Oklahoma Monthly Climate Summary

# MARCH 2010

OKLAHOMA CLIMATOLOGICAL SURVEY

March turned out a little cooler and drier than normal according to data from the Oklahoma Mesonet. The statewide average rainfall ended with a deficit of greater than an inch below normal and ranked as the 44th driest on record. The temperature data was similar at more than a degree below normal, which ranked the month as the 55th coolest on record. The biggest stories during March, however, will not come as a shock to those accustomed to Oklahoma's wild weather. The first was a tornado on the eighth that struck the small town of Hammon in Roger Mills County. The EF2-rated twister gave the town a glancing blow and left damaged homes and businesses in its wake. It was also the first tornado to touch down in the state since October 29, 2009. The next major weather event was a late-month snowstorm that dumped from 3-7 inches of snow across the state. Pryor led the state's totals with 11 inches. The final big weather story occurred as the month waned. Temperatures soared into the 90s in western Oklahoma during March's final three days. The heat combined with low humidities and strong winds gusting to over 40 mph to produce extreme fire danger.

### March 2010 Statewide Extremes

| Description | Extreme | Station | Day |
|---|---|---|---|
| High Temperature | 97°F | Butler, Seiling | 31 |
| Low Temperature | 15°F | Boise City | 21 |
| High Precipitation | 5.18 in. | Jay | |
| Low Precipitation | 0.31 in. | Retrop | -- |

## TEMPERATURE

Cold weather in the eastern half of the state dominated the statistics, overwhelming some above-normal temperatures in central and western Oklahoma. Parts of eastern Oklahoma were more than 4 degrees below normal. The Mesonet sites at Butler and Seiling recorded the state's highest temperature, 97 degrees, on the 31st. The lowest temperature of 15 degrees occurred on the 21st at Boise City. The cold month continued a trend for the beginning of 2010. The January-March statewide average temperature stood at nearly 3 degrees below normal, the 20th coolest such period on record.

### March 2010 Statewide Statistics

Temperature

| | Average | Depart. | Rank (1895-2010) |
|---|---|---|---|
| Month (March) | 48.9°F | -1.3°F | 55th Coolest |
| Year-to-Date (Jan-Mar) | 39.8°F | -2.9°F | 20th Coolest |

Precipitation

| | Average | Depart. | Rank (1895-2010) |
|---|---|---|---|
| Month (March) | 1.97 in. | -1.14 in. | 44th Driest |
| Year-to-Date (Jan-Mar) | 5.98 in. | -0.34 in. | 46th Wettest |

Depart. = departure from 30-year normal

## PRECIPITATION

While the state was dry on average, the Panhandle and far northeast Oklahoma were two areas that managed to finish with a surplus. The Panhandle had a surplus of less than a quarter of an inch but that was enough to rank the month in that area as the 23rd wettest. The northeast finished with a deficit of nearly an inch, but the far northeast corner was actually 1-2 inches above normal. The Mesonet site at Jay led the state with more than 5 inches of precipitation. West central Oklahoma rainfall amounts were as little as 20 percent of normal and the area experienced its 31st driest March on record. The January-March period ranked as the 46th wettest across the state with an average of nearly 6 inches, less than a half of an inch below normal. The Panhandle led the state with a surplus of nearly an inch, the 20th wettest such period on record for that region.

## MARCH DAILY HIGHLIGHTS

**MARCH 1-6:** The month started on a rainy note associated with a large upper-level low pressure system that moved across west Texas. About a half of an inch of rainfall was reported in southern Oklahoma early, then light snow was reported in the northwest. Temperatures remained in the 30s and 40s for most of that day. A bit of a warm up occurred after the upper low moved to the east, although mornings were still cool in the 20s and 30s. Highs increased from the 40s and 50s on the second to the 60s and 70s on the sixth. Of course, those temperatures also came with strong southerly winds that gusted to 40 mph at times. The southerly winds also helped to increase humidities and keep morning low temperatures well above normal. Lows on the sixth remained in the 40s and 50s.

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**MARCH 7-10:** With moisture in place, a large upper-level low pressure system moved closer to the state and helped produce precipitation over this four-day period. The increased moisture also helped to keep temperatures more mild in the mornings. Lows on the seventh remained in the 50s for the most part, although a cold front entering the state from the northwest cooled down the areas that fell behind it. Highs did not rise too much, remaining in the 50s and 60s. Showers popped up in the south and dropped about a quarter of an inch of rain. The storm system moved in on the eighth and kicked off a round of heavier showers and storms. A few of those storms became severe rather quickly in western Oklahoma. The state's first tornado of the year dropped near the town of Hammon. This EF2-rated twister caused extensive damage along the southeast edge of Hammon. Several barns were destroyed and damage was heavy to homes. The tornado was on the ground for approximately 10 miles before dissipating. No injuries were included in preliminary reports. A second but weaker tornado touched down later but no damage was found. Strong winds and some large hail were reported with these storms. Rainfall from these storms was heavy at times with the Mesonet site at Tishomingo recording over 2 inches. The showers and storms continued for the next couple of days as the cold front and storm system continued to move through. The upper-level low moved rapidly to the northeast away from Oklahoma on the 10th. Showers and storms in the north contained a few instances of quarter-size hail. Snow showers fell in Woodward later in the day, with heavier amounts between 2-4 inches reported in the Panhandle. Highs ranged from the 60s and 70s in the south to 40s in the north.

**MARCH 11-18:** This eight-day period was just a bit cooler than seasonable for the most part following the previous cold front. Northerly winds and low clouds were common. Just a few sprinkles across the state, although heavier showers fell in the Panhandle on the 15th. Southerly winds finally returned ahead of an approaching storm system on the 18th and allowed highs to climb into the 60s and low 70s.

**MARCH 19-21:** A strong upper-level storm system combined with a dose of arctic air to produce a bounty of snow just in time for the start of spring. The cold front came first on the 19th and brought showers and storms, some quite strong, in central and southeastern Oklahoma. The snow came on the 20th. Pryor reported 11 inches, and 3-7 inches was common in the northern half of the state. Snow showers and a cold rain were reported farther south. The rain changed to snow later in the south and as much as 10 inches was reported as far south as Latimer County. Widespread amounts of 6 inches or more were reported across the eastern half of the state with this storm. Strong winds gusting to near 50 mph at times created wind chills in the teens and caused drifting snow. The snow moved to the east along with the storm system on the 21st. The lowest temperature of the month was recorded by the Boise City Mesonet site on that day.

**MARCH 22-25:** A rapid warm up after the previous snowfall made a transition to spring seem imminent. The 22nd started out cool with aid from a surface high pressure system and snow still on the ground, but highs rebounded quite nicely into the 60s and 70s. Another approaching upper-level storm brought low-level moisture back into the state on southerly winds throughout the 23rd and 24th. A cold front entered the state on the 24th and kicked off a round of showers and storms. The rainfall associated with those storms was greater in the south on the 24th before pushing into northeastern Oklahoma into the 25th. Two-day totals of between 1-2 inches were common in the eastern third of the state, and amounts of more than an inch were reported in the Oklahoma Panhandle.

**MARCH 26-31:** The month's final six days completed what seemed like a rapid transition from winter conditions through mid-March to summerlike weather by month's end. A cold front on the 27th brought cold winds and light rain, but after that, temperatures increased each day. Highs reached the upper-90s on the 31st in western Oklahoma, and upper-80s were common. With strong gusty winds and low humidities, fire danger increased dramatically, especially in western Oklahoma. The month's highest temperature of 97 degrees occurred on the 31st at both Butler and Seiling.

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# MARCH 2010 SEVERE WEATHER

## Flooding

| Location | County | Day |
|---|---|---|
| Pryor | Mayes | 25 |
| 1 E Adair | Mayes | 25 |
| 2 N Adair | Mayes | 25 |
| Miami | Ottawa | 25 |
| 2 W Bernice | Delaware | 25 |
| 8 N Wyandotte | Ottawa | 25 |
| 2 S Quapaw | Ottawa | 25 |

