

# 1999 OKLAHOMA ANNUAL SUMMARY

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## 1999 ANNUAL SUMMARY

The tragically wild evening of May 3 provided a virtual re-write of Oklahoma's tornado record book in 1999. The 146 tornadoes reported in 1999 far exceeded the previous record (107 in 1957), based on the reasonably reliable counts that exist only since 1950. The 42 tornado deaths during 1999 were the most suffered in the state during any year since the devastating Woodward tornado of 1947 killed 107 in that community, alone. All but two of this year's tornado deaths occurred on May 3, most of those in the Oklahoma City metropolitan area. National Weather Service, local emergency management personnel, broadcast media, and local police, ambulance, and fire personnel provided a high level of warning and response to keep fatalities as low as they were.

The state parlayed mild weather in the months that typically are cold and a generally wet spring to produce a year that was both warmer and wetter than normal. Annual precipitation, averaged statewide, was 37.82 inches, 3.58 inches greater than normal, ranking this as the 29<sup>th</sup> wettest year since 1892. The year divided neatly into a wet first half (7.32 inches greater than normal precipitation, the 7<sup>th</sup> greatest January-June precipitation in state annals) and a dry second half (3.74 inches less than normal precipitation, despite a wet December). The annual average temperature for the state was 61.6 degrees (1.3 degrees above normal, 19<sup>th</sup> highest). The state experienced its warmest November on record (56.2 degrees) and its 5<sup>th</sup> warmest February. It is worth mentioning that March, which featured the most significant snowstorm of the year, actually had a lower statewide-averaged temperature than did February.

Three of the four seasons (based on complete months and including December 1998 while excluding December 1999) were warmer than normal (spring was cool) and three seasons were wetter than normal (autumn was dry), statewide. Seasons' temperatures, departures from normal temperature, rank (warmest=1, coolest=108), seasons' precipitation, departures from normal precipitation, and rank (1=wettest, 108=driest) follow (temperatures in degrees Fahrenheit, precipitation in inches):

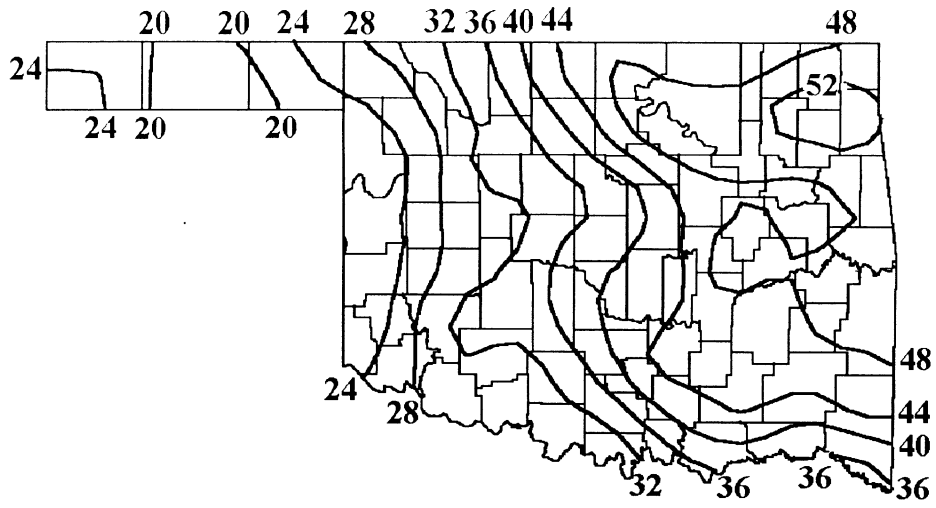
Season	T	Dep.	Rank	P	Dep.	Rank
Winter (Dec. '98-Feb. '99)	43.6	+3.8	19	4.93	+0.23	47
Spring (Mar. through May)	58.7	-1.3	80	15.50	+4.74	7
Summer (Jun.-Aug.)	80.6	+0.6	41	9.43	+0.04	59
Autumn (Sep.-Nov.)	62.9	+1.3	34	6.71	-2.72	73

The tornado outbreak of May 3 and 4 far overshadowed all other weather events of the year, but there were a number of other happenings that deserve documentation:

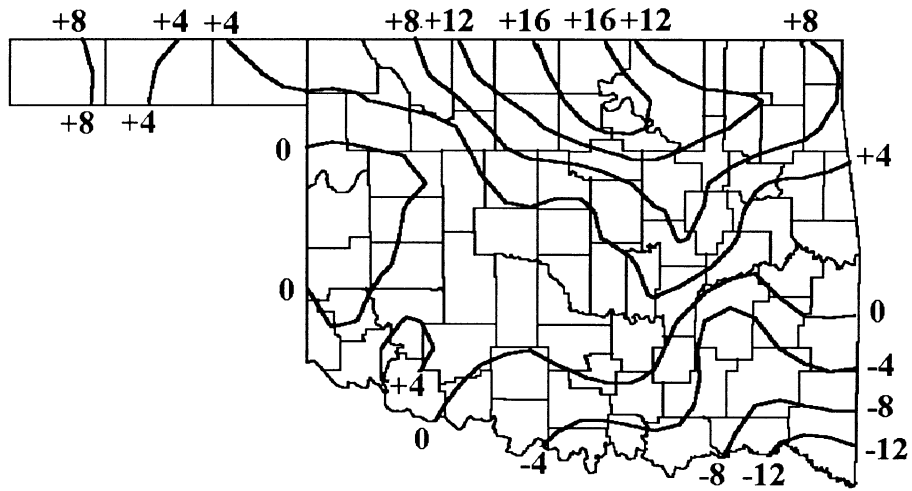
- 1) A major winter storm January 28-30 dropped 10-13 inches of snow in the Panhandle and produced enough heavy rain to cause flooding in eastern Kay County.
- 2) A shortage of precipitation during the state's 5<sup>th</sup> warmest February since 1892 led to the imposition of outdoor burning restriction that lasted through the first third of March.

- 3) Thirty-three wildfires in Pushmataha, Choctaw, and Atoka counties from March 3 through 10 were curtailed by precipitation associated with a major winter storm.
- 4) 19 inches of snow fell at Medford on March 12-13 (12 inches or more elsewhere in northern and central Oklahoma). 14 deaths (including 13 from traffic mishaps) were attributed to this storm. Regnier (Cimarron County) recorded 12 inches of snow later in the month (18<sup>th</sup>).
- 5) The 9<sup>th</sup> wettest April in state records was generated largely by a sequence of weather systems that impacted the state from the 21<sup>st</sup> through the 26<sup>th</sup>. Several tornadoes were reported during that period, as was significant flooding along the Deep Fork, North Canadian, and Salt Fork rivers and Salt, Tar, and Choctaw creeks.
- 6) A tornado on June 1<sup>st</sup> that probably began as a waterspout on Fort Gibson Lake killed two residents of a Cherokee County rural housing addition.
- 7) Rain brought about the cancellation of many July 4 firework shows, especially in central Oklahoma.
- 8) Dry, hot weather dominated from early July through the first third of September. A heat wave, beginning in late July led to 8 heat-related deaths during the last week of July. Temperatures reached at least 100 degrees somewhere in the state each day in August. Guthrie (Logan) recorded 111 degrees, the year's highest temperature, on August 27.
- 9) A line of severe thunderstorms on September 10<sup>th</sup> broke the drought in central Oklahoma, but lightning forced the suspension or cancellation of many high school football games. The thunderstorms preceded the passage of a cold front that introduced a welcome moderation of temperatures, but failed to bring precipitation to the western third and extreme southeastern portion of the state.
- 10) Precipitation in excess of one-half inch occurred on only two days in November (22<sup>nd</sup> and 23<sup>rd</sup>).
- 11) December was wet but warm in most areas: as much as 10 inches of snow fell in the northwest from the 2<sup>nd</sup> through the 4<sup>th</sup>, but quickly melted; snow and sleet fell in many areas from the 7<sup>th</sup> through the 9<sup>th</sup>, and heavy rain fell in most areas on the 11<sup>th</sup> and 12<sup>th</sup>.

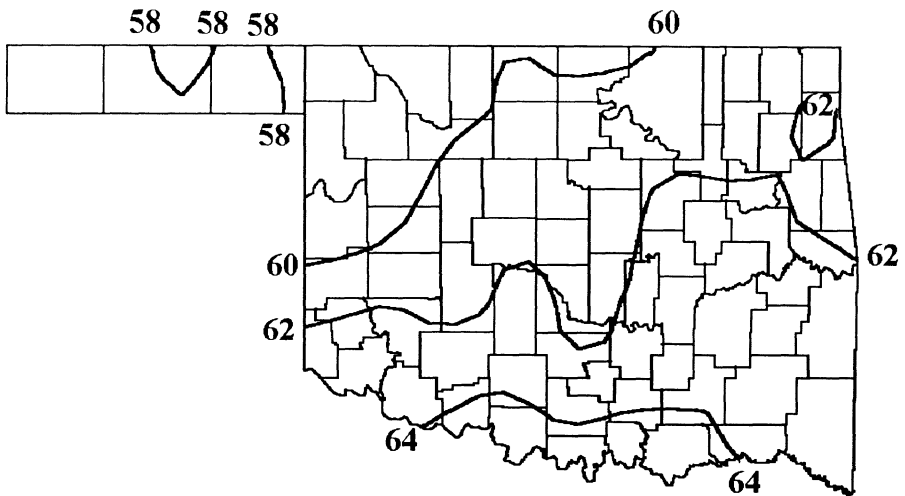
Howard L. Johnson



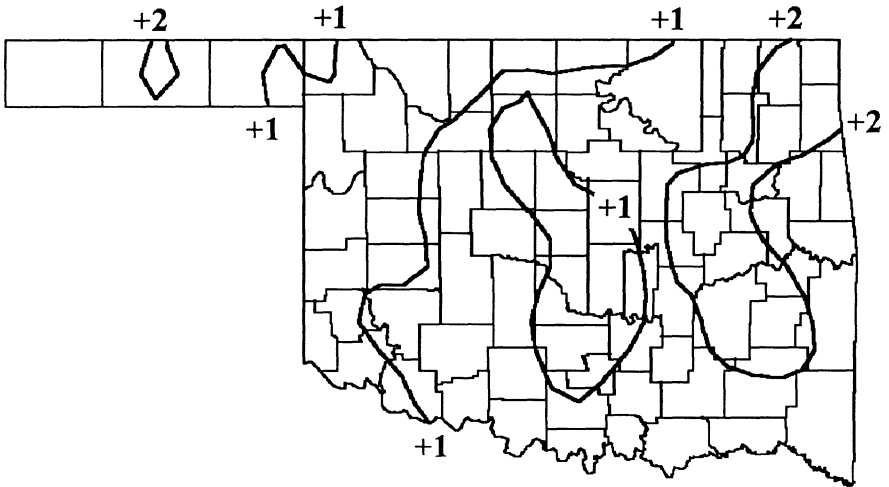
**1999 Annual Precipitation (inches)**



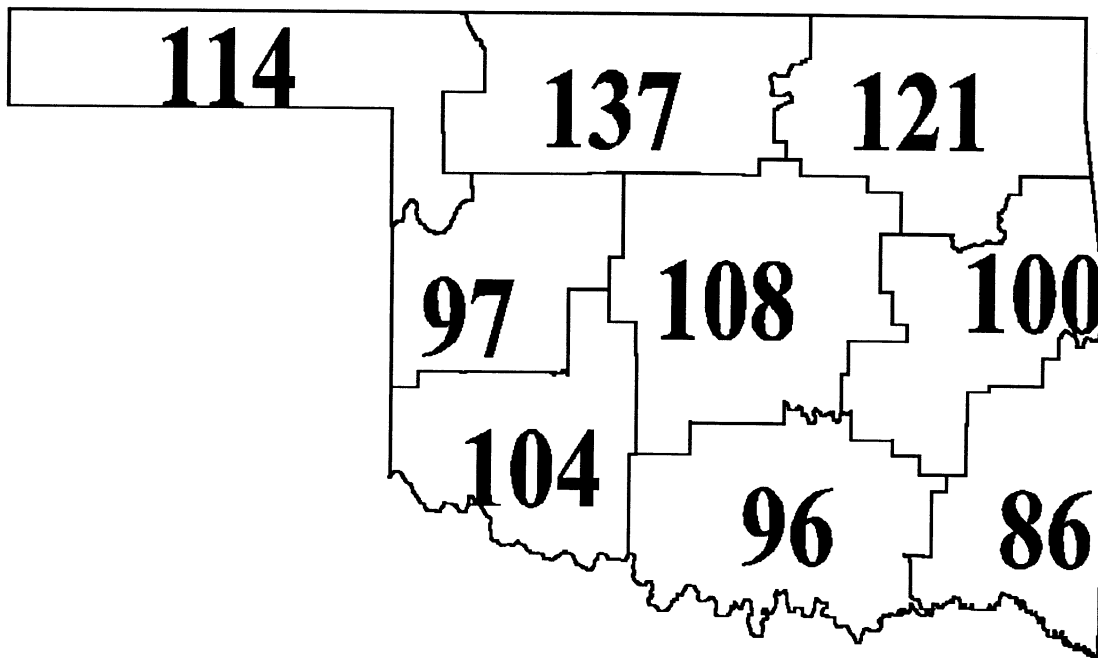
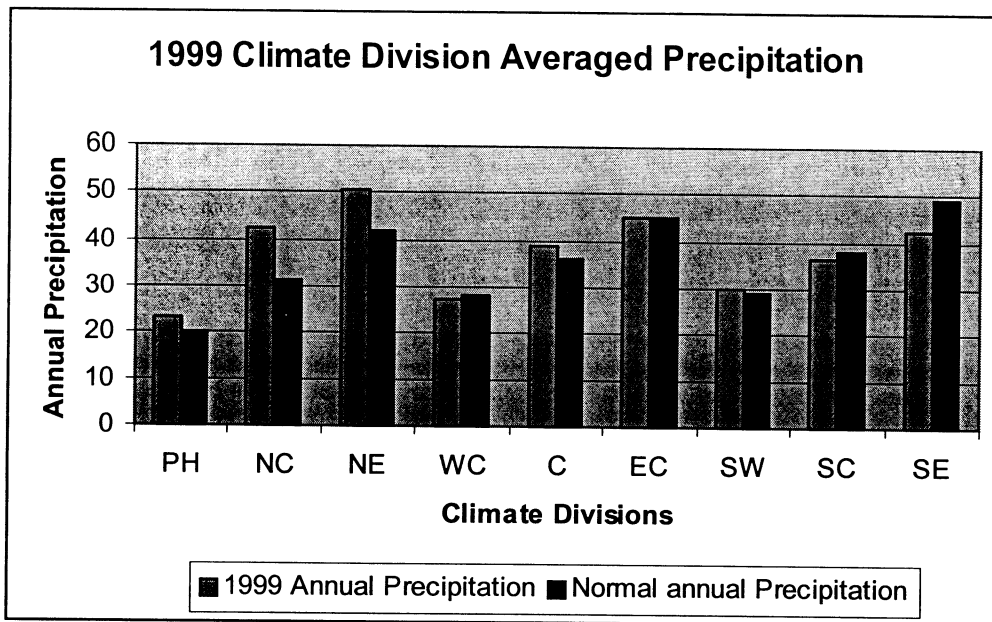
**1999 Annual  
Departure from Normal Precipitation (inches)**



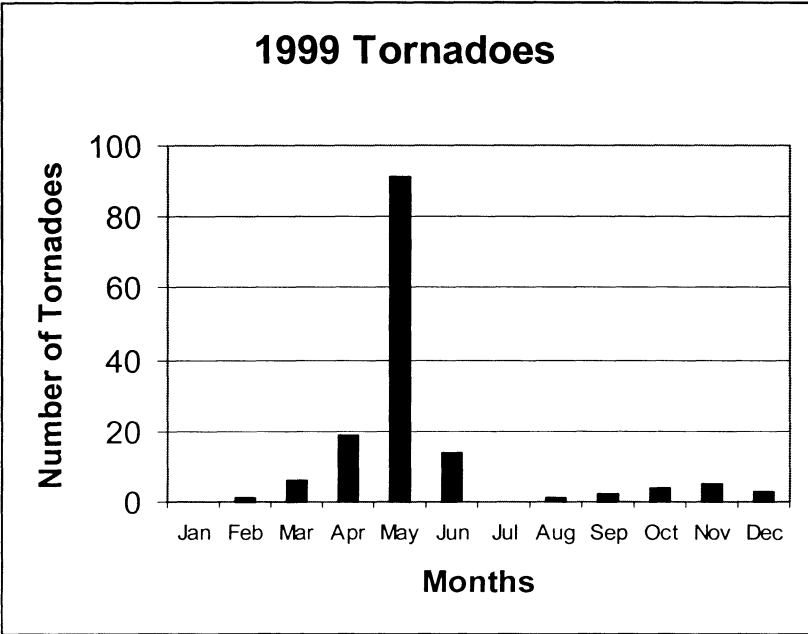
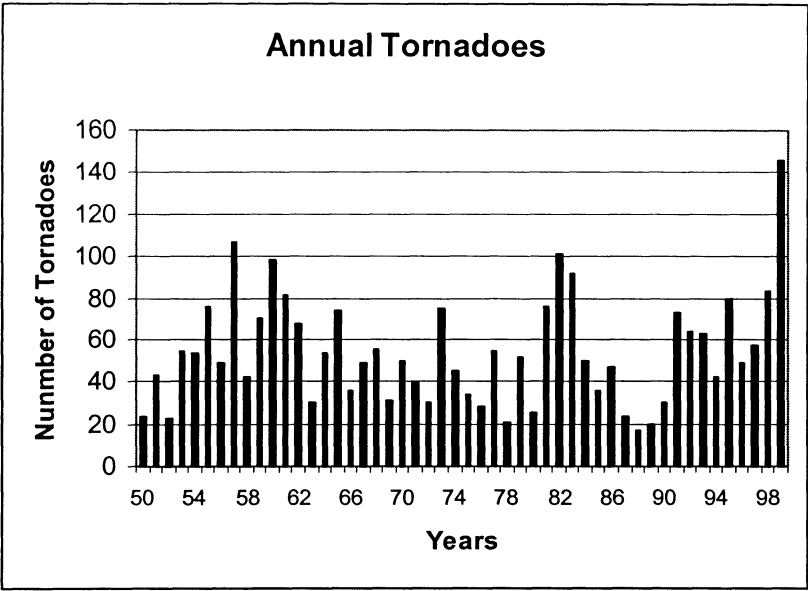
**1999 Annual Mean Temperature (Fahrenheit)**



