# OKLAHOMA MONTHLY CLIMATE SUMMARY
# APRIL 2004

Oklahoma Climatological Survey

April is one of Oklahoma's most active severe weather months, and the 2004 edition certainly did not disappoint, with seven confirmed tornadoes, multiple instances of flash flooding, and a $100 million hail storm. Oklahoma City, the unfortunate recipient of that hail storm, was forced to deploy snow plows to clear the highways of up to two feet of ice. The flooding rainfalls helped propel the month's precipitation total to the 40th wettest since 1892, and the seasonal and year-to-date totals to the 22nd and 19th wettest, respectively. Despite an early-month snowfall in the northwest and several bouts with unseasonably cool weather, the statewide-averaged temperature was still able to finish as the 46th warmest on record. Although there were seven confirmed tornadoes during the month, and 19 since the beginning of the year, there still has not been a significant (F2-F5) twister in Oklahoma since May 14, 2003 – a streak of 352 days. That remains well short of the longest significant-tornado drought since records began in 1950 of 539 days, between November 15, 1987, and May 8, 1989.

## Precipitation

The state's April precipitation pattern reflects the hit-or-miss nature of the storms which provided it. In general, however, nearly the entire state received ample rainfall for the month, except for a swath of below-normal totals from west central through central sections. Kenton, located in a region of Oklahoma mired in a severe drought, received over 3.5 inches of precipitation. Incredibly, that is more precipitation than in the previous seven months combined. Portions of far eastern Oklahoma were also abundantly wet, with totals greater than seven inches common. Although the month's more generous precipitation totals were somewhat localized, many areas that needed precipitation desperately received a generous surplus. The far western Panhandle and the far southeast, both of which had been suffering droughty conditions, received above normal precipitation amounts. Those surpluses were enough to generate a statewide-averaged total that was nearly one-half of an inch above normal. That total drove the seasonal and year-to-date surpluses to just under an inch and nearly two inches, respectively. Much of the northwestern two-thirds of the state remained significantly above normal for the year thus far, some as much as nearly four inches above normal. Only south central and southeastern Oklahoma remained below normal, although those deficits did shrink during April.

**April 2004 Statewide Extremes**

| Description | Extreme | Station | Date |
|---|---|---|---|
| High Temperature | 95ºF | Mangum | April 16th |
| Low Temperature | 19ºF | Boise City | April 13th |
| High Precipitation | 8.99 in. | Porter | |
| Low Precipitation | 0.87 in. | El Reno | |

## Temperature

Nearly all of the state was above normal in temperature, save for the western Oklahoma Panhandle. Given the numerous fronts and cloud cover that frequented that area throughout the month, the cooler-than-normal temperatures could be expected. North central and northeastern portions of the state were only above normal by a tenth of a degree, and no area of the state ranked in the top one-third of warmest Aprils on record. Each successive month's above normal temperatures continue to add up, however. The seasonal and year-to-date temperatures were the 12th and 26th warmest since 1892, respectively.

## April Daily Highlights

**April 1-5:** A very pleasant stretch of weather greeted Oklahoma during the month's first week. High pressure provided fair weather for most of the state throughout this period. High temperatures were generally in the 60s and 70s, with just a smattering of 80s thrown in as a reminder of the season. A few intermittent rain showers did manage to pop up, but amounts were generally light.

**April 6-10:** The weather took a tumultuous turn starting on the 6th. An upper-level disturbance approached the state from the west, setting off a few thunderstorms in the west that afternoon. Rainfall amounts were less than an inch, but served as a harbinger of the flooding rainfalls yet to come. A brief, pencil-like tornado was reported to have touched down for approximately two minutes in Tillman County. Widespread showers and thunderstorms formed in southern Oklahoma the next morning as the upper-level storm entered the state from the southwest. Much of the southeast had well over an inch of rain, with the Mt. Herman Mesonet site

leading the way at nearly 2.5 inches. After a pleasant intermission to the severe weather on the 8th, a stalled cold front set off another round of showers and storms on the 9th. These storms quickly went severe, dropping large hail in the eastern half of the state. Hail was reported by NWS cooperative weather observers to have covered the ground near both Scipio and Wilburton. A brief tornado was reported by a sheriff's deputy on the ground near Whitesboro. Oklahoma Mesonet rain gauges in Wister and Hugo recorded over an inch of rain apiece. The storms basically continued into the 10th as the weather-producing upper-level storm moved overhead. A cold front eventually moved through the state, dropping temperatures into the upper 40s and low 50s, to go along with pea-sized hail and rainfall totals over an inch in several locales.

**April 11-18:** Surface high pressure followed the front, drawing down cold Canadian air. Low temperatures on the 11th were 10-15 degrees below normal, with wind chills below-freezing in the north. A secondary blast of cold air on the 12th produced a late-season snowfall in northwestern Oklahoma. Nearly an inch of snow was reported on grassy surfaces in Gage before quickly melting. After that wintry blast, the weather slowly warmed into more spring-like conditions. By the 18th, temperatures in the 70s and 80s were the norm, accompanied by strong southerly winds. Those winds transported moisture-laden air from the Gulf, while a surface low pressure center approached the state from New Mexico.

**April 19-25:** This turbulent period will be remembered for the less-glamorous (but more damaging) aspects of severe weather: hail and flooding. The excitement started on the 19th as a cold front dropped into northwestern Oklahoma. A large complex of storms moved into Harper County, complete with 69 mph winds and large hail. A tornado warning was issued for the area, although an actual sighting was never confirmed. The Mesonet station in Slapout recorded over 2.5 inches of rainfall, and many areas in the north recorded nearly an inch. The storms continued early into the morning of the 20th. The NWS cooperative stations at Blackwell and Alva both reported two inches of rain. Severe storms formed over northwestern and north central sections along a dryline later that day, with the main culprits again being large hail and high winds. A tornado was reported by a trained spotter near Sapulpa in Creek County, as well as hailstones the size of softballs; a punctuation mark on that storm's violent updraft. As the front pushed farther south, the storms continued. A weak tornado was confirmed by NWS personnel to have touched down near Mannford in Creek County on the 21st, and large hail was widespread throughout the state. A hailstorm pummeled central Oklahoma, associated with a supercell that rumbled through Yukon and Oklahoma City, with estimated damages near $100 million. The slow-moving storm buried parts of the city in ice until it resembled a winter landscape. Low-lying areas had shelves of ice 2 feet thick as thousands of hailstones stuck together and became compacted. Cars had difficulty navigating streets covered in the thick ice sheets. The severe weather was once again widespread on the 22nd. Tornadoes were confirmed in Ellis, Mayes, Muskogee, Tulsa, and Wagoner counties. Fortunately, they were of the weaker variety, and damage was not significant with any of the twisters. With the front stalled through south central Oklahoma, the threat shifted to flash flooding. A large supercell camped over Stephens County for several hours, bringing flash flooding and baseball-sized hail. The Mesonet site at Porter recorded nearly 4.5 inches of rainfall, in addition to the nearly two inches from the previous day. Fourteen separate instances of flash flooding were reported by the NWS. The flooding turned fatal in Sequoyah County, one mile west of Short. A camper trailer with three occupants was carried away by flood waters along Lee Creek early on the 24th. An 85 year old male and 54 year old female were swept away by the flood waters. The third occupant, a 24 year old male, survived by clinging to a tree.

**April 26-28:** Calm weather took hold on the 25th as the upper-level storm which caused so much excitement moved off to the east. Skies were sunny through this entire period, and temperatures were fitting for the season in the 70s and 80s.

**April 29-30:** Severe weather took one last stab at the state on the month's final two days, although not quite as vicious as the previous encounters. Another cold front entered the state from the northwest, dropping temperatures into the 40s in the panhandle, with winds from the north gusting to 40 mph. Severe storms rumbled through southwestern Oklahoma on the 29th before spreading over the eastern two-thirds of the state the following day. Grandfield received nearly two inches of rain, and amounts generally less than an inch fell over most of the rest of the southwest. The storms on the 30th dumped even greater amounts on the southeastern half of the state. Burneyville received nearly three inches, and many more amounts greater than one inch were recorded over southern Oklahoma.

### *April 2004 Statewide Statistics*

#### *Temperature*

| | Average | Depart. | Rank (1892-2004) |
|---|---|---|---|
| Month (April) | 59.6ºF | 0.5ºF | 46th Warmest |
| Season-to-date (Mar-Apr) | 57.0ºF | 2.4ºF | 12th Warmest |
| Year-to-Date (Jan-Apr) | 48.1ºF | 1.4ºF | 26th Warmest |

#### *Precipitation*

| | Total | Depart. | Rank (1892-2004) |
|---|---|---|---|
| Month (April) | 3.75 in. | 0.39 in. | 40th Wettest |
| Season-to-Date (Mar-Apr) | 7.41 in. | 0.94 in. | 22nd Wettest |
| Year-to-Date (Jan-Apr) | 11.39 in. | 1.71 in. | 19th Wettest |

Depart. = Departure from 30-year normal

## April 2004 Severe Weather

### Significant Tornadoes (F2 or greater)

No significant tornadoes were reported in the state.