## Significant Tornadoes (EF2 or greater)

| EF-rating | County | Day |
|---|---|---|
| 2 | Roger Mills/Custer | 8 |

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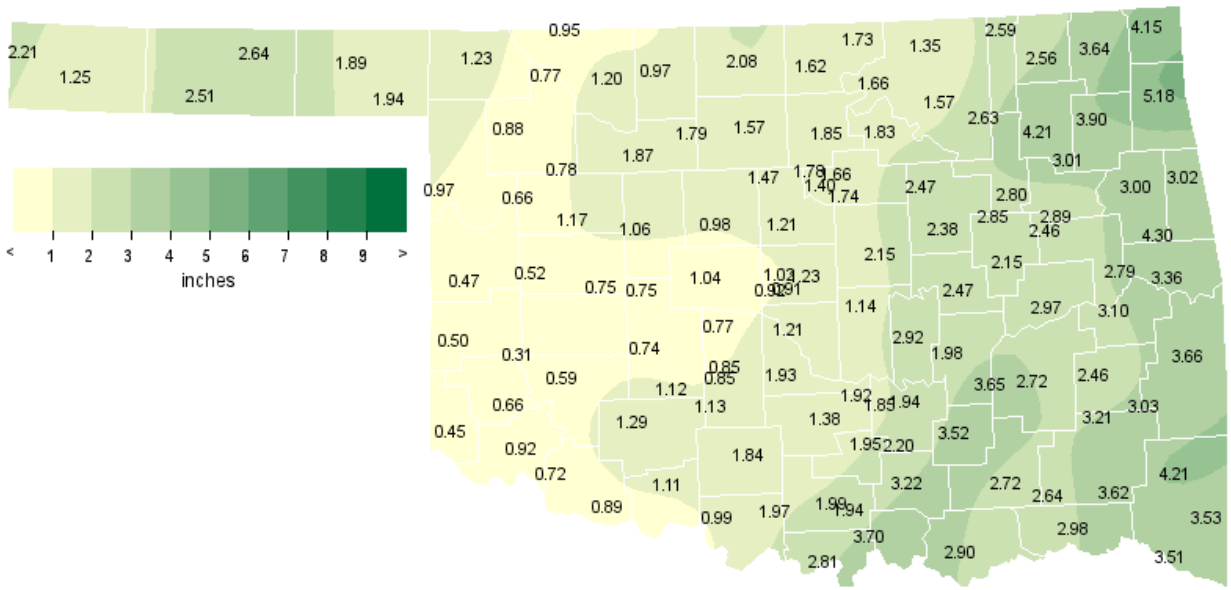
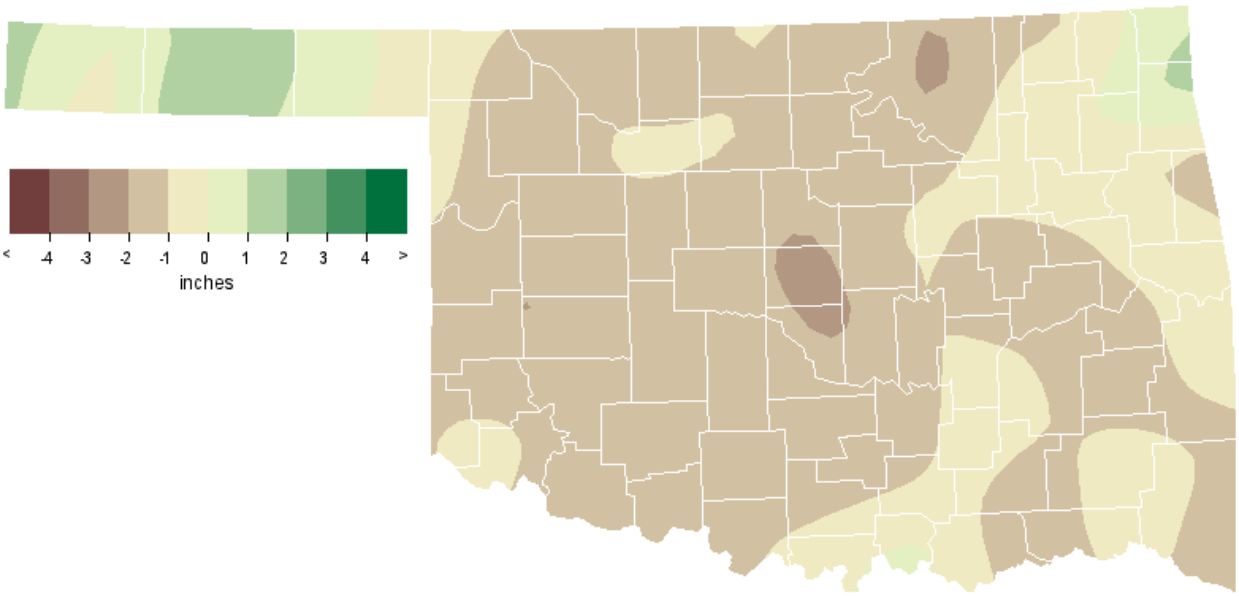
## MARCH 2010 OBSERVED PRECIPITATION




## MARCH 2010 DEPARTURE FROM NORMAL PRECIPITATION

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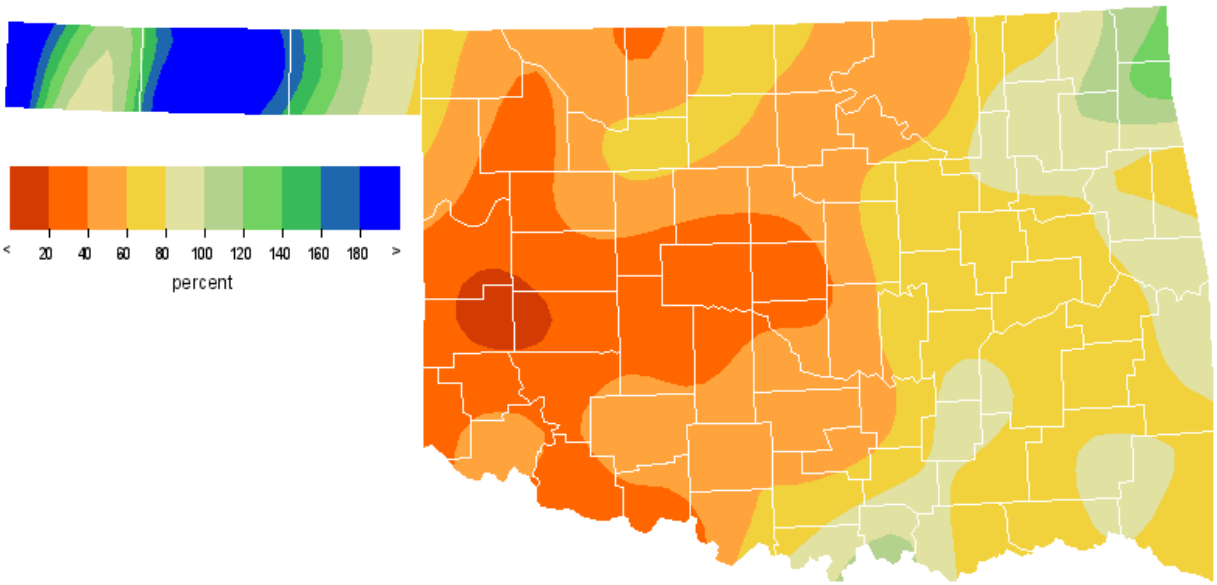
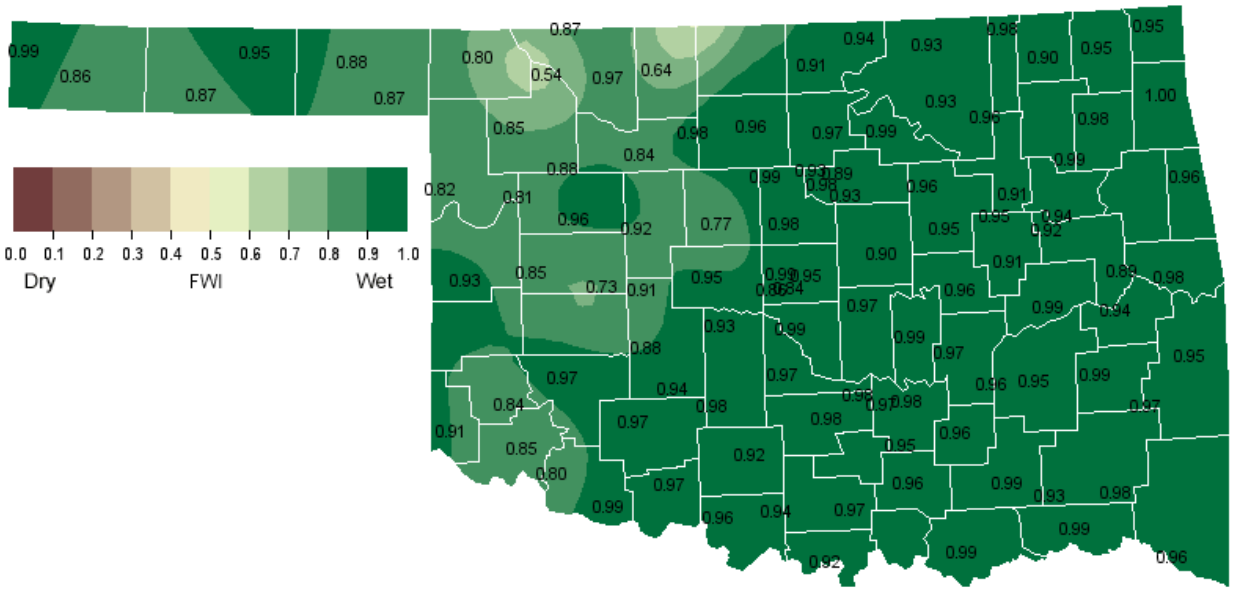
## MARCH 2010 PERCENT OF NORMAL PRECIPITATION