**1999 Annual Departure from Normal Temperature (Fahrenheit)**

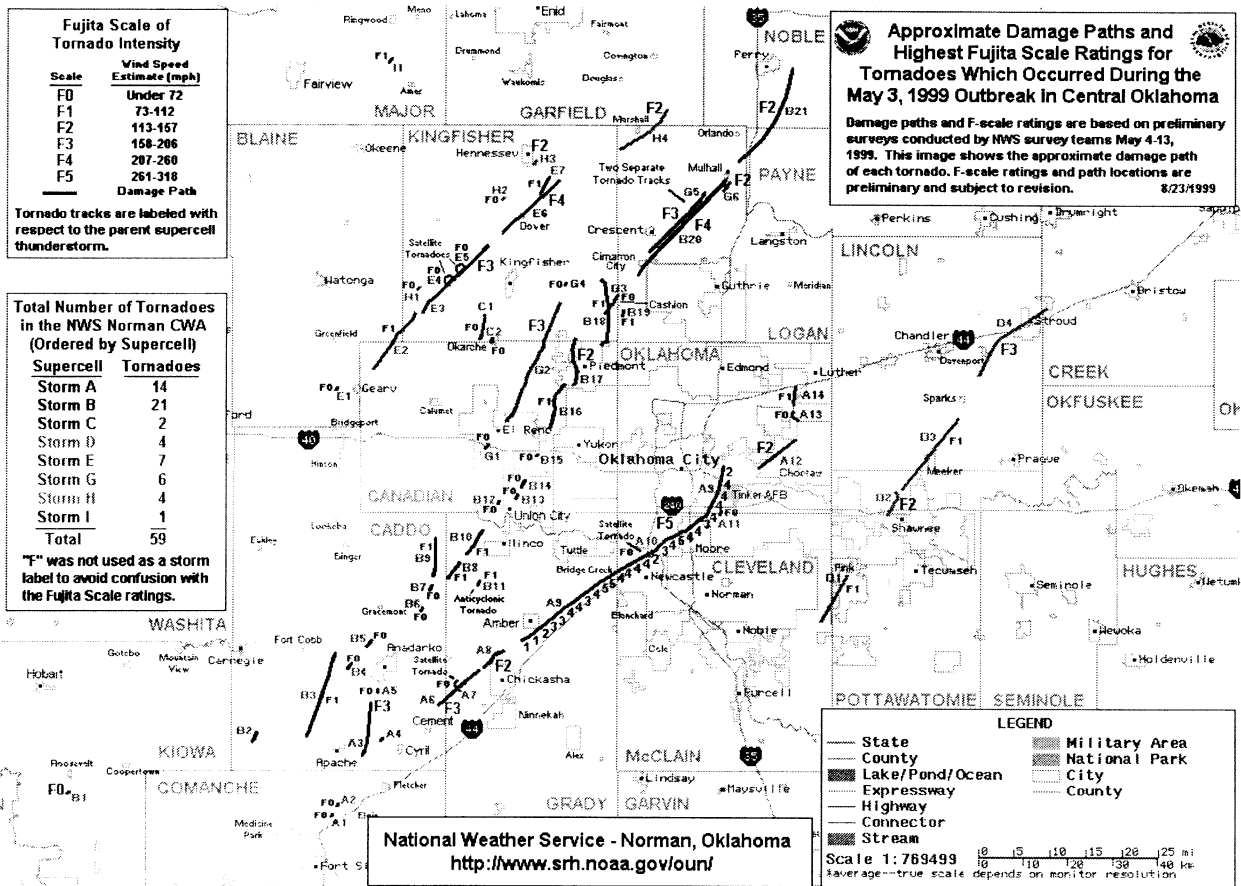


1999 Percent of Normal Precipitation



## THE RECORD-SETTING 1999 TORNADO SEASON, OR WAS IT?

The devastating tornadoes in 1999 will stand out in memory for many years. Seven separate storms on May 3 spawned 61 tornadoes, killing 40 people, injuring more than 600, and inflicting more than \$1 Billion in damage across central Oklahoma. The largest and longest-track tornado of the day, rated an F5 (on a scale of F0 to F5), was responsible for 36 deaths, destroyed 1800 homes, and damaged another 2500 in the towns of Bridge Creek, Newcastle, Oklahoma City, Moore, Del City, and Midwest City (Grady-McClain-Cleveland-Oklahoma Counties). A separate F4 tornado destroyed over 60% of the homes in Mulhall (Logan County). Despite the enormity of damage from this storm, there was only one fatality. One person was killed in Dover (Kingfisher County), which took a direct hit from an F4 tornado. One third of Dover's structures were destroyed. The town of Stroud (Lincoln), although suffering no fatalities, suffered tremendous economic losses when its three major employers – Sygma food distribution, Stroud Municipal Hospital, and Tanger Outlet Mall were heavily damaged or destroyed by an F3 tornado.



The 146 tornadoes confirmed by the National Weather Service for 1999 far exceed the previous state record of 107 set in 1957. The 61 tornadoes spawned during the May 3 outbreak also set a new record, surpassing the 26 tornadoes recorded on May 13, 1983. So what caused so many tornadoes in 1999? The answer lies probably not so much in the production of tornadoes, but in our ability to detect them. Two factors transpired to increase detection: technology and verification. Through the use of WSR-88D (NEXRAD) radars, the National Weather Service has increased its ability to detect signatures of potential tornadoes in parent storms, which provide clues as to where to look for signs of damage. The National Weather Service, since the 1980s, has more aggressively sought out storm reports as a means to improve its ability to distinguish severe from non-severe events. The media and academic chase teams have also sought to document tornadoes, providing further feedback to the verification activities. Because weak tornadoes often do little damage, many previously went unreported. Research indicates (e.g., see Thomas



Grazulis, *Significant Tornadoes*) that earlier tornado statistics may underestimate the true number of tornadoes by as much as 70%!

Of the 146 tornadoes, 26 were classified as “significant” (F2 or greater), placing 1999 in a tie for 9<sup>th</sup> in the number of significant tornadoes, from 1950-1999. The record remains the 49 significant tornadoes (of 98 overall) in 1960, which included an outbreak on May 5 that killed 32 people and injured more than 200, leaving the town of Wilburton (Latimer) devastated. The 17 significant tornadoes from the May 3, 1999 outbreak was also not the greatest among outbreaks of significant tornadoes; that record is the 19 significant tornadoes that hit Oklahoma on June 8, 1974. During that outbreak, 14 people died and more than 200 were injured as an F4 cut a 55-mile long path across Payne, Creek, Pawnee, and Osage Counties. The May 5, 1960 outbreak also had 16 tornadoes classified as “significant.”

One remarkable fact about the May 3 outbreak was not the number of tornadoes or strength, but that considering the path of the storms so few people died. Considering that an F5 – the top of the tornado intensity scale – cut a 38-mile-long path through a heavily populated area, the loss of life could have been much worse. In previous years, similar strong tornadoes killed many more people in less sparsely populated areas. A review of past tornadic events in Oklahoma puts the May 3 event in better perspective:

- April 9, 1947 – An F5 tornado cut through the northern part of Woodward (Woodward) in what is the deadliest tornado in Oklahoma history. Over 100 city blocks were devastated, 1,000 homes damaged or destroyed, and 107 people in Woodward lost their lives (181 total including deaths in Texas).
- May 10, 1905 – The town of Snyder (Kiowa) was virtually destroyed by an F5 tornado, whose roar could reportedly be heard some 12 miles away. The tornado claimed 97 lives, 87 of them in Snyder.
- May 2, 1920 – Nearly one third of the population, 71 people, of Peggs (Cherokee) were killed as an F4 tornado destroyed all but seven buildings in the town. Because the town was not on the railroad line, news of the disaster did not reach another town for six hours.
- April 12, 1945 – In what has sometimes been called the “secret tornado”, the town of Antlers (Pushmataha) was heavily damaged by an F5 tornado, killing 69. The disaster was overshadowed, even in local press, by the death of President Roosevelt.
- April 27, 1942 – The WWII boom town of Pryor (Mayes) was hit by an F4 tornado, killing 52 and destroying a third of the town. Many of the buildings that were destroyed had been hastily built in order to accommodate the housing needs of people working at the nearby defense plants.
- June 12, 1942 – Less than two months after Pryor was devastated, southwest Oklahoma City (Oklahoma) was hit by a short-track – 2.3 miles – F4 tornado, killing 35.
- April 25, 1893 – In a track that was nearly identical to the May 3, 1999 tornado, an F4 tornado cut a track from near Newcastle (McClain) through Moore (Cleveland), killing 31. Over one-hundred years later, the F5 that cut through a much more densely populated Moore killed 36 – a testament to the successes achieved in detection and warning.
- November 19, 1930 – A rare late-fall tornado, F4, crossed through Bethany (Oklahoma), killing 23. Nearly one fourth of the homes in the town were damaged, including the Camel Creek School where five students and a teacher were killed, apparently with little warning.
- May 8, 1882 – The small mining community of McAlester (Pittsburg) was hit by an F3 tornado, which killed 21 people in the town.
- May 25, 1955 – A pair of F5 tornadoes cut across parts of Kay County. One tornado destroyed 400 homes and killed 20 people in Blackwell, while the other did most of its damage in Udall, Kansas where 75 people were killed. The Blackwell tornado was said to be glowing from the intense electrical activity associated with it.

These and many more events are chronicled in *Significant Tornadoes* by Thomas Grazulis, a compendium of significant tornadoes in the United States from 1680-1991. For more information about the book visit his website at <http://www.tornadopproject.com/>. More information about the May 3, 1999 tornado outbreak is available from the National Weather Service Office in Norman’s web page, <http://www.srh.noaa.gov/oun/storms/19990503>. The National Symposium on the Great Plains Tornado Outbreak of 3 May 1999, held in May 2000, also has abundant information and analyses of the event. Information is available from their web site: <http://geowww.ou.edu/~kkd/may3.htm>.

1999 TOTAL PRECIPITATION AND DEPARTURES FROM NORMAL (INCHES)

Panhandle

	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		ANN		
	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	
ARNETT	1.83	1.37	0.39	-0.62	2.02	0.39	6.31	4.53	1.64	-2.49	2.74	-0.96	2.12	0.23	1.02	-1.39	1.51	-1.02	0.00	-1.83	0.00	-1.43	1.78	1.01	21.37	-2.21	
BEAVER	1.60	1.20	0.00	-0.78	2.43	0.98	3.74	2.19	1.71	-1.33	5.74	2.25	2.38	-0.48	2.48	-0.47	2.07	0.25	1.97	0.78	0.00	-1.02	0.37	-0.22	24.49	3.35	
BOISE CITY	1.30	1.00	0.15	-0.34	1.55	0.67	4.67	3.49	5.92	3.34	2.21	-0.58	2.79	0.04	6.54	4.09	1.54	-0.29	2.04	1.18	0.00	-0.72	0.30	-0.08	29.02	11.80	
BUFFALO	*	*	0.00	-1.04	2.35	0.49	5.70	3.35	3.20	-1.16	9.43	5.44	1.00	-1.99	0.64	-2.82	*	*	0.60	-1.34	0.00	-1.62	0.40	-0.40	*	*	
FARGO	2.05	1.58	0.11	-0.87	1.08	-0.55	7.44	5.43	2.63	-1.06	4.66	1.35	2.50	0.46	0.51	-2.20	1.66	-0.61	0.06	-1.58	0.00	-1.30	0.78	0.01	23.49	0.66	
GATE	2.73	2.17	0.01	-0.83	3.40	1.72	4.38	2.55	3.91	0.88	6.03	3.12	*	*	1.95	-0.93	4.01	1.92	1.28	-0.13	0.00	-1.10	1.21	0.51	*	*	
GOODWELL	*	*	0.00	-0.42	1.80	0.93	4.19	2.96	2.19	-0.92	*	*	*	*	*	*	0.41	-1.27	2.20	1.24	0.00	-0.73	0.32	0.04	*	*	
GUYMON	0.00	*	0.00	*	1.10	*	3.49	*	0.71	*	2.29	*	0.51	*	1.19	*	*	*	*	*	*	*	*	*	*	*	*
HOOVER	1.80	1.41	0.01	-0.58	2.70	1.54	3.81	2.43	2.85	-0.11	4.55	1.61	0.33	-1.96	1.34	-0.97	0.94	-1.11	2.19	1.25	*	*	0.46	0.05	*	*	
KENTON	0.79	0.51	0.04	-0.31	2.02	1.24	*	*	*	*	1.63	-0.53	*	*	4.75	2.11	*	*	3.20	2.25	*	*	*	*	*	*	
LAVERNE	2.21	1.68	0.00	-0.97	1.73	0.03	8.06	6.44	3.69	0.40	5.88	2.81	0.60	-1.93	0.67	-2.19	2.79	0.77	0.45	-0.96	0.00	-1.17	1.46	0.73	27.56	5.64	
RANGE	1.90	*	0.00	*	3.04	*	3.78	*	2.09	*	4.11	*	0.00	*	*	*	0.59	*	2.34	*	0.00	*	0.34	*	*	*	
REGNIER	0.87	0.57	0.00	-0.32	1.55	0.82	4.63	3.54	3.35	1.10	0.97	-1.27	2.08	-0.26	5.48	3.60	1.38	-0.32	2.09	1.33	0.03	-0.53	0.07	-0.26	22.51	8.00	

North Central

	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		ANN	
	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP
ALVA	2.51	*	0.43	*	3.04	*	8.06	*	3.41	*	8.81	*	*	*	4.34	*	1.75	*	0.18	*	0.06	*	2.90	*	*	*
VANCE AFB	*	*	1.25	*	3.63	*	4.90	*	2.77	*	*	*	1.12	*	*	*	2.73	*	1.79	*	0.14	*	*	*	*	*
BILLINGS	3.92	2.92	*	*	4.82	2.13	7.05	3.96	5.40	0.89	7.28	3.13	*	*	2.12	-1.01	5.11	0.57	2.05	-0.68	0.50	-1.77	4.49	3.12	*	*
BLACKWELL 2E	3.62	2.68	1.27	0.20	3.70	1.30	7.08	4.11	*	*	10.01	6.10	*	*	4.33	1.14	6.98	2.90	2.06	-0.64	0.45	-1.83	3.52	2.17	*	*
BRAMAN	3.42	*	*	*	5.32	*	5.51	*	7.66	*	11.05	*	3.62	*	2.39	*	4.85	*	2.63	*	1.13	*	3.79	*	*	*
CEDARDALE	1.59	*	0.95	*	3.62	*	7.23	*	2.13	*	6.28	*	2.19	*	0.84	*	2.29	*	0.84	*	0.03	*	1.42	*	29.42	*
CHEROKEE	*	*	*	*	*	*	11.29	8.91	2.02	-1.87	11.37	7.55	0.75	-1.99	0.81	-2.21	*	*	*	*	*	*	2.85	1.72	*	*
ENID	*	*	1.36	-0.05	3.53	1.24	7.38	4.51	3.91	-0.89	9.51	5.37	*	*	3.59	0.41	4.11	0.63	2.14	-0.97	0.29	-1.92	3.23	2.09	*	*
FT SUPPLY	2.04	1.59	*	*	*	*	7.21	5.47	1.98	-1.71	*	*	1.19	-1.00	1.60	-1.22	3.21	0.90	0.33	-1.21	0.00	-1.26	0.68	-0.04	*	*
FREEDOM	*	*	0.16	-0.72	2.79	0.93	*	*	*	*	5.59	2.45	0.94	-1.42	*	*	*	*	*	*	0.02	-1.33	2.01	1.20	*	*
GRT SALT PLNS	2.75	2.06	*	*	3.27	0.91	7.37	4.71	3.70	-0.15	11.08	7.58	2.91	0.22	0.37	-2.90	4.11	0.78	1.02	-1.04	1.54	-0.29	3.63	2.81	*	*
HARDY	2.76	*	1.34	*	3.42	*	5.65	*	7.31	*	8.79	*	4.28	*	1.64	*	3.93	*	2.05	*	0.50	*	3.18	*	44.86	*
HELENA	2.49	1.72	0.74	-0.41	4.11	1.72	6.83	4.35	3.78	-0.24	7.04	3.22	2.50	-0.12	3.48	0.72	3.27	0.04	1.24	-0.85	1.36	-0.45	3.37	2.39	40.22	12.09
JEFFERSON	2.50	1.65	0.87	-0.30	3.53	0.94	7.00	4.24	7.24	2.72	7.34	3.30	4.05	0.72	0.81	-2.42	4.74	1.05	2.19	-0.46	0.93	-1.25	4.35	3.16	45.56	13.35
LAMONT	2.72	*	1.29	*	3.62	*	6.55	*	6.49	*	8.85	*	3.22	*	1.80	*	4.99	*	2.41	*	0.33	*	4.08	*	46.35	*
MEDFORD	3.52	*	0.74	*	4.68	*	7.39	*	6.66	*	8.25	*	3.65	*	1.60	*	6.20	*	2.17	*	1.04	*	4.37	*	50.28	*
MORRISON	1.83	*	0.83	*	3.67	*	8.34	*	7.37	*	6.88	*	4.51	*	2.26	*	5.36	*	2.83	*	0.10	*	4.70	*	48.68	*
MUTUAL	1.87	1.27	0.74	-0.33	2.95	0.89	6.24	3.81	1.33	-2.69	4.18	0.87	0.71	-1.64	0.40	-1.80	2.40	-0.25	0.45	-1.23	0.00	-1.40	2.35	1.61	23.62	-0.89
NEWKIRK	4.37	3.50	1.37	0.20	5.02	2.65	7.58	4.49	7.44	2.55	9.42	4.97	4.93	1.65	2.09	-1.36	6.28	2.01	3.11	-0.12	0.30	-2.11	3.95	2.52	55.87	20.95
ORIENTA	1.54	0.83	0.83	-0.20	2.63	0.54	*	*	*	*	1.80	-1.91	1.64	-0.96	2.22	-0.52	2.29	-0.77	0.81	-1.07	1.06	-0.66	3.33	2.52	*	*
PERRY	2.93	1.99	*	*	3.42	0.71	*	*	6.76	1.49	6.47	2.58	2.38	-0.71	2.33	-0.93	7.32	2.94	*	*	0.15	-1.97	5.69	4.36	*	*
PONCA CITY	4.84	3.81	*	*	4.31	1.78	4.15	1.33	8.94	4.38	11.61	7.69	2.03	-1.67	2.56	-0.86	8.19	3.85	*	*	*	*	4.46	3.05	*	*
RED ROCK	3.91	3.01	1.09	-0.29	*	*	4.70	1.94	8.56	3.95	12.75	8.66	2.10	-0.79	5.38	2.55	5.75	1.52	1.85	-0.94	0.20	-1.89	6.65	5.31	*	*
WOODWARD	2.27	1.73	0.27	-0.76	2.73	0.91	7.97	5.92	1.29	-2.67	10.55	7.37	0.68	-1.91	0.48	-2.44	3.01	0.67	*	*	0.00	-1.37	1.00	0.16	*	*

