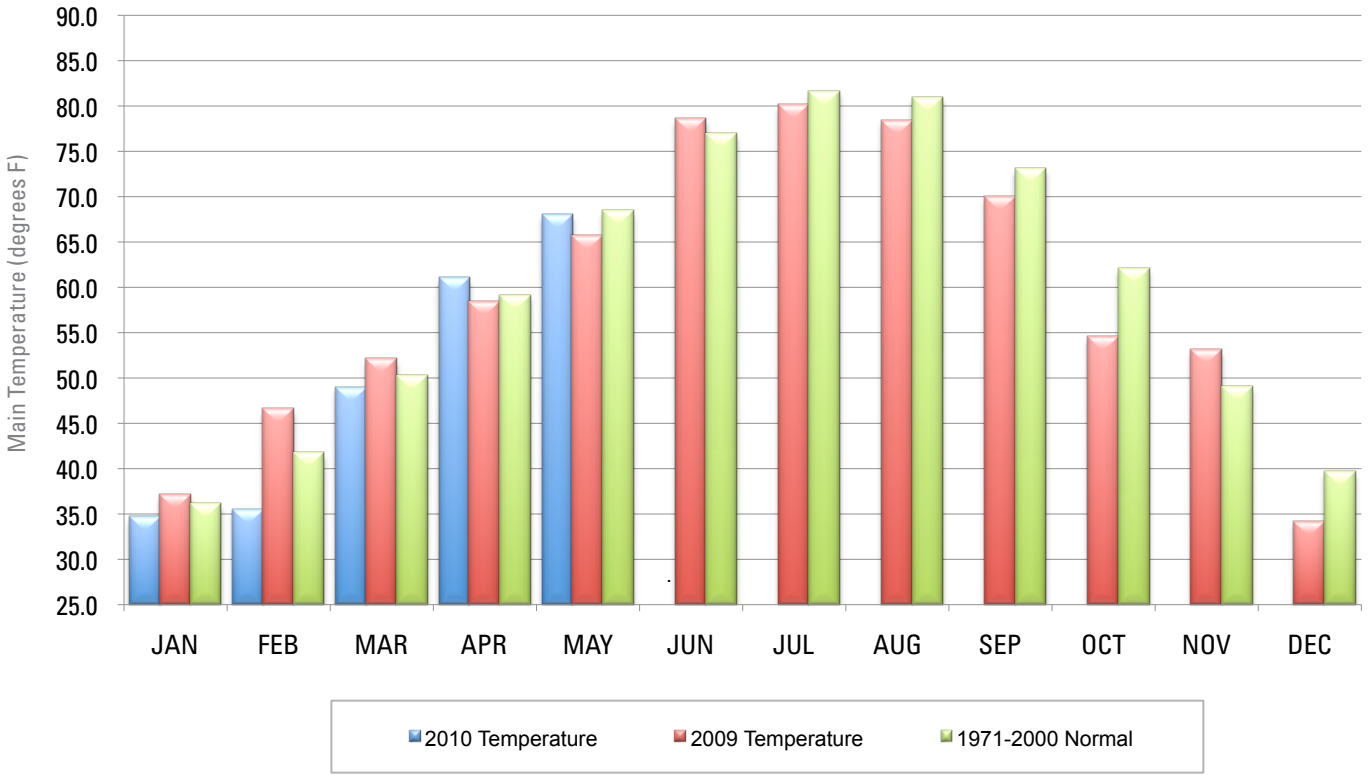
2009 AND 2010 STATEWIDE PRECIPITATION MONTHLY TOTALS VS. NORMAL



May 2010 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	May-09
Panhandle	3.17	-0.20	50th Wettest	6.37 (1951)	0.00 (1927)	0.92
North Central	5.90	1.18	27th Wettest	11.70 (1957)	0.25 (1924)	2.14
Northeast	5.21	-0.27	53rd Wettest	19.10 (1943)	1.38 (1917)	5.57
West Central	2.80	-2.10	36th Driest	12.40 (1982)	0.00 (1924)	3.66
Central	4.88	-0.75	54th Wettest	12.53 (1902)	0.96 (1988)	4.48
East Central	5.64	-0.25	55th Wettest	14.72 (1943)	1.25 (1941)	6.07
Southwest	1.85	-3.12	13th Driest	11.96 (1902)	0.38 (1984)	4.09
South Central	4.50	-1.10	44th Driest	12.66 (1982)	0.46 (1988)	7.63
Southeast	4.38	-1.98	35th Driest	14.36 (1990)	1.24 (1963)	11.34
Statewide	4.35	-0.86	50th Driest	10.68 (1957)	1.30 (1988)	4.99

2009 AND 2010 STATEWIDE TEMPERATURE MONTHLY TOTALS VS. NORMAL



May 2010 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	May-09 (F)
Panhandle	63.3	-1.1	35th Coolest	72.0 (1896)	56.8 (1917)	63.4
North Central	66.4	-0.7	43rd Coolest	75.2 (1896)	60.7 (1907)	65.1
Northeast	67.5	0.3	56th Coolest	74.1 (1962)	61.2 (1907)	65.1
West Central	67.3	0.1	54th Coolest	75.6 (1896)	60.9 (1907)	64.7
Central	68.1	-0.4	53rd Coolest	75.5 (1896)	62.0 (1907)	65.9