## MARCH 2010 AVERAGE SOIL MOISTURE AT 25CM

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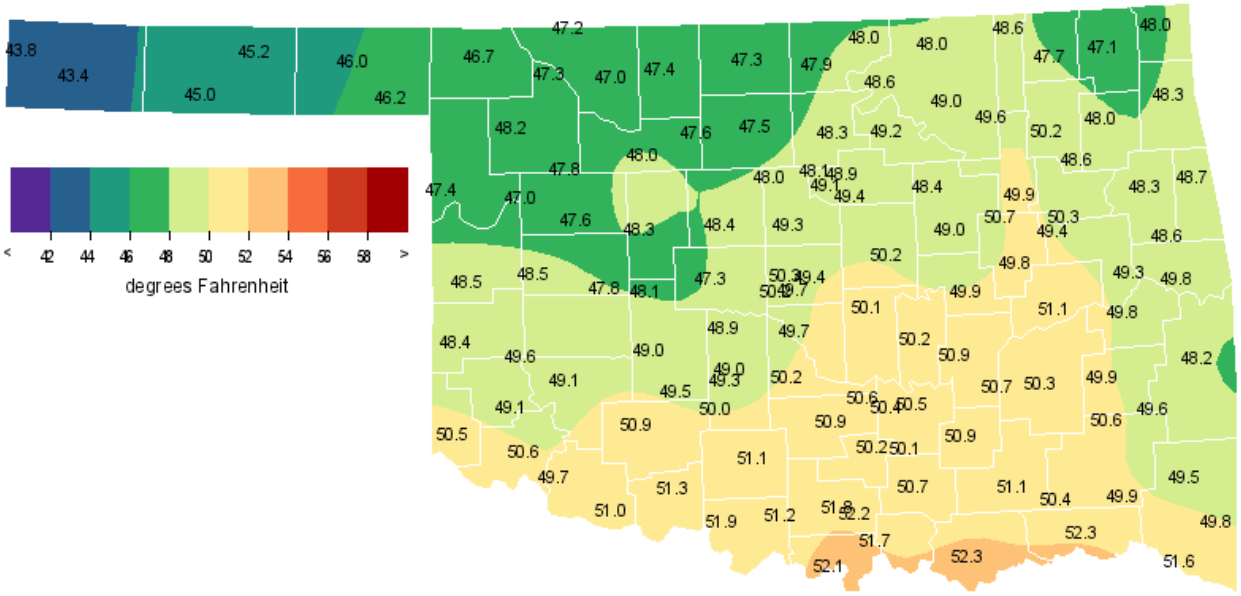
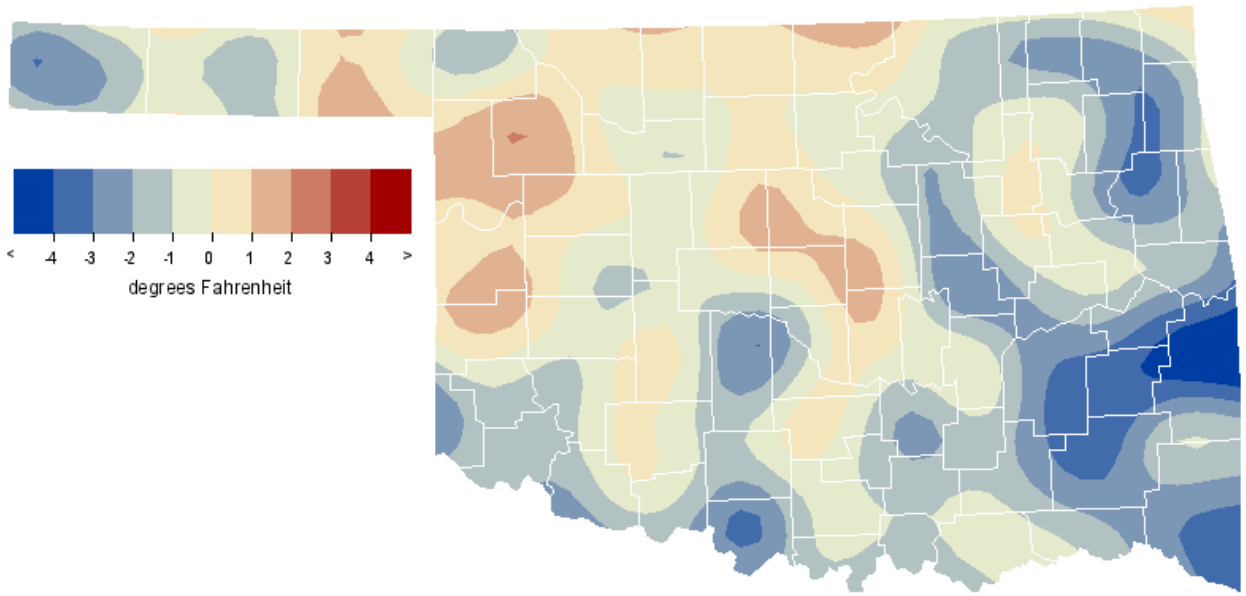
## MARCH 2010 AVERAGE TEMPERATURE




## MARCH 2010 DEPARTURE FROM NORMAL TEMPERATURE

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# MESONET MONTHLY SUMMARY FOR MARCH 2010

| NAME | MEAN TEMP | HIGH TEMP | HIGH DAY | LOW TEMP | LOW DAY | HDD | CDD | TOT PPT | HIGH 24-HR | HIGH DAY |
|---|---|---|---|---|---|---|---|---|---|---|
| **PANHANDLE** | | | | | | | | | | |
| Arnett | 47.4 | 95 | 31 | 21 | 22 | 555 | 10 | .97 | .29 | 25 |
| Beaver | 46.0 | 93 | 31 | 18 | 21 | 596 | 6 | 1.89 | .66 | 24 |
| Boise City | 43.4 | 86 | 30 | 15 | 21 | 672 | 2 | 1.25 | .63 | 8 |
| Buffalo | 46.8 | 93 | 31 | 21 | 22 | 571 | 6 | 1.23 | .41 | 10 |
| **NORTH CENTRAL** | | | | | | | | | | |
| Alva | 47.0 | 94 | 31 | 21 | 3 | 568 | 10 | 1.20 | .51 | 8 |
| Blackwell | 47.8 | 88 | 31 | 24 | 22 | 544 | 11 | 1.62 | 1.03 | 8 |
| Breckinridge | 47.5 | 87 | 31 | 24 | 3 | 549 | 7 | 1.57 | .82 | 8 |
| Cherokee | 47.4 | 88 | 31 | 20 | 22 | 551 | 5 | .97 | .60 | 8 |
| Fairview | 47.9 | 90 | 31 | 23 | 22 | 540 | 11 | 1.87 | 1.09 | 8 |
| Freedom | 47.3 | 94 | 31 | 21 | 22 | 559 | 10 | .77 | .41 | 8 |
| Lahoma | 47.5 | 87 | 31 | 25 | 21 | 548 | 7 | 1.79 | 1.15 | 8 |
| **NORTHEAST** | | | | | | | | | | |
| Bixby | 49.9 | 83 | 31 | 23 | 3 | 475 | 7 | 2.80 | .79 | 8 |
| Burbank | 48.6 | 88 | 31 | 24 | 4 | 518 | 11 | 1.66 | 1.12 | 8 |
| Claremore | 50.1 | 83 | 31 | 24 | 3 | 468 | 6 | 4.21 | 1.17 | 25 |
| Copan | 48.7 | 82 | 31 | 21 | 4 | 512 | 6 | 2.59 | .81 | 25 |
| Foraker | 48.1 | 86 | 31 | 22 | 3 | 531 | 8 | 1.35 | .84 | 8 |
| Inola | 48.7 | 81 | 31 | 20 | 3 | 511 | 5 | 3.01 | .91 | 8 |
| Jay | 48.3 | 82 | 31 | 19 | 3 | 525 | 7 | 5.18 | 2.18 | 25 |
| Miami | 48.0 | 81 | 31 | 20 | 4 | 534 | 6 | 4.15 | 1.60 | 25 |
| **WEST CENTRAL** | | | | | | | | | | |
| Bessie | 49.3 | 93 | 31 | 24 | 21 | **** | **** | .48 | .22 | 8 |
| Butler | 48.4 | 97 | 31 | 19 | 22 | 525 | 11 | .52 | .27 | 8 |
| Camargo | 47.0 | 96 | 31 | 19 | 22 | 565 | 7 | .66 | .32 | 8 |
| Cheyenne | 48.5 | 94 | 31 | 22 | 21 | 525 | 13 | .47 | .23 | 8 |
| Erick | 48.4 | 94 | 31 | 22 | 22 | 523 | 7 | .50 | .33 | 8 |
| **CENTRAL** | | | | | | | | | | |
| Acme | 50.0 | 89 | 31 | 22 | 22 | 475 | 9 | 1.13 | .46 | 8 |
| Bowlegs | 50.2 | 83 | 31 | 24 | 3 | 465 | 7 | 2.92 | 1.60 | 8 |
| Bristow | 48.9 | 82 | 31 | 20 | 3 | 504 | 5 | 2.38 | 1.25 | 8 |
| Lake Carl Blac | 48.2 | 90 | 31 | 22 | 3 | 536 | 14 | 1.78 | 1.07 | 8 |
| Chandler | 50.2 | 86 | 31 | 25 | 3 | 470 | 10 | 2.15 | 1.09 | 19 |
| Chickasha | 49.1 | 88 | 31 | 20 | 22 | 502 | 9 | .85 | .54 | 8 |
| El Reno | 47.4 | 87 | 31 | 20 | 3 | 554 | 7 | 1.04 | .56 | 8 |
| Guthrie | 49.4 | 89 | 31 | 23 | 22 | 499 | 14 | 1.21 | .75 | 8 |
| Kingfisher | 48.4 | 87 | 31 | 23 | 22 | 523 | 9 | .98 | .45 | 8 |
| Marena | 49.2 | 90 | 31 | 26 | 3 | 505 | 14 | 1.40 | .84 | 8 |
| Minco | 48.9 | 86 | 31 | 25 | 21 | 506 | 6 | .77 | .40 | 8 |
| Marshall | 48.0 | 87 | 31 | 22 | 22 | 539 | 11 | 1.47 | .73 | 8 |
| **EAST CENTRAL** | | | | | | | | | | |
| Cookson | 48.6 | 80 | 31 | 18 | 3 | 514 | 5 | 4.30 | 1.38 | 20 |
| Eufaula | 51.1 | 80 | 31 | 27 | 4 | 436 | 5 | 2.97 | .74 | 25 |
| Haskell | 49.5 | 81 | 31 | 23 | 3 | 487 | 5 | 2.46 | .65 | 8 |
| Hectorville | 50.7 | 83 | 31 | 27 | 3 | 450 | 7 | 2.85 | .97 | 8 |
| Holdenville | 50.9 | 82 | 31 | 28 | 3 | 443 | 5 | 1.98 | .85 | 8 |
| McAlester | 50.4 | 81 | 31 | 21 | 3 | 458 | 5 | 2.72 | 1.04 | 8 |
| Okmulgee | 49.8 | 82 | 31 | 22 | 3 | 476 | 6 | 2.15 | .70 | 19 |
| **SOUTHWEST** | | | | | | | | | | |
| Altus | 50.6 | 94 | 31 | 24 | 21 | 453 | 7 | .92 | .39 | 8 |
| Apache | 49.4 | 88 | 31 | 25 | 22 | 488 | 6 | 1.12 | .66 | 8 |
| Fort Cobb | 49.0 | 90 | 31 | 23 | 22 | 502 | 8 | .74 | .46 | 8 |
| Grandfield | 51.0 | 90 | 31 | 27 | 22 | 442 | 8 | .89 | .34 | 8 |
| Hinton | 48.2 | 89 | 31 | 24 | 21 | 528 | 6 | .75 | .57 | 8 |
| Hobart | 49.1 | 89 | 31 | 23 | 22 | 500 | 6 | .59 | .27 | 8 |
| **SOUTH CENTRAL** | | | | | | | | | | |
| Ada | 50.5 | 81 | 31 | 24 | 3 | 454 | 4 | 1.94 | .89 | 8 |
| Ardmore | 52.1 | 83 | 31 | 29 | 3 | 405 | 6 | 1.94 | .99 | 8 |
| Burneyville | 52.1 | 84 | 31 | 24 | 3 | 405 | 6 | 2.81 | .87 | 8 |
| Byars | 50.7 | 82 | 31 | 27 | 2 | 449 | 4 | 1.92 | 1.10 | 8 |
| Centrahoma | 50.8 | 80 | 31 | 22 | 3 | 443 | 4 | 3.52 | 1.67 | 8 |
| Durant | 52.3 | 80 | 31 | 28 | 3 | 397 | 3 | 2.90 | .86 | 24 |
| Fittstown | 50.0 | 80 | 31 | 24 | 3 | 466 | 2 | 2.20 | .98 | 8 |
| Ketchum Ranch | 51.1 | 88 | 31 | 27 | 3 | 440 | 9 | 1.84 | .71 | 8 |
| Lane | 51.1 | 81 | 31 | 24 | 3 | 433 | 2 | 2.72 | 1.32 | 8 |
| **SOUTHEAST** | | | | | | | | | | |
| Antlers | 50.4 | 81 | 31 | 21 | 3 | 456 | 3 | 2.64 | 1.11 | 8 |
| Broken Bow | 49.8 | 80 | 31 | 22 | 3 | 473 | 0 | 3.53 | 1.20 | 24 |
| Clayton | 50.6 | 82 | 31 | 21 | 3 | 452 | 4 | 3.21 | 1.08 | 20 |
| Cloudy | 49.9 | 80 | 31 | 23 | 3 | 469 | 0 | 3.62 | 1.22 | 24 |
| Hugo | 52.2 | 81 | 31 | 27 | 3 | 398 | 2 | 2.98 | 1.13 | 24 |