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## 1999 TOTAL PRECIPITATION AND DEPARTURES FROM NORMAL (INCHES)

### Northeast

	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		ANN		
	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	
BARNSDALL	3.40	2.01	0.93	-0.92	3.63	-0.07	8.48	5.14	9.78	4.98	8.79	4.05	0.33	-2.60	*	*	7.58	1.97	1.39	-1.80	0.32	-2.66	3.14	1.24	*	*	
BARTLESVILLE	2.73	1.46	1.48	-0.10	4.62	1.37	6.82	3.43	7.01	2.61	7.28	3.23	1.58	-1.02	3.00	-0.15	5.13	0.56	1.18	-2.12	0.58	-2.14	3.89	2.26	45.30	9.39	
BIXBY	*	*	*	*	*	*	*	*	7.42	2.42	9.96	5.34	*	*	0.00	-2.75	5.45	0.74	1.45	-2.25	2.63	-0.51	3.67	1.71	*	*	
BURBANK	3.82	2.68	0.93	-0.47	3.99	1.00	5.44	2.68	9.08	4.35	7.71	3.41	2.09	-1.15	1.90	-1.51	7.76	3.10	2.47	-0.62	0.10	-2.44	5.13	3.63	50.44	14.66	
CHELSEA	2.87	*	1.37	*	4.90	*	8.34	*	8.05	*	14.76	*	1.71	*	1.20	*	5.48	*	1.66	*	2.83	*	5.03	*	58.20	*	
CLAREMORE	2.81	1.21	1.90	-0.10	4.79	1.21	*	*	8.51	3.87	9.31	4.71	1.48	-1.49	1.19	-1.88	5.81	1.36	1.58	-1.98	3.09	-0.14	4.29	2.11	*	*	
FORAKER	2.15	1.13	2.12	0.79	3.03	0.21	5.97	2.85	4.63	-0.47	5.20	1.30	3.66	0.59	1.77	-1.69	5.87	1.03	2.37	-1.07	0.22	-2.36	4.69	3.19	41.68	5.50	
HOLLOW	2.01	0.53	1.06	-0.72	4.08	0.40	10.05	6.43	9.46	4.44	8.91	4.24	1.05	-2.11	0.93	-2.28	4.30	-0.73	1.40	-2.23	0.00	-3.50	5.44	3.41	48.70	7.88	
HOMINY	2.36	1.11	1.04	-0.62	3.37	-0.07	9.09	6.02	11.08	6.53	9.11	5.22	2.95	-0.12	1.11	-2.17	5.34	0.22	1.69	-1.27	0.12	-2.51	4.34	2.77	51.62	15.11	
LENAPAH	2.39	*	1.39	*	3.45	*	7.59	*	9.19	*	8.53	*	1.35	*	1.06	*	4.01	*	1.30	*	1.63	*	4.51	*	46.40	*	
MANNFORD	2.40	1.08	1.10	-0.85	*	*	*	*	*	*	*	*	*	*	1.00	-2.28	7.95	3.39	1.66	-1.42	0.44	-2.40	3.68	1.89	*	*	
MARAMEC	3.15	1.88	0.71	-0.85	4.25	1.05	7.42	4.37	9.48	4.69	8.96	5.16	3.35	0.56	1.88	-1.30	6.96	2.27	1.93	-1.09	0.12	-2.51	3.89	2.41	52.11	16.64	
NOWATA	2.94	1.35	1.13	-0.74	*	*	*	*	*	*	9.61	5.05	1.26	-1.57	1.80	-1.52	6.17	0.82	1.24	-2.10	1.94	-1.30	*	*	*	*	
PAWHUSKA	3.43	2.15	1.40	-0.40	5.03	1.78	8.12	4.78	8.98	4.14	9.95	5.41	2.15	-1.03	1.73	-1.85	8.92	3.99	1.60	-1.60	0.71	-2.11	4.22	2.55	56.24	17.81	
PAWNEE	3.21	1.99	1.05	-0.64	4.99	1.90	8.01	4.90	8.51	3.61	8.88	5.04	2.90	0.17	2.01	-1.20	8.35	3.31	3.08	0.25	0.44	-2.09	4.67	3.14	56.10	20.38	
PRYOR	2.68	0.93	1.72	-0.32	*	*	10.22	6.31	8.70	4.03	7.57	2.58	1.51	-1.24	0.74	-2.53	4.94	0.19	1.54	-2.27	2.86	-0.76	*	*	*	*	
RALSTON	2.67	1.52	1.67	0.04	4.93	1.85	*	*	*	*	*	*	2.75	-0.19	3.82	0.51	6.23	1.56	2.62	-0.27	0.33	-2.21	4.47	2.91	*	*	
SKIATOOK	2.81	1.44	1.41	-0.39	5.11	1.83	7.51	4.06	10.36	5.67	7.56	3.36	1.28	-1.86	0.64	-2.52	9.98	5.13	1.36	-1.82	1.97	-1.07	4.98	3.32	54.97	17.15	
SPAVINAW	2.30	0.60	2.34	0.40	5.82	2.24	8.33	4.34	8.15	3.38	12.60	7.70	1.76	-1.26	*	*	6.30	1.52	1.07	-2.62	1.84	-1.90	3.77	1.27	*	*	
TULSA	3.02	1.48	1.26	-0.71	3.56	0.09	7.21	3.49	9.56	3.96	4.93	0.49	0.40	-2.69	0.42	-2.70	9.69	4.99	1.75	-1.91	1.32	-1.81	5.11	2.95	48.23	7.63	
UPPER SPAVINAW	*	*	3.80	*	4.85	*	7.71	*	8.86	*	8.73	*	1.77	*	2.44	*	6.09	*	1.35	*	*	*	*	*	*	*	*
WAGONER	2.20	0.24	2.88	0.81	3.84	0.27	6.08	1.82	10.51	5.56	6.31	0.89	0.12	-2.71	0.78	-2.25	*	*	2.07	-2.05	1.84	-1.74	3.25	0.81	*	*	
WANN	2.18	*	1.50	*	5.29	*	6.92	*	9.37	*	7.65	*	1.84	*	1.77	*	3.86	*	1.27	*	1.02	*	3.83	*	46.51	*	
WYONONA	3.40	*	0.91	*	4.07	*	8.28	*	7.69	*	9.26	*	2.01	*	0.79	*	7.32	*	1.73	*	0.14	*	4.64	*	50.25	*	

### West Central

	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		ANN	
	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP
CANTON DAM	1.84	1.22	*	*	4.34	2.26	*	*	1.59	-2.75	6.32	2.50	1.56	-0.79	3.98	1.57	*	*	*	*	1.94	0.16	3.15	2.33	*	*
CLINTON	1.67	0.73	*	*	*	*	*	*	*	*	*	*	1.63	-0.46	2.40	-0.77	2.88	-0.85	1.92	-0.90	1.38	-0.44	2.56	1.57	*	*
COLONY	1.93	*	0.16	*	3.83	*	5.06	*	3.50	*	3.14	*	3.85	*	2.35	*	2.68	*	2.48	*	0.37	*	6.43	*	35.79	*
CORDELL	1.42	0.51	0.08	-1.12	3.49	1.54	4.37	2.34	5.81	1.12	5.14	1.29	0.53	-1.40	1.67	-1.41	0.82	-2.79	1.89	-0.63	1.27	-0.48	1.84	0.94	28.34	-0.09
ELK CITY	1.40	0.71	0.23	-0.97	2.39	0.35	4.06	2.00	3.69	-0.88	*	*	1.60	-0.29	2.49	-0.39	1.23	-2.05	0.80	-1.19	*	*	1.57	0.80	*	*
ERICK	1.72	1.19	*	*	2.58	0.88	3.67	1.63	4.38	0.29	3.49	-0.21	1.34	-0.35	1.94	-0.57	2.02	-1.20	0.32	-1.84	0.00	-1.33	0.66	-0.05	*	*
HAMMON	2.40	1.72	*	*	3.19	1.30	*	*	4.05	-0.19	*	*	*	*	*	*	1.91	-1.18	0.38	-1.60	0.00	-1.62	*	*	*	*
LEEDY	0.63	0.14	2.00	0.98	2.34	0.62	6.07	3.83	4.37	-0.05	2.57	-0.95	0.28	-1.50	0.32	-2.23	2.13	-0.58	0.39	-1.51	0.00	-1.55	1.03	0.39	22.13	-2.41
MACKIE	1.52	*	0.00	*	2.27	*	6.57	*	3.10	*	4.81	*	0.32	*	2.03	*	1.73	*	0.08	*	0.00	*	1.11	*	23.54	*
MORAVIA	0.64	-0.07	0.20	-0.96	2.80	0.99	4.43	2.42	4.50	-0.17	3.59	-0.21	1.90	0.14	2.23	-0.28	1.03	-2.38	0.94	-1.45	0.05	-1.33	1.26	0.44	23.58	-2.86
OKEENE	1.92	1.15	0.55	-0.66	5.04	2.90	*	*	*	*	6.86	2.71	1.24	-1.12	3.28	0.55	1.63	-2.06	2.70	0.25	2.90	0.95	4.14	3.09	*	*
RETROP	0.82	*	0.12	*	3.14	*	5.39	*	4.82	*	3.71	*	1.07	*	1.19	*	0.94	*	1.08	*	0.08	*	1.63	*	23.99	*
SAYRE	1.26	0.79	0.28	-0.54	2.50	0.97	3.13	1.21	4.24	-0.09	3.05	-0.61	1.31	-0.36	1.86	-0.56	2.51	-0.53	0.61	-1.55	0.00	-1.35	0.98	0.39	21.73	-2.23
SWEETWATER	1.06	*	0.17	*	2.00	*	3.85	*	2.56	*	3.50	*	0.05	*	1.72	*	2.00	*	0.00	*	0.00	*	0.98	*	17.90	*
TALOGA	1.46	0.76	0.44	-0.65	3.37	1.46	8.01	5.65	1.95	-2.79	5.42	1.71	1.03	-1.20	2.51	0.08	1.13	-1.84	0.69	-1.31	0.05	-1.75	2.61	1.93	28.69	2.05
THOMAS	2.09	*	0.08	*	3.65	*	5.17	*	4.01	*	5.75	*	2.06	*	3.73	*	1.22	*	1.72	*	1.26	*	2.46	*	33.20	*
VICI	1.99	1.26	1.07	-0.13	3.35	1.12	7.27	4.80	1.62	-2.79	2.67	-0.87	0.88	-1.28	1.40	-0.88	0.96	-1.68	0.34	-1.62	2.10	0.51	0.45	-0.41	24.11	-1.97
WATONGA	2.56	1.61	0.10	-1.16	4.08	1.87	4.36	1.96	2.33	-2.29	3.74	-0.31	1.48	-0.79	1.33	-0.96	1.55	-1.82	2.01	-0.37	1.61	-0.20	4.19	3.13	29.34	0.67
WEATHERFORD	2.04	1.22	0.07	-1.07	3.69	1.78	*	*	*	*	*	*	1.18	-0.92	1.28	-1.56	1.71	-2.03	2.27	-0.42	*	*	2.67	1.78	*	*