East Central	69.2	0.9	48th Warmest	74.8 (1896)	62.2 (1907)	65.9
Southwest	69.5	-0.1	56th Coolest	77.8 (1896)	62.8 (1907)	66.8
South Central	70.4	0.7	44th Warmest	76.0 (1896)	63.6 (1907)	67.1
Southeast	71.2	2.4	23rd Warmest	75.3 (1896)	62.8 (1907)	67.1
Statewide	68.0	0.1	57th Coolest	75.0 (1896)	61.5 (1907)	65.7

MESONET EXTREMES FOR MAY 2010

Climate Division	High Temp (F)	Day	Station	Low Temp (F)	Day	Station	High Monthly Rainfall (inches)	Station	High Daily Rainfall (inches)	Day	Station
Panhandle	97	6th	Slapout	28	2nd	Boise City	6.88	Arnett	2.87	12th	Arnett
North Central	95	30th	Fairview	34	8th	Cherokee	8.16	Cherokee	3.34	19th	Blackwell
Northeast	90	30th	Bixby	35	8th	Nowata	6.95	Miami	2.63	19th	Claremore
West Central	94	10th	Retrop	35	2nd	Camargo	6.29	Cheyenne	2.48	25th	Cheyenne
Central	95	30th	Chickasha	35	8th	Oilton	8.39	Bowlegs	3.89	19th	Perkins
East Central	90	24th	Sallisaw	36	8th	Cookson	7.89	Stuart	2.32	20th	McAlester
Southwest	100	30th	Tipton	38	8th	Mangum	3.12	Altus	2.41	14th	Grandfield
South Central	95	30th	Waurika	39	4th	Burneyville	8.65	Ada	3.13	31st	Ada
Southeast	92	27th	Antlers	42	8th	Wilburton	5.81	Antlers	3.00	20th	Antlers
Statewide	100	30th	Tipton	28	2nd	Boise City	8.65	Ada	3.89	19th	Perkins