| NAME | MEAN TEMP | HIGH TEMP | HIGH DAY | LOW TEMP | LOW DAY | HDD | CDD | TOT PPT | HIGH 24-HR | HIGH DAY |
|---|---|---|---|---|---|---|---|---|---|---|
| Goodwell | 45.0 | 87 | 31 | 18 | 21 | 620 | 1 | 2.51 | .73 | 8 |
| Hooker | 45.2 | 88 | 30 | 18 | 21 | 613 | 0 | 2.64 | 1.00 | 24 |
| Kenton | 43.9 | 86 | 30 | 21 | 20 | 656 | 1 | 2.21 | 1.39 | 8 |
| Slapout | 46.2 | 92 | 31 | 20 | 21 | 592 | 9 | 1.94 | .43 | 10 |
| May Ranch | 47.1 | 96 | 31 | 23 | 21 | 566 | 11 | .95 | .35 | 10 |
| Medford | 47.3 | 87 | 31 | 23 | 22 | 556 | 7 | 2.08 | 1.44 | 8 |
| Newkirk | 48.0 | 87 | 31 | 26 | 22 | 537 | 10 | 1.73 | 1.12 | 8 |
| Red Rock | 48.3 | 89 | 31 | 24 | 3 | 530 | 12 | 1.85 | 1.19 | 8 |
| Seiling | 47.8 | 97 | 31 | 19 | 22 | 545 | 12 | .78 | .29 | 8 |
| Woodward | 48.1 | 95 | 31 | 22 | 21 | 538 | 15 | .88 | .27 | 25 |
| Nowata | 47.7 | 80 | 31 | 19 | 4 | 542 | 5 | 2.56 | 1.53 | 25 |
| Pawnee | 49.2 | 88 | 31 | 24 | 3 | 501 | 11 | 1.83 | .86 | 8 |
| Porter | 50.3 | 82 | 31 | 24 | 3 | 462 | 5 | 2.89 | .78 | 8 |
| Pryor | 48.0 | 81 | 31 | 19 | 4 | 535 | 6 | 3.90 | 1.39 | 25 |
| Skiatook | 49.7 | 82 | 31 | 28 | 20 | 481 | 7 | 2.63 | .87 | 25 |
| Vinita | 47.1 | 79 | 31 | 20 | 3 | 560 | 4 | 3.64 | 1.73 | 25 |
| Wynona | 48.9 | 86 | 31 | 22 | 4 | 506 | 8 | 1.57 | .69 | 8 |
| Putnam | 47.6 | 93 | 31 | 23 | 22 | 548 | 8 | 1.17 | .76 | 8 |
| Retrop | 49.5 | 95 | 31 | 24 | 21 | 490 | 10 | .31 | .12 | 8 |
| Watonga | 48.3 | 87 | 31 | 25 | 20 | 526 | 8 | 1.06 | .61 | 8 |
| Weatherford | 47.7 | 87 | 31 | 24 | 21 | 541 | 6 | .75 | .55 | 8 |
| Ninnekah | 49.2 | 88 | 31 | 22 | 22 | 498 | 8 | .85 | .40 | 8 |
| Norman | 49.7 | 87 | 31 | 25 | 3 | 483 | 9 | 1.21 | .62 | 8 |
| Oilton | 48.4 | 86 | 31 | 19 | 3 | 523 | 8 | 2.47 | .89 | 8 |
| OKC East | 49.7 | 88 | 31 | 26 | 3 | 487 | 11 | .91 | .45 | 8 |
| OKC North | 50.3 | 89 | 31 | 26 | 2 | 467 | 12 | 1.02 | .66 | 8 |
| OKC West | 50.2 | 90 | 31 | 27 | 22 | 473 | 13 | .92 | .60 | 8 |
| Okemah | 49.9 | 81 | 31 | 24 | 3 | 472 | 4 | 2.47 | 1.28 | 8 |
| Perkins | 49.4 | 87 | 31 | 26 | 3 | 494 | 10 | 1.74 | 1.01 | 8 |
| Shawnee | 50.1 | 83 | 31 | 27 | 3 | 467 | 7 | 1.14 | .60 | 8 |
| Spencer | 49.4 | 87 | 31 | 25 | 22 | 494 | 10 | 1.23 | .36 | 8 |
| Stillwater | 48.9 | 89 | 31 | 25 | 3 | 512 | 13 | 1.66 | 1.02 | 8 |
| Washington | 50.2 | 86 | 31 | 26 | 3 | 467 | 7 | 1.93 | .86 | 8 |
| Sallisaw | 49.7 | 83 | 31 | 20 | 3 | 480 | 7 | 3.36 | .94 | 20 |
| Stigler | 49.8 | 80 | 31 | 23 | 4 | 475 | 5 | 3.10 | 1.01 | 20 |
| Stuart | 50.8 | 79 | 31 | 26 | 3 | 443 | 3 | 3.65 | 1.26 | 8 |
| Tahlequah | 48.3 | 80 | 31 | 19 | 3 | 522 | 5 | 3.00 | .75 | 20 |
| Webbers Falls | 49.3 | 82 | 31 | 22 | 3 | 491 | 6 | 2.79 | .99 | 20 |
| Westville | 48.7 | 80 | 31 | 22 | 3 | 510 | 5 | 3.02 | .76 | 20 |
| Hollis | 50.5 | 96 | 31 | 24 | 21 | 460 | 9 | .45 | .18 | 20 |
| Mangum | 49.0 | 94 | 31 | 19 | 22 | 499 | 4 | .66 | .20 | 20 |
| Medicine Park | 50.8 | 89 | 31 | 26 | 21 | 447 | 7 | 1.29 | .81 | 8 |
| Tipton | 49.8 | 89 | 31 | 22 | 22 | 477 | 5 | .72 | .24 | 8 |
| Walters | 51.4 | 90 | 31 | 26 | 22 | 428 | 6 | 1.11 | .42 | 8 |
| Madill | 51.8 | 81 | 31 | 25 | 3 | 414 | 5 | 3.70 | 1.46 | 8 |
| Newport | 51.8 | 84 | 31 | 28 | 3 | 413 | 5 | 1.99 | .81 | 8 |
| Pauls Valley | 50.9 | 85 | 31 | 25 | 3 | 443 | 6 | 1.38 | .62 | 8 |
| Ringling | 51.3 | 86 | 31 | 26 | 22 | 430 | 4 | 1.97 | .68 | 8 |
| Sulphur | 50.2 | 82 | 31 | 22 | 3 | 464 | 4 | 1.95 | .79 | 8 |
| Tishomingo | 50.7 | 81 | 31 | 24 | 3 | 448 | 3 | 3.22 | 2.01 | 8 |
| Vanoss | 50.4 | 83 | 31 | 22 | 3 | 459 | 5 | 1.85 | 1.18 | 8 |
| Waurika | 51.9 | 90 | 31 | 25 | 22 | 415 | 9 | .99 | .39 | 8 |
| Idabel | 51.6 | 81 | 31 | 24 | 3 | 415 | 0 | 3.51 | 1.30 | 24 |
| Mt Herman | 49.5 | 78 | 31 | 22 | 3 | 480 | 0 | 4.21 | 1.63 | 24 |
| Talihina | 49.6 | 80 | 31 | 21 | 3 | 481 | 3 | 3.03 | 1.02 | 20 |
| Wilburton | 49.9 | 80 | 31 | 21 | 3 | 472 | 4 | 2.46 | 1.02 | 20 |
| Wister | 48.2 | 81 | 31 | 19 | 3 | 525 | 6 | 3.66 | .79 | 20 |

