

The Oklahoma Climatological Survey was established with its own budget and offices in the spring of 1980. The mission of the Survey is to provide a climatological archiving and information service to the State of Oklahoma. Although as many as 160 stations may appear in any one summary, it may not be possible to list every station report received at the Survey as we plan to have the summaries in the mail before the middle of each month. If you would like information about a station that does appear, please feel free to contact the Climate Survey. If you would like to know more about the services we offer or our plans for the future, please let us hear from you. You can help us by contributing to our newspaper clipping file. If you see an article in your local newspaper dealing with some impact of climate on your community, please clip it and send it to us along with the name of the newspaper and the date the article appeared.

OKLAHOMA CLIMATE SUMMARY MARCH 1988

March, Oklahoma's traditional winter-to-spring transitional month, contained an assortment of powerful weather this year, including destructive hailstorms, a fatal tornado, heavy snowfall, freezing cold, and wide-spread grass fires. Temperatures contrasted sharply from week-to-week but averaged only slightly below normal. Three major rain-producing storm systems augmented monthly rainfall totals to a Statewide average of two inches above normal.

Severe thunderstorms arrived ahead of a cold front on the first, producing hail over central Oklahoma and in Garvin and Murray Counties. Significant snowfall followed the front through the State. Light snow was reported as far south as Altus, but larger amounts occurred in the northwest. As much as 8" of snow fell in the Panhandle forcing school and road closings. In addition to the snow, conditions behind the front included 2 to 3 days of northerly winds, light precipitation, and sub-freezing temperatures.

Another mass of cold air entered the State on the 12th. High pressure, northerly winds and cool temperatures prevailed for several days. Low temperatures ranged from 11 degrees in the north to the teens and low 20's in the south on the 14th and 15th. Three consecutive nights of such temperatures resulted in destruction of the blooms on some plum trees near Muskogee. Peach, apple, and nectarine trees suffered no damage since they were yet to bloom. With continued cold conditions, moisture from an upper level low and surface front fell as snow over much of the western part of the State on the 17th. Cherokee recorded 16" of snow in the area of greatest accumulation (see Table 1). Slightly warmer temperatures resulted in rain over most of the remaining eastern 2/3 of Oklahoma.

By the time southerly winds returned, Oklahoma had recorded its only week of the month (the 14th through the 20th) with Statewide temperatures below normal. The ensuing warming generated temperatures in the 80's across the State on the 22nd. These southerly winds also brought warm, moist air into the State. On the 24th, a cold front met this warm, moist air mass resulting in severe weather over eastern Oklahoma. Golfball size hail was reported in Hughes and Seminole Counties. Straight-line winds downed trees and power lines in nearby Rogers County. A 24-county NWS severe thunderstorm watch was issued for the area.

The front delivered only slightly cooler air, and moist southerly winds returned on the 27th (see Table 2). On the morning of the 28th a brief thunderstorm assisted firefighters' efforts to extinguish numerous large grass fires in northeastern Oklahoma. As the temperature and moisture continued rising during the day, a slow-moving cold front triggered severe weather over central Oklahoma. A Midwest City tornado, estimated to be 100 feet in diameter, claimed one life while striking a trailer park. Baseball size hail broke numerous windshields and caused approximately \$1,000,000 in damages to Oklahoma City area auto dealerships and nearly \$6,000,000 to Tinker Air Force Base vehicles and buildings. Payne, Logan, Canadian, Oklahoma, Grady, and Stephens Counties reported hail. Many locations in the southeastern 3/4 of the State recorded more than 2" of rain from these storms.