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

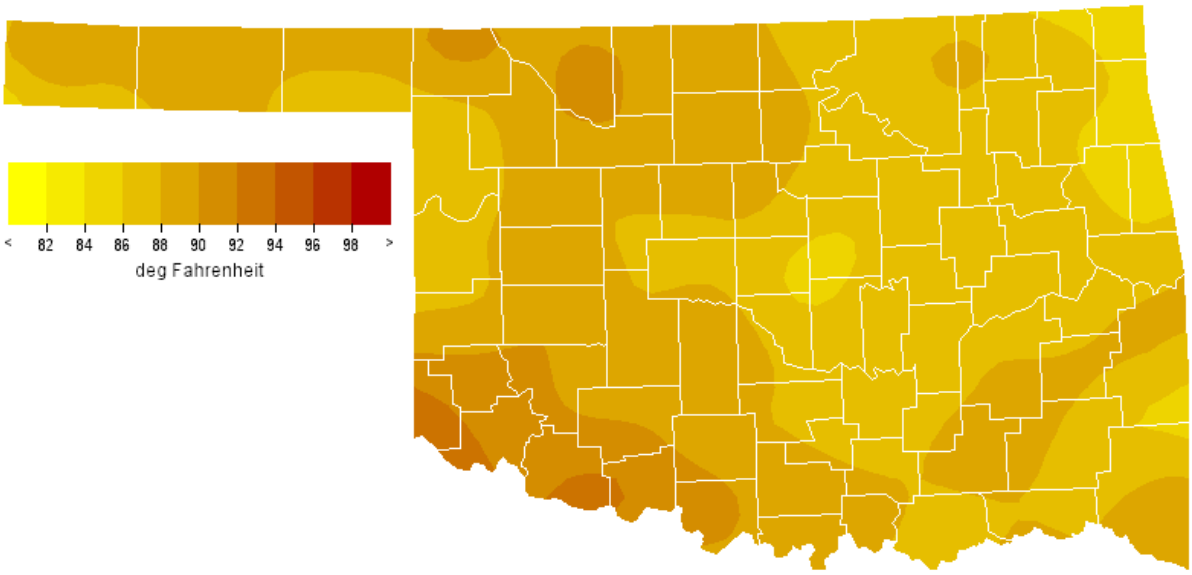
Mean	4.24 inches
Wettest June	2007, 9.10 inches
Driest June	1933, 0.46 inches
Wettest location	Durant, 5.49 inches
Driest location	Kenton, 2.18 inches
Most recorded	18.87 inches, Meeker, 1932

Tornadoes

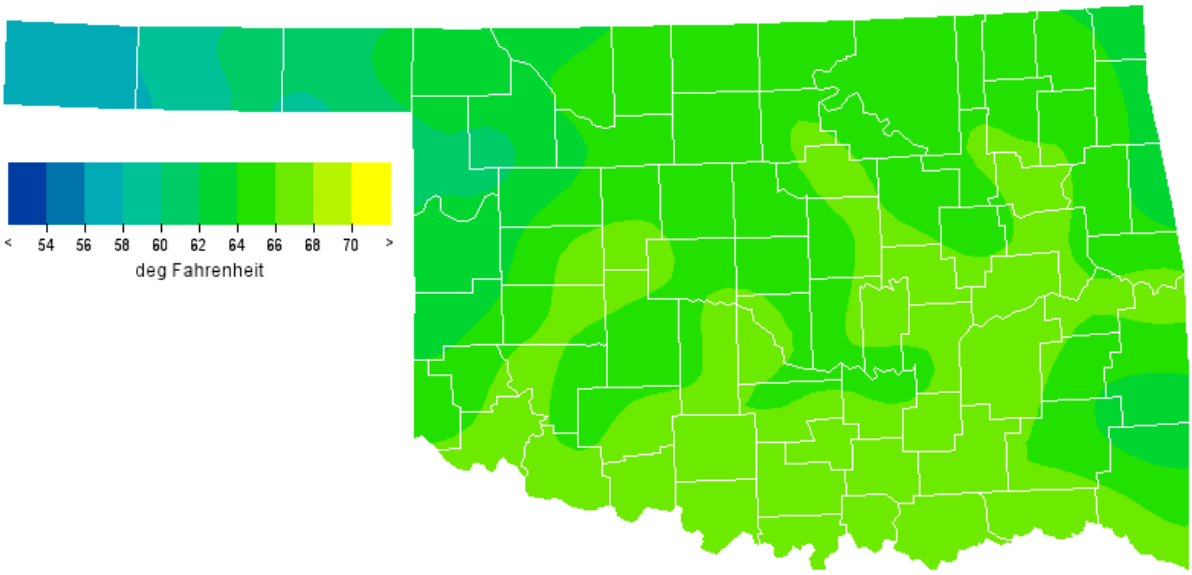
Average June Tornadoes	8.4
Most	28 (1995)

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.