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

| Size (in.) | Location | County | Date |
|---|---|---|---|
| 4.25 | 3 N Milfay | Creek | 04/20/04 |
| 3.00 | Yukon | Canadian | 04/21/04 |
| 3.00 | Oklahoma City | Oklahoma | 04/21/04 |
| 2.00 | 5 SW Purcell | McClain | 04/21/04 |
| 2.00 | 3 NE Carmen | Alfalfa | 04/21/04 |
| 2.75 | Armstrong | Bryan | 04/21/04 |
| 2.75 | 6 NNW Lebanon | Marshall | 04/21/04 |
| 2.50 | 9 W Durant | Bryan | 04/21/04 |
| 2.75 | Vian | Sequoyah | 04/21/04 |
| 2.75 | Mannford | Creek | 04/21/04 |
| 2.00 | 3 NW Enterprise | Haskell | 04/22/04 |
| 2.75 | Duncan | Stephens | 04/23/04 |
| 3.00 | Piedmont | Canadian | 04/30/04 |

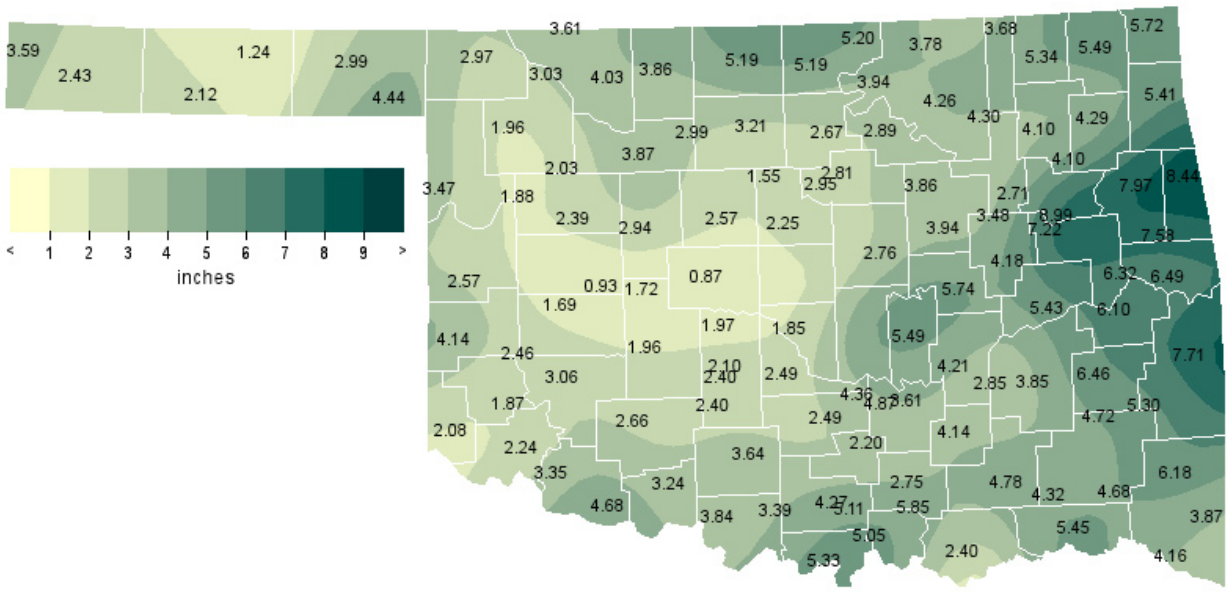
### Wind Gusts (70 mph or greater)

| Speed (m.p.h) | Location | County | Date |
|---|---|---|---|
| 70 | 6 E Welty | Okfuskee | 04/20/04 |
| 70 | Drummond | Garfield | 04/21/04 |
| 70 | Lahoma | Garfield | 04/21/04 |
| 70 | Enid | Garfield | 04/21/04 |
| 70 | Stidham | McIntosh | 04/21/04 |
| 70 | 6 NE Eufaula | McIntosh | 04/21/04 |
| 70 | Pryor | Mayes | 04/22/04 |
| 70 | 1 N Cookietown | Cotton | 04/23/04 |
| 70 | Duncan | Stephens | 04/23/04 |

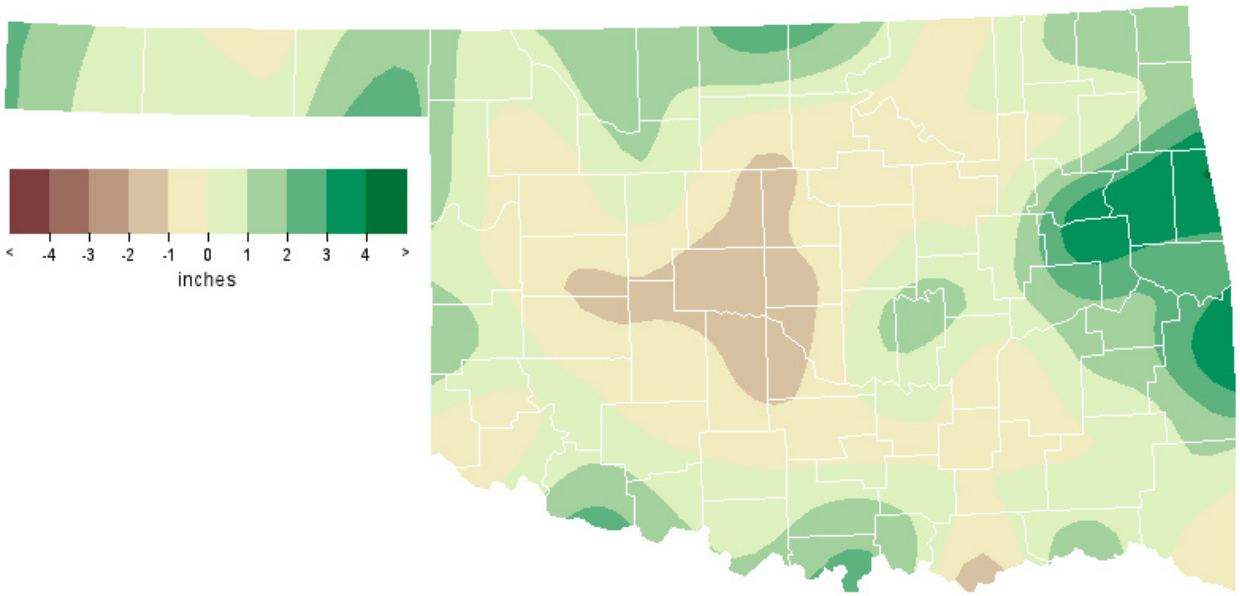
### Flooding

| Location | County | Date |
|---|---|---|
| Lost City | Cherokee | 04/21/04 |
| Spiro | LeFlore | 04/22/04 |
| Duncan | Stephens | 04/23/04 |
| 5 NE Renfrow | Grant | 04/23/04 |
| 3 SSW Renfrow | Grant | 04/23/04 |
| Osage | Ottawa | 04/23/04 |
| Cass | Okfuskee | 04/23/04 |
| 10 NNE Tehlaquah | Cherokee | 04/23/04 |
| Watts | Adair | 04/23/04 |
| 5 WSW Checotah | McIntosh | 04/23/04 |
| 1 W Short | Sequoyah | 04/24/04 |
| 3 E Stilwell | Adair | 04/24/04 |
| Muskogee | Muskogee | 04/24/04 |
| Scraper | Cherokee | 04/24/04 |
| Eldon | Cherokee | 04/24/04 |
| Westville | Adair | 04/24/04 |
| 6 S Waurika | Jefferson | 04/30/04 |