Table 1

March 17th Snowfall Amounts

<u>Location</u>	<u>CD</u>	<u>Amount (inches)</u>
Laverne	1	15
Gage	1	12
Cherokee	2	16
Waynoka	2	13
Woodward	2	10
Enid	2	6
Billings	2	3
Vici	4	5
Okeene	4	3
Hennessey	5	2

Low level moisture is a key ingredient of severe weather. Oklahoma typically receives its moisture from southerly and southeasterly winds delivering air laden with gulf moisture. When warm, moist low level (surface) air interacts with a transient upper-air disturbance, severe weather often develops. A routine measure of low level moisture is the dew point, the temperature to which an air sample would have to be cooled to reach saturation. The table below lists dew point temperatures prior to the tornadic weather of the 28th.

Table 2

3p.m. Oklahoma City Dew Point Temperatures Prior to Severe Weather of March 28th

<u>Date</u>	<u>Dew Point(°F)</u>
24	41
25	25*
26	24
27	45
28	61

*northerly winds delivered drier air

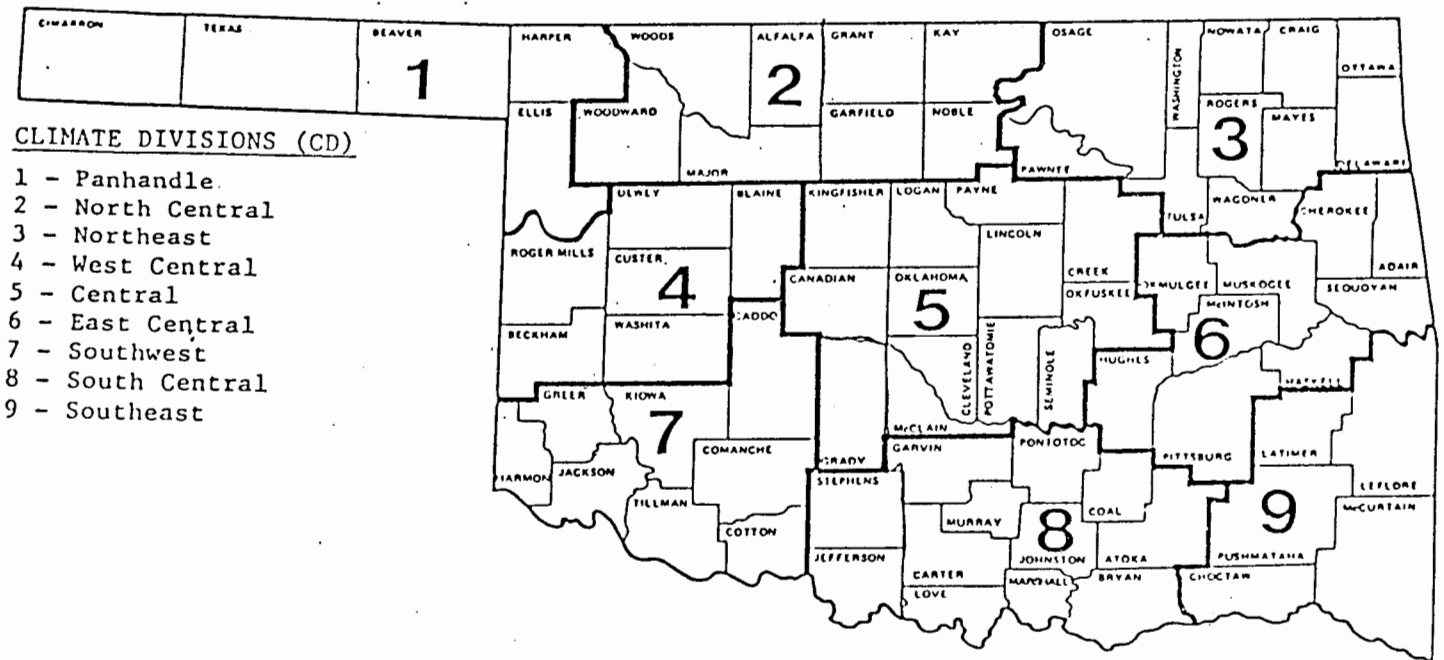
TABLE OF 1987/1988 COMPARISONS

Station	March Temperatures		March Precipitation	
	1987	1988	1987	1988
Arnett	44.8	43.1	5.032	3.141
Enid	50.1	47.9	3.850	3.611
Mutual	*	42.1	*	3.183
Tulsa	52.3	50.3	2.203	6.523
Elk City	46.8	48.5	3.113	4.026
Oklahoma City	50.0	50.6	2.333	6.881
McAlester	52.2	52.2	2.642	3.615
Altus Irr. Sta.	51.4	53.0	1.640	2.080
Durant	53.0	51.5	2.630	4.130
Ada	52.4	52.1	2.941	5.171
Antlers	53.9	54.2	2.990	3.510

EXTREMES

Variable	Station	Division	Observation	Date
Minimum temperature (F)	Freedom	2	3	3
Maximum temperature (F)	Waurika	8	91	24
Maximum 24-hour precipitation	Duncan	8	6.75"	29

O K L A H O M A



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 summed. 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 1984 HDD would be calculated as:

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

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 summed. 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:

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

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 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 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.

EXPLANATION OF MAPS