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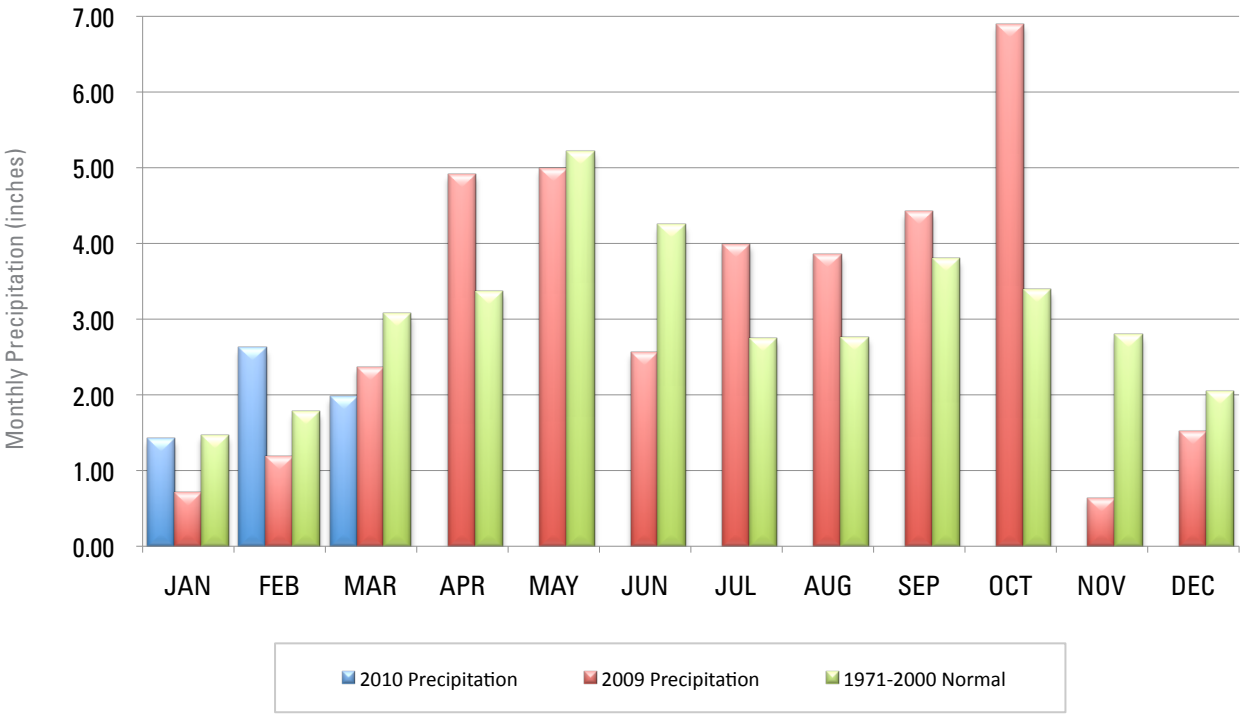
## 2009 AND 2010 STATEWIDE PRECIPITATION MONTHLY TOTALS VS. NORMAL




### March 2010 Mesonet Precipitation Comparison

| Climate Division | Precipitation (inches) | Departure from Normal (inches) | Rank since 1895 | Wettest on Record (Year) | Driest on Record (Year) | Mar-09 |
|---|---|---|---|---|---|---|
| Panhandle | 1.83 | 0.20 | 23rd Wettest | 5.84 (1973) | 0.00 (1895) | 0.57 |
| North Central | 1.39 | -1.29 | 49th Driest | 8.18 (1973) | 0.00 (1936) | 1.70 |
| Northeast | 2.93 | -0.74 | 54th Wettest | 9.79 (1973) | 0.00 (1900) | 4.01 |
| West Central | 0.68 | -1.72 | 31st Driest | 7.24 (1973) | 0.00 (1895) | 1.04 |
| Central | 1.48 | -1.76 | 35th Driest | 7.88 (1990) | 0.00 (1900) | 2.76 |
| East Central | 2.95 | -1.14 | 55th Driest | 10.63 (1945) | 0.46 (1911) | 3.01 |
| Southwest | 0.84 | -1.42 | 28th Driest | 5.52 (1973) | 0.00 (1940) | 1.48 |
| South Central | 2.28 | -1.27 | 43rd Driest | 8.46 (1945) | 0.20 (1950) | 2.13 |
| Southeast | 3.29 | -1.20 | 45th Driest | 12.38 (1945) | 1.01 (1954) | 4.37 |
| Statewide | 1.97 | -1.14 | 44th Driest | 7.46 (1973) | 0.38 (1971) | 2.36 |

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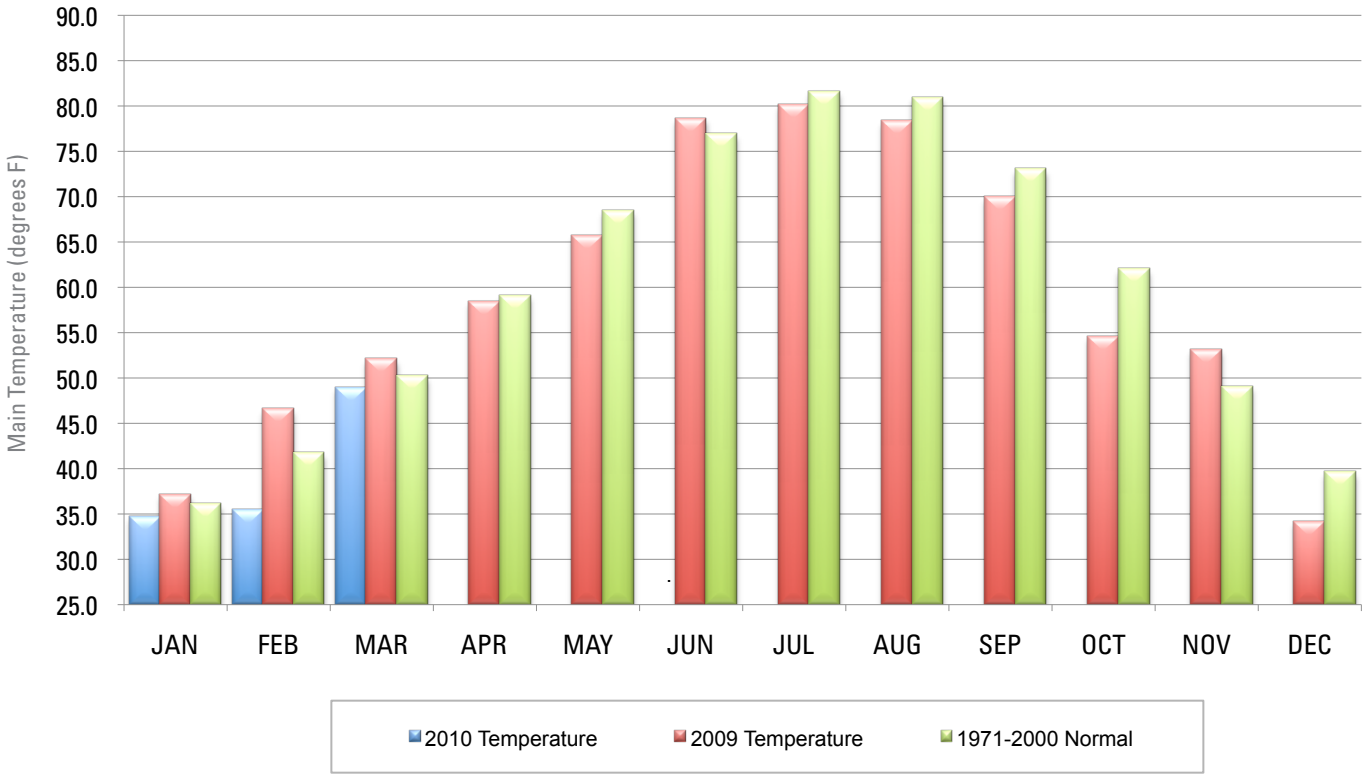
## 2009 AND 2010 STATEWIDE TEMPERATURE MONTHLY TOTALS VS. NORMAL