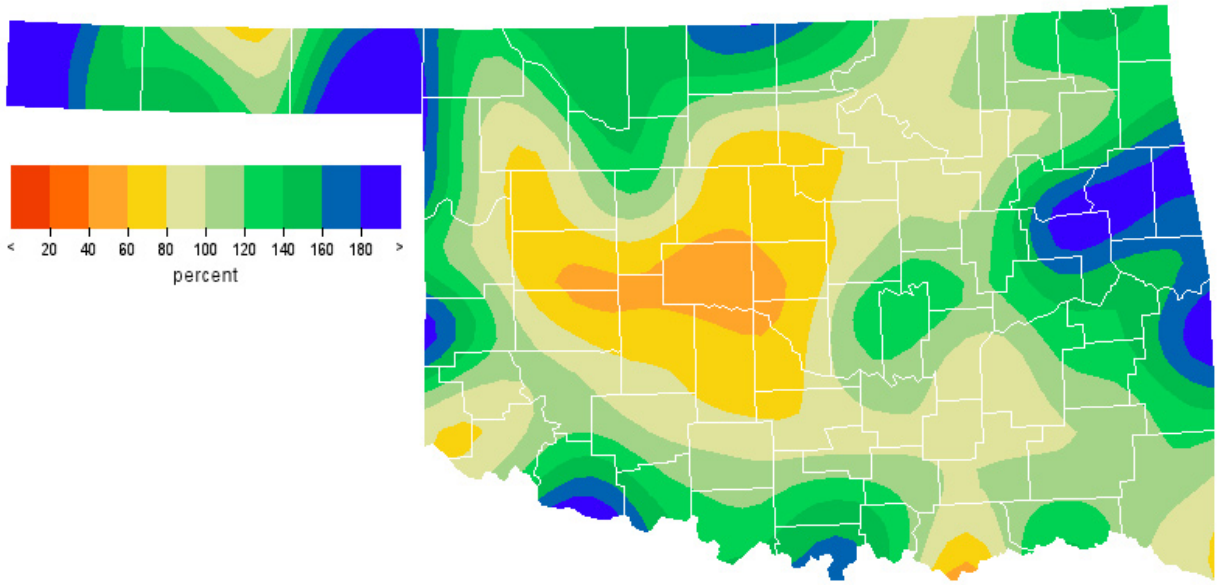
## *April 2004 Observed Precipitation*



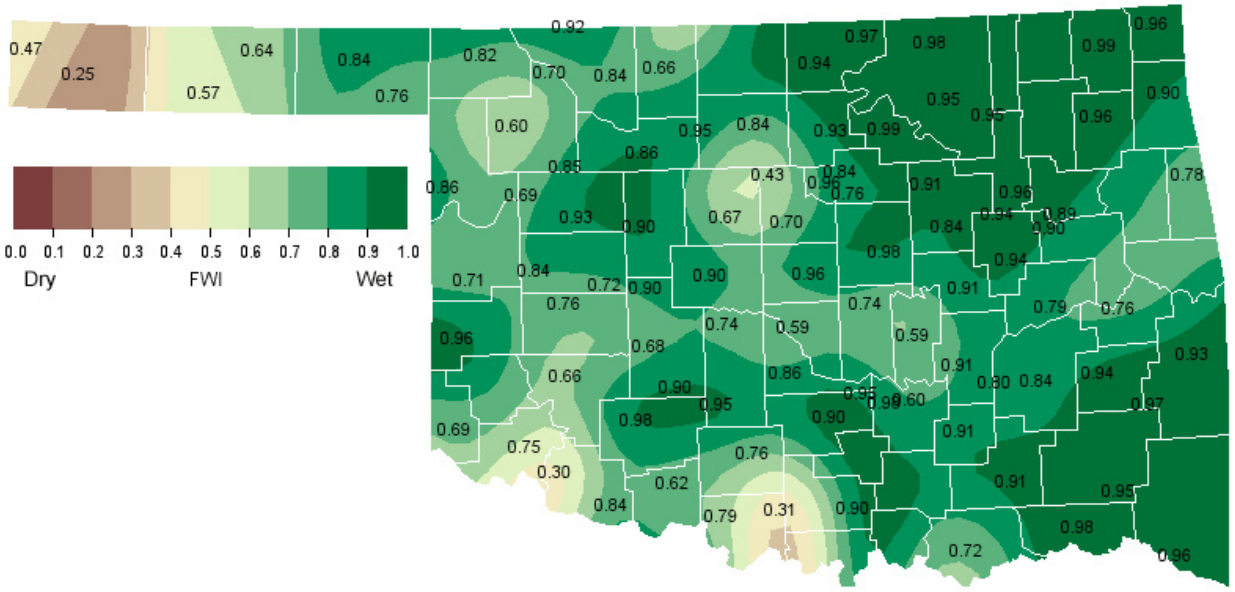

## *April 2004 Departure from Normal Precipitation*



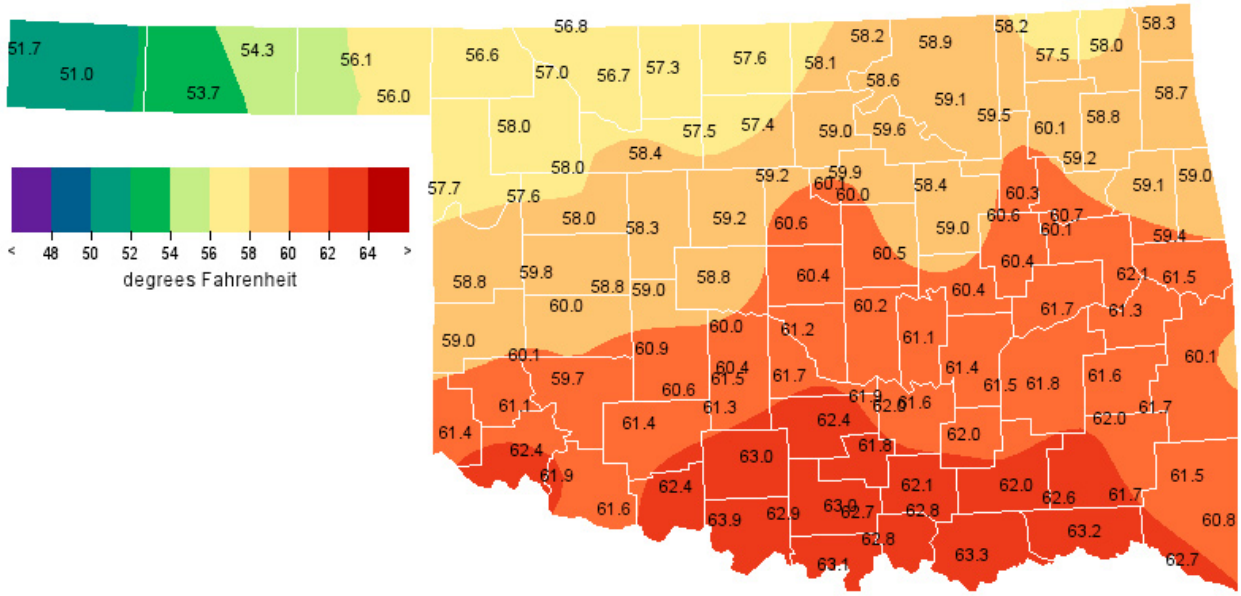
## *April 2004 Percent of Normal Precipitation*



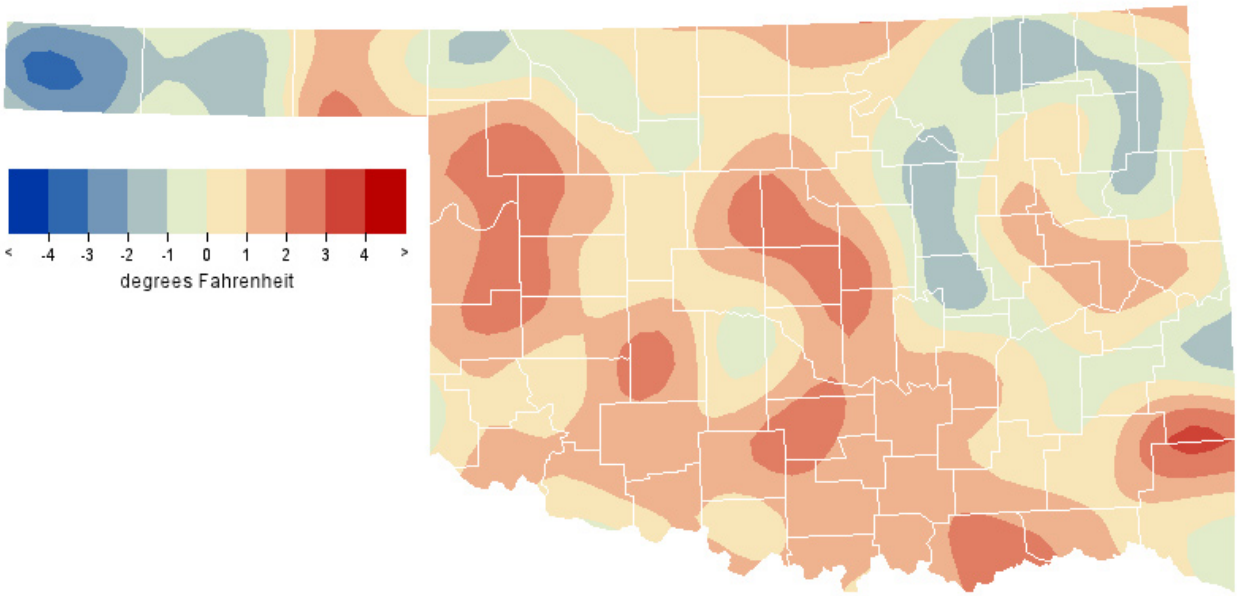

## *April 2004 Average Soil Moisture at 25cm*



## *April 2004 Average Temperature*




## *April 2004 Departure from Normal Temperature*



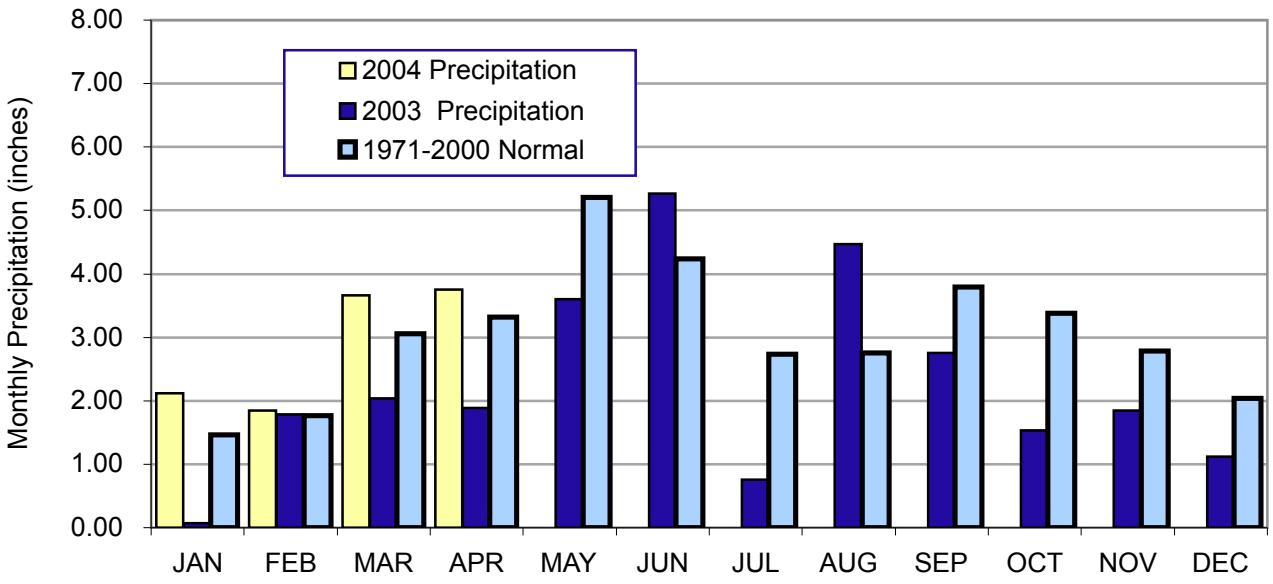
# *Mesonet Monthly Summary for April 2004*