To give a Statewide perspective, a series of maps is produced each month from the information contained in the station tables. Each map is calculated using between 50 and 200 observations. Only stations with complete monthly records are used. Each observation is put into one of three categories and assigned a plus (+), minus (-), or a dot (.). The minus is the lowest numeric category, the dot is the middle and the plus the highest numeric category. If a map location has no report, a value is estimated. Each map is accompanied by its own legend. The categories will vary from month to month throughout the year. The categories for the deviations from normal maps will always remain constant. This is to facilitate comparisons between months and across years.

MARCH 1988 SUMMARY FOR NORTHWEST DIVISION (CD1)

NAME	ID	DIV	DEV						HEAT		DEV		COOL		DEV		TOT PPT	NUM OBS	FROM NORM	MAX 24-HR	DAY
			MEAN TEMP	NUM OBS	FROM NORM	MAX TEMP	MIN DAY	MIN TEMP	DEG DAY	FROM NORM	DEG DAY	FROM NORM	DEG DAY	FROM NORM							
ARNETT	332	1	43.4	28	-2.0	82.	21	15.	18	604.5	-9.5	0.0	-6.0	3.141	30	1.84	1.60	3			
BEAVER	593	1	42.5	30	-2.8	84.	22	10.	4	676.5	59.5	0.0	-6.0	2.650	31	1.48	1.59	3			
BOISE CITY	908	1	44.0	31	-1	80.	27	12.	14	650.0	2.0	0.0	0.0	.510	31	-.31	.10	31			
BUFFALO	1243	1	45.7	31	-2.3	83.	22	11.	4	597.5	56.5	0.0	-14.0	3.800	31	2.09	1.05	31			
FARGO	3070	1	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	4.740	31	3.45	2.80	3			
GAGE	3407	1	45.2	31	-.7	81.	22	11.	4	616.5	17.5	2.0	-5.0	3.500	31	2.32	1.91	3			
GATE	3489	1	42.9	28	999.0	85.	23	14.	3	619.5	9999.0	0.0	9999.0	3.880	31	99.99	1.80	2			
GOODWELL RES STA	3628	1	42.3	30	-2.5	81.	27	14.	14	679.5	47.5	0.0	-6.0	.784	31	.00	.36	3			
GUYMON	3835	1	45.0	29	999.0	83.	23	15.	14	579.0	9999.0	0.0	9999.0	.952	30	99.99	.40	3			
HOOVER	4298	1	43.5	30	-1.7	82.	27	17.	5	646.5	25.5	0.0	-7.0	.750	31	-.48	.36	5			
KENTON	4766	1	42.2	30	-1.8	83.	27	12.	14	686.0	35.0	1.0	1.0	.750	31	-.01	.36	5			
LAVERNE	5045	1	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	2.981	31	1.44	1.49	3			
OPTIMA LAKE	6740	1	42.9	30	999.0	83.	27	14.	4	663.0	9999.0	0.0	9999.0	1.030	31	99.99	.55	3			
REGNIER	7534	1	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	.560	31	-.12	.38	2			
TURPIN	9017	1	43.0	30	999.0	82.	27	14.	18	659.0	9999.0	0.0	9999.0	1.670	31	99.99	.88	3			