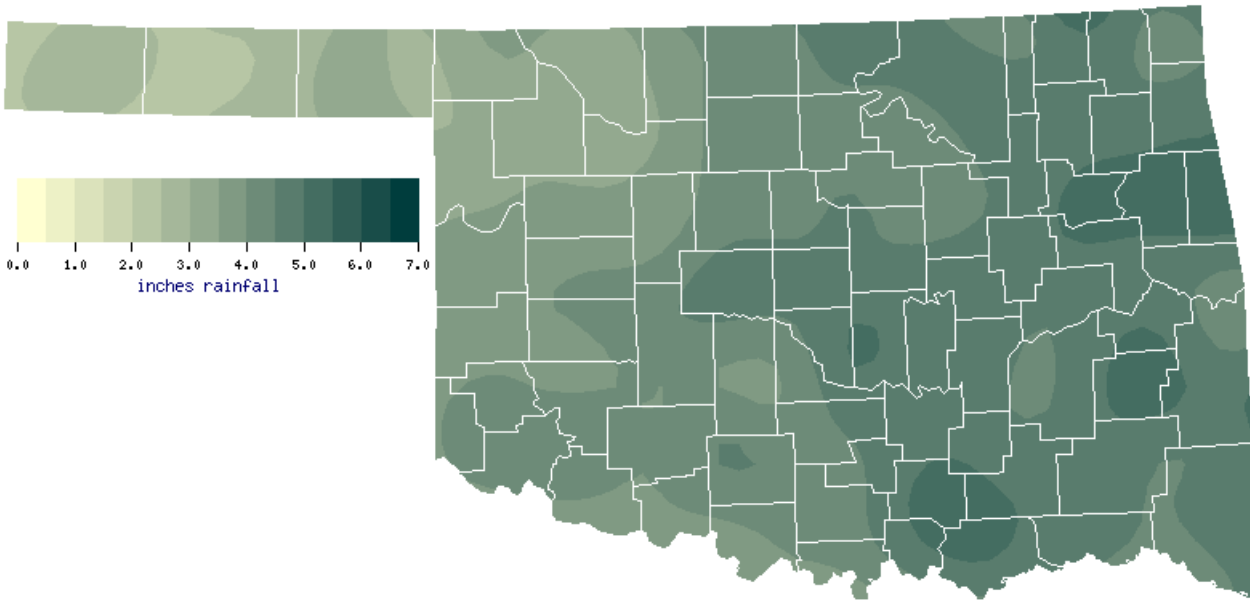
JUNE NORMAL DAILY MAXIMUM TEMPERATURE (1971-2000)