| NAME | MEAN TEMP | HIGH TEMP | HIGH DAY | LOW TEMP | LOW DAY | HDD | CDD | TOT PPT | HIGH 24-HR | HIGH DAY |
|---|---|---|---|---|---|---|---|---|---|---|
| **PANHANDLE** | | | | | | | | | | |
| Arnett | 57.7 | 91 | 16 | 26 | 13 | 241 | 22 | 3.47 | 1.50 | 25 |
| Beaver | 56.2 | 91 | 17 | 19 | 13 | 293 | 28 | 2.99 | 1.30 | 23 |
| Boise City | 51.0 | 83 | 16 | 19 | 13 | 419 | 0 | 2.43 | .85 | 23 |
| Buffalo | 56.6 | 91 | 16 | 25 | 13 | 281 | 28 | 2.97 | 1.04 | 19 |
| Goodwell | 53.7 | 86 | 16 | 23 | 13 | 346 | 6 | 2.12 | .58 | 23 |
| Hooker | 54.2 | 88 | 16 | 20 | 13 | 328 | 5 | 1.24 | .39 | 23 |
| Kenton | 51.7 | 83 | 16 | 23 | 13 | 401 | 1 | 3.59 | 1.37 | 23 |
| Slapout | 55.7 | 89 | 16 | 22 | 13 | **** | **** | 4.44 | 2.67 | 19 |
| **NORTH CENTRAL** | | | | | | | | | | |
| Blackwell | 58.2 | 85 | 16 | 33 | 11 | 231 | 25 | 5.19 | 1.59 | 20 |
| Breckenridge | 57.5 | 83 | 16 | 31 | 11 | 253 | 27 | 2.86 | 1.21 | 21 |
| Cherokee | 57.3 | 86 | 16 | 30 | 11 | 258 | 27 | 3.86 | .79 | 21 |
| Fairview | 58.4 | 87 | 15 | 31 | 11 | 240 | 41 | 3.87 | 1.20 | 21 |
| Freedom | 56.9 | 91 | 16 | 26 | 13 | 272 | 31 | 3.03 | .82 | 19 |
| Lahoma | 57.5 | 83 | 16 | 32 | 11 | 243 | 17 | 2.97 | 1.26 | 21 |
| May Ranch | 56.8 | 92 | 16 | 28 | 13 | 282 | 36 | 3.61 | 1.01 | 19 |
| Medford | 57.6 | 85 | 16 | 32 | 11 | 246 | 23 | 5.19 | 2.06 | 20 |
| Newkirk | 58.2 | 85 | 16 | 31 | 11 | 230 | 25 | 5.20 | 1.54 | 20 |
| Red Rock | 59.0 | 86 | 16 | 32 | 11 | 218 | 38 | 2.67 | .76 | 21 |
| Seiling | 58.0 | 89 | 16 | 30 | 13 | 237 | 26 | 2.03 | .62 | 9 |
| Woodward | 58.0 | 92 | 16 | 29 | 13 | 245 | 35 | 1.96 | .67 | 10 |
| Alva | 56.7 | 89 | 16 | 27 | 13 | 276 | 28 | 4.03 | 1.07 | 21 |
| **NORTHEAST** | | | | | | | | | | |
| Bixby | 60.2 | 84 | 16 | 33 | 14 | 186 | 43 | 2.71 | .95 | 21 |
| Burbank | 58.6 | 85 | 16 | 32 | 14 | 219 | 27 | 3.94 | 1.08 | 30 |
| Copan | 58.3 | 82 | 16 | 34 | 11 | 226 | 24 | 3.68 | .87 | 20 |
| Foraker | 58.9 | 88 | 27 | 33 | 11 | 215 | 31 | 3.78 | .94 | 22 |
| Jay | 58.7 | 83 | 16 | 30 | 13 | 219 | 30 | 5.41 | 1.09 | 21 |
| Miami | 58.2 | 82 | 16 | 32 | 1 | 230 | 27 | 5.72 | 1.37 | 23 |
| Nowata | 57.6 | 80 | 28 | 30 | 1 | 246 | 26 | 5.34 | 1.31 | 30 |
| Pawnee | 59.6 | 86 | 16 | 34 | 1 | 200 | 37 | 2.89 | .75 | 10 |
| Pryor | 58.8 | 81 | 16 | 32 | 1 | 215 | 30 | 4.29 | .73 | 21 |
| Skiatook | 59.5 | 83 | 16 | 37 | 11 | 191 | 28 | 4.30 | .82 | 20 |
| Vinita | 58.0 | 80 | 16 | 32 | 1 | 234 | 23 | 5.49 | 1.35 | 20 |
| Wynona | 59.1 | 86 | 16 | 35 | 1 | 206 | 30 | 4.26 | 1.47 | 20 |
| Porter | 60.7 | 81 | 22 | 34 | 1 | 163 | 35 | 8.99 | 4.44 | 22 |
| Inola | 59.2 | 80 | 17 | 33 | 1 | 200 | 26 | 4.10 | 1.11 | 21 |
| Claremore | 60.1 | 81 | 27 | 35 | 13 | 177 | 30 | 4.10 | .89 | 22 |
| **WEST CENTRAL** | | | | | | | | | | |
| Bessie | 60.0 | 91 | 16 | 32 | 13 | 188 | 39 | 1.69 | .46 | 23 |
| Butler | 59.8 | 90 | 16 | 30 | 13 | 192 | 37 | 1.98 | .49 | 7 |
| Camargo | 57.6 | 91 | 16 | 28 | 13 | 242 | 20 | 1.88 | .65 | 6 |
| Cheyenne | 58.7 | 89 | 16 | 29 | 13 | 219 | 31 | 2.57 | 1.28 | 7 |
| Erick | 59.0 | 88 | 16 | 29 | 13 | 204 | 24 | 4.14 | 1.30 | 7 |
| Putnam | 58.0 | 89 | 16 | 30 | 13 | 236 | 25 | 2.39 | .54 | 23 |
| Retrop | 60.2 | 92 | 16 | 31 | 13 | 185 | 40 | 2.46 | .62 | 25 |
| Watonga | 58.3 | 85 | 16 | 32 | 11 | 231 | 30 | 2.94 | 1.39 | 23 |
| Weatherford | 58.7 | 87 | 16 | 29 | 13 | 217 | 27 | .93 | .37 | 23 |
| **CENTRAL** | | | | | | | | | | |
| Bowlegs | 61.0 | 82 | 22 | 30 | 14 | 160 | 41 | 5.49 | 2.99 | 22 |
| Bristow | 59.0 | 82 | 22 | 29 | 14 | 211 | 31 | 3.94 | 1.78 | 20 |
| Chandler | 60.5 | 84 | 16 | 34 | 13 | 173 | 38 | 2.76 | .78 | 30 |
| Chickasha | 60.3 | 86 | 16 | 28 | 14 | **** | **** | 2.10 | .88 | 30 |
| El Reno | 58.8 | 85 | 16 | 29 | 13 | 215 | 30 | .87 | .24 | 30 |
| Guthrie | 60.6 | 85 | 16 | 32 | 13 | 178 | 48 | 2.25 | 1.08 | 30 |
| Kingfisher | 59.3 | 84 | 16 | 33 | 14 | 210 | 39 | 2.57 | .72 | 10 |
| Marena | 60.0 | 86 | 16 | 34 | 11 | 192 | 43 | 2.95 | 1.14 | 30 |
| Minco | 60.1 | 85 | 16 | 32 | 13 | 175 | 28 | 1.97 | 1.32 | 30 |
| Oilton | 58.1 | 85 | 16 | 28 | 14 | **** | **** | 3.86 | 1.20 | 30 |
| Okemah | 60.4 | 82 | 22 | 33 | 14 | 174 | 35 | 5.74 | 1.74 | 20 |
| Perkins | 59.6 | 82 | 27 | 34 | 13 | **** | **** | ***** | ***** | *** |
| Shawnee | 60.1 | 83 | 16 | 34 | 13 | 181 | 34 | ***** | ***** | *** |
| Spencer | 60.4 | 85 | 16 | 32 | 13 | **** | **** | ***** | ***** | *** |
| Stillwater | 59.8 | 88 | 16 | 32 | 14 | 203 | 47 | 2.81 | .67 | 9 |
| Washington | 61.7 | 84 | 16 | 34 | 14 | 137 | 38 | 2.49 | .56 | 30 |
| Ninnekah | 61.4 | 87 | 16 | 33 | 14 | **** | **** | 2.40 | 1.14 | 30 |
| Acme | 61.3 | 87 | 21 | 32 | 13 | 152 | 40 | 2.40 | .72 | 30 |
| Norman | 61.2 | 85 | 16 | 33 | 13 | 154 | 40 | 1.85 | .68 | 30 |
| Marshall | 59.1 | 85 | 16 | 31 | 13 | 219 | 42 | 1.55 | .48 | 9 |
| **EAST CENTRAL** | | | | | | | | | | |
| Calvin | 61.4 | 84 | 22 | 30 | 14 | 156 | 48 | 4.21 | .99 | 23 |
| Cookson | 59.4 | 78 | 17 | 31 | 13 | 193 | 24 | 7.58 | 2.28 | 23 |
| Eufaula | 61.6 | 81 | 22 | 34 | 1 | 147 | 46 | 5.43 | 1.13 | 10 |
| Haskell | 60.1 | 81 | 22 | 32 | 1 | 182 | 34 | 7.22 | 2.38 | 21 |
| McAlester | 61.7 | 82 | 21 | 33 | 14 | 151 | 53 | 3.85 | 1.17 | 24 |
| Okmulgee | 60.4 | 83 | 16 | 30 | 1 | 183 | 44 | 4.18 | 1.17 | 22 |
| Sallisaw | 61.5 | 82 | 17 | 33 | 14 | 143 | 37 | 6.49 | 1.56 | 21 |
| Stigler | 61.3 | 82 | 22 | 31 | 1 | 160 | 48 | 6.10 | 1.65 | 22 |
| Stuart | 61.5 | 81 | 22 | 34 | 14 | 147 | 43 | 2.85 | .66 | 7 |
| Tahlequah | 59.1 | 78 | 21 | 30 | 14 | 200 | 21 | 7.97 | 2.83 | 23 |
| Webbers Falls | 62.1 | 83 | 22 | 34 | 14 | 137 | 50 | 6.32 | 1.28 | 20 |
| Westville | 59.0 | 80 | 16 | 34 | 13 | 200 | 19 | 8.44 | 3.13 | 22 |
| Hectorville | 60.6 | 83 | 16 | 35 | 1 | 165 | 34 | 3.48 | .96 | 21 |
| **SOUTHWEST** | | | | | | | | | | |
| Altus | 62.4 | 94 | 16 | 33 | 13 | 133 | 54 | 2.24 | .68 | 25 |
| Fort Cobb | 60.9 | 88 | 16 | 31 | 13 | 159 | 36 | 1.96 | .90 | 30 |
| Hinton | 59.1 | 88 | 16 | 30 | 13 | 207 | 29 | 1.72 | 1.18 | 23 |
| Hobart | 59.6 | 87 | 16 | 32 | 13 | 191 | 30 | 3.06 | 1.03 | 30 |
| Hollis | 61.3 | 92 | 16 | 33 | 13 | 148 | 38 | 2.08 | .57 | 25 |
| Mangum | 61.1 | 95 | 16 | 32 | 13 | 162 | 45 | 1.87 | .58 | 25 |
| Medicine Park | 61.5 | 86 | 16 | 34 | 13 | 142 | 37 | 2.66 | .92 | 25 |
| Tipton | 61.8 | 90 | 15 | 33 | 13 | 135 | 40 | 3.35 | 1.06 | 25 |
| Walters | 62.5 | 89 | 21 | 31 | 13 | 125 | 49 | 3.24 | 1.35 | 29 |
| Apache | 60.6 | 86 | 20 | 30 | 13 | 162 | 30 | ***** | ***** | *** |
| Grandfield | 61.6 | 88 | 21 | 33 | 13 | 138 | 35 | 4.68 | 1.87 | 29 |
| **SOUTH CENTRAL** | | | | | | | | | | |
| Ada | 61.6 | 81 | 22 | 33 | 14 | 145 | 43 | 3.61 | .86 | 7 |
| Burneyville | 63.6 | 87 | 22 | 28 | 14 | **** | **** | 5.33 | 2.80 | 30 |
| Byars | 61.9 | 82 | 16 | 35 | 13 | 137 | 43 | 4.36 | 1.20 | 30 |
| Centrahoma | 62.0 | 82 | 21 | 30 | 14 | 143 | 52 | 4.14 | 1.73 | 23 |
| Durant | 63.3 | 81 | 30 | 34 | 14 | 107 | 57 | 3.97 | 1.81 | 30 |
| Ketchum Ranch | 62.7 | 86 | 20 | 33 | 14 | **** | **** | 3.18 | 2.07 | 23 |
| Lane | 62.0 | 81 | 22 | 32 | 14 | 139 | 49 | 4.78 | 1.55 | 30 |
| Madill | 62.8 | 82 | 21 | 31 | 14 | 118 | 52 | 5.05 | 1.37 | 30 |
| Pauls Valley | 62.4 | 84 | 22 | 33 | 14 | 126 | 48 | 2.49 | .65 | 30 |
| Ringling | 63.2 | 85 | 21 | 34 | 13 | **** | **** | 3.39 | 1.01 | 23 |
| Sulphur | 61.8 | 83 | 22 | 29 | 14 | 142 | 46 | 2.20 | .65 | 7 |
| Tishomingo | 62.0 | 82 | 22 | 30 | 14 | 133 | 44 | 3.45 | .95 | 30 |
| Waurika | 63.5 | 88 | 21 | 35 | 13 | **** | **** | 3.84 | 1.42 | 23 |
| Vanoss | 61.9 | 83 | 22 | 31 | 14 | 142 | 48 | 4.87 | 1.73 | 23 |
| Bee | 62.9 | 81 | 27 | 31 | 14 | 118 | 54 | 6.47 | 2.97 | 23 |
| Newport | 62.9 | 84 | 22 | 34 | 14 | 116 | 54 | 4.27 | 1.30 | 23 |
| Ardmore | 62.7 | 83 | 22 | 33 | 14 | 119 | 49 | 5.11 | 1.60 | 23 |
| **SOUTHEAST** | | | | | | | | | | |
| Antlers | 62.5 | 84 | 22 | 29 | 14 | 134 | 60 | 4.32 | 1.40 | 30 |
| Clayton | 62.0 | 82 | 22 | 31 | 1 | 142 | 51 | 4.72 | 1.99 | 7 |
| Cloudy | 61.8 | 81 | 22 | 31 | 14 | 135 | 38 | 4.68 | 1.39 | 23 |
| Hugo | 63.2 | 82 | 22 | 35 | 14 | 110 | 55 | 5.45 | 1.53 | 24 |
| Idabel | 62.6 | 82 | 22 | 32 | 14 | 124 | 54 | 4.16 | 1.94 | 24 |
| Mt Herman | 61.7 | 80 | 22 | 32 | 14 | **** | **** | 6.18 | 2.43 | 7 |
| Talihina | 61.7 | 81 | 22 | 30 | 14 | 152 | 54 | 5.30 | 2.33 | 24 |
| Wilburton | 61.7 | 81 | 22 | 32 | 14 | **** | **** | 6.46 | 1.70 | 10 |
| Wister | 60.2 | 82 | 22 | 29 | 1 | 181 | 36 | 7.71 | 3.38 | 24 |
| Broken Bow | 61.1 | 83 | 22 | 29 | 14 | **** | **** | 3.87 | 2.55 | 24 |