1999 TOTAL PRECIPITATION AND DEPARTURES FROM NORMAL

	Central																									
	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		ANN	
	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP
AMBER	2.07	*	2.12	*	2.08	*	7.93	*	1.67	*	5.15	*	1.45	*	0.72	*	2.45	*	2.05	*	0.08	*	2.89	*	30.66	*
ARCADIA	1.00	*	0.33	*	5.07	*	4.85	*	4.82	*	4.95	*	1.25	*	0.57	*	5.25	*	2.17	*	0.03	*	2.63	*	32.93	*
BLANCHARD	1.93	0.82	1.41	-0.34	3.61	0.92	8.24	5.13	2.61	-2.35	5.18	1.17	3.19	0.62	1.45	-1.28	3.89	-0.27	2.07	-1.30	0.40	-1.70	3.59	2.00	37.58	3.42
BRISTOW	2.52	1.14	1.05	-0.88	*	6.15	2.82	5.23	-0.28	10.09	6.22	0.37	-2.37	1.68	-0.98	*	*	1.44	-1.71	1.52	-1.37	4.29	2.22	*	*	*
CHICKASHA	2.00	0.97	1.62	0.03	4.32	1.82	7.20	4.45	3.67	-1.01	5.61	1.90	0.48	-1.61	1.69	-1.07	2.54	-1.26	1.77	-1.48	0.52	-1.43	3.46	2.20	34.89	3.51
COX CITY	2.95	*	0.80	*	4.20	*	4.67	*	4.64	*	3.82	*	1.30	*	1.18	*	4.13	*	3.28	*	0.65	*	2.99	*	34.61	*
CRESCENT	1.50	*	0.32	*	4.00	*	6.47	*	2.90	*	5.61	*	2.17	*	0.89	*	4.27	*	2.25	*	0.25	*	4.48	*	35.11	*
CUSHING	1.99	0.86	1.00	-0.79	*	*	*	*	*	*	10.66	6.39	*	*	1.04	-1.69	*	*	2.12	-0.77	0.15	-2.43	*	*	*	*
EDMOND	1.19	*	0.37	*	4.38	*	6.31	*	8.06	*	5.05	*	1.19	*	0.39	*	3.89	*	3.87	*	0.00	*	2.82	*	37.52	*
EL RENO	1.87	0.87	0.35	-0.95	3.61	1.27	4.11	1.54	6.15	0.74	6.07	1.68	2.95	0.67	0.87	-1.92	2.03	-2.10	3.20	0.68	0.10	-1.65	4.71	3.67	36.02	4.50
GUTHRIE	0.50	-0.65	1.07	-0.59	5.15	2.33	*	*	*	*	5.09	0.86	1.90	-0.43	0.00	-2.27	*	*	*	*	*	*	2.59	1.09	*	*
HENNESSEY	1.73	0.87	0.36	-0.87	4.26	1.91	6.72	4.03	4.02	-0.72	7.27	3.09	1.33	-1.22	2.94	0.08	*	*	*	*	*	*	*	*	*	*
INGALLS	2.11	*	0.60	*	3.04	*	8.52	*	7.32	*	8.24	*	2.35	*	0.31	*	6.48	*	2.06	*	0.85	*	4.59	*	46.47	*
KINGFISHER	1.91	0.91	0.32	-1.07	*	*	4.05	1.44	3.08	-1.55	8.36	4.09	3.12	1.07	1.04	-1.66	2.31	-1.81	1.59	-0.74	0.49	-1.42	4.25	3.06	*	*
KONAWA	1.55	0.04	1.28	-0.80	4.80	1.59	7.39	3.31	6.93	1.23	9.69	5.61	0.00	-2.02	1.46	-0.53	4.98	0.54	1.75	-2.32	0.67	-2.06	2.10	0.22	42.60	4.81
MARSHALL	1.12	0.24	0.34	-0.93	2.97	0.50	6.50	3.94	4.41	-0.47	9.35	5.37	1.43	-0.84	2.30	-0.27	5.53	1.70	1.96	-0.79	0.26	-1.65	4.66	3.51	40.83	10.31
MEEKER	2.73	1.69	1.48	-0.55	*	*	7.61	4.35	3.69	-1.88	10.15	5.97	1.46	-0.79	0.39	-2.07	*	*	2.25	-1.29	*	*	3.46	2.04	*	*
MULHALL	0.95	*	0.83	*	2.66	*	7.08	*	2.19	*	9.85	*	1.37	*	0.25	*	5.81	*	1.95	*	0.28	*	4.88	*	38.10	*
NORMAN NWS	1.54	0.22	1.83	0.11	3.57	0.68	8.66	5.43	2.82	-2.34	4.99	0.90	1.07	-1.69	0.72	-2.14	5.38	1.29	2.25	-0.98	0.02	-2.46	3.05	1.47	35.92	0.49
OKEMAH	2.57	1.12	2.34	0.43	4.58	1.43	8.58	4.66	7.18	1.88	6.65	2.46	0.19	-2.97	1.19	-1.45	7.70	3.44	1.01	-2.83	2.09	-0.85	2.91	0.91	47.00	8.23
OKLA. CITY FD	0.13	*	0.03	*	3.64	*	7.00	*	3.19	*	8.39	*	2.06	*	0.73	*	4.70	*	2.10	*	0.17	*	4.09	*	36.26	*
OKLA. CITY	1.82	0.69	1.20	-0.36	3.45	0.74	6.92	4.15	3.10	-2.12	8.61	4.30	1.94	-0.67	1.35	-1.25	4.88	1.04	2.22	-1.01	0.06	-1.92	3.71	2.31	39.29	5.90
PERKINS	1.59	0.42	0.50	-1.17	4.17	1.27	6.13	3.21	4.14	-1.35	9.37	4.94	1.40	-1.26	0.08	-2.46	5.51	1.11	2.13	-0.84	0.24	-2.20	1.89	0.36	37.15	2.03
PIEDMONT	2.09	*	0.33	*	3.71	*	5.97	*	3.96	*	6.43	*	0.98	*	0.70	*	2.38	*	2.69	*	0.09	*	4.84	*	34.17	*
PRAGUE	1.65	0.22	1.75	-0.19	4.38	1.20	7.93	4.23	5.84	0.55	8.65	4.85	0.29	-2.67	0.08	-2.35	7.06	2.58	1.55	-2.28	0.95	-1.72	3.47	1.65	43.61	6.07
PURCELL	2.25	0.91	1.64	-0.33	5.00	1.87	6.03	2.42	4.52	-1.05	10.31	6.08	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SEMINOLE	1.68	0.20	2.09	0.08	3.56	0.29	7.93	4.11	7.37	2.14	4.14	-0.07	0.00	-2.52	0.44	-2.20	2.34	-2.05	*	*	*	4.09	2.27	*	*	
SHAWNEE	1.68	0.31	1.39	-0.62	4.31	1.12	7.76	3.78	3.59	-2.08	7.46	3.14	0.00	-2.17	0.04	-2.46	4.37	0.15	1.90	-2.17	0.85	-2.04	3.68	1.80	37.03	-1.24
STELLA	2.16	*	1.42	*	3.89	*	8.26	*	3.73	*	8.16	*	1.98	*	0.44	*	6.82	*	2.46	*	0.37	*	3.57	*	43.27	*
STILLWATER	1.58	0.43	0.64	-0.89	4.58	1.79	6.76	3.84	4.52	-0.61	8.13	4.13	1.93	-0.97	0.97	-1.79	6.12	1.83	3.58	0.75	0.30	-1.95	5.06	3.76	44.18	10.32
STROUD	2.01	*	0.75	*	4.43	*	6.07	*	5.83	*	9.48	*	1.31	*	0.26	*	5.90	*	1.64	*	0.43	*	3.39	*	41.51	*
TECUMSEH	2.39	*	1.82	*	1.96	*	9.31	*	1.87	*	6.24	*	0.00	*	0.25	*	4.11	*	2.00	*	0.50	*	1.85	*	32.30	*
TROUSDALE	1.72	*	1.80	*	*	*	7.00	*	4.95	*	6.91	*	0.14	*	2.77	*	*	*	2.57	*	0.87	*	*	*	*	*
UNION CITY	2.07	0.71	0.61	-0.97	3.79	0.88	4.86	2.00	4.94	-0.66	9.54	4.85	*	*	1.84	-1.04	3.37	-0.87	2.14	-1.13	0.08	-2.22	3.17	1.82	*	*
WELTY	2.76	*	1.70	*	4.57	*	6.71	*	6.83	*	8.38	*	0.10	*	0.80	*	8.12	*	1.50	*	2.65	*	3.43	*	47.56	*
WEWOKA	1.67	0.22	1.31	-0.88	5.13	1.88	9.72	6.01	5.70	0.49	6.90	2.84	1.09	-1.28	2.43	-0.34	4.54	0.22	1.45	-2.26	2.10	-0.69	3.73	1.83	45.77	8.04

	East																									
	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		ANN	
	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP
ASHLAND	2.30	*	1.15	*	6.18	*	8.00	*	5.45	*	6.47	*	1.89	*	2.52	*	5.61	*	1.35	*	0.83	*	2.46	*	44.22	*
BEGGS	1.16	*	2.61	*	4.91	*	7.76	*	7.88	*	7.52	*	*	*	*	*	6.06	*	1.41	*	1.88	*	4.08	*	*	*
CALVIN	2.41	0.81	1.00	-1.12	3.85	0.05	9.76	5.56	4.04	-1.64	8.91	4.38	0.00	-3.07	1.20	-1.21	4.30	-0.14	1.30	-2.80	0.67	-2.30	*	*	*	*
CHECOTAH	1.52	-0.11	1.09	-1.10	6.65	2.95	4.54	0.42	6.15	0.73	5.83	1.94	0.30	-2.74	0.71	-2.13	7.47	2.59	1.36	-2.87	1.09	-2.22	3.37	0.92	40.08	-1.62
CLAYTON	1.79	*	1.21	*	5.62	*	9.57	*	6.30	*	4.81	*	0.54	*	1.13	*	4.87	*	1.69	*	2.40	*	5.25	*	45.18	*
DEWAR	2.78	1.20	1.65	-0.58	5.32	1.77	8.69	4.67	9.00	3.77	7.61	3.66	0.30	-3.08	3.02	0.51	7.41	2.87	1.40	-2.56	1.85	-1.25	3.13	1.04	52.18	12.02
DUSTIN	3.25	*	1.51	*	6.68	*	10.18	*	4.83	*	11.15	*	0.22	*	1.82	*	7.66	*	1.67	*	1.86	*	2.46	*	53.29	*
EUFULA	*	*	1.50	-0.87	6.78	2.61	*	*	7.26	1.58	5.48	1.45	0.00	-3.29	1.38	-1.21	5.94	1.37	*	*	1.98	-1.46	*	*	*	*
HANNA	1.80	0.07	1.17	-1.21	6.02	1.95	6.83	2.74	4.26	-1.75	6.98	3.27	0.27	-2.54	2.47	-0.09	5.08	0.50	1.24	-2.91	1.96	-1.50	2.06	-0.38	40.16	-1.85
HASKELL	1.39	-0.47	4.32	2.15	4.11	0.51	6.34	2.69	9.00	3.79	8.55	3.85	0.00	-2.61	1.25	-1.27	6.81	2.42	1.28	-2.79	2.05	-1.44	3.00	0.72	48.10	7.55
LAKE EUFAULA	2.12	*	*	*	6.34	*	4.53	*	*	*	10.12	*	*	*	0.19	*	*	*	*	*	1.63	*	3.22	*	*	*
LYONS	2.06	0.27	0.99	-0.93	5.70	1.45	6.34	1.57	7.52	1.91	6.55	2.09	0.87	-2.04	0.48	-2.68	5.93	1.11	1.15	-2.33	2.40	-1.37	4.40	1.65	44.40	0.70
MARBLE CITY	1.69	*	1.29	*	6.76	*	4.96	*	5.80	*	*	*	*	*	0.27	*	5.00	*	0.65	*	2.69	*	2.27	*	*	*
MCALISTER	0.96	-1.03	1.32	-1.32	4.67	0.67	5.63	1.53	6.56	0.67	4.53	0.55	0.03	-2.64	1.22	-1.83	3.68	-1.18	1.12	-3.46	0.76	-2.75	1.95	-0.67	32.43	-11.46
MCCURTAIN	2.13	-0.03	1.09	-1.85	7.13	3.02	7.82	3.28	7.66	1.62	10.55	6.38	3.53	0.36	0.43	-2.48	3.87	-0.89	0.72	-3.18	1.88	-2.48	4.85	2.03	51.67	5.78
MUSKOGEE	2.03	0.23	1.45	-0.86	5.09	1.54	6.94	0.86	6.64	1.52	*	*	*	*	*	*	5.42	0.91	1.76	-2.39	0.86	-2.69	2.76	-0.14	*	*
OKMULGEE	2.73	1.10	2.80	0.65	5.04	1.59	6.94	2.35	*	*	7.05	2.82	*	*	*	*	6.26	2.35	2.30	-1.71	2.28	-0.88	*	*	*	*
OKTAHA	2.13	*	1.54	*	5.18	*	6.30	*	6.15	*	9.05	*	0.24	*	0.69	*	5.36	*	1.30	*	1.24	*	4.58	*	43.76	*
SALLISAW	1.24	-0.76	1.93	-0.79	5.71	1.47	5.56	1.17	7.28																	

1999 TOTAL PRECIPITATION AND DEPARTURES FROM NORMAL (INCHES)

Southwest

	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		ANN	
	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP
ALTUS	1.84	1.00	0.04	-1.06	2.76	1.20	2.23	0.31	5.73	1.50	5.66	2.15	1.73	-0.03	0.60	-1.85	1.49	-1.95	3.05	0.68	0.11	-1.20	3.19	2.28	28.43	3.03
ALTUS DAM	2.05	1.28	0.11	-1.08	2.65	0.92	3.91	2.00	4.82	0.41	10.93	7.22	1.96	0.05	0.61	-1.78	1.03	-2.40	2.58	-0.16	0.78	-0.58	2.54	1.68	33.97	7.56
ANADARKO	*	*	1.53	0.12	3.93	1.76	*	*	4.65	-0.03	*	*	*	*	0.00	-2.36	1.75	-1.96	1.79	-0.91	0.13	-1.60	3.24	2.04	*	*
APACHE	2.86	1.76	1.43	-0.01	4.07	1.72	5.71	3.11	3.60	-1.41	7.08	3.15	2.00	-0.03	0.00	-2.43	2.68	-1.07	1.80	-1.01	0.00	-1.81	3.70	2.54	34.93	4.51
CARNEGIE	*	*	0.17	-1.18	3.66	1.66	3.88	1.52	4.65	-0.47	*	*	2.61	0.61	*	*	1.36	-2.67	2.18	-0.21	0.08	-1.52	4.79	3.73	*	*
DUNCAN 11 W	2.31	*	0.17	*	3.11	*	2.66	*	2.97	*	4.40	*	0.21	*	0.72	*	2.33	*	2.28	*	0.58	*	1.69	*	23.44	*
HEADRICK	2.51	*	0.42	*	2.97	*	2.28	*	5.21	*	7.64	*	2.53	*	0.23	*	1.14	*	2.91	*	0.02	*	3.76	*	31.62	*
HOLLIS	1.61	1.02	0.07	-0.94	2.33	0.95	5.53	3.55	5.49	1.97	2.16	-1.53	2.40	0.78	0.20	-2.24	2.35	-0.78	1.31	-0.86	*	*	1.23	0.55	*	*
LAWTON	2.33	1.27	0.71	-0.60	*	*	*	*	3.82	-1.10	10.28	6.66	1.05	-0.85	0.45	-1.76	2.80	-0.86	2.06	-0.92	0.08	-1.72	3.04	1.79	*	*
LOOKEBA	1.91	0.93	0.33	-0.98	3.34	1.16	6.85	4.39	4.06	-0.75	4.18	0.02	0.75	-1.14	0.58	-2.00	2.12	-2.23	2.95	0.22	0.20	-1.59	4.60	3.58	31.88	1.61
MANGUM	0.91	0.16	0.00	-1.12	*	*	0.84	-0.95	5.72	1.47	4.60	0.83	1.25	-0.78	0.41	-1.87	*	*	0.68	-1.98	0.00	-1.26	1.50	0.71	*	*
RANDLETT	2.99	*	0.09	*	5.86	*	3.22	*	4.67	*	1.42	*	0.00	*	1.41	*	1.77	*	4.35	*	0.49	*	1.87	*	28.14	*
ROOSEVELT	2.04	1.18	0.20	-0.94	3.20	1.47	2.82	0.46	7.26	2.41	5.53	1.87	1.78	-0.28	2.54	0.16	1.13	-2.20	3.15	0.59	0.06	-1.42	3.21	2.24	32.92	5.54
SEDAN	1.94	*	0.20	*	3.69	*	2.84	*	6.78	*	7.05	*	3.73	*	0.79	*	2.20	*	2.74	*	0.31	*	4.35	*	36.62	*
SNYDER	2.39	1.49	0.82	-0.41	4.18	2.39	2.32	0.07	7.37	2.69	8.66	5.20	*	*	*	*	1.47	-2.10	2.97	0.44	0.22	-1.32	3.65	2.67	*	*
VINSON	1.73	1.25	0.15	-0.72	3.01	1.54	4.88	3.20	4.88	0.91	3.77	0.31	2.06	0.43	2.48	0.19	1.82	-1.38	0.49	-1.71	0.08	-1.14	0.51	-0.19	25.86	2.69
WALTERS	*	*	0.20	-1.60	3.87	1.32	*	*	4.17	-0.95	2.61	-1.53	0.08	-2.28	0.68	-2.00	1.38	-2.87	3.76	0.52	0.63	-1.46	*	*	*	*
WICHITA MTNS	2.36	1.18	*	*	4.23	1.83	*	*	3.46	-1.52	6.28	2.46	1.53	-0.78	0.05	-2.11	*	*	*	*	*	*	*	*	*	*
WILLOW	1.34	*	0.11	*	2.97	*	5.14	*	7.72	*	2.67	*	0.95	*	3.07	*	2.01	*	1.05	*	0.50	*	1.15	*	28.68	*