### March 2010 Mesonet Temperature Comparison

| Climate Division | Average Temp (F) | Departure from Normal (F) | Rank since 1895 | Hottest on Record (Year) | Coldest on Record (Year) | Mar-09 (F) |
|---|---|---|---|---|---|---|
| Panhandle | 45.5 | -0.8 | 54th Warmest | 54.3 (1910) | 32.9 (1915) | 46.8 |
| North Central | 47.7 | -0.5 | 58th Coolest | 57.6 (1910) | 35.3 (1915) | 49.6 |
| Northeast | 48.7 | -0.9 | 53rd Warmest | 58.6 (2007) | 37.3 (1960) | 51.1 |
| West Central | 48.2 | -0.7 | 57th Warmest | 57.3 (2007) | 35.8 (1915) | 51.6 |
| Central | 49.3 | -1.2 | 57th Warmest | 59.1 (2007) | 37.7 (1915) | 53.1 |
| East Central | 49.8 | -1.7 | 52nd Coolest | 60.2 (2007) | 39.2 (1915) | 52.7 |
| Southwest | 49.9 | -1.6 | 55th Coolest | 58.8 (2007) | 38.2 (1915) | 54.6 |
| South Central | 51.2 | -1.8 | 48th Coolest | 61.1 (1907) | 40.4 (1915) | 54.9 |
| Southeast | 50.2 | -2.6 | 35th Coolest | 61.5 (1907) | 42.0 (1915) | 53.2 |
| Statewide | 48.9 | -1.3 | 55th Coolest | 58.3 (2007) | 37.6 (1915) | 51.9 |

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## MESONET EXTREMES FOR MARCH 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 | 95 | 31st | Arnett | 15 | 21st | Boise City | 2.64 | Hooker | 1.39 | 8th | Kenton |
| North Central | 97 | 31st | Seiling | 19 | 22nd | Seiling | 2.08 | Medford | 1.44 | 8th | Medford |
| Northeast | 88 | 31st | Pawnee | 19 | 3rd | Jay | 5.18 | Jay | 2.18 | 25th | Jay |
| West Central | 97 | 31st | Butler | 19 | 22nd | Camargo | 1.17 | Putnam | 0.76 | 8th | Putnam |
| Central | 90 | 31st | Lake Carl Blackwell | 19 | 3rd | Oilton | 2.92 | Bowlegs | 1.60 | 8th | Bowlegs |
| East Central | 83 | 31st | Sallisaw | 18 | 3rd | Cookson | 4.30 | Cookson | 1.38 | 20th | Cookson |
| Southwest | 96 | 31st | Hollis | 19 | 22nd | Mangum | 1.29 | Medicine Park | 0.81 | 8th | Medicine Park |
| South Central | 90 | 31st | Waurika | 22 | 3rd | Sulphur | 3.70 | Madill | 2.01 | 8th | Tishomingo |
| Southeast | 82 | 31st | Clayton | 19 | 3rd | Wister | 4.21 | Mt Herman | 1.63 | 24th | Mt Herman |
| Statewide | 97 | 31st | Butler | 15 | 21st | Boise City | 5.18 | Jay | 2.18 | 25th | Jay |

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# APRIL OUTLOOK

April is the first full month of spring- the season of newly green trees and grass, redbud trees in bloom, and wildflowers aplenty. Baseball, romance, and pollen permeate the air, creating the dizzying mixture of joy and misery that marks the season. Most of April features exceedingly pleasant weather, much like that on April 22, 1889. According to the weather report submitted by the observer at Fort Reno, the day of the first great land run featured a high temperature of 80 degrees Fahrenheit, sandwiched between overnight lows of 46 and 54 degrees. Winds were northeasterly and light. Clouds were few.

April is the state's 5th wettest and 7th warmest month, establishing it clearly as part of the spring transition season. The statewide-averaged normal precipitation, based on the 30-year record compiled from 1971 through 2000, is 3.32 inches. The average monthly temperature, compiled from observations over the same period, is 59.8 degrees.

## Temperature

| | |
|---|---|
| **Mean** | 59.8 degrees |
| **Warmest Location** | 63.9 degrees, Waurika |
| **Coolest Location** | 54.0 degrees, Boise City |
| **Warmest April** | 1954, 65.4 degrees |
| **Coolest April** | 1983, 54.0 degrees |
| **Hottest recorded** | 106 degrees, Mangum, April 12, 1972 |
| **Coldest recorded** | 7 degrees, Hooker, April 4, 1979 |

Precipitation generally increases from southeast to northwest. Monthly normal precipitation for individual stations ranges from 1.36 inches at Oklahoma's driest observing station, Regnier (in the northwestern panhandle), to 5.19 inches at Daisy, on the western edge of southeastern Oklahoma's Ouachita Mountains. A statewide–averaged precipitation of 8.50 inches rates 1942 as the wettest April in the state's annals. The driest April, statewide, was in 1989 when the state's reporting stations received an average of just 0.58 inch for the month. The greatest April precipitation at any reporting station was 17.78 inches recorded at Okemah in 1945. Snowfall is rare in April, except in the panhandle. Boise City averages 2.5 inches of snow during April. Goodwell reported 17 inches of snow during April 1988, and Fargo received 14 inches during that month in 1973.

Normal monthly temperatures decrease from south to north. Waurika is the state's warmest location during April with a normal temperature of 63.9 degrees. Boise City ranks as the coolest site with a monthly average temperature of 54 degrees. Normal daily maximum temperatures range from 77 degrees at Waurika to 67.8 degrees at Newkirk. Normal daily minimum temperatures range from Waurika's 50.7 degrees to Boise City's 37.3. Temperatures drop below the freezing mark an average of nearly 8 times during April at Kenton, but freezes are uncommon across most of the main body of the state.

## Precipitation

| | |
|---|---|
| **Mean** | 3.32 inches |
| **Wettest April** | 1942, 8.50 inches |
| **Driest April** | 1989, 0.58 inches |
| **Wettest location** | Daisy, 5.19 inches |
| **Driest location** | Regnier, 1.36 inches |
| **Most recorded** | 17.78 inches, Okemah, 1945 |

## Tornadoes

| | |
|---|---|
| **Average March Tornadoes** | 10.7 |
| **Most** | 40 (1957) |

Except in the panhandle, any sub-freezing temperatures after mid-April would constitute a late freeze and would be harmful to plants, especially fruit or pecan trees. Southwestern Oklahoma experiences temperatures in the 90s an average of three times each April. Hot and cold do manage to creep in, however. On April 12, 1972, Mangum recorded a high temperature of 106 degrees, the highest of the 15 temperature reports of 102 degrees or more across the state that day. Conversely, Hooker's daily minimum temperature on April 4, 1979 was 7 degrees, thereby establishing the other extreme temperature for the month.

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Spring brings with it Oklahoma's noted severe weather season. April is Oklahoma's windiest month and ranks second among the 12 months in the number of tornadoes observed across the state. The state has averaged 10.7 tornadoes each April since 1950, a monthly average exceeded only by May. Eight years of wind observations from the statewide Oklahoma Mesonet have revealed an average April wind speed, statewide, of 10.6 miles per hour, which barely edges March for windiest month honors. South winds prevail in most areas, although passing cold fronts are still capable of turning winds to northerly for a day or so at a time.

Comprehensive records of tornado occurrence are available from 1950 to the present. A total of 579 tornadoes are listed as having struck within Oklahoma during April from 1950 through 2003. Forty of those tornadoes were reported in 1957, easily the most of any April during the period.