## *April 2004 Mesonet Precipitation Comparison*

| Climate Division | Precipitation (inches) | Departure from Normal (inches) | Rank since 1895 | Wettest on Record (Year) | Driest on Record (Year) | Apr-03 |
|---|---|---|---|---|---|---|
| Panhandle | 2.91 | 1.06 | 17th Wettest | 5.28 (1942) | 0.00 (1909) | 1.11 |
| North Central | 3.60 | 0.64 | 28th Wettest | 7.43 (1999) | 0.55 (1989) | 2.83 |
| Northeast | 4.60 | 0.60 | 40th Wettest | 9.67 (1942) | 0.17 (1989) | 2.91 |
| West Central | 2.38 | -0.23 | 53rd Wettest | 8.73 (1997) | 0.15 (1996) | 2.44 |
| Central | 2.82 | -0.71 | 50th Driest | 9.49 (1942) | 0.24 (1989) | 2.00 |
| East Central | 5.70 | 1.37 | 28th Wettest | 11.82 (1957) | 0.75 (1989) | 1.83 |
| Southwest | 2.69 | 0.02 | 49th Wettest | 7.30 (1997) | 0.14 (1989) | 2.01 |
| South Central | 4.00 | 0.24 | 42nd Wettest | 11.43 (1942) | 0.53 (1989) | 1.18 |
| Southeast | 5.29 | 0.79 | 42nd Wettest | 12.79 (1957) | 0.53 (1987) | 1.83 |
| Statewide | 3.75 | 0.39 | 40th Wettest | 8.50 (1942) | 0.58 (1989) | 2.01 |

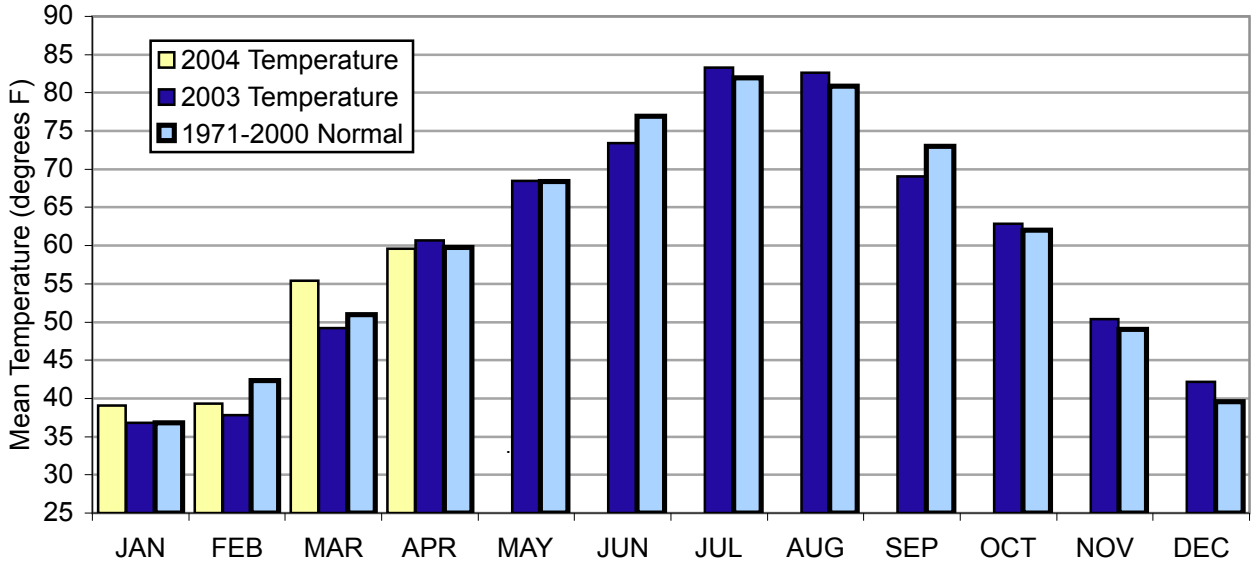
## *2003 and 2004 Statewide Precipitation Monthly Totals vs. Normal*