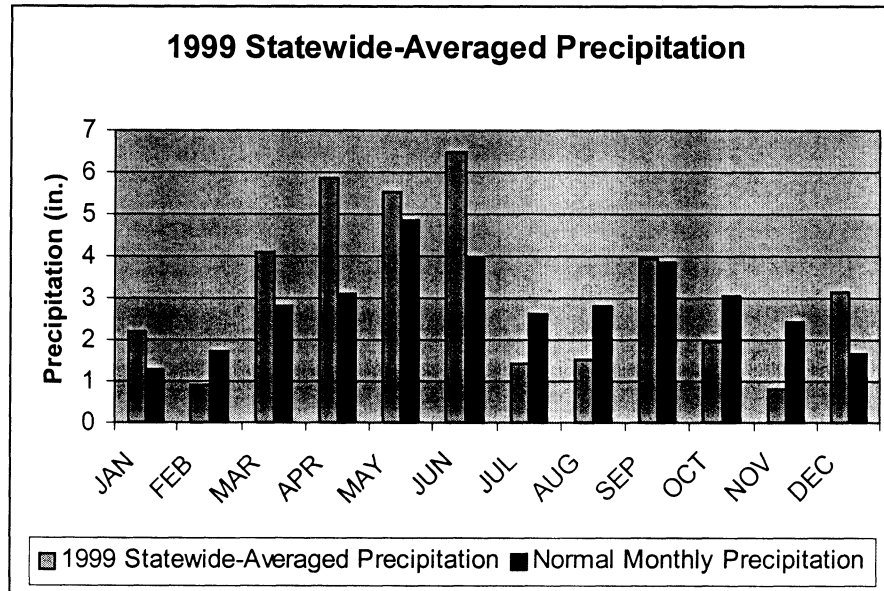
South Central

	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		ANN		
	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	
ADA	2.37	0.91	0.90	-1.25	5.84	2.58	6.74	3.25	6.26	0.64	8.73	4.63	0.35	-2.06	4.02	1.09	5.18	0.72	1.41	-2.83	0.86	-1.94	2.10	0.12	44.77	5.86	
ALLEN	2.39	*	0.98	*	6.80	*	10.02	*	6.55	*	5.49	*	0.25	*	1.82	*	6.70	*	2.10	*	0.75	*	1.40	*	45.25	*	
ARDMORE	*	*	0.18	-1.84	*	*	4.12	0.59	4.32	-0.66	2.32	-1.54	0.49	-1.64	1.67	-0.86	*	*	*	*	*	*	1.57	-0.28	*	*	
BOKCHITO	1.70	*	0.00	*	3.34	*	1.35	*	8.54	*	5.51	*	1.20	*	0.80	*	3.61	*	2.85	*	2.00	*	4.18	*	35.08	*	
CANEY	1.81	*	0.25	*	4.96	*	6.13	*	6.09	*	8.20	*	2.56	*	1.03	*	4.16	*	2.55	*	0.61	*	3.94	*	42.29	*	
CENTRAHOMA	2.00	*	0.60	*	*	*	6.50	*	6.90	*	7.17	*	*	*	3.15	*	4.45	*	1.20	*	*	*	*	*	*	*	
CHICKASAW NRA	*	*	*	*	6.61	3.17	*	*	4.68	-1.07	*	*	1.88	-0.79	1.88	-0.25	9.18	4.54	2.77	-1.75	0.59	-2.08	*	*	*	*	
COLEMAN	*	*	0.00	*	*	*	3.87	*	7.77	*	5.43	*	2.73	*	*	*	4.78	*	2.35	*	1.63	*	3.33	*	3.94	*	
COMANCHE	2.61	1.38	0.32	-1.42	5.65	3.02	7.76	4.78	4.22	-0.79	4.78	0.96	0.00	-1.95	0.68	-2.07	3.52	-0.96	2.95	-0.22	0.00	-2.08	1.45	-0.15	33.94	0.50	
DAISY	2.03	-0.29	0.99	-2.13	5.13	0.75	9.45	4.40	5.87	-1.04	4.67	0.41	1.11	-2.32	1.12	-2.08	4.84	-0.72	2.33	-2.18	1.76	-2.24	5.27	2.36	44.58	-5.08	
DUNCAN	2.48	1.29	0.57	-1.13	4.57	1.98	4.44	1.45	*	*	5.69	1.71	0.03	-2.22	0.46	-1.97	*	*	3.48	0.12	*	*	1.99	0.50	*	*	
ELMORE CITY	1.42	*	0.00	*	4.54	*	4.07	*	4.82	*	4.43	*	0.00	*	2.28	*	5.54	*	2.38	*	0.12	*	2.19	*	31.79	*	
GRADY	1.84	*	0.22	*	5.25	*	3.92	*	3.61	*	1.39	*	0.00	*	0.82	*	4.94	*	3.09	*	0.00	*	0.74	*	25.82	*	
HEALDTON	*	*	0.58	-1.25	5.07	2.16	3.90	0.46	*	*	*	*	0.04	-1.93	1.45	-0.99	*	*	2.77	-0.81	0.56	-1.70	*	*	*	*	
HENNEPIN	1.60	*	1.14	*	4.84	*	4.59	*	5.21	*	3.30	*	0.42	*	1.13	*	5.11	*	3.50	*	1.05	*	1.67	*	33.56	*	
KETCHUM RANCH	2.10	*	0.89	*	4.78	*	4.14	*	4.39	*	4.93	*	0.00	*	3.21	*	2.38	*	3.98	*	0.22	*	1.96	*	32.98	*	
KINGSTON	3.03	1.08	0.37	-2.26	3.45	-0.11	2.78	-1.10	6.69	1.40	3.52	-0.56	0.08	-2.03	0.98	-1.62	7.50	2.72	2.93	-1.34	0.80	-2.03	2.84	0.72	34.97	-5.13	
LEHIGH	1.61	*	0.40	*	5.06	*	4.68	*	5.46	*	5.46	*	0.65	*	1.65	*	5.50	*	1.95	*	1.65	*	3.10	*	37.16	*	
LINDSAY	2.25	0.98	1.31	-0.47	3.97	1.08	5.03	1.68	5.32	-0.12	3.02	-1.00	2.00	-0.06	0.79	-1.64	*	*	3.23	-0.42	0.00	-2.22	*	*	*	*	
LOCO	1.31	*	0.65	*	6.83	*	4.77	*	4.21	*	1.71	*	0.20	*	1.81	*	3.95	*	3.39	*	0.59	*	1.01	*	30.43	*	
MADILL	2.00	0.15	*	*	4.57	1.07	*	*	6.51	1.16	3.07	-1.44	0.16	-2.03	2.50	-0.08	5.85	1.03	2.06	-2.24	*	*	3.30	1.29	*	*	
MARIETTA	2.37	0.93	0.26	-1.90	3.80	0.49	3.42	-0.19	5.73	0.80	5.11	1.11	0.64	-1.47	0.37	-2.30	3.07	-1.12	3.33	-0.37	0.75	-1.85	1.85	0.00	30.70	-5.87	
MARLOW	3.21	2.14	0.78	-0.81	3.96	1.52	4.51	1.59	4.98	-0.17	5.16	0.98	0.32	-2.00	2.30	-0.30	2.37	-1.96	2.43	-1.15	0.47	-1.67	2.45	1.06	32.94	-0.77	
MCGEE CREEK	1.36	*	0.78	*	5.25	*	5.68	*	9.15	*	5.78	*	1.48	*	1.88	*	*	*	3.03	*	2.39	*	*	*	*	*	*
PAULS VALLEY	*	*	1.21	-0.64	4.01	1.09	4.70	1.25	5.08	-0.66	6.22	2.32	0.46	-1.80	2.70	0.50	5.98	1.93	2.91	-1.02	1.44	-1.09	2.08	0.28	*	*	
PONTOTOC	2.48	0.94	0.51	-1.62	6.51	2.86	4.85	1.03	7.50	1.81	3.63	-0.48	0.10	-2.44	1.53	-1.20	7.34	3.34	2.52	-1.69	0.86	-2.10	2.18	0.32	40.01	0.77	
TISHOMINGO	*	*	*	*	5.67	1.97	*	*	*	*	2.13	-2.47	*	*	*	*	6.27	1.36	4.58	0.21	0.81	-2.21	5.69	3.56	*	*	
TUSSY	1.19	*	1.05	*	4.73	*	4.93	*	4.72	*	3.14	*	0.00	*	3.43	*	3.90	*	4.15	*	0.00	*	2.12	*	33.36	*	
WAURIKA	2.65	1.55	0.05	-1.57	6.33	3.97	2.25	-0.69	3.27	-1.13	7.23	3.50	0.00	-1.81	1.23	-1.42	2.38	-1.53	3.73	0.77	0.00	-1.82	0.95	-0.60	30.08	-0.78	

1999 TOTAL PRECIPITATION AND DEPARTURES FROM NORMAL (INCHES)

Southeast

	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		ANN	
	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP	PCP	DEP
ANTLERS	1.66	-0.38	1.77	-0.94	4.94	1.15	2.83	-1.49	6.32	0.12	4.58	0.10	0.22	-3.05	0.12	-2.67	5.37	0.56	3.24	-1.34	1.60	-2.13	4.40	1.52	37.05	-8.55
BATTIEST	3.08	*	1.54	*	4.68	*	*	*	10.85	*	6.41	*	*	*	1.45	*	2.21	*	2.01	*	1.20	*	6.98	*	*	*
BENGAL	2.64	*	1.59	*	6.37	*	4.87	*	8.44	*	7.68	*	1.32	*	0.44	*	2.60	*	1.31	*	2.78	*	5.39	*	45.43	*
BOSWELL	1.71	-0.33	0.75	-2.31	4.35	0.57	4.17	0.27	6.12	0.45	6.40	2.29	0.22	-2.30	*	*	*	*	*	*	*	*	*	*	*	*
BROKEN BOW	2.52	-0.04	1.00	-2.50	4.58	-0.31	6.12	1.61	5.44	-0.88	3.75	-0.59	1.25	-2.28	0.15	-2.78	2.16	-2.38	2.33	-2.00	2.06	-2.18	4.65	0.67	36.01	-13.66
CARNASAW	4.48	1.66	1.27	-2.27	3.86	-1.40	5.54	0.65	4.73	-2.06	5.06	0.51	2.16	-1.85	1.45	-1.50	3.18	-1.41	3.83	-0.77	1.87	-2.61	4.73	0.62	42.17	-10.43
CARTER TWR	*	*	1.82	-1.75	4.86	0.00	7.75	3.07	8.08	1.26	9.80	5.53	0.90	-3.09	1.24	-2.41	2.00	-2.79	3.73	-1.33	1.14	-3.14	4.62	0.50	*	*
FANSHAW	3.86	1.68	1.57	-1.57	6.47	2.14	*	*	6.32	-0.31	7.24	3.01	0.76	-2.85	1.89	-1.17	3.93	-0.75	*	*	1.65	-2.86	6.01	2.80	*	*
HEAVENER	*	*	1.62	-1.32	6.00	1.92	3.89	-0.58	8.27	1.77	8.11	4.04	1.51	-1.93	1.35	-1.99	2.81	-1.76	2.36	-1.71	1.85	-2.44	4.82	1.33	*	*
HUGO	2.67	0.51	1.02	-2.31	2.05	-2.14	4.48	0.31	*	*	6.40	1.65	0.44	-2.35	*	*	*	*	*	*	*	*	*	*	*	*
IDABEL	3.65	0.93	0.88	-2.65	3.45	-1.40	3.29	-1.13	3.45	-2.45	3.97	-0.32	*	*	0.33	-2.23	3.14	-1.05	2.15	-2.32	2.80	-1.30	4.51	0.83	*	*
POTEAU	2.01	*	1.58	*	6.77	*	4.11	*	9.51	*	9.58	*	1.78	*	1.20	*	1.94	*	1.86	*	1.44	*	4.77	*	46.57	*
SPIRO	2.25	0.17	1.49	-1.39	6.08	1.77	6.90	2.54	8.36	2.64	8.05	4.52	3.82	0.58	0.09	-2.24	6.49	2.45	1.09	-2.73	2.04	-2.38	4.75	1.69	51.41	7.62
TUSKAHOMA	3.10	1.08	1.53	-1.41	5.81	1.68	5.05	0.33	4.84	-1.86	7.71	2.93	2.67	-1.04	1.19	-2.11	3.38	-1.80	2.18	-2.03	2.05	-2.08	4.75	1.93	44.27	-4.38
VALLIANT	3.34	1.03	0.77	-2.70	4.14	-0.32	3.71	-0.63	4.42	-1.76	3.76	-0.23	1.55	-1.91	2.03	-0.43	2.57	-2.40	1.38	-2.62	1.37	-2.79	3.75	0.04	32.80	-14.72
WILBURTON	1.91	-0.33	1.56	-1.47	6.42	2.25	8.23	3.53	10.20	4.11	8.70	4.58	0.19	-3.57	0.52	-2.58	2.98	-1.91	2.47	-1.84	1.46	-2.83	4.60	1.61	49.24	1.55
WISTER	2.10	*	1.50	*	5.88	*	3.29	*	8.08	*	5.47	*	2.02	*	*	*	2.45	*	1.81	*	1.41	*	4.86	*	*	*



1999 AVERAGE TEMPERATURES AND DEPARTURES FROM NORMAL (FARENHEIT)

Panhandle

	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		ANNUAL	
	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP
ARNETT	36.1	3.6	45.8	8.7	43.8	-2.0	55.0	-2.1	64.3	-1.4	72.2	-2.5	79.5	-0.9	80.4	1.8	66.5	-3.5	58.6	-0.2	53.0	7.3	37.8	2.4	57.8	0.9
BEAVER	34.8	3.2	*	*	42.5	-2.1	53.6	-2.2	63.2	-1.7	71.6	-3.3	80.8	0.1	80.7	2.1	66.7	-3.0	56.1	-1.5	50.2	6.0	37.6	3.6	*	*
BOISE CITY	39.3	5.1	45.0	7.0	45.6	0.3	52.9	-2.3	61.4	-1.9	71.0	-2.1	78.1	0.2	76.8	1.3	65.1	-2.7	56.7	-0.5	50.3	5.6	38.5	2.8	56.8	1.0
BUFFALO	40.0	5.4	49.5	9.5	47.7	-1.3	58.0	-1.7	68.3	0.1	75.1	-2.4	84.4	1.2	83.9	2.6	70.1	-2.8	60.9	-0.7	54.0	6.9	40.7	3.6	61.1	1.7
GAGE	36.7	2.4	46.8	7.9	45.2	-2.8	*	*	66.2	-1.0	*	*	82.4	0.5	81.8	1.7	68.5	-3.1	59.2	-1.2	*	*	*	*	*	*
GATE	35.5	3.1	*	*	43.9	-1.9	54.9	-2.3	65.3	-1.0	71.9	-4.4	81.9	0.1	*	*	68.2	-3.0	58.7	-0.6	*	*	39.5	4.5	*	*
GOODWELL	*	*	43.9	7.8	44.5	0.6	54.0	-0.5	62.6	-0.6	*	*	*	*	*	*	68.3	0.2	57.1	0.3	51.3	7.5	38.8	4.9	*	*
GUYMON	36.9	*	*	*	44.8	*	54.3	*	62.0	*	72.4	*	80.9	*	81.0	*	*	*	57.0	*	52.0	*	*	*	*	*
HOOVER	38.3	5.4	46.3	8.6	45.0	-0.9	55.0	-1.4	65.2	0.1	73.7	-1.2	81.5	1.5	80.9	3.2	69.0	-0.5	58.9	0.7	51.9	7.3	40.3	5.3	58.9	2.3

North Central

	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		ANNUAL	
	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP
ALVA	34.9	*	46.2	*	46.0	*	57.7	*	*	*	74.6	*	83.6	*	82.0	*	69.9	*	60.0	*	54.2	*	39.2	*	*	*
BILLINGS	35.6	2.8	*	*	45.2	-2.6	57.6	-0.5	65.5	-2.1	74.2	-2.9	81.9	-1.4	82.3	1.3	69.2	-3.2	59.5	-1.4	54.7	7.3	40.0	4.0	*	*
BLACKWELL 2E	35.0	2.1	46.5	8.3	45.5	-2.6	58.0	-0.7	*	*	73.7	-3.5	*	*	81.5	0.4	68.1	-4.7	59.8	-1.4	54.8	7.2	40.1	3.6	*	*
CHEROKEE	34.3	-0.2	*	*	*	*	56.4	-3.7	66.5	-2.5	74.0	-4.7	83.1	-1.0	82.6	0.4	*	*	*	*	*	*	38.7	1.4	*	*
ENID	34.7	-0.4	46.3	6.2	45.5	-4.4	57.8	-2.7	66.8	-2.3	75.6	-2.5	*	*	83.4	1.7	70.5	-2.9	61.2	-1.2	56.3	7.7	41.5	3.5	*	*
FT SUPPLY	35.7	3.5	*	*	44.2	-1.8	55.7	-1.5	66.4	0.5	*	*	81.2	0.5	81.1	2.0	66.6	-3.8	57.4	-1.5	51.3	5.8	36.7	2.0	*	*
FREEDOM	34.7	0.7	46.0	6.7	45.3	-3.4	*	*	66.8	-1.8	73.8	-3.8	*	*	81.2	0.1	*	*	58.8	-2.2	51.1	4.1	37.6	1.2	*	*
GRT SALT PLNS	35.0	3.0	*	*	46.2	-0.8	58.0	-0.4	67.9	0.1	74.9	-2.4	83.4	0.4	83.5	2.6	69.4	-2.7	60.8	0.2	54.8	8.0	40.4	4.8	*	*
HELENA	34.9	3.1	45.1	8.4	44.9	-1.4	56.8	-0.3	66.4	-0.1	75.1	-1.3	82.6	0.7	82.3	2.0	69.2	-2.3	59.8	0.0	53.7	7.7	39.2	4.1	59.2	1.7
JEFFERSON	37.5	3.4	49.4	10.2	47.5	-1.6	60.0	0.3	68.4	-0.3	75.4	-3.0	83.9	0.4	84.0	2.3	69.8	-3.5	61.0	-1.0	55.1	7.1	41.5	4.5	61.2	1.5
MUTUAL	36.0	3.5	45.5	8.1	44.1	-2.1	55.4	-1.7	64.9	-1.1	73.8	-2.1	82.5	0.7	82.4	2.4	68.6	-2.6	59.2	-0.2	53.3	7.0	39.3	3.8	58.8	1.3
NEWKIRK	33.8	0.6	45.3	6.8	44.0	-4.8	56.7	-2.9	64.8	-3.3	72.9	-4.1	82.3	-0.2	81.3	0.4	68.1	-4.6	59.7	-1.9	54.6	6.6	39.5	2.9	58.6	-0.4
PERRY	38.3	2.5	*	*	47.5	-3.0	60.6	-0.8	69.1	-0.1	76.1	-1.6	83.9	1.2	84.5	2.8	71.4	-2.2	62.5	-0.3	57.6	8.0	42.4	3.6	*	*
PONCA CITY	38.3	5.9	*	*	48.7	0.8	60.8	1.7	68.7	0.9	75.9	-1.1	84.8	2.3	83.8	3.0	69.9	-2.2	62.0	1.3	56.6	9.3	41.6	5.8	*	*