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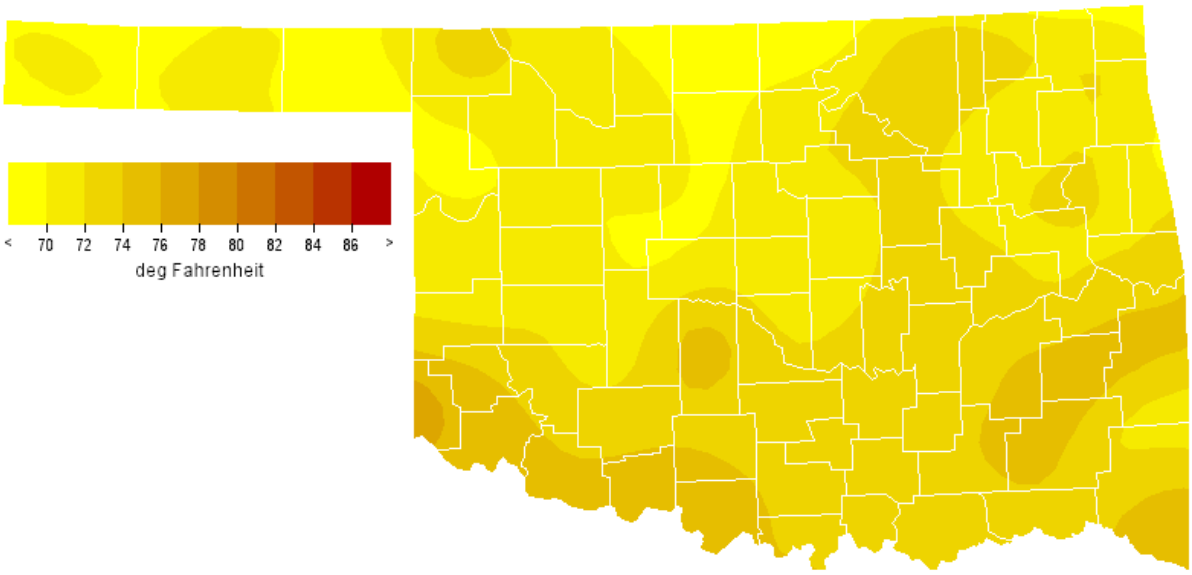
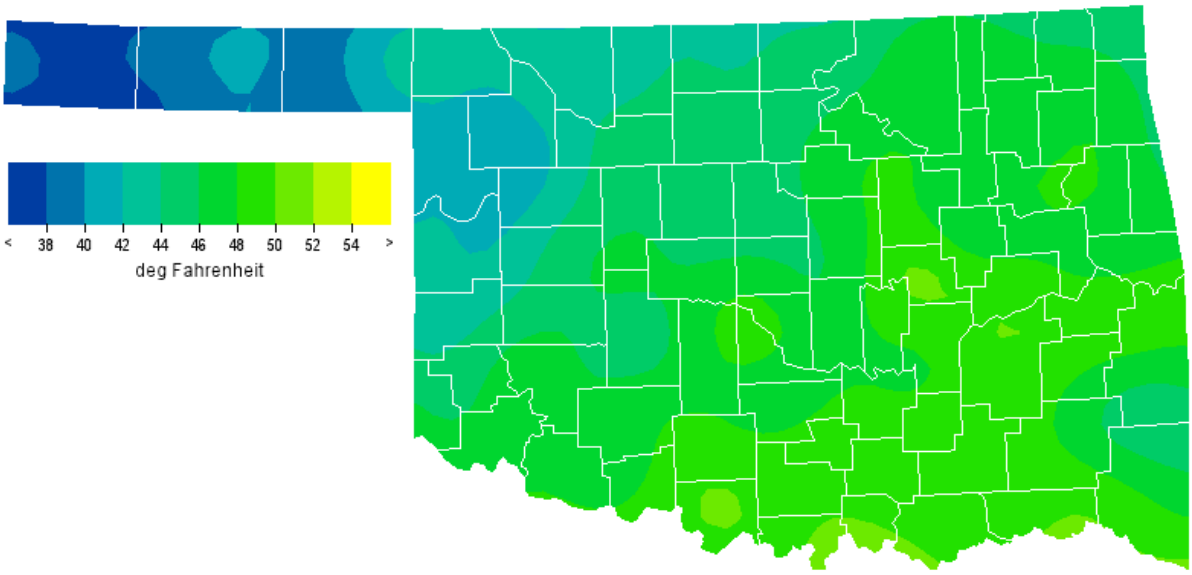
## APRIL NORMAL DAILY MAXIMUM TEMPERATURE (1971-2000)




## APRIL NORMAL DAILY MINIMUM TEMPERATURE (1971-2000)

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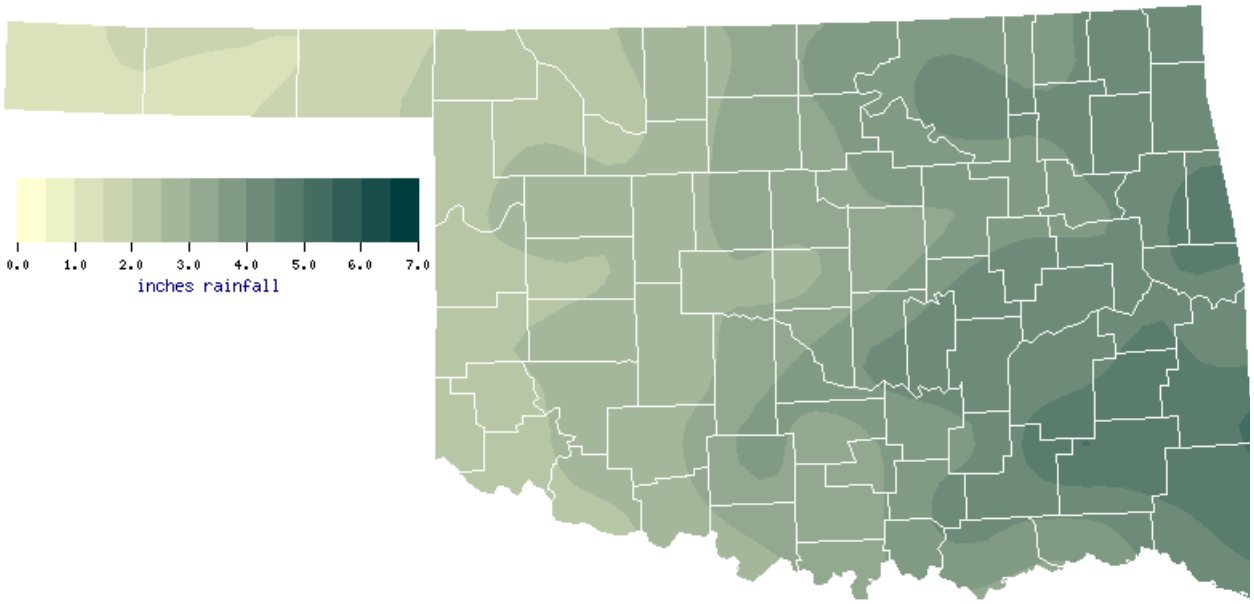
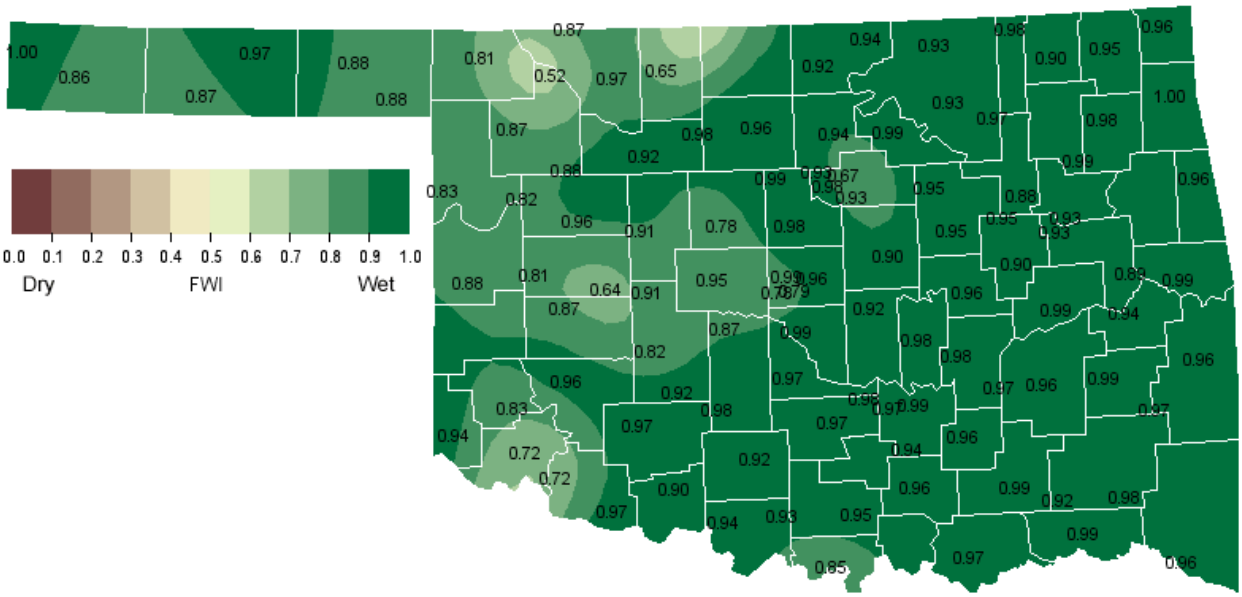
## APRIL NORMAL PRECIPITATION (1971-2000)