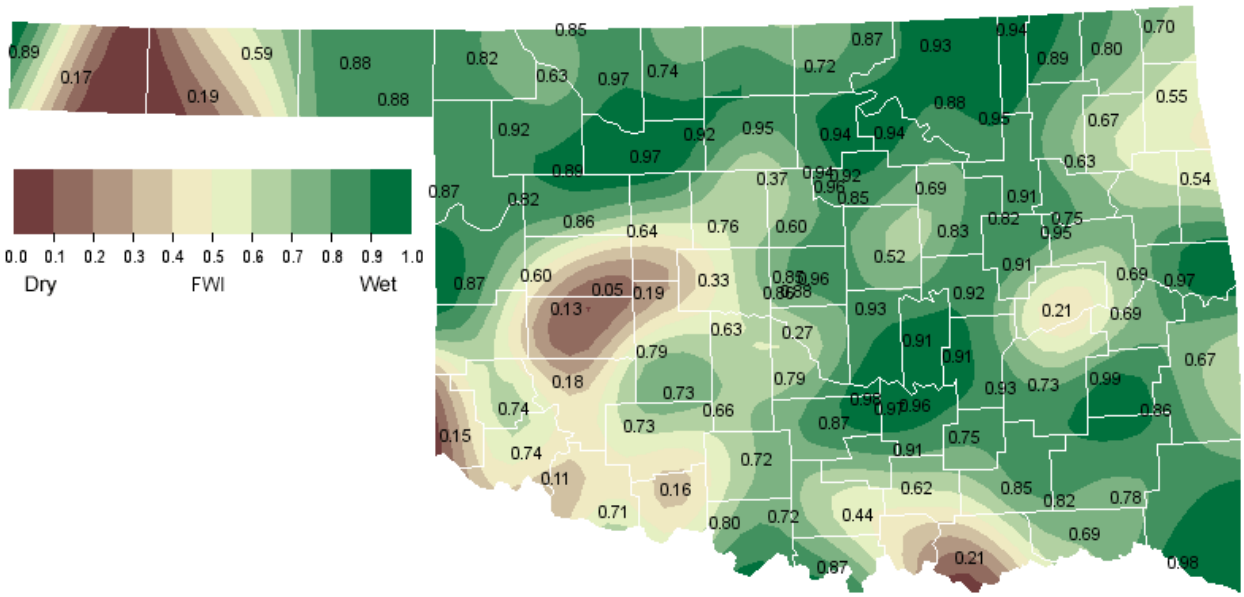
JUNE NORMAL DAILY MINIMUM TEMPERATURE (1971-2000)



JUNE NORMAL PRECIPITATION (1971-2000)



JUNE 1, 2010 SOIL MOISTURE CONDITIONS AT 25CM



JUNE 2010 DROUGHT INDICES

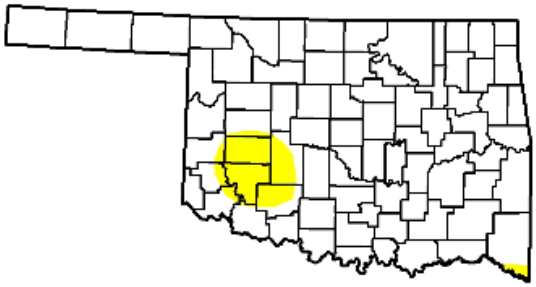
U.S. Drought Monitor

Oklahoma

June 1, 2010
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	93.7	6.3	0.0	0.0	0.0	0.0
Last Week (05/25/2010 map)	100.0	0.0	0.0	0.0	0.0	0.0
3 Months Ago (03/09/2010 map)	100.0	0.0	0.0	0.0	0.0	0.0
Start of Calendar Year (01/05/2010 map)	100.0	0.0	0.0	0.0	0.0	0.0
Start of Water Year (10/06/2009 map)	98.0	2.0	0.0	0.0	0.0	0.0
One Year Ago (06/02/2009 map)	54.3	45.7	3.8	0.0	0.0	0.0



Intensity:

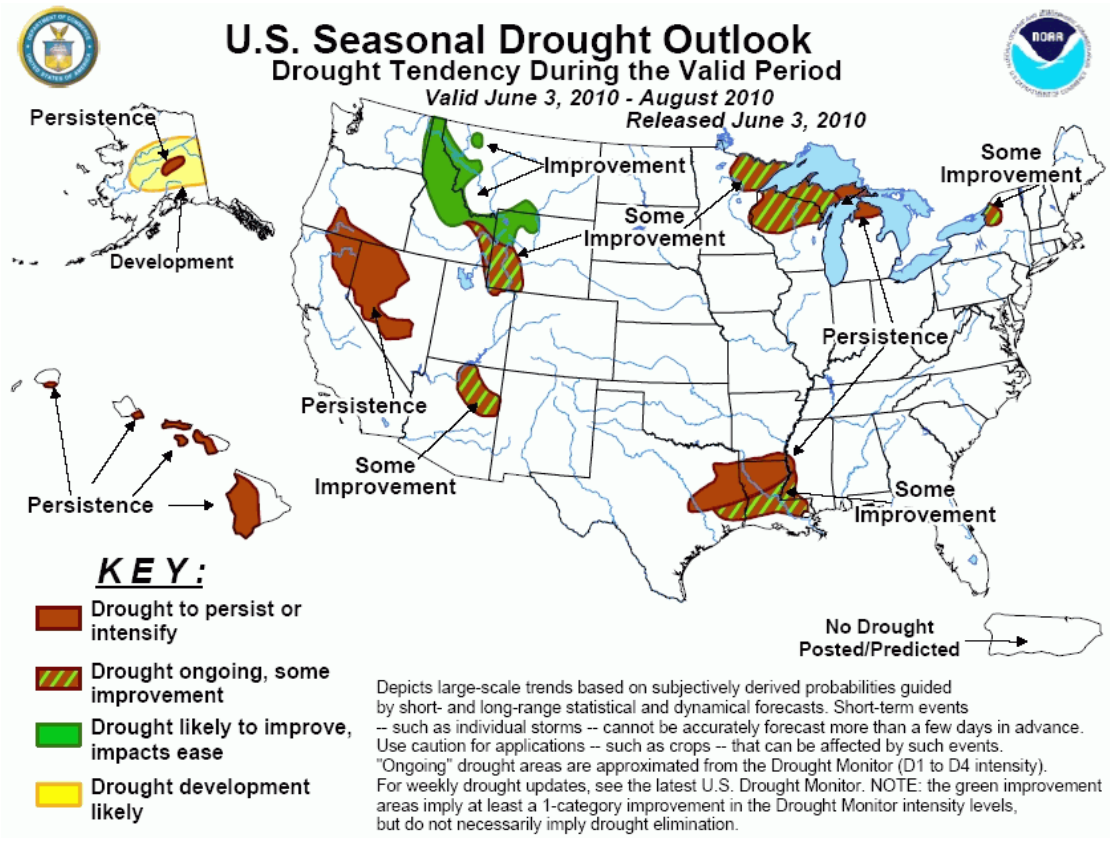
- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

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

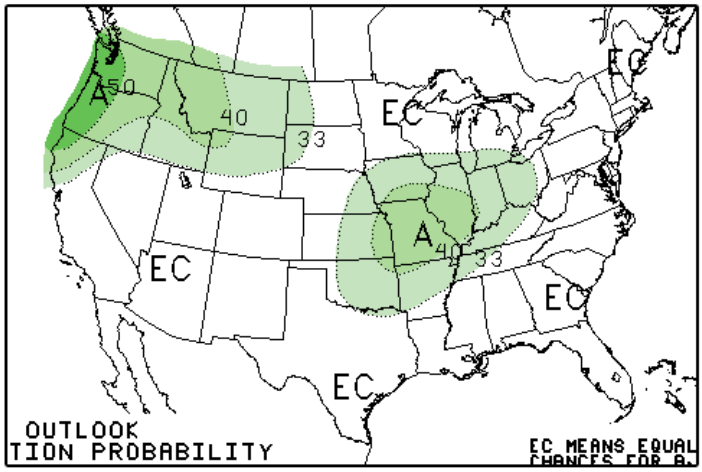
http://drought.unl.edu/dm

USDA · National Drought Mitigation Center

Released Thursday, June 3, 2010
Author: Brian Fuchs, National Drought Mitigation Center