## *April 2004 Mesonet Temperature Comparison*

| Climate Division | Average Temp (F) | Departure from Normal (F) | Rank since 1895 | Hottest on Record (Year) | Coldest on Record (Year) | Apr-03 (F) |
|---|---|---|---|---|---|---|
| Panhandle | 54.6 | -0.6 | 55th Warmest | 62.2 (1981) | 48.2 (1926) | 57.7 |
| North Central | 57.7 | 0.1 | 50th Warmest | 65.0 (1981) | 50.8 (1983) | 60.8 |
| Northeast | 59.0 | 0.1 | 49th Warmest | 66.1 (1981) | 52.5 (1907) | 61.1 |
| West Central | 58.9 | 1.0 | 44th Warmest | 64.5 (1954) | 52.1 (1926) | 60.2 |
| Central | 60.2 | 0.6 | 46th Warmest | 66.2 (1981) | 53.6 (1983) | 61.3 |
| East Central | 60.8 | 0.6 | 45th Warmest | 66.7 (1896) | 53.9 (1907) | 62.6 |
| Southwest | 61.1 | 0.7 | 39th Warmest | 66.5 (1954) | 54.2 (1926) | 63.9 |
| South Central | 62.5 | 1.2 | 35th Warmest | 67.5 (1948) | 55.9 (1983) | 64.0 |
| Southeast | 61.8 | 1.2 | 43rd Warmest | 66.7 (1954) | 55.4 (1983) | 63.6 |
| Statewide | 59.6 | 0.5 | 46th Warmest | 65.4 (1981) | 53.2 (1983) | 61.6 |

## *2003 and 2004 Statewide Temperature Monthly Averages vs. Normal*



## *Mesonet Extremes for April 2004*

| Climate Division | High Temp (F) | Day | Station | Low Temp (F) | Day | Station | High Monthly Rainfall (inches) | Station | High Daily Rainfall (inches) | Day | Station |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Panhandle | 91 | 16th | Buffalo | 19 | 13th | Boise City | 4.44 | Slapout | 2.67 | 19th | Slapout |
| North Central | 92 | 16th | Woodward | 26 | 13th | Freedom | 5.20 | Newkirk | 2.06 | 20th | Medford |
| Northeast | 88 | 27th | Foraker | 30 | 13th | Jay | 8.99 | Porter | 4.44 | 22nd | Porter |
| West Central | 92 | 16th | Retrop | 28 | 13th | Camargo | 4.14 | Erick | 1.39 | 23rd | Watonga |
| Central | 88 | 16th | Stillwater | 28 | 14th | Chickasha | 5.74 | Okemah | 2.99 | 22nd | Bowlegs |
| East Central | 84 | 22nd | Calvin | 30 | 1st | Okmulgee | 8.44 | Westville | 3.13 | 22nd | Westville |
| Southwest | 95 | 16th | Mangum | 30 | 13th | Hinton | 4.68 | Grandfield | 1.87 | 29th | Grandfield |
| South Central | 88 | 21st | Waurika | 28 | 14th | Burneyville | 5.85 | Bee | 2.97 | 23rd | Bee |
| Southeast | 84 | 22nd | Antlers | 29 | 14th | Broken Bow | 7.71 | Wister | 3.38 | 24th | Wister |
| Statewide | 95 | 16th | Mangum | 19 | 13th | Boise City | 8.99 | Porter | 4.44 | 22nd | Porter |

# May Climatological Outlook

Oklahoma's weather reaches something of a crescendo in May as springtime comes to full flower. May is Oklahoma's wettest (statewide-averaged precipitation of 5.13 inches) and certainly its stormiest month (an average of 19.9 tornadoes, more than one-third of the annual average, occurring on 5.5 days, statewide). Its position in the spring transition season is confirmed by a monthly mean temperature, averaged statewide, of 68.4 degrees that ranks fifth highest among the months. Vestiges of winter are occasionally seen in the far northwestern portions of the state, but mostly May is a time for flowering of most plants, full leafing of deciduous trees, planting of row crops, and the maturing and ripening of the winter wheat that was sowed the previous fall.

***Precipitation***
Mean: 5.13 inches
Wettest May: 1957, 10.68 inches
Driest May: 1988, 1.30 inches
Wettest location: Smithville, 7.06 inches
Driest location: Regnier, 2.02 inches
Most recorded: 22.38 inches, Hennessey, 1957

May usually is characterized by a pleasant range of temperatures across the state, although there are times most years when it is evident that the hot Oklahoma summer is drawing near. Monthly mean temperatures since 1892 have ranged from 62.3 degrees in 1907 to 75.8 degrees in 1896. Normal daily maximum temperatures across the state vary from 84.6 degrees at Waurika to 76.5 degrees at Arnett. Normal daily minimum temperatures fall between 61.2 degrees at Ardmore and 46.8 degrees at Boise City. Historical extremes of temperature during the month are 114 degrees at Weatherford, reported on May 25, 2000 and 19 degrees at Hooker on May 1, 1909. Temperatures in southwestern Oklahoma, the state's hot spot, reach 100 degrees an average of slightly more than once each May. Freezing temperatures are also rare, occurring less than once per year in the panhandle, rarely elsewhere. Freezes have occurred in the state's most northerly regions as late as the end of the month.

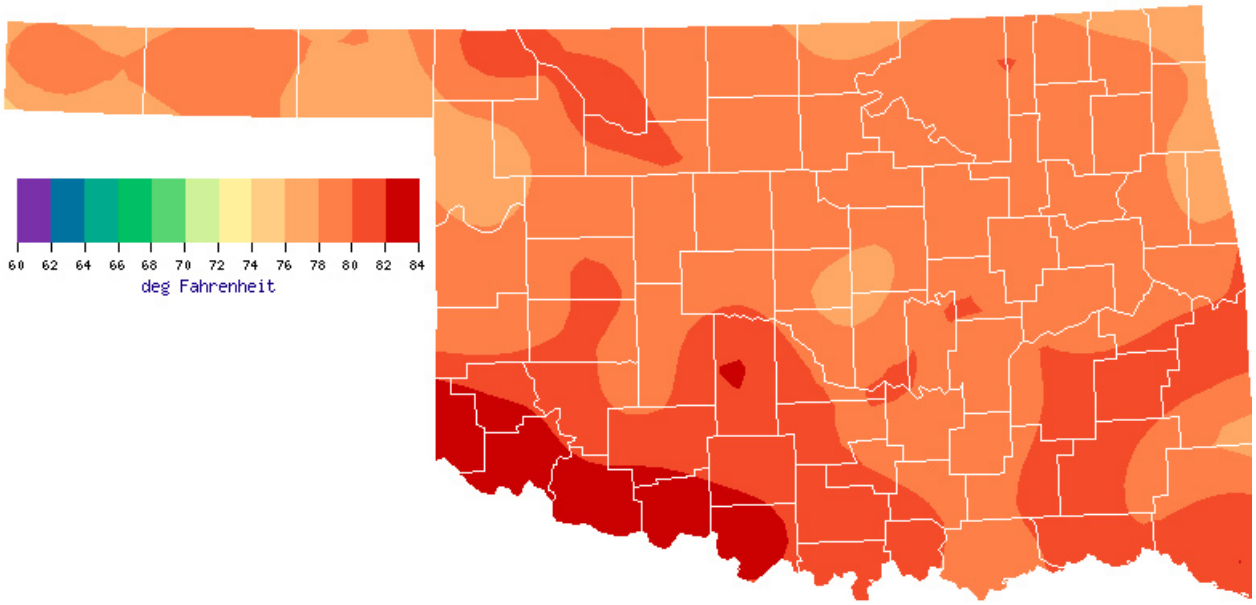
The Oklahoma panhandle's climate differs from the rest of the state in that its primary precipitation season is shifted toward summer, being tied to the patterns of the High Plains, of which it is a part. Elsewhere in the state, May is the month of maximum precipitation and May is, in fact, the panhandle's second wettest month by a small margin. May has produced statewide-averaged monthly precipitation totals ranging from 10.68 inches in 1957 to 1.30 inches in 1988. Extremes of individual station-normal precipitation for the month are 7.06 inches in the southeast at Smithville and 2.29 inches in the western panhandle at Regnier. Miami recorded the greatest May monthly total precipitation, 23.95 inches, in 1943. The record-breaking 1957 statewide-averaged precipitation was amplified by the May total of 22.38 inches of rain recorded at Hennessey, most of which fell during the drought-breaking, flood-producing deluge that hammered much of the state on the 15th and 16th. Purcell apparently holds the single reporting-day precipitation record for May, measuring 13.68 inches of rain on May 11, 1950. Interestingly, the events that produced the Purcell and Hennessey precipitation records (and the widespread flooding that occurred after each) bracket the state's driest ever 7-year period.

