

OKLAHOMA WEATHER HISTORY
Monthly Climatology Series
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Monthly Climate of Oklahoma – March

NORMAN - March features the retreat of winter and the onset of spring in Oklahoma, but the change of season does not occur smoothly. Despite the generally moderating climate, winter intrudes from time to time, especially during the first half of the month. Frigid weather and an occasional heavy snowstorm may occur. By the end of March, spring is typically in full swing, including the occasional severe thunderstorm.

As befits a transitional month, March is Oklahoma's 5th coolest month. The statewide-average normal monthly temperature is 51.0 degrees, which is compiled from normals that range from 45.1 degrees at Goodwell (in the panhandle) to 55.7 degrees at Ardmore (in south-central Oklahoma). The warmest March on record was in 1907, with a maximum statewide temperature of 59.6 degrees; the coolest March was in 1915, with a minimum statewide temperature of 39.2 degrees. Normal daily maximum temperatures range from 68.8 degrees at Waurika to 59.3 degrees at Arnett in northwestern Oklahoma. Extremes of normal daily minimum temperatures are found in the panhandle at Boise City, 29.8 degrees, and in the south at Ardmore, 43.8 degrees.

The extremes of March temperatures in the available record are 104 degrees at Frederick on March 27, 1971 and -18 degrees at Hooker on March 7, 1920, at Kenton on March 1, 1922, and again at Kenton on March 6, 1948. The 1948 cold spell was quite severe. There were 18 reports of temperatures -8 degrees or lower across northwestern Oklahoma from the 5th through the 12th. There were 14 reports, extending as far south as Clinton, of daily maximum temperatures of 12 degrees or less. Such extremes are rare. Temperatures exceeded 90 degrees about one day each March across southwestern Oklahoma and dip below 10 degrees at about the same frequency across the panhandle. Overnight freezes are common across northern Oklahoma. Kenton

averages nearly 20 freezes during March, compared to only four at Ardmore. The average date of the last freeze of the season is between March 25 and April 1 across most counties in southern and south-central Oklahoma.

Normal statewide-averaged precipitation during March is 3.06 inches, ranking March as the state's 6th wettest month. The extreme monthly statewide averages of March precipitation are 7.46 inches in 1973 and 0.38 inches in 1971. Southeastern Oklahoma's Smithville carries the title of wettest station during March with a normal total of 5.52 inches. The lowest normal March precipitation total, 1.05 inches, belongs to Regnier in the northwestern panhandle. The frequency of measurable precipitation (that is, 0.01 inch or more in a day) during the month varies from 10.9 days at Stilwell in the east to 4.1 days at Leedey in western Oklahoma.

The northeastern Oklahoma town of Kansas holds the apparent record for the wettest March in the state with a reported 13.37 inches of rain in 1973. Widespread rain that month across the states of Oklahoma and Kansas led to flooding on the Arkansas River and most of its Oklahoma tributaries. Boswell recorded 7.03 inches of rain on March 27, 1977 – the greatest known daily precipitation during March. The heavy rain event across southern Oklahoma, which included the Boswell storms, resulted in flooding along the Red River between Lake Texoma and the Oklahoma/Arkansas border.

Snow doesn't come every March, but when it does, it comes in piles. Boise City averages 6.6 inches of snow during March – the greatest among the state's reporting locations. In contrast, stations across the southern half of Oklahoma generally average less than one-half inch of snow during March. Snowstorms have generated as much as 20 inches of snow several times across northern parts of Oklahoma. In 1988, monthly snow totals greater than 2 feet of snow were reported at Cherokee (29.5 inches), Laverne (27.5 inches), and Waynoka (25 inches). Gate recorded 27 inches during March 1969, and Vinita noted 24 inches during March 1970. Notably, most of the snow for both the 1988 and 1970 totals was reported on St. Patrick's Day. Beaver reported substantial snow during March 1912 to complete the state's "seasonal" snowfall record (winter of 1911-1912) of 87.3 inches. A late-season snowstorm struck the panhandle in 1926, as Boise City reported 16 inches of snow on the 30th.

The most severe winter weather during March likely came in 1924 and 1948. Heavy snow covered most of the state during March of both of those years. Thirty-seven inches of snow reported fell on Alva during March 1924. That same month, Beaver reported 33 inches, Woodward measured 28.5, Geary logged 25, and Norman recorded 24 inches. March 1948 was probably the least pleasant March on record. Extreme cold already was present when a major snowstorm, accompanied by blizzard conditions, swept through the state from the 9th through the 11th. Regnier was the hardest hit with 25.2 inches of snow. Later that same month, tornadoes killed 13 people, cold, wet weather delayed crops and field work, and widespread dust storms occurred on the 26th and 30th.

The state has averaged 3.8 tornadoes each March since 1950. The actual number has ranged from zero (occurring 14 times during 52 years) to 17 in 1991. Two deadly March tornadoes, both killing 10 people, were at Gowen on March 13, 1922 and at Lenna on March 25, 1948. Two other notable tornadoes struck the Oklahoma City area, including Will Rogers Airport and

Tinker Air Force Base, on March 20th and 25th in 1948. The first tornado caused over \$10 million in property damage, much of it to military aircraft. Damage from the second was \$6 million. On the 25th, Air Force meteorologists recognized the similarity of weather conditions to those of the 20th and issued what is now accepted to be the first successful and scientific forecast of a tornado.

There have been many other weather events during the wild month of March. Violent dust storms hit the state on March 18 and 24, 1914. Major dust storms also blanketed the state in 1935 and 1948. On March 3, 1989, a cold front swept through the state, dropping temperatures by as much as 50 degrees in a few hours.

On a more positive note, March 1, 1994 marked the commissioning of the Oklahoma Mesonet, a fully automated statewide weather-observing network that, still today, is probably the premier network of its kind in the world. The Mesonet (<http://www.mesonet.ou.edu/>) was the dream of scientists at the state's two comprehensive universities and scientists at federal meteorological organizations located in Oklahoma. It is a part of the state's response to the challenges of Oklahoma's changeable and sometimes violent weather.

Third in a 12-part series by Howard L. Johnson