Northeast

	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		ANNUAL	
	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP
BARNSDALL	37.8	3.2	48.6	8.6	48.0	-2.1	61.3	0.2	67.1	-1.5	74.9	-1.9	82.6	0.4	83.3	2.6	69.3	-3.5	60.6	-0.8	56.9	7.8	42.1	4.0	61.1	1.4
BARTLESVILLE	37.8	3.1	49.0	9.0	47.5	-2.7	61.5	0.2	67.4	-1.3	75.3	-1.5	83.2	1.1	82.2	1.7	69.2	-3.6	60.6	-1.0	56.1	6.9	41.8	3.7	61.0	1.2
BIXBY	*	*	*	*	*	*	*	*	66.9	-0.7	75.3	-0.6	*	*	83.9	4.6	70.1	-1.4	61.2	0.7	56.3	7.9	42.9	4.7	*	*
CLAREMORE	36.7	3.6	47.4	9.2	46.7	-1.3	58.6	-0.4	65.3	-1.7	74.3	-1.3	81.1	-0.1	82.0	2.3	69.3	-2.7	59.9	-0.5	*	*	*	*	*	*
MANNFORD	40.1	4.6	49.9	9.0	49.7	-1.2	61.5	-0.5	*	*	74.3	-2.3	*	*	84.3	3.5	69.0	-3.6	61.8	-0.3	58.7	8.8	44.2	5.3	*	*
NOWATA	39.5	5.0	*	*	*	*	61.0	0.7	*	*	74.9	-1.5	*	*	82.7	2.2	70.4	-2.0	61.7	0.4	58.3	9.0	*	*	*	*
PAWHUSKA	38.3	4.2	49.0	9.5	48.1	-1.5	61.2	0.6	66.7	-1.3	74.6	-1.6	82.4	0.8	82.6	2.4	69.6	-2.7	61.0	-0.2	56.6	8.0	42.4	4.8	61.1	1.9
PRYOR	37.2	4.2	*	*	*	*	59.5	0.7	65.9	-1.1	74.7	-0.6	81.6	0.9	82.2	3.0	69.5	-1.7	60.7	0.7	*	*	*	*	*	*
RALSTON	38.5	3.8	50.6	10.6	48.9	-1.1	*	*	*	*	*	*	81.6	-0.3	81.0	0.5	67.8	-5.0	59.4	-2.2	54.1	5.0	41.3	3.4	*	*
SPAVINAW	41.7	5.2	51.4	10.1	50.6	-0.6	62.8	1.2	68.7	0.0	76.1	-0.5	83.3	1.3	*	*	71.8	-1.9	64.2	1.1	60.3	9.0	45.9	5.5	*	*
TULSA	39.0	3.8	50.0	9.7	48.8	-1.8	61.5	0.0	68.0	-1.3	75.4	-2.3	84.4	1.1	84.5	3.0	69.8	-3.5	62.3	0.1	57.6	7.7	43.4	4.5	62.1	1.7
UPPER SPAVNAW	*	*	50.5	*	49.2	*	62.2	*	68.7	*	77.1	*	84.3	*	82.0	*	69.8	*	61.2	*	*	*	44.5	*	*	*
WAGONER	41.9	5.1	50.7	8.9	49.7	-2.0	62.9	1.1	69.1	0.1	76.2	-0.5	83.6	1.7	84.2	3.3	*	*	62.8	-0.1	58.8	7.8	45.1	4.5	*	*

1999 AVERAGE TEMPERATURES AND DEPARTURES FROM NORMAL (FARENHEIT)

West Central

	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		ANNUAL	
	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP
CANTON DAM	36.4	3.2	*	*	45.9	-1.5	*	*	67.3	-0.1	75.2	-1.2	83.3	1.2	82.0	1.8	68.9	-3.0	60.4	0.0	54.0	7.0	40.5	4.3	*	*
CLINTON	39.0	2.4	*	*	*	*	*	*	*	*	74.7	-3.6	83.0	-0.8	83.6	1.2	70.5	-3.4	60.9	-1.6	53.8	4.3	41.4	2.1	*	*
CORDELL	38.2	1.6	47.1	5.7	47.0	-3.6	58.8	-2.0	67.3	-1.8	75.9	-2.0	83.0	-0.2	84.0	2.5	70.9	-2.5	61.7	-0.7	54.8	5.6	41.9	2.8	61.0	0.4
ELK CITY	38.0	1.8	48.2	7.1	47.1	-2.9	57.9	-2.4	66.8	-1.8	74.2	-2.8	81.1	-0.8	83.0	2.9	69.6	-2.6	61.0	-0.5	55.2	6.6	41.9	3.2	60.4	0.6
ERICK	38.9	2.3	*	*	48.0	-2.2	58.8	-1.4	66.5	-1.8	75.2	-1.5	81.7	0.0	82.2	2.1	69.8	-2.6	60.6	-0.9	54.7	5.8	41.3	2.3	*	*
HAMMON	37.0	3.5	*	*	45.9	-1.5	*	*	65.4	-1.5	*	*	81.3	-0.7	81.6	1.7	68.1	-3.2	58.8	-0.7	52.0	5.5	*	*	*	*
OKEENE	39.6	3.4	49.0	7.8	48.6	-1.9	*	*	*	*	75.7	-2.6	84.5	1.0	84.1	2.2	71.7	-2.0	63.5	0.7	56.0	6.7	42.3	3.4	*	*
TALOGA	33.9	-0.9	45.6	5.8	45.1	-3.8	57.3	-1.8	67.1	-0.5	74.4	-2.4	82.7	0.7	82.1	1.8	68.8	-3.3	59.0	-1.7	52.9	5.5	39.4	2.1	59.1	0.1
WATONGA	39.8	4.4	49.9	9.6	48.3	-1.3	60.3	0.3	68.3	-0.1	75.5	-1.7	83.6	1.2	84.3	3.4	71.3	-1.3	62.8	1.1	56.1	7.7	42.6	4.5	62.0	2.3
WEATHERFORD	38.3	4.0	47.5	8.6	46.7	-1.3	*	*	67.8	-0.5	75.0	-2.1	83.2	1.1	84.1	3.6	69.7	-2.4	61.1	0.4	*	*	41.1	4.0	*	*

Central

	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		ANNUAL	
	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP
BLANCHARD	42.9	4.6	51.2	8.2	50.7	-1.8	62.6	0.4	69.2	-0.4	76.2	-0.9	82.7	0.1	85.0	3.2	72.7	-1.3	64.7	1.3	59.3	8.0	45.2	3.9	63.6	2.1
BRISTOW	41.9	5.1	51.9	9.9	51.2	-0.5	62.6	0.4	67.7	-1.5	*	*	81.9	-0.1	84.3	3.4	*	*	62.7	-0.3	58.6	8.1	44.9	4.8	*	*
CHANDLER	*	*	49.8	7.8	48.4	-3.3	*	*	66.7	-2.5	*	*	*	*	*	*	70.0	-3.3	61.8	-1.0	57.5	6.6	*	*	*	*
CHICKASHA	42.5	5.2	51.1	8.5	50.7	-1.5	63.6	1.1	70.3	-0.1	77.4	-1.0	84.1	1.2	85.9	4.8	74.0	0.4	64.6	1.6	57.5	6.7	45.7	5.2	64.0	2.6
CUSHING	38.4	4.2	48.9	9.8	47.4	-1.4	60.2	0.1	67.1	-0.9	74.0	-2.3	82.4	0.5	84.7	4.0	*	*	61.7	0.1	58.3	9.0	*	*	*	*
EL RENO	38.5	2.8	48.6	7.8	47.8	-2.5	60.1	-0.5	68.5	-0.2	76.2	-0.8	83.5	1.2	83.8	2.9	70.6	-2.2	62.1	0.0	55.9	7.0	42.8	4.0	61.6	1.6
GUTHRIE	38.8	2.5	*	*	47.4	-3.9	*	*	67.1	-2.6	74.3	-3.6	81.5	-1.8	84.9	2.7	*	*	*	*	*	*	*	*	*	*
HENNESSEY	37.8	2.7	48.2	8.0	47.0	-2.8	58.7	-1.5	*	*	73.7	-4.1	82.1	-1.2	82.7	1.1	69.0	-4.2	*	*	*	*	*	*	*	*
KINGFISHER	37.3	1.3	*	*	47.0	-3.9	58.7	-2.4	67.8	-1.6	75.1	-3.0	82.4	-1.0	84.5	2.6	71.1	-2.8	62.4	-0.4	56.3	6.7	42.7	3.6	*	*
MEEKER	37.3	0.6	47.7	5.8	*	*	59.3	-2.3	65.7	-3.3	73.1	-3.6	79.1	-2.8	81.1	-0.2	*	*	59.1	-3.6	55.0	4.6	*	*	*	*
NORMAN NWS	40.1	2.3	50.3	7.5	49.2	-3.2	61.0	-1.5	67.4	-2.3	74.9	-2.3	82.2	0.0	84.3	3.1	70.2	-3.8	62.1	-1.2	56.8	5.7	43.4	2.4	61.9	0.5
OKEMAH	44.1	6.6	53.2	10.7	52.0	0.0	64.2	2.3	70.5	1.5	77.3	0.6	83.8	2.2	85.8	4.9	72.3	-1.0	65.1	2.0	60.0	8.8	46.6	5.8	64.6	3.7
OKLAHOMA CITY	40.5	4.6	50.7	9.8	49.8	-0.5	61.3	0.9	68.0	-0.4	75.7	-1.0	82.2	0.2	84.7	3.6	71.0	-2.0	62.7	0.7	56.8	7.2	43.2	3.9	62.3	2.2
SEMINOLE	39.1	0.3	50.6	6.5	48.7	-4.7	61.0	-2.6	67.9	-2.7	76.0	-2.3	82.9	-0.5	84.2	1.6	70.7	-4.1	*	*	*	*	43.7	1.7	*	*
STILLWATER	*	*	48.6	10.0	47.3	-0.9	60.3	-1.0	67.9	0.2	75.4	-0.8	*	*	84.0	3.7	70.1	-2.0	61.3	0.8	56.0	7.5	42.9	5.5	*	*
TROUSDALE	39.9	*	49.7	*	48.7	*	60.6	*	67.4	*	75.7	*	82.0	*	83.0	*	*	*	*	60.9	*	57.1	*	*	*	*

East Central

	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		ANNUAL	
	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP
EUFAULA	*	*	53.1	9.5	52.2	-1.2	63.8	0.5	70.0	-0.4	77.4	-0.6	85.5	2.2	86.9	4.7	73.3	-1.4	66.3	1.7	60.7	8.0	46.4	3.5	*	*
HANNA	42.2	4.2	51.5	8.4	50.9	-1.8	62.3	-0.1	67.9	-1.6	76.0	-1.2	82.0	0.2	83.7	2.7	71.0	-2.6	62.5	-0.5	57.8	6.1	48.5	7.0	63.1	1.7
LAKE EUFAULA	39.6	*	*	*	49.0	*	60.7	*	*	*	74.1	*	*	*	83.6	*	*	*	*	*	58.4	*	44.3	*	*	*
MCALLESTER	43.2	5.6	52.4	9.9	51.0	-1.2	62.3	0.4	68.7	-0.4	76.8	-0.4	82.8	0.9	84.4	3.1	71.6	-2.1	64.1	1.0	58.9	7.1	45.9	4.7	63.6	2.3
MCCURTAIN	43.9	4.6	52.6	8.6	51.6	-1.9	63.2	0.2	69.3	-0.4	76.4	-1.0	83.3	0.9	84.9	3.5	72.1	-1.9	65.4	1.7	59.7	7.0	46.4	3.9	64.1	2.1
MUSKOGEE	41.3	4.0	50.4	8.3	49.7	-2.3	61.8	-0.2	67.8	-1.3	*	*	81.8	-0.4	83.7	2.6	70.5	-3.0	62.8	0.2	57.6	6.7	43.6	3.0	*	*
OKMULGEE	40.2	5.4	51.4	11.3	49.5	-0.1	*	*	*	*	*	*	*	*	*	*	68.8	-3.1	61.3	-0.4	56.8	7.3	*	*	*	
SALLISAW	41.1	3.2	50.3	7.2	50.0	-2.3	62.0	-0.3	68.1	-1.3	76.1	-1.0	81.8	0.0	84.0	3.0	72.0	-1.8	64.0	0.8	58.3	6.7	43.9	2.6	62.7	1.4
STILWELL	38.6	2.2	*	*	48.0	-2.5	59.8	-0.5	64.6	-2.8	73.6	-1.4	79.4	-0.5	80.6	1.8	69.5	-2.2	62.5	1.2	57.5	7.5	42.6	2.6	*	*
TAHLEQUAH	41.6	5.3	*	*	48.5	-2.6	61.4	0.3	66.6	-1.4	73.9	-1.7	79.8	-0.7	82.3	2.5	69.6	-2.9	63.0	1.2	57.5	7.3	44.2	4.5	*	*
WEBBERS FALLS	39.8	4.5	*	*	*	*	60.8	0.5	67.0	-1.5	*	*	*	*	84.9	4.7	72.1	-0.7	*	*	57.4	7.2	*	*	*	*

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1999 AVERAGE TEMPERATURES AND DEPARTURES FROM NORMAL (FARENHEIT)

Southwest

	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		ANNUAL	
	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP
ALTUS	40.5	1.0	49.9	5.6	49.5	-4.0	*	*	69.3	-2.3	77.9	-2.0	84.2	-0.3	85.9	3.1	73.1	-2.0	62.1	-2.5	56.2	4.1	43.1	1.3	*	*
ALTUS DAM	40.5	4.1	50.0	8.5	49.6	-1.2	62.0	0.5	69.4	-0.7	77.9	-1.0	85.8	1.6	88.0	5.5	74.3	0.3	63.4	0.9	57.1	7.5	43.7	4.0	63.5	2.5
ANADARKO	36.9	0.5	47.4	5.4	47.2	-4.2	57.7	-3.8	66.5	-3.2	75.3	-2.2	*	*	82.8	1.4	69.6	-4.1	60.0	-2.4	54.0	4.1	41.1	1.5	*	*
HOBART	39.6	2.6	48.5	6.6	*	*	*	*	*	*	77.4	-1.2	85.0	1.3	86.1	4.1	72.4	-1.5	63.6	0.7	*	*	*	*	*	*
HOLLIS	42.1	3.6	*	*	50.4	-2.5	61.7	-1.2	69.8	-1.4	78.0	-1.6	84.4	0.2	86.1	3.8	72.9	-1.6	63.2	-0.1	56.2	5.6	43.1	2.3	*	*
LAWTON	40.6	3.8	49.9	8.0	51.0	-0.3	*	*	69.6	-0.4	77.7	-0.6	84.1	0.6	87.5	5.2	73.7	-0.3	64.2	1.6	56.8	6.3	44.0	4.1	*	*
MANGUM	39.6	1.4	49.0	5.5	*	*	62.2	-0.7	68.5	-2.9	76.7	-2.8	82.8	-1.4	84.9	2.3	*	*	*	*	55.4	4.6	43.5	2.7	*	*
WALTERS	*	*	50.0	5.3	51.2	-2.8	62.0	-1.5	69.1	-2.4	77.7	-1.6	84.6	0.5	87.8	4.6	74.4	-1.1	64.0	-0.6	56.0	3.6	*	*	*	*
WICHITA MTNS	40.3	4.7	*	*	48.5	-1.1	*	*	66.9	-1.3	74.2	-2.5	80.6	-1.6	84.7	3.9	70.7	-1.7	*	*	*	*	43.7	5.2	*	*

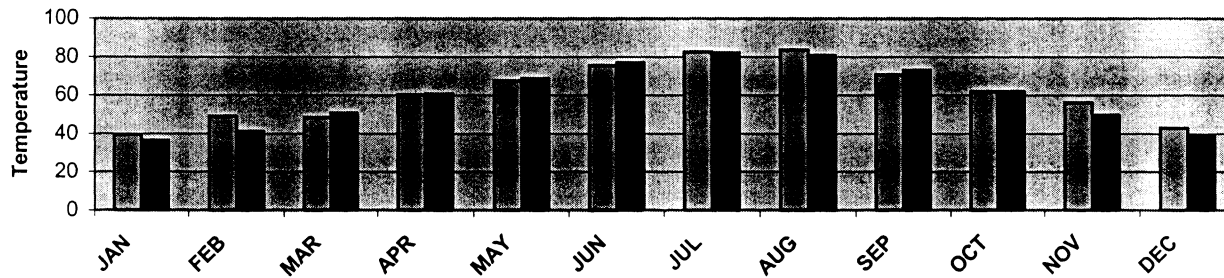
South Central

	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		ANNUAL	
	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP
ADA	41.6	2.6	50.8	7.1	50.6	-2.3	62.0	-0.4	68.9	-0.7	75.6	-1.3	82.6	0.4	83.8	2.5	71.1	-2.7	63.3	-0.3	58.7	6.6	44.2	2.0	62.8	1.1
ARDMORE	42.9	1.2	53.6	7.1	52.0	-3.5	64.1	-0.7	70.6	-1.4	78.5	-0.8	84.9	0.9	87.2	3.8	*	*	*	*	60.6	6.1	47.9	3.2	*	*
CENTRAHOMA	41.4	*	51.3	*	*	*	62.8	*	68.0	*	76.3	*	*	*	83.4	*	71.9	*	63.7	*	*	*	45.4	*	*	*
CHICKASAW NRA	*	*	*	*	49.9	-1.4	*	*	67.7	-1.3	76.2	-0.7	81.9	-0.2	84.0	2.4	71.0	-2.6	61.8	-0.6	57.6	7.0	43.0	2.2	*	*
COMANCHE	43.4	*	53.0	*	51.3	*	63.3	*	69.7	*	76.9	*	83.4	*	86.2	*	73.3	*	65.4	*	58.9	*	46.7	*	64.3	*
DUNCAN	40.6	3.1	50.5	7.8	50.9	-0.9	62.4	-0.1	68.7	-1.3	76.6	-1.3	82.6	-0.5	86.0	3.9	73.3	-0.9	63.6	0.4	*	*	44.7	3.4	*	*
HEALDTON	41.7	2.3	50.9	6.5	50.5	-3.3	62.7	-0.5	68.9	-1.5	*	*	83.0	0.1	85.4	3.2	*	*	*	*	57.5	5.2	44.8	2.5	*	*
LINDSAY	39.5	1.3	49.1	5.8	48.9	-3.8	59.8	-2.6	67.8	-2.2	76.3	-1.2	82.6	-0.1	84.0	2.4	70.6	-3.0	61.8	-1.6	55.5	4.3	*	*	*	*
MADILL	43.0	2.6	*	*	52.3	-2.1	65.1	1.5	70.6	-0.3	79.1	0.7	85.0	1.7	86.2	3.4	73.8	-1.6	64.6	-0.4	59.3	5.5	46.8	3.0	*	*
MARIETTA	42.9	2.2	50.8	5.2	51.0	-3.6	62.1	-1.5	68.5	-2.2	77.7	-0.4	82.4	-0.8	85.0	2.4	73.8	-1.6	65.0	-0.2	58.0	4.4	47.1	3.3	63.8	0.6
MARLOW	43.7	5.3	52.1	8.6	52.4	-0.6	63.0	0.8	69.3	-0.2	77.3	0.2	85.0	2.7	87.0	5.6	73.7	0.0	65.6	2.2	58.4	6.9	44.3	2.8	64.4	2.8
MCGEE CREEK	43.6	*	52.1	*	52.5	*	63.6	*	69.7	*	77.5	*	82.7	*	85.5	*	*	*	64.2	*	58.6	*	*	*	*	*
PAULS VALLEY	*	*	*	*	49.3	-4.1	60.5	-2.7	67.3	-3.3	75.6	-2.8	82.2	-1.1	83.9	1.5	71.3	-3.3	61.4	-2.6	56.0	3.9	42.6	0.8	*	*
WAURIKA	43.8	3.3	52.4	7.0	53.4	-1.4	64.5	0.4	71.7	0.0	79.6	0.3	86.0	1.7	88.6	5.3	76.3	0.6	66.3	1.2	59.3	6.2	46.8	3.4	65.8	2.3