***Temperature***
Mean: 68.4 degrees
Warmest May: 1896, 75.8 degrees
Coolest May: 1907, 62.3 degrees
Hottest recorded: 114 degrees, Weatherford, May 25, 2000
Coldest recorded: 19 degrees, Hooker, May 1, 1909

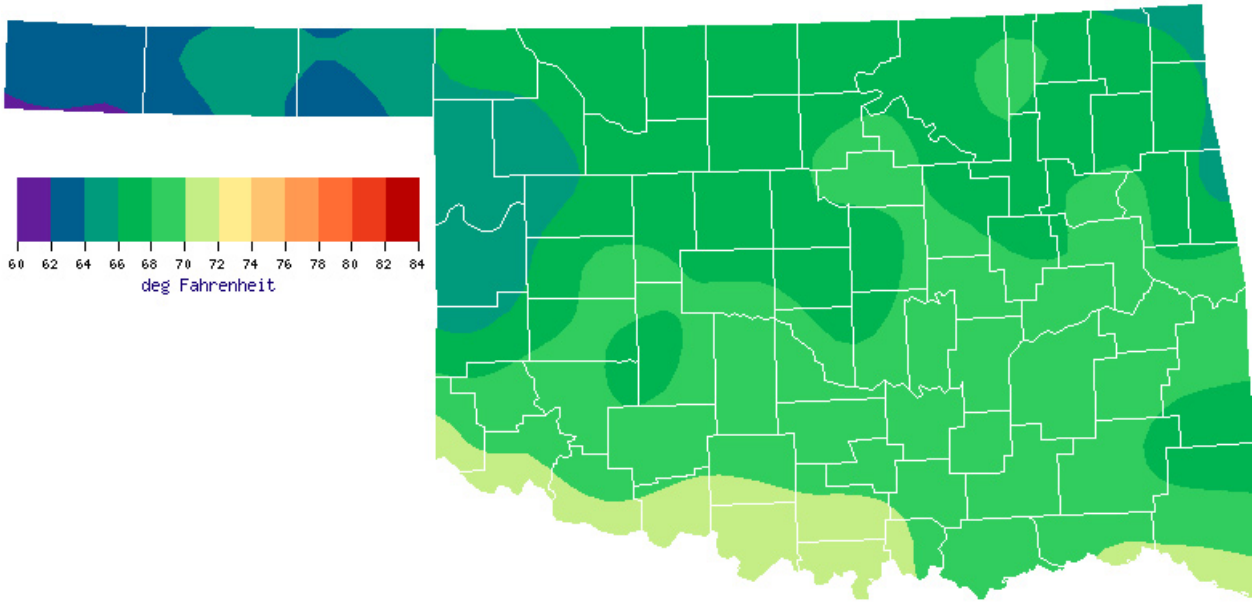
Springtime in Oklahoma is noted for severe thunderstorms and tornadoes. Over the last 52 years (the period of reasonably comprehensive statistics on the subject) Oklahoma has been struck by more tornadoes in May than in any other two months combined (April and June rank second and third, respectively, among the months). May 1999 holds the state record for most tornadoes in a single month with a nearly unbelievable confirmed total of 91. Most of those tornadoes (59) occurred in central and western Oklahoma on the afternoon and evening of May 3. That outbreak caused extensive damage and killed 40 people along a wide path extending generally from Amber to Stroud. Some of the fiercest storms struck in the southern portion of the Oklahoma City metropolitan area. A mobile Doppler radar operated by a University of Oklahoma research team measured winds as great as 318 miles per hour in one of the funnels, the greatest wind speed yet measured on the planet.

***Tornadoes***
Average May Tornadoes: 20.4
Most: 90 (1999)

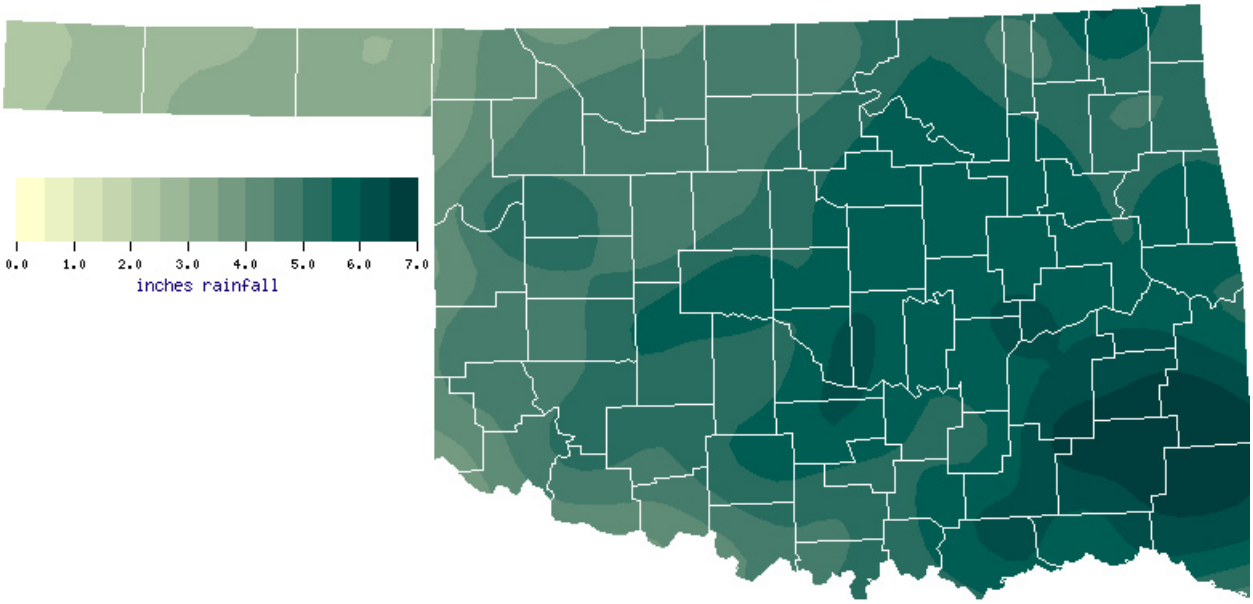
## *May Normal Monthly Maximum Temperature (1971-2000)*



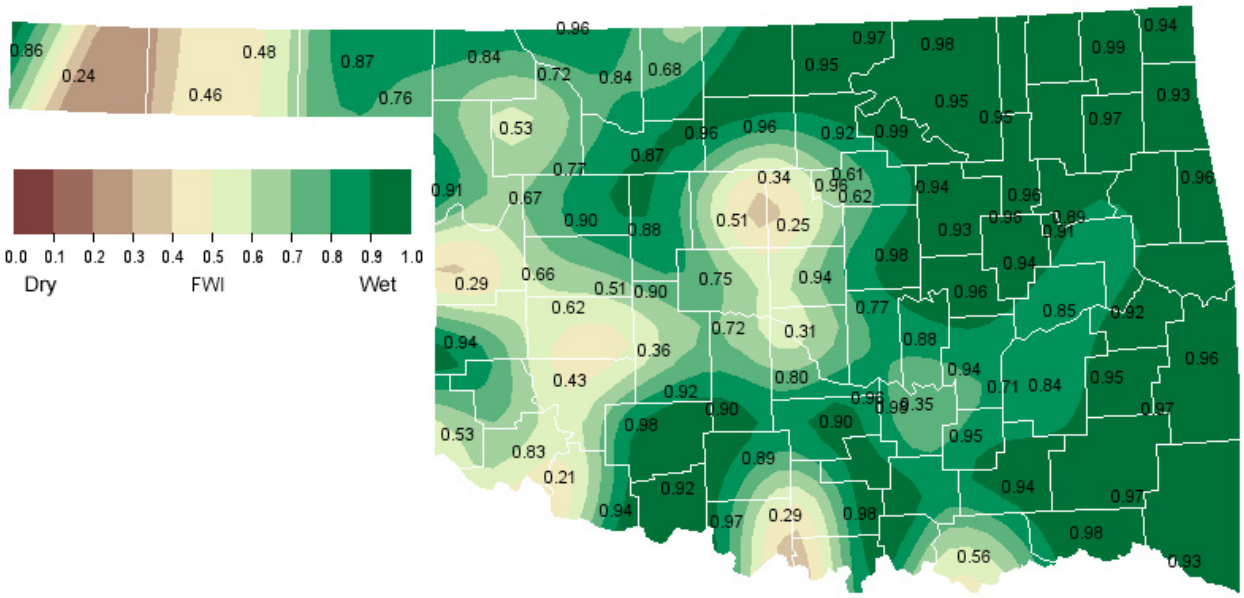

## *May Normal Monthly Minimum Temperature (1971-2000)*



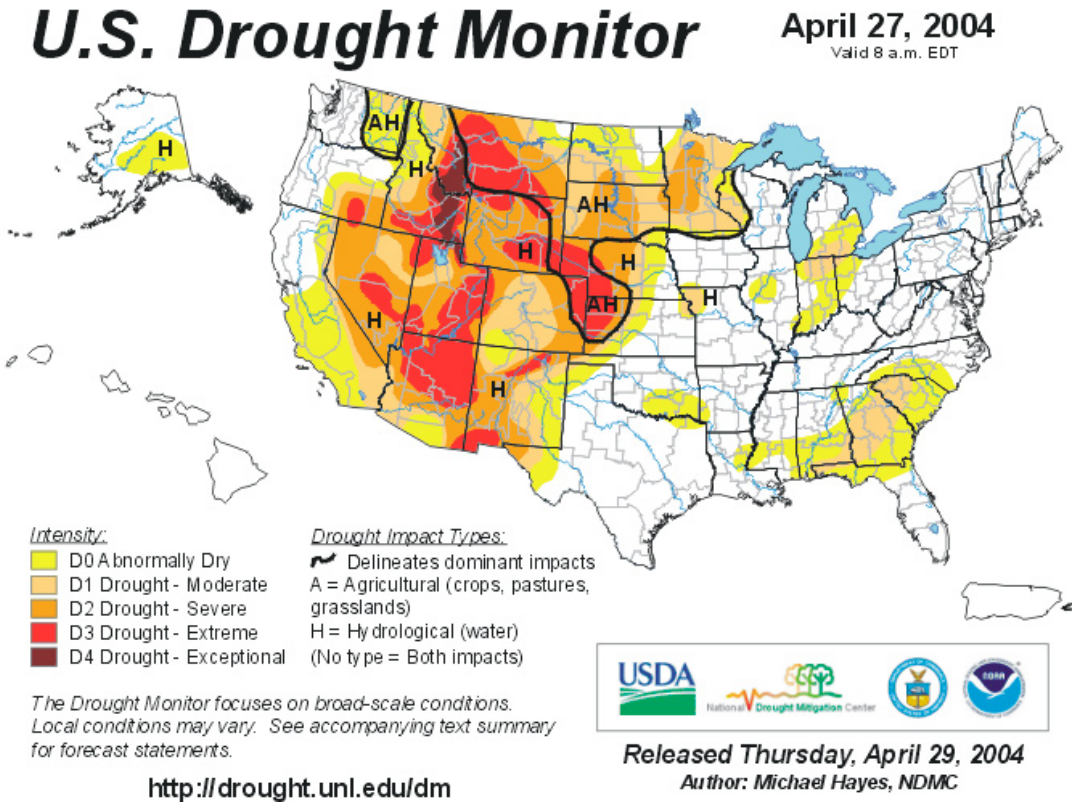
## *May Normal Precipitation (1971-2000)*