## APRIL 1, 2010 SOIL MOISTURE CONDITIONS AT 25CM

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## APRIL 2010 DROUGHT INDICES

# U.S. Drought Monitor
## Oklahoma

**March 23, 2010**
Valid 7 a.m. EST

*Drought Conditions (Percent Area)*

| | None | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4 |
|---|---|---|---|---|---|---|
| Current | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Last Week (03/16/2010 map) | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 3 Months Ago (12/29/2009 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 (03/24/2009 map) | 18.6 | 81.4 | 48.8 | 27.1 | 0.0 | 0.0 |

*Intensity:*

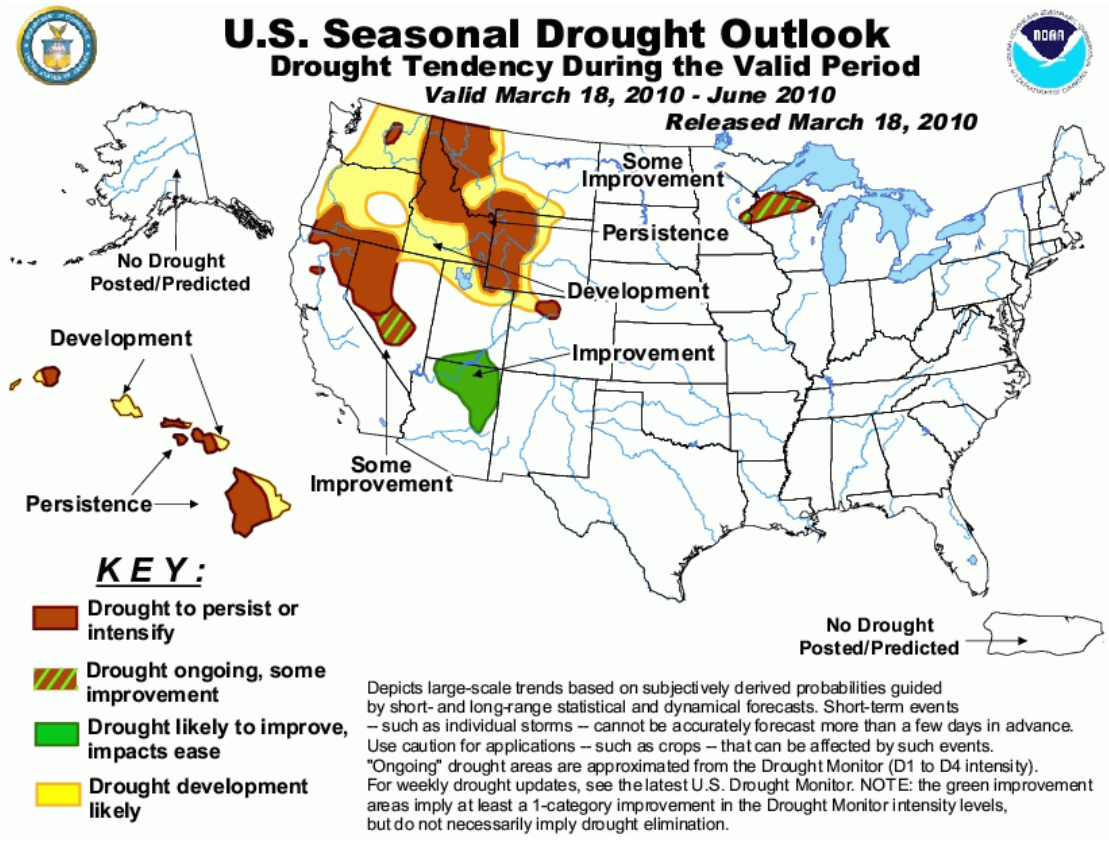
- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

*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, March 25, 2010***
***Author: Brad Rippey, U.S. Dept. of Agriculture***

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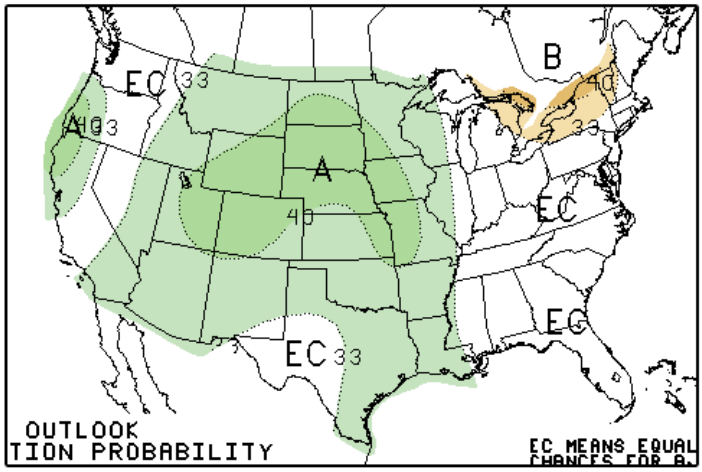
## APRIL 2010 U.S. PRECIPITATION FORECAST




Percent Likelihood of Above or Below Average Precipitation*

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

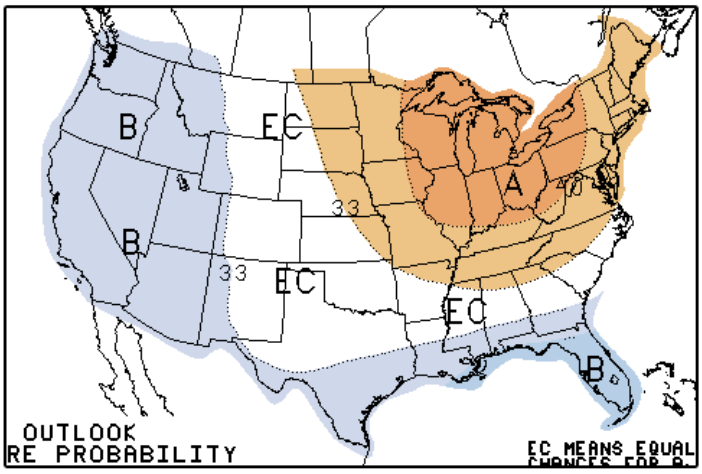
A = Above

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

B = Below

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

## APRIL 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.

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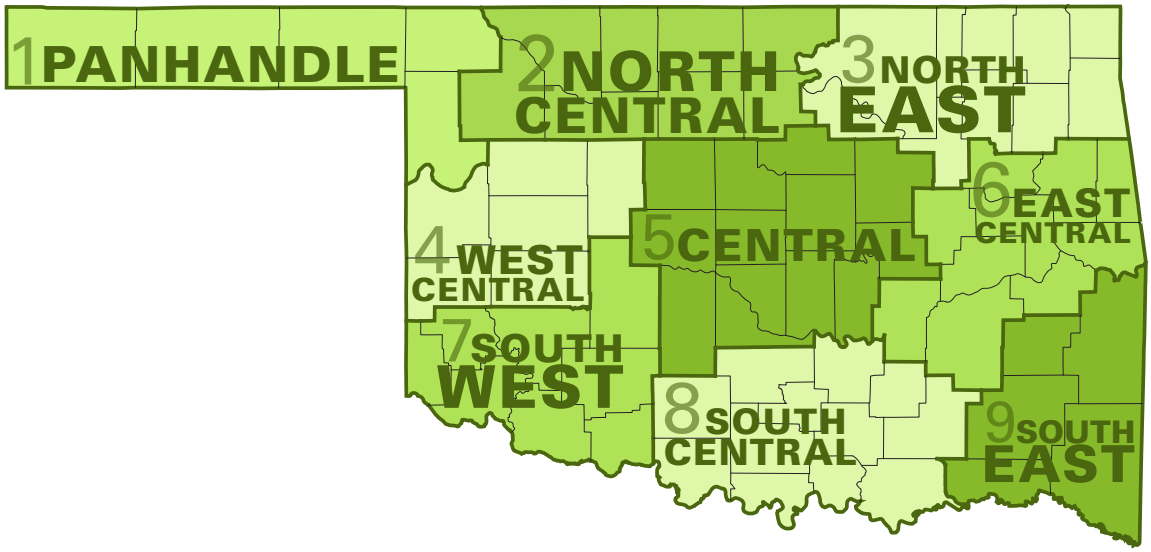
## APRIL CLIMATE NORMALS

| Climate Division | Max. Temperature (°F) | Min. Temperature (°F) | Avg. Temperature (°F) | Precipitation (inches) |
|---|---|---|---|---|
| 1 | 61.5 | 31.6 | 46.5 | 1.58 |
| 2 | 60.4 | 33.7 | 47.1 | 2.67 |
| 3 | 62.5 | 37.9 | 50.2 | 3.61 |
| 4 | 61.7 | 34.7 | 48.2 | 2.29 |
| 5 | 62.6 | 37.6 | 50.2 | 3.15 |
| 6 | 63.3 | 39.6 | 51.5 | 3.99 |
| 7 | 64.5 | 37.0 | 50.8 | 2.29 |
| 8 | 64.9 | 40.0 | 52.5 | 3.50 |
| 9 | 65.5 | 39.9 | 52.7 | 4.45 |
| Statewide | 62.9 | 37.0 | 50.0 | 3.16 |

### Oklahoma Climate Divisions

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## 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

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