JUNE 2010 U.S. PRECIPITATION FORECAST



Percent Likelihood of Above or Below Average Precipitation*

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

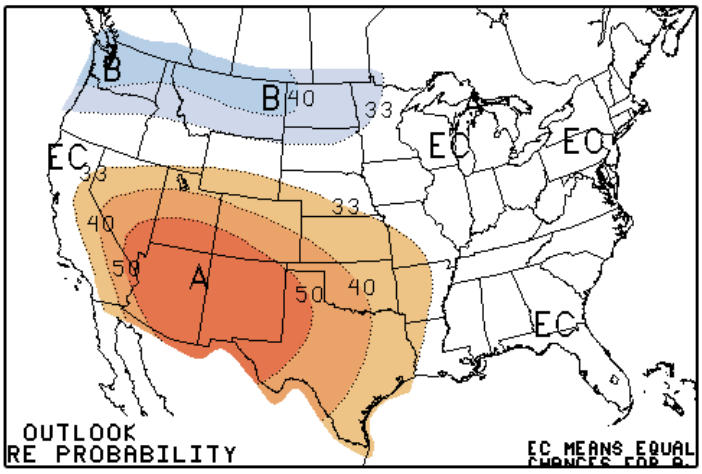
A = Above

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

B = Below

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

JUNE 2010 U.S. TEMPERATURE FORECAST



Percent Likelihood of Above or Below Average Temperatures*

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

A = Above

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

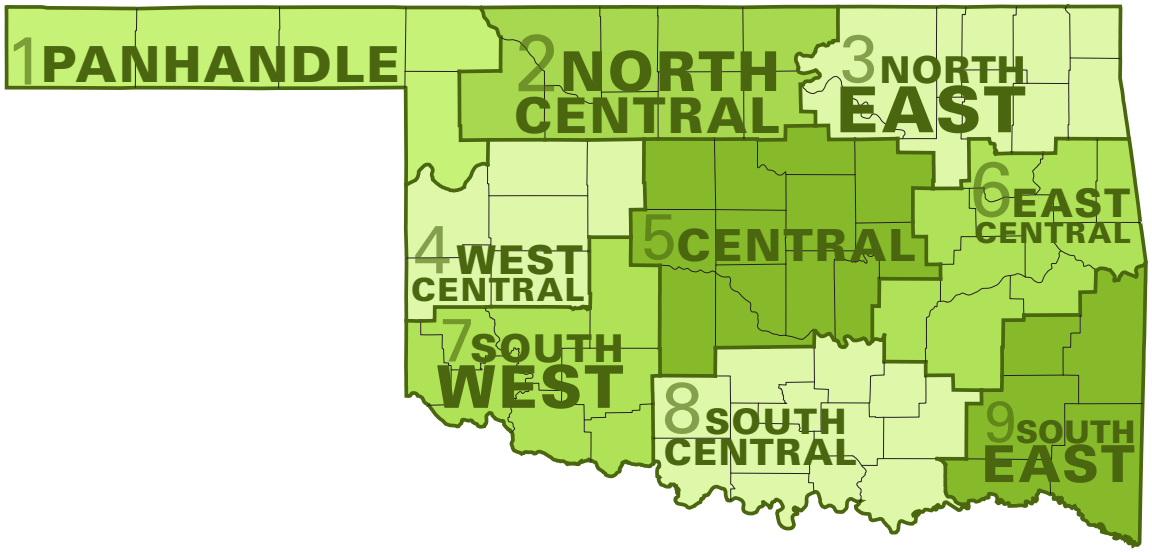
B = Below

*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

Oklahoma Climatological Survey is the State Climate Office for Oklahoma

Dr. Kevin Kloesel Interim Director
Dr. Renee McPherson State Climatologist

EDITOR
Gary D. McManus Associate State Climatologist

CONTRIBUTORS
Gary D. McManus
Dr. Mark A. Shafer Director of Climate Services
Howard Johnson Associate State Climatologist (Ret.)

DESIGN
Stdrovia Blackburn Graphic Design Manager
Ada Shih Graphic Designer

For more information, contact:
Oklahoma Climatological Survey
The University of Oklahoma
120 David L. Boren Blvd., Suite 2900
Norman, OK 73072-7305

TEL: 405-325-2541
FAX: 405-325-2550
E-MAIL: ocs@ou.edu
WEBSITE: http://climate.ok.gov