Southeast

	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		ANNUAL	
	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP	TEMP	DEP
ANTLERS	45.0	4.8	52.8	8.0	*	*	64.0	1.1	69.6	-0.1	76.4	-0.8	84.4	0.4	84.4	3.2	73.2	-0.9	63.0	-0.3	57.7	4.7	45.9	2.8	*	*
BATTIEST	41.6	*	48.4	*	49.1	*	60.4	*	*	*	75.8	*	80.4	*	82.1	*	72.8	*	63.5	*	57.7	*	48.1	*	*	*
BOSWELL	43.9	3.5	50.8	5.6	51.2	-3.0	64.3	1.5	69.0	-0.9	77.6	0.2	82.0	0.1	*	*	*	*	*	*	*	*	*	*	*	*
IDABEL	43.3	3.4	50.7	6.3	51.5	-1.9	*	*	69.7	0.0	77.9	0.9	*	*	86.0	5.5	73.2	-0.7	64.6	1.2	60.0	7.5	*	*	*	*
POTEAU	41.6	*	49.7	*	49.5	*	62.9	*	68.2	*	77.3	*	82.8	*	83.4	*	71.7	*	62.7	*	57.0	*	44.8	*	62.7	*
TUSKAHOMA	45.1	4.8	53.5	8.6	52.2	-1.8	64.3	1.4	69.7	0.0	77.6	0.5	82.8	1.1	84.6	3.5	73.7	-0.5	65.0	1.2	59.1	6.2	46.6	3.4	64.6	2.3
WILBURTON	42.9	4.5	51.9	8.7	50.6	-2.1	63.0	1.0	68.4	-0.5	76.5	0.2	81.9	0.7	84.2	3.8	72.1	-0.8	63.6	1.3	57.0	5.7	45.4	3.6	63.2	2.1
WISTER	41.2	*	50.0	*	48.7	*	62.3	*	67.7	*	*	*	*	*	*	*	74.9	*	64.9	*	56.8	*	44.4	*	*	*

1999 Statewide-Averaged Mean Monthly Temperature



■ 1999 Mean Monthly Temperatures ■ Normal Monthly Temperatures

1999 MONTHLY AND ANNUAL HEATING DEGREE DAYS (BASE = 65) AND DEPARTURES FROM NORMAL

	Southwest																
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN				
ALTUS	HDD 754	HDD 423	HDD 480	HDD 110	HDD 24	HDD 0	HDD 0	HDD 0	HDD 20	HDD 14	HDD 135	HDD 35	HDD 266	HDD 678	HDD -41	HDD 2888	HDD -670
ALTUS DAM	DEP -57	DEP -158	DEP 478	DEP 29	DEP 14	DEP 0	DEP 0	DEP 0	DEP 0	DEP 58	DEP 186	DEP 57	DEP 332	DEP -122	DEP -47	DEP *	DEP *
ANADARKO	HDD 842	HDD 493	HDD 551	HDD 226	HDD 60	HDD 0	HDD 0	HDD 0	HDD 33	HDD 23	HDD 106	HDD -22	HDD *	HDD 680	HDD -70	HDD *	HDD *
HOBART	DEP -106	DEP -185	DEP *	DEP *	DEP *	DEP 0	DEP 0	DEP 0	DEP 28	DEP 21	DEP 110	DEP -8	DEP 255	DEP -178	DEP -125	DEP *	DEP *
HOLLIS	HDD 711	HDD *	HDD 453	HDD 157	HDD 32	HDD 15	HDD 0	HDD 0	HDD 29	HDD 21	HDD 93	HDD -38	HDD 248	HDD -184	HDD 653	HDD -125	HDD *
LAMTON	DEP -119	DEP -224	DEP 421	DEP -13	DEP 20	DEP 5	DEP 0	DEP 0	DEP 0	DEP 0	DEP 0	DEP -38	DEP 280	DEP -147	DEP 667	DEP -83	DEP *
MANGUM	HDD 756	HDD 449	HDD *	HDD 132	HDD 44	HDD 0	HDD 0	HDD 0	HDD *	HDD 24	HDD 102	HDD -2	HDD 270	HDD -114	HDD *	HDD *	HDD *
WALTERS	DEP -43	DEP -153	DEP *	DEP 19	DEP 18	DEP 0	DEP 0	DEP 0	DEP *	DEP 15	DEP 50	DEP *	DEP *	DEP -114	DEP *	DEP *	DEP *
WICHITA MTNS	HDD 766	HDD 420	HDD 513	HDD 140	HDD 52	HDD 6	HDD 6	HDD 0	HDD 50	HDD 37	HDD *	DEP *	DEP *	HDD 638	HDD -184	DEP *	DEP *

	South Central																
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN				
ADA	HDD 726	HDD 398	HDD 446	HDD 120	HDD 17	HDD 0	HDD 0	HDD 0	HDD 30	HDD 22	HDD 106	HDD -23	HDD 209	HDD 646	HDD -61	HDD 2696	HDD -487
ARMORE	DEP -81	DEP -198	DEP 391	DEP 71	DEP 6	DEP 0	DEP 0	DEP 0	DEP 35	DEP 22	DEP 108	DEP *	DEP 159	DEP -164	DEP -117	DEP *	DEP *
CENTRAHOMA	HDD 664	HDD 326	HDD 387	HDD 100	HDD 23	HDD 0	HDD 0	HDD 0	HDD 43	HDD 29	HDD 137	HDD 9	HDD 227	HDD -206	HDD -90	HDD *	HDD *
CHICKASAW NRA	DEP *	DEP *	DEP *	DEP 17	DEP 18	DEP 0	DEP 0	DEP 0	DEP 21	DEP 21	HDD 75	HDD -9	HDD 190	HDD *	HDD -125	HDD 2382	HDD *
COMANCHE	HDD 671	HDD 338	HDD 453	HDD 99	HDD 16	HDD 0	HDD 0	HDD 0	HDD 30	HDD 21	HDD 113	HDD *	HDD *	HDD 230	HDD -99	HDD *	HDD *
DUNCAN	DEP -97	DEP -217	DEP 426	DEP 16	DEP 18	DEP 0	DEP 0	DEP 0	HDD 49	HDD 35	HDD 149	HDD 39	HDD 285	HDD -126	HDD *	HDD *	HDD *
HEADTON	HDD 701	HDD 394	HDD 444	HDD 187	HDD 11	HDD 0	HDD 0	HDD 0	HDD 21	HDD 13	HDD 98	HDD 9	HDD 187	HDD -156	HDD -90	HDD *	HDD *
LINDSAY	DEP -94	DEP -183	DEP 449	DEP 83	DEP 20	DEP 0	DEP 0	DEP 0	HDD 27	HDD 27	HDD 88	HDD 4	HDD 218	HDD -131	HDD -102	HDD 2575	HDD -275
MADILL	HDD 681	HDD -83	HDD 382	HDD 75	HDD 38	HDD 0	HDD 0	HDD 0	HDD 29	HDD 21	HDD 87	HDD -30	HDD 211	HDD -194	HDD 641	HDD -88	HDD 2531
MARIETTA	DEP -67	DEP -142	DEP 436	DEP 94	DEP 31	DEP 0	DEP 0	DEP 0	HDD 49	HDD 35	HDD 149	HDD 39	HDD 285	HDD -126	HDD *	HDD *	HDD *
MARLOW	HDD 686	HDD 402	HDD 487	HDD 133	HDD 51	HDD 0	HDD 0	HDD 0	HDD 29	HDD 27	HDD 88	HDD -30	HDD 211	HDD -194	HDD 641	HDD -88	HDD 2531
MCGEE CREEK	DEP -165	DEP -257	DEP 387	DEP 6	DEP 13	DEP 0	DEP 0	DEP 0	HDD 27	HDD 17	HDD 106	HDD 50	HDD 207	HDD *	HDD *	HDD *	HDD *
PAULS VALLEY	HDD 663	HDD 368	HDD 487	HDD 93	HDD 13	DEP 0	DEP 0	DEP 0	HDD 45	HDD 36	HDD 150	HDD -17	HDD 275	HDD -118	HDD 694	HDD -25	HDD *
WAURIKA	DEP -104	DEP -196	DEP 360	DEP 113	DEP 21	DEP 0	DEP 0	DEP 0	HDD 15	HDD 15	HDD 69	DEP -17	HDD 182	HDD -181	HDD 567	HDD -103	HDD 2301

	Southeast																
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN				
ANTLEERS	HDD 620	HDD 348	HDD *	HDD 78	HDD 15	HDD 0	HDD 0	HDD 0	HDD 20	HDD 10	HDD 120	HDD -1	HDD 225	HDD -142	HDD 593	HDD -85	HDD *
BATTEST	DEP -150	DEP -218	DEP *	DEP 31	DEP *	DEP 0	DEP 0	DEP 0	HDD 16	HDD 16	HDD 114	DEP *	HDD 215	DEP *	HDD 529	DEP *	HDD *
BOSWELL	HDD 725	HDD 470	HDD 493	HDD 149	HDD 76	DEP 0	DEP 0	DEP 0	HDD 16	HDD 8	HDD 93	DEP *	HDD 171	DEP -209	HDD *	HDD 2764	HDD *
IDABEL	DEP -108	DEP -149	DEP 427	DEP 49	DEP *	DEP 0	DEP 0	DEP 0	HDD 32	HDD 8	HDD 133	DEP -23	HDD 246	DEP *	HDD *	HDD *	HDD *
POTEAU	HDD 701	HDD 429	HDD 482	HDD 99	HDD 12	DEP 0	DEP 0	DEP 0	HDD 21	HDD 8	HDD 99	DEP -10	HDD 204	DEP -166	HDD 572	HDD -104	HDD 2341
TUSKAROMA	DEP -150	DEP -221	DEP 342	DEP 77	DEP 13	DEP 0	DEP 0	DEP 0	HDD 23	HDD 8	HDD 111	DEP -29	HDD 245	DEP -170	HDD 609	HDD -110	HDD 2615
WILBERTON	HDD 684	HDD 371	HDD 448	HDD 104	HDD 22	DEP 0	DEP 0	DEP 0	HDD 25	HDD 8	HDD 111	DEP *	HDD 250	DEP *	HDD 647	DEP *	HDD -649
WISTER	DEP -141	DEP -240	DEP 506	DEP 116	DEP -17	DEP 0	DEP 0	DEP 0	HDD 17	HDD *	HDD 88	DEP *	HDD *	DEP *	HDD *	HDD *	HDD -682

1999 MONTHLY AND ANNUAL HEATING DEGREE DAYS (BASE = 65) AND DEPARTURES FROM NORMAL

	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		ANN	
	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP
CANTON DAM	887	-99	*	*	593	42	*	*	50	-5	3	3	0	0	0	0	81	65	166	-12	334	-207	761	-132	*	*
CLINTON	807	-74	*	*	*	*	*	*	*	*	2	2	0	0	0	0	65	52	157	29	335	-130	732	-65	*	*
CORDELL	831	-49	502	-159	559	106	205	31	52	23	0	0	0	0	0	57	46	141	12	306	-169	717	-86	3369	-245	
ELK CITY	836	-58	472	-198	555	83	227	49	54	27	1	1	0	0	0	65	52	152	-6	283	-209	718	-97	3360	-357	
ERICK	810	-71	*	*	509	44	210	29	62	22	3	3	0	0	0	63	50	162	20	310	-173	735	-71	*	*	
HAMMON	868	-109	*	*	593	42	*	*	79	17	*	*	0	0	0	77	53	207	4	392	-167	*	*	*	*	
OKEENE	789	-105	448	-219	508	50	*	*	*	*	0	0	0	0	0	39	26	103	-23	277	-194	705	-104	*	*	
TALOGA	965	29	544	-163	617	111	248	39	47	-5	6	6	0	0	0	79	65	211	48	363	-166	795	-64	3872	-101	
WATONGA	757	-162	424	-268	519	35	174	-15	36	-1	0	0	0	0	0	36	20	131	-17	278	-221	694	-140	3046	-768	
WEATHERFORD	827	-126	491	-240	569	42	*	*	38	1	0	0	0	0	0	58	40	149	-18	*	*	742	-123	*	*	

	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		ANN	
	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP
BLANCHARD	685	-143	388	-229	444	43	114	-28	25	4	0	0	0	0	0	23	12	89	-33	192	-222	614	-121	2572	-717	
BRISTOW	716	-158	368	-277	415	-9	118	-26	35	8	*	*	0	0	0	*	*	127	-5	217	-223	604	-168	*	*	
CHANDLER	*	*	427	-217	499	75	*	*	38	11	*	*	*	*	*	46	29	147	21	241	-183	*	*	*	*	
CHICKASHA	697	-163	392	-235	445	36	109	-26	16	3	0	0	0	0	0	21	9	90	-35	227	-200	598	-162	2593	-774	
CUSHING	824	-131	451	-275	529	18	166	-14	32	-17	0	0	0	0	0	*	*	151	-3	225	-247	*	*	*	*	
EL RENO	821	-87	459	-219	533	70	176	-2	34	8	0	0	0	0	0	57	44	139	3	278	-205	690	-122	3185	-511	
GUTHRIE	813	-78	*	*	546	110	*	*	49	21	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	
HENNESSEY	843	-85	473	-222	558	79	205	18	*	*	3	3	0	0	0	53	41	*	*	*	*	*	*	*	*	
KINGFISHER	858	-41	*	*	540	94	212	38	50	20	0	0	0	0	0	50	40	143	19	276	-186	692	-111	*	*	
MEEKER	860	-18	486	-162	*	*	189	31	58	29	0	0	0	0	0	*	*	202	68	295	-144	*	*	*	*	
NORMAN NWS	748	-96	417	-205	490	86	160	32	38	23	0	0	0	0	0	44	34	139	27	253	-165	669	-75	2957	-338	
OKEMAH	647	-206	334	-296	404	-14	81	-57	4	-20	0	0	0	0	0	21	6	84	-42	176	-239	569	-181	2318	-1047	
OKLAHOMA CITY	761	-142	405	-270	472	8	151	-26	31	0	0	0	0	0	0	37	22	119	-19	256	-207	676	-121	2905	-754	
SEMINOLE	802	-11	406	-180	507	129	149	43	28	13	0	0	0	0	0	41	32	*	*	*	*	660	-53	*	*	
STILLWATER	*	*	460	-280	548	21	172	-33	37	-13	0	0	*	*	0	56	39	155	-13	279	-216	686	-170	*	*	
TROUSDALE	778	*	428	*	489	*	157	*	36	*	0	*	0	*	0	*	*	163	*	243	*	*	*	*	*	

	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		ANN	
	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP
EUFAULA	*	*	337	-262	400	22	84	-33	7	-10	0	0	0	0	0	16	6	69	-34	163	-212	557	-128	*	*	
HANNA	708	-130	378	-235	440	43	121	-5	26	8	0	0	0	0	0	32	20	130	12	226	-173	511	-218	2570	-679	
LAKE EUFAULA	786	*	*	*	496	*	160	*	*	*	0	*	*	*	0	*	*	*	*	207	*	643	*	*	*	
MCALESTER	675	-174	363	-267	434	23	116	-26	23	-13	0	0	0	0	0	35	19	108	-23	211	-193	593	-145	2556	-799	
MCCURTAIN	656	-141	350	-238	419	42	109	-5	15	-12	0	0	0	0	0	22	8	89	-27	197	-179	576	-122	2430	-674	
MUSKOGEE	735	-124	413	-228	474	58	132	-1	20	-14	*	*	0	0	0	39	24	131	-4	224	-203	664	-92	*	*	
OKMULGEE	769	-168	381	-317	480	-8	*	*	*	*	*	*	*	*	*	45	24	161	5	254	-212	*	*	*	*	
SALLISAW	741	-100	417	-196	466	60	131	-1	15	-12	0	0	0	0	0	27	16	115	-11	211	-192	655	-80	2775	-515	
STILWELL	818	-69	*	*	529	68	166	-9	56	4	1	1	0	0	0	27	7	142	-18	230	-221	695	-80	*	*	
TAHLEQUAH	726	-165	*	*	511	68	135	-27	36	-27	0	0	0	0	0	41	14	125	-33	231	-218	644	-140	*	*	
WEBBERS FALLS	782	-140	*	*	*	*	151	-24	36	-6	*	*	*	*	0	0	33	17	*	*	236	-209	*	*	*	*