MARCH 1988 SUMMARY FOR NORTH CENTRAL DIVISION (CD2)

NAME	ID	DIV	DEV						HEAT		DEV		COOL		DEV		TOT PPT	NUM OBS	FROM NORM	MAX 24-HR	DAY
			MEAN TEMP	NUM OBS	FROM NORM	MAX TEMP	MIN DAY	MIN TEMP	DEG DAY	FROM NORM	DEG DAY	FROM NORM	DEG DAY	FROM NORM							
ALVA	194	2	45.1	31	-2.3	83.	22	11.	14	616.5	58.5	0.0	-12.0	5.130	31	3.51	2.52	3			
VANCE AFB	302	2	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	2.542	28	99.99	1.73	3			
BILLINGS	755	2	45.5	30	999.0	84.	21	18.	14	586.0	9999.0	.5	9999.0	4.621	31	2.55	2.24	3			
BLACKWELL	818	2	46.3	31	999.0	83.	21	16.	19	580.0	9999.0	0.0	9999.0	2.844	31	99.99	2.10	3			
BRANON	1075	2	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	.994	31	99.99	.57	17			
CEDARDALE	1620	2	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	6.061	31	99.99	4.38	3			
CHEROKEE	1724	2	47.2	31	-1.0	80.	21	14.	18	554.0	21.0	2.5	-9.5	1.500	31	-.43	1.50	2			
ENID	2912	2	47.9	31	-1.2	82.	21	19.	14	533.0	26.0	1.5	-12.5	3.611	31	1.72	2.12	3			
FORT SUPPLY DAM	3304	2	42.7	30	-4.8	81.	22	11.	4	668.0	110.0	0.0	-15.0	3.491	28	2.23	1.78	3			
FREEDOM	3358	2	44.6	31	999.0	81.	22	3.	31	634.5	9999.0	1.0	9999.0	3.940	31	99.99	1.68	3			
GREAT SALT PLAINS	3740	2	46.0	30	999.0	80.	21	18.	14	569.0	9999.0	0.0	9999.0	4.681	24	2.85	3.00	3			
HARDY	3909	2	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	6.632	31	99.99	2.96	31			
HELENA	4019	2	44.6	30	999.0	82.	22	14.	18	613.0	9999.0	0.0	9999.0	7.373	31	5.45	4.90	3			
JEFFERSON	4573	2	47.2	31	-.9	82.	21	14.	18	555.5	22.5	2.5	-6.5	7.991	31	6.06	3.50	2			
LAMONT	5013	2	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	4.581	31	99.99	2.33	3			
MEDFORD	5768	2	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	4.390	31	99.99	2.47	4			
MORRISON	6065	2	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	4.340	31	99.99	1.54	3			
MUTUAL	6139	2	42.1	30	-4.7	75.	28	12.	5	687.5	113.5	0.0	-9.0	3.183	31	1.60	2.07	3			
NEWKIRK	6278	2	46.5	31	-1.0	83.	21	15.	18	575.5	21.5	2.5	-8.5	4.030	31	2.05	2.50	3			
ORIENTA	6751	2	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	3.260	31	99.99	2.20	3			
PERRY	7012	2	49.8	31	-.1	85.	21	20.	4	489.5	6.5	17.0	2.0	4.450	31	2.09	2.00	3			
PONCA CITY	7201	2	47.4	30	.9	86.	22	17.	18	542.5	-37.5	14.0	7.0	4.090	31	1.99	1.31	3			
RED ROCK	7505	2	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	4.910	31	2.66	1.94	3			
RENFROW	7556	2	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	3.802	31	1.89	2.11	3			
WAYNOKA	9404	2	45.2	31	-3.6	81.	21	12.	4	616.0	98.0	1.0	-15.0	3.730	31	2.10	2.40	3			
WOODWARD	9760	2	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	4.270	31	2.77	1.61	3			

NOTE: 999.0, 9999.0, 99.99 indicates missing data TRACE = .001

MARCH 1988 SUMMARY FOR NORTHEAST DIVISION (CD3)

NAME	ID	DIV	DEV				HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	DEV NUM OBS	DEV FROM NORM	DEV MAX 24-HR	DAY			
			MEAN TEMP	NUM OBS	FROM NORM	MAX TEMP												
BARNSDALL	535	3	48.0	31	999.0	84.	22	16.	15	541.5	9999.0	13.5	9999.0	3.712	31	.60	1.20	3
BARTLESVILLE	548	3	48.5	31	-.3	85.	21	16.	15	527.0	11.0	14.0	0.0	4.341	31	1.62	2.13	3
BIXBY	782	3	47.7	30	-1.1	81.	24	20.	15	525.0	11.0	6.0	-6.0	5.800	31	3.11	1.50	3
BURBANK	1256	3	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	5.260	30	99.99	1.47	31
CHELSEA	1717	3	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	5.190	31	99.99	1.92	29
CLAREMORE	1828	3	47.3	30	-.8	83.	20	19.	15	538.0	4.0	6.0	-4.0	6.473	31	3.31	2.00	3
CLEVELAND	1902	3	49.0	31	999.0	84.	21	17.	14	507.0	9999.0	9.5	9999.0	4.001	31	99.99	1.75	3
FORAKER	3250	3	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	2.921	31	.53	1.65	3
HOLLOW	4258	3	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	5.551	31	2.41	1.89	29
HOMINY	4289	3	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	4.510	31	1.69	1.74	3
HULAH DAM	4393	3	46.9	18	.2	84.	21	19.	15	337.5	-239.5	12.0	2.0	4.390	31	1.75	1.90	3
JAY TOWER	4567	3	50.8	30	999.0	82.	22	19.	14	439.0	9999.0	12.0	9999.0	5.070	31	99.99	2.20	29
KANSAS	4672	3	49.7	29	999.0	82.	21	17.	14	448.0	9999.0	4.5	9999.0	7.771	31	99.99	2.60	29
KEYSTONE DAM	4812	3	46.6	30	999.0	83.	22	18.	15	558.0	9999.0	5.5	9999.0	7.303	29	99.99	3.14	29
LENAPAH	5118	3	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	4.950	31	99.99	2.35	3
MANNFORD	5522	3	50.3	31	999.0	86.	21	16.	14	471.5	9999.0	16.5	9999.0	6.520	31	99.99	2.22	29
MARAMEC	5540	3	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	5.180	31	2.73	1.96	3
MIAMI	5855	3	47.3	29	-.9	82.	20	19.	15	516.5	-14.5	2.5	-7.5	6.070	31	2.63	2.46	29
NOWATA	6485	3	47.4	31	-1.0	82.	21	17.	14	548.0	24.0	2.0	-8.0	6.400	31	3.13	2.07	3
ONETA	6713	3	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	5.300	31	99.99	1.53	2
PAWNIUSKA	6935	3	47.4	31	-1.2	83.	21	16.	15	554.5	33.5	9.5	-2.5	5.981	31	3.30	1.69	3
PAWNIUSKA	6937	3	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	4.310	31	99.99	1.50	3
QUAPAW	7358	3	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	7.170	31	3.85	3.60	29
RALSTON	7390	3	48.6	31	999.0	87.	21	17.	15	515.5	9999.0	8.5	9999.0	3.631	31	1.11	.75	6
RAMONA	7394	3	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	3.800	31	99.99	1.90	3
SKIATOOK	8258	3	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	4.620	31	1.79	2.05	31
SPAVINAW	8380	3	50.6	31	999.0	83.	21	18.	15	457.5	9999.0	12.0	9999.0	5.292	31	2.16	1.97	29
TULSA	8992	3	50.3	31	1.0	83.	21	22.	15	464.0	-36.0	9.0	-5.0	6.523	31	3.38	2.24	29
UPPER SPAVINAW	9101	3	51.5	30	999.0	89.	20	19.	15	419.0	9999.0	15.0	9999.0	6.082	31	99.99	2.32	29
VINITA	9203	3	48.1	31	.0	84.	21	15.	14	533.0	-1.0	10.0	0.0	4.680	31	1.14	1.42	29
WAGONER	9247	3	51.0	31	.5	82.	20	20.	15	443.0	-23.0	8.0	-8.0	6.480	31	3.09	2.26	29
WANN	9298	3	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	4.240	31	99.99	2.10	3
WYONNA	9792	3	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	7.361	31	99.99	2.85	31

NOTE: 999.0, 9999.0, 99.99 indicates missing data TRACE = .001

MARCH 1988 SUMMARY FOR WEST CENTRAL DIVISION (CD4)

NAME	ID	DIV	DEV							HEAT				COOL				DEV			
			MEAN	NUM	FROM	MAX	MIN		HEAT	DEV	COOL	DEV	TOT	NUM	FROM	MAX	24-HR				
			TEMP	OBS	NORM	TEMP	DAY	TEMP	DAY	DEG	FROM	DEG	FROM	PPT	OBS	NORM	24-HR	DAY			
CANTON DAM	1445	4	47.9	19	-1.2	82.	20	15.	4	325.5	-182.5	0.0	-15.0	3.273	24	1.60	2.05	3			
CHEYENNE	1738	4	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	.720	31	99.99	.50	2			
CLINTON	1909	4	50.1	31	.6	84.	21	19.	14	461.5	-31.5	0.0	-13.0	3.601	31	1.90	2.71	3			
COLONY	2039	4	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	2.982	31	99.99	1.88	3			
CORDELL	2125	4	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	4.033	31	2.40	3.08	3			
ELK CITY	2049	4	48.5	31	999.0	83.	21	20.	15	516.0	9999.0	4.0	9999.0	4.026	31	2.51	2.90	3			
ERICK	2944	4	48.3	31	-1.2	85.	20	18.	14	521.5	30.5	4.0	-7.0	2.442	31	1.03	1.96	3			
GEARY	3497	4	47.8	31	-1.5	81.	21	20.	17	532.5	33.5	0.0	-12.0	3.920	31	2.18	2.40	3			
HAMMON	3871	4	44.6	30	-4.3	83.	21	9.	4	611.5	96.5	0.0	-16.0	3.450	31	1.89	3.05	3			
LEEDEY	5090	4	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	2.760	31	1.42	1.60	3			
MACKIE	5463	4	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	3.040	31	99.99	2.10	3			
MORAVIA	6035	4	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	2.783	31	1.25	2.28	3			
OKEENE	6629	4	49.6	31	-.3	81.	20	21.	18	480.5	-1.5	3.5	-10.5	4.300	31	2.48	3.00	3			
RETROP	7565	4	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	2.981	31	99.99	2.42	3			
REYDON	7579	4	47.4	29	999.0	82.	20	16.	4	512.0	9999.0	1.0	9999.0	3.100	31	1.70	2.51	2			
SAYRE	7952	4	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	2.252	31	.97	1.51	3			
SWEETWATER	8652	4	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	2.742	31	99.99	2.52	3			
TALOGA	8708	4	47.4	31	-.9	83.	20	14.	4	546.0	18.0	0.0	-10.0	4.101	31	2.48	3.42	3			
THOMAS	8815	4	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	3.820	31	99.99	2.13	3			
VICI	9172	4	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	3.570	31	99.99	1.17	3			
WATONGA	9364	4	48.1	31	999.0	81.	21	19.	14	529.0	9999.0	5.0	9999.0	4.982	31	3.20	3.04	3			
WEATHERFORD	9422	4	48.2	30	-1.7	84.	21	20.	18	505.5	23.5	0.0	-14.0	3.412	31	1.82	2.25	3			

NOTE: 999.0, 9999.0, 99.99 indicates missing data TRACE = .001

MARCH 1988 SUMMARY FOR CENTRAL DIVISION (CD5)

NAME	ID	DIV	DEV				HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV		24-HR DAY			
			MEAN TEMP	NUM OBS	FROM NORM	MAX TEMP							MIN DAY	MAX DAY				
AMBER	200	5	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	4.580	31	99.99	1.91	2
ARCADIA	288	5	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	4.460	31	99.99	2.00	3
TINKER AFB	325	5	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	4.261	30	99.99	2.52	3
BLANCHARD	830	5	51.8	30	999.0	85.	24	23.	14	411.5	9999.0	16.5	9999.0	5.131	31	99.99	1.67	29
BRISTOW	1144	5	50.8	31	.3	83.	20	19.	15	453.5	-12.5	12.5	-4.5	6.713	31	4.16	2.08	2
CHANDLER	1684	5	50.9	31	.2	83.	21	11.	14	449.0	-12.0	10.5	-6.5	5.381	31	3.09	2.00	3
CHICKASHA RES STA	1750	5	48.6	31	-3.0	87.	24	18.	14	516.5	81.5	8.0	-11.0	3.420	31	1.48	1.31	3
COX CITY	2196	5	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	6.430	31	99.99	3.43	31
CRESCENT	2242	5	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	1.660	31	99.99	.76	3
CUSHING	2318	5	47.5	30	-.9	83.	22	20.	14	534.5	2.5	9.0	-8.0	6.121	30	3.65	2.50	29
EL RENO	2818	5	47.8	29	-1.7	82.	21	18.	15	501.5	8.5	2.5	-10.5	4.350	31	2.50	1.78	3
GUTHRIE	3821	5	50.5	31	.7	86.	21	20.	14	463.5	-20.5	15.0	2.0	5.701	31	3.69	1.90	3
HENNESSEY	4055	5	47.3	31	-1.6	82.	21	17.	14	548.5	36.5	.5	-12.5	4.810	31	2.95	2.00	3
INGALLS	4489	5	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	5.592	31	99.99	1.48	3
KINGFISHER	4861	5	49.0	31	-.6	83.	21	18.	14	499.5	9.5	4.0	-8.0	5.010	31	3.25	2.67	3
KINGFISHER CREEK	4862	5	48.3	31	999.0	83.	21	18.	14	521.5	9999.0	4.0	9999.0	5.010	31	99.99	2.67	3
KINGFISHER UJC	4864	5	48.3	31	999.0	83.	21	18.	14	523.0	9999.0	4.0	9999.0	5.010	31	99.99	2.67	3
KONAWA	4915	5	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	4.661	31	1.77	1.65	2
MARSHALL	5589	5	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	3.960	31	1.97	1.71	3
MEEKER	5779	5	50.9	30	.8	83.	24	20.	15	436.5	-38.5	12.5	-.5	9.060	31	6.63	5.00	31
MULHALL	6110	5	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	5.040	31	99.99	2.16	3
NORMAN	6386	5	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	4.863	31	2.53	1.58	2
OILTON	6616	5	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	6.920	31	99.99	3.88	29
OKEMAH	6638	5	50.5	31	-.6	80.	21	20.	14	452.0	2.0	4.0	-15.0	5.000	31	2.38	1.95	29
OKLAHOMA CITY	6661	5	50.6	31	1.5	83.	25	22.	14	456.5	-49.5	9.0	-4.0	6.881	31	4.81	2.13	3
PERKINS	7003	5	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	5.970	31	3.56	1.84	3
PIEDMONT	7068	5	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	3.480	31	99.99	2.15	3
FRAGUE	7264	5	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	9.290	31	6.78	2.82	31
PURCELL	7327	5	51.0	31	.6	86.	24	17.	14	447.5	-27.5	15.0	-8.0	4.111	31	1.74	1.46	2
SEMINOLE	8042	5	52.9	31	.5	84.	21	22.	15	390.0	-21.0	14.0	-7.0	5.190	31	2.61	2.08	3
SHAWNEE	8110	5	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	6.560	31	4.05	2.91	29
STELLA	8470	5	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	6.260	31	99.99	2.73	29
STILLWATER	8501	5	46.2	30	-2.6	83.	21	16.	5	571.5	56.5	7.5	-4.5	5.473	31	3.28	2.17	3
STROUD	8563	5	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	5.101	31	99.99	1.61	3
TECUMSEH	8751	5	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	6.432	31	99.99	2.77	29
TROUSDALE	8960	5	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	3.650	31	99.99	1.42	2
UNION CITY	9086	5	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	7.111	31	4.74	2.95	3
WELTY	9479	5	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	6.121	31	99.99	2.20	29
WENOKA	9575	5	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	5.140	31	2.42	1.75	29

NOTE: 999.0, 9999.0, 99.99 indicates missing data TRACE = .001

MARCH 1988 SUMMARY FOR EAST CENTRAL DIVISION (CD6)

NAME	ID	DIV	DEV					HEAT		DEV		COOL		DEV		TOT PPT	NUM OBS	FROM NORM	MAX	24-HR DAY
			MEAN TEMP	NUM OBS	FROM NORM	MAX TEMP	MIN DAY	DEG DAY	FROM NORM	DEG DAY	FROM NORM	DEG DAY	FROM NORM							
ASHLAND	364	6	999.0	0	999.0	999.0	0	999.0	0	999.0	999.0	999.0	999.0	4.990	31	99.99	1.27	18		
BEGGS	631	6	999.0	0	999.0	999.0	0	999.0	0	999.0	999.0	999.0	999.0	7.270	31	99.99	2.93	29		
BOYNTON	1027	6	999.0	0	999.0	999.0	0	999.0	0	999.0	999.0	999.0	999.0	5.970	31	99.99	2.00	2		
CALVIN	1391	6	999.0	0	999.0	999.0	0	999.0	0	999.0	999.0	999.0	999.0	6.074	31	2.69	2.00	2		
CHECOTAH	1711	6	999.0	0	999.0	999.0	0	999.0	0	999.0	999.0	999.0	999.0	5.910	31	2.57	1.77	2		
DEWAR	2485	6	999.0	0	999.0	999.0	0	999.0	0	999.0	999.0	999.0	999.0	6.380	31	3.26	2.17	29		
DUSTIN	2690	6	999.0	0	999.0	999.0	0	999.0	0	999.0	999.0	999.0	999.0	5.630	31	99.99	1.79	29		
EUFAULA	2993	6	52.9	31	999.0	82.0	21	25.0	14	389.0	999.0	13.5	999.0	5.380	31	1.41	1.40	2		
HANNA	3884	6	51.7	31	999.0	81.0	20	19.0	15	422.0	999.0	8.5	999.0	6.431	31	2.74	1.53	2		
HARTSHORNE	3946	6	999.0	0	999.0	999.0	0	999.0	0	999.0	999.0	999.0	999.0	4.164	31	99.99	1.08	3		
HASKELL	3956	6	999.0	0	999.0	999.0	0	999.0	0	999.0	999.0	999.0	999.0	6.701	31	3.53	1.82	2		
HOLDENVILLE	4235	6	51.5	31	-2.0	82.0	21	21.0	15	421.0	-9.0	3.5	-14.5	5.210	31	2.23	1.33	2		
LAKE EUFAULA