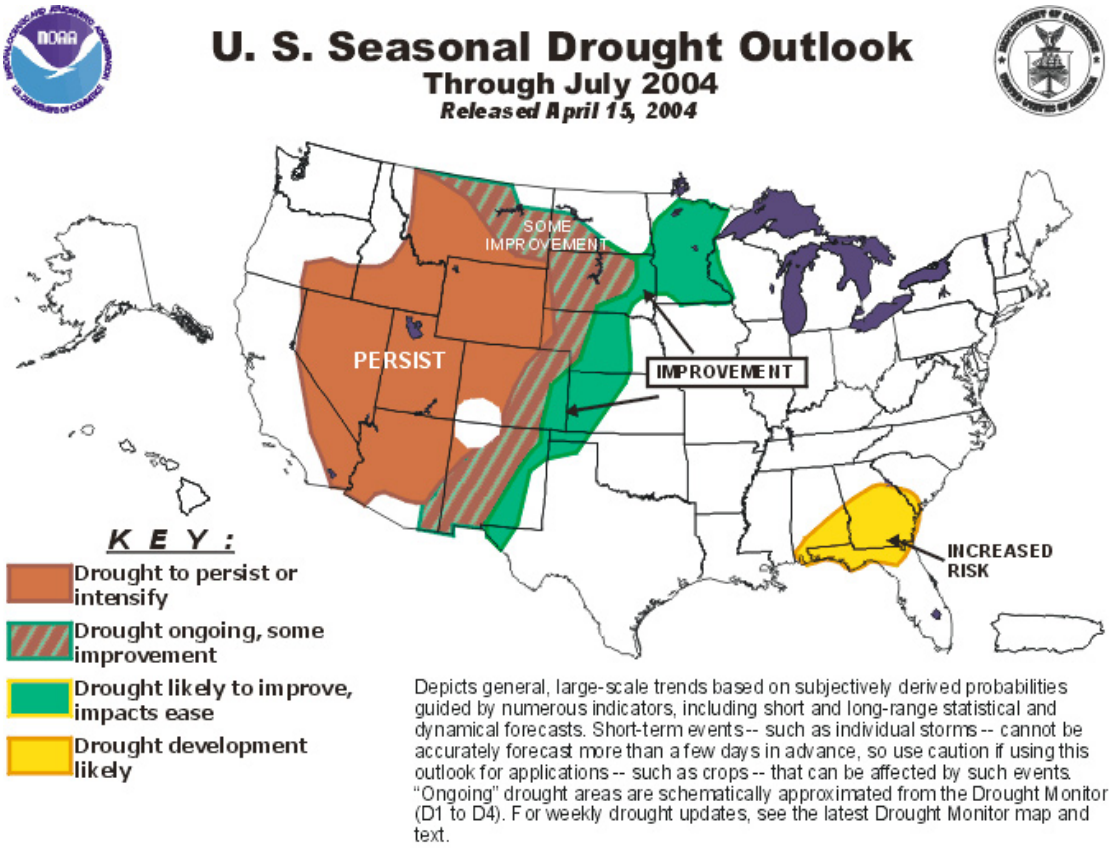



## *May 1, 2004 Soil Moisture Conditions at 25cm*

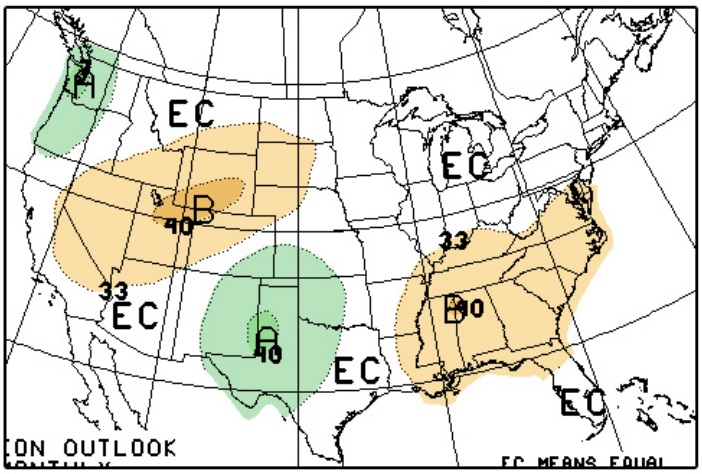


## *May 2004 Drought Indices*



## *May 2004 U.S. Precipitation Forecast*



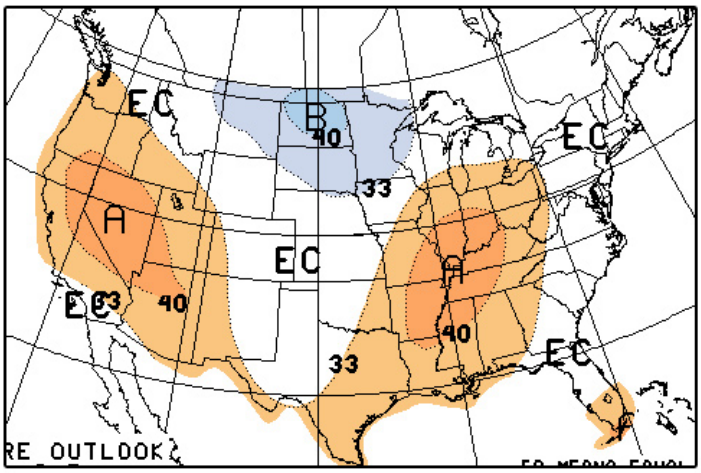

Percent Likelihood of Above or Below Average Precipitation*

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

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

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

## *May 2004 U.S. Temperature Forecast*




Percent Likelihood of Above and Below Average Temperatures*

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

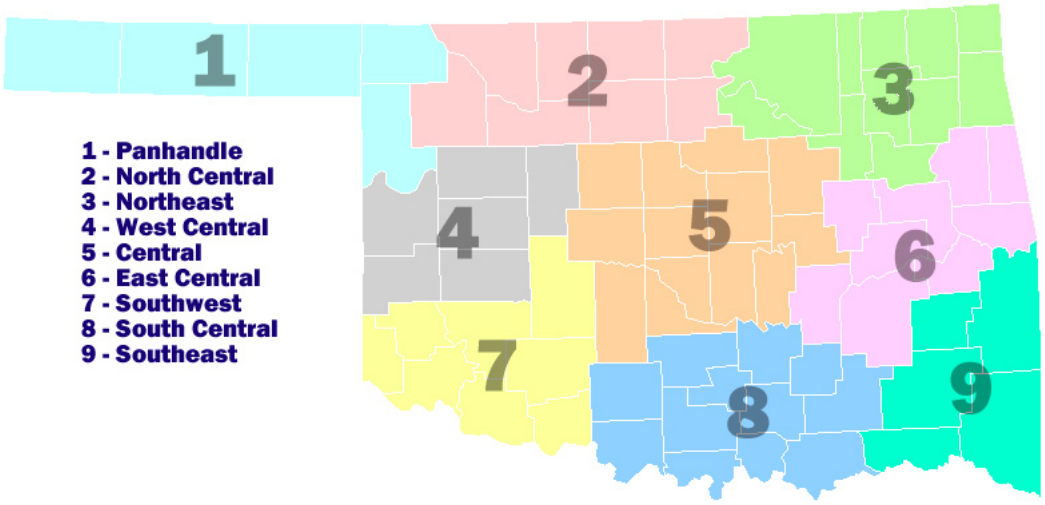
0% - 5%
5% - 10%
B = Below

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

## *May Climate Normals*

| Climate Division | Max. Temperature (°F) | Min. Temperature (°F) | Avg. Temperature (°F) | Precipitation (inches) |
|---|---|---|---|---|
| 1 | 78.8 | 50.8 | 64.8 | 3.30 |
| 2 | 79.1 | 54.9 | 67.0 | 4.68 |
| 3 | 78.9 | 56.6 | 67.8 | 5.40 |
| 4 | 79.5 | 55.0 | 67.3 | 4.64 |
| 5 | 79.6 | 57.5 | 68.6 | 5.45 |
| 6 | 79.2 | 57.8 | 68.5 | 5.77 |
| 7 | 81.8 | 56.8 | 69.3 | 4.80 |
| 8 | 80.8 | 58.8 | 69.8 | 5.52 |
| 9 | 80.5 | 57.5 | 69.0 | 6.31 |
| Statewide | 79.8 | 56.3 | 68.1 | 5.21 |

## *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.ocs.ou.edu or
http://www.ocs.ou.edu/
E-mail (ocs@ou.edu) or telephone (405/325-2541)

Oklahoma Climatological Survey

Oklahoma Climatological Survey is the State Climate Office for Oklahoma

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