**1999 MONTHLY AND ANNUAL HEATING DEGREE DAYS (BASE = 65) AND DEPARTURES FROM NORMAL**

**Panhandle**

	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		ANN	
	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP
ARNETT	896	-112	538	-244	656	61	310	50	91	5	12	12	0	0	0	0	97	72	215	-9	359	-221	844	-74	4017	-459
BEAVER	938	-98	*	*	698	66	346	52	121	23	16	8	0	0	0	93	62	289	42	444	-180	848	-113	*	*	
BOISE CITY	798	-157	561	-195	600	-11	355	49	154	34	12	4	0	0	0	104	72	270	16	440	-170	820	-88	4113	-447	
BUFFALO	751	-191	433	-267	536	30	228	20	42	-15	13	13	0	0	0	47	34	166	10	335	-202	754	-111	3303	-681	
GAGE	850	-102	510	-221	615	81	*	*	73	8	*	*	0	0	0	79	61	213	28	*	*	*	*	*	*	
GATE	913	-98	*	*	656	54	303	39	80	-7	17	12	0	0	*	*	77	60	221	16	*	*	791	-139	*	*
GOODWELL	*	*	590	-220	634	-20	335	8	134	8	*	*	*	*	*	85	46	268	-1	413	-224	813	-151	*	*	
GUYMON	842	*	*	*	628	*	314	*	139	*	13	*	0	*	0	*	*	261	*	377	*	*	*	*	*	
HOOVER	827	-168	524	-240	621	29	304	27	74	-21	0	-6	0	0	0	65	31	210	-30	384	-228	765	-165	3773	-772	

**North Central**

	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		ANN	
	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP
ALVA	934	*	528	*	589	*	240	*	*	*	7	*	0	*	0	*	63	*	189	*	328	*	800	*	*	*
BILLINGS	912	-87	*	*	613	72	235	-1	64	0	3	3	0	0	0	68	48	192	25	304	-224	776	-123	*	*	
BLACKWELL 2E	930	-65	518	-232	605	75	225	7	*	*	5	5	*	*	0	66	49	183	27	306	-216	772	-112	*	*	
CHEROKEE	920	-27	*	*	*	*	272	84	56	20	6	6	0	0	0	*	*	*	*	*	*	816	-43	*	*	
ENID	909	-18	523	-175	604	126	233	56	53	23	3	3	*	*	0	60	47	160	23	267	-225	727	-110	*	*	
FT SUPPLY	908	-110	*	*	628	32	296	34	74	-1	*	*	0	0	0	93	71	249	38	411	-175	851	-88	*	*	
FREEDOM	910	-52	532	-189	613	98	*	*	68	28	12	12	*	*	0	*	208	47	405	-136	822	-65	*	*		
GRT SALT PLNS	930	-93	*	*	584	20	229	-2	39	-18	5	5	0	0	0	63	46	163	-15	309	-237	764	-147	*	*	
HELENA	934	-95	558	-235	624	44	258	0	61	-17	0	0	0	0	66	47	189	-4	339	-232	800	-127	3827	-619		
JEFFERSON	851	-107	437	-285	541	41	184	-16	33	-10	0	0	0	0	43	32	161	19	300	-210	729	-139	3278	-676		
MUTUAL	900	-108	546	-228	649	66	300	37	79	-3	5	5	0	0	0	85	66	202	-2	353	-212	797	-118	3913	-497	
NEWKIRK	968	-18	552	-191	650	138	264	63	80	30	8	8	0	0	0	73	59	192	45	315	-195	791	-89	3891	-152	
PERRY	803	-106	*	*	542	78	154	-8	31	-6	0	0	0	0	0	50	36	129	2	245	-218	700	-112	*	*	
PONCA CITY	827	-185	*	*	505	-34	170	-42	22	-47	0	0	0	0	0	49	26	148	-24	264	-267	703	-202	*	*	

**Northeast**

	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		ANN	
	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP	HDD	DEP
BARNSDALL	844	-98	462	-239	526	54	153	-10	33	-1	2	2	0	0	0	55	31	173	14	254	-223	709	-125	3209	-596	
BARTLESVILLE	842	-97	453	-248	541	73	149	-13	25	-10	1	1	0	0	0	49	33	172	22	276	-199	698	-136	3203	-575	
BIXBY	*	*	*	*	*	*	*	*	28	-23	3	3	*	*	0	43	22	159	-19	263	-236	684	-147	*	*	
CLAREMORE	877	-113	499	-251	567	35	203	1	52	-16	2	2	0	0	0	48	24	192	11	*	*	*	*	*	*	
MANNFORD	771	-145	426	-249	460	12	137	-12	*	*	3	3	*	*	0	49	24	148	4	211	-243	645	-164	*	*	
NOWATA	790	-156	*	*	*	*	147	-39	*	*	0	0	*	*	0	44	24	148	-13	218	-253	*	*	*	*	
PAWHUSKA	829	-130	452	-262	525	39	155	-21	36	-10	5	5	0	0	0	51	30	168	11	265	-228	702	-147	3186	-713	
PRYOR	861	-132	*	*	*	*	178	-36	50	-19	2	2	0	0	0	51	22	175	-19	*	*	*	*	*	*	
RALSTON	795	-145	410	-290	499	27	*	*	*	*	*	*	0	0	0	63	44	190	48	319	-158	736	-104	*	*	
SPAVINAW	723	-162	384	-280	446	6	114	-36	16	-25	0	0	0	*	*	30	18	102	-26	172	-243	594	-169	*	*	
TULSA	806	-118	423	-270	504	47	140	-12	21	-21	0	0	0	0	0	41	21	135	-9	244	-210	671	-138	2982	-709	
UPPER SPAVINAW	*	*	409	*	489	*	140	*	14	*	0	*	0	*	*	40	*	165	*	*	*	*	616	*	*	
WAGONER	716	-159	405	-245	475	50	111	-28	15	-20	0	0	0	0	0	*	*	132	-5	210	-216	598	-158	*	*	

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1999 MONTHLY AND ANNUAL COOLING DEGREE DAYS (BASE = 65) AND DEPARTURES FROM NORMAL

	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		ANN CDD	ANN DEP
	CDD	DEP	CDD	DEP	CDD	DEP	CDD	DEP	CDD	DEP	CDD	DEP	CDD	DEP	CDD	DEP	CDD	DEP	CDD	DEP	CDD	DEP	CDD	DEP		
ALTUS	0	0	0	0	0	0	-14	48	158	-59	389	-59	595	-10	648	96	256	-54	46	-42	1	6	0	0	2348	224
ALTUS DAM	0	0	0	0	0	0	-9	15	171	-8	387	-30	645	50	712	169	311	33	70	15	6	0	0	0	0	0
AMADARKO	0	0	0	0	0	0	-7	15	105	-64	298	-78	618	40	634	107	194	-80	31	-17	1	1	0	0	0	0
HOBART	0	0	0	0	0	0	*	*	*	*	361	-47	620	40	634	107	255	-23	64	2	0	0	0	0	0	0
HOLLIS	0	0	0	0	0	0	-12	57	180	-29	391	-47	602	7	656	120	265	-26	56	-10	4	4	0	0	0	0
LANTON	0	0	2	2	0	0	-10	48	162	-8	381	-19	594	20	698	162	291	13	67	11	1	1	0	0	0	0
MANGUM	0	0	0	0	0	0	*	54	154	-59	350	-85	552	-44	618	144	72	72	72	-19	1	1	0	0	0	0
WALTERS	0	0	0	0	0	0	-17	54	139	-72	382	-47	609	17	708	144	306	-19	72	-19	1	1	0	0	0	0
WICHITA MTNS	0	0	0	0	0	0	-11	54	111	-20	281	-70	484	-50	612	122	216	-20	72	*	*	*	0	0	0	0

Southwest

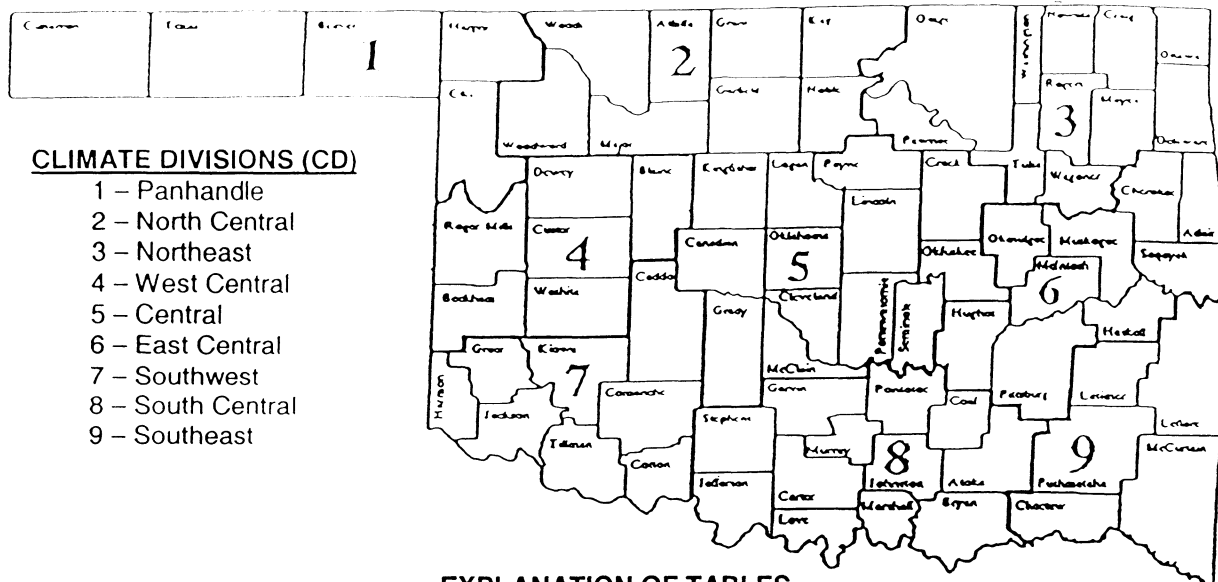
South Central

	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		ANN CDD	ANN DEP
	CDD	DEP	CDD	DEP	CDD	DEP	CDD	DEP	CDD	DEP	CDD	DEP	CDD	DEP	CDD	DEP	CDD	DEP	CDD	DEP	CDD	DEP	CDD	DEP		
ADA	0	0	0	0	0	0	-17	31	138	-26	318	-40	547	14	584	79	212	-60	54	-31	19	13	0	0	1902	-69
ARDMORE	0	0	0	0	0	0	-26	65	184	-39	406	-24	618	29	690	120	241	*	66	*	30	23	0	0	0	0
CENTRAHOMA	0	0	3	3	0	0	*	34	117	-39	338	-33	524	-7	589	74	218	-55	40	-8	6	6	0	0	0	0
CHICKSAW NRA	0	0	0	0	0	0	-11	48	161	-25	324	-33	524	-7	589	74	218	-55	40	-8	6	6	0	0	0	0
COMANCHE	0	0	3	3	0	0	*	48	161	-41	349	-38	545	-17	653	123	270	-16	70	*	8	8	0	0	0	0
DUNCAN	0	0	0	0	0	0	-12	45	130	-43	339	-36	546	-4	571	56	210	-63	50	-11	2	2	0	0	0	0
HEALDTON	0	0	0	0	0	0	-13	47	137	-43	339	-36	546	-4	571	56	210	-63	50	-11	2	2	0	0	0	0
LINDSAY	0	0	0	0	0	0	-19	79	185	-6	422	20	621	54	656	104	285	-35	86	-4	8	14	3	3	0	0
MADILL	0	0	0	0	0	0	-20	79	139	-6	422	20	621	54	656	104	285	-35	86	-4	8	14	3	3	0	0
MARIETTA	0	0	3	3	0	0	-49	45	161	5	369	6	619	83	683	175	289	18	108	40	13	13	0	0	0	0
MARLOW	0	0	5	5	0	0	-14	61	160	5	375	6	619	83	683	175	289	18	108	40	13	13	0	0	0	0
MCCEE CREEK	0	0	8	8	0	0	*	51	160	5	375	6	619	83	683	175	289	18	108	40	13	13	0	0	0	0
PAULS VALLEY	0	0	0	0	0	0	-15	25	111	-80	317	-83	535	-33	585	46	234	-63	39	-30	3	3	0	0	0	0
WAURIKA	0	0	0	0	0	0	-23	72	219	3	439	10	651	53	731	164	355	29	109	20	10	4	2	0	0	0

Southeast

	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		ANN CDD	ANN DEP
	CDD	DEP	CDD	DEP	CDD	DEP	CDD	DEP	CDD	DEP	CDD	DEP	CDD	DEP	CDD	DEP	CDD	DEP	CDD	DEP	CDD	DEP	CDD	DEP		
ANTLEERS	0	0	8	8	0	0	*	47	157	-5	331	-35	517	12	602	100	267	-16	59	-9	5	-1	0	0	0	0
BATTIEST	0	0	5	5	0	0	*	16	144	-23	325	7	463	5	531	*	249	*	68	*	2	*	0	0	0	0
BOSWELL	0	0	9	9	0	0	-16	70	157	-8	379	7	529	5	650	169	262	-14	80	15	21	16	0	0	0	0
IDABEL	0	0	8	8	0	0	-12	*	157	-8	387	27	552	*	569	233	282	-8	61	29	26	20	0	0	0	0
POTEAU	0	0	1	1	0	0	-16	57	158	-5	378	15	552	34	609	110	282	-8	99	29	26	20	0	0	0	0
TUSKAHOMA	0	0	20	20	0	0	-16	57	158	-5	378	15	552	34	609	110	282	-8	99	29	26	20	0	0	0	0
WILBURTON	0	0	3	3	0	0	-12	44	107	-33	344	5	525	23	594	117	237	-16	68	11	6	6	0	0	0	0
WISTER	0	0	10	10	0	0	*	36	107	*	344	5	525	23	594	117	237	-16	68	11	6	6	0	0	0	0

# OKLAHOMA



## EXPLANATION OF TABLES

Two kinds of tables appear in this summary. The first is a set of tables containing all reporting stations grouped by climate division. The figure above shows the locations of the climate divisions. Each table contains the following information for each station:

**Station Name:**

**Station Identification Number:** These are usually assigned by the National Climatic Data Center.

**Climate Division:** See the figure above.

**Number of Temperature Observations:** These are the actual number of temperature reports recorded at the station during the current month. Missing observations may result in artificially high or low mean monthly temperatures.

**Deviation from Normal:** The deviation of the observed mean monthly temperature from the monthly station normal. A positive value indicates the month was warmer than normal. A negative value indicates the month was cooler than normal. Normal monthly temperatures may be calculated by subtracting the deviation from the observed temperature.

**Maximum Daily Maximum:** The maximum daily maximum temperature observed during the current month and year and the day which it occurred.

**Minimum Daily Minimum:** The minimum daily minimum temperature observed during the current month and year and the day which it occurred.

**Heating Degree Days:** HDD are calculated each day of the month for which there is a temperature report and the average temperature for the day is less than 65 degrees. Daily values are summed to arrive at a monthly total. They are a qualitative measure of how much heat was required to maintain a comfortable indoor temperature. Missing observations may result in an artificially high or low value. For February 2000 HDD would be calculated as:

$$29 \sum_{i=1} 65 - ((TMAX_i + TMIN_i) / 2)$$

**Deviation from Normal Heating Degree Days:** A positive value indicates higher than normal heating requirements for the month as a whole. A negative value indicates lower than normal heating requirements for the month as a whole. Normal HDD may be calculated by subtracting the deviation from observed HDD.

**Cooling Degree Days:** CDD are calculated each day of the month for which there is a temperature report and the average temperature for the day exceeds 65 degrees. Daily values are summed to give a monthly total. They are a proxy measure of how much cooling was required to maintain a comfortable indoor temperature. Missing observations may result in an artificially high or low value. For June, CDD would be calculated as:

$$30 \sum_{i=1} ((TMAX_i + TMIN_i) / 2) - 65$$



**Deviation from Normal Cooling Degree Days:** A positive value indicates higher than normal cooling requirements for the month as a whole. A negative value indicates lower than normal cooling requirements for the month as a whole. Normal cooling degree days may be found by subtracting the deviation from the observed cooling degree days.

**Total Precipitation:** Often incorrectly referred to as a mean precipitation, this value is the sum of all precipitation reported during the month at a station. If snow occurred, it is to be melted and its water equivalent recorded.

**Number of Precipitation Observations:** The number of days a rain or no rain observation was reported. Missing observations frequently result in artificially low total precipitation values.

**Deviation from Normal Precipitation:** A positive value indicates more rain than normal was received. A negative value indicates less than was expected rainfall was received. Normal rainfall may be calculated by subtracting the deviation from the monthly total.

**Maximum 24-Hour Report and Day:** The maximum amount of precipitation recorded during the station's 24 hour observation period for the current month and year and the day on which it was recorded.

The second set of tables contain similar information but are the average or extreme over all the stations reporting in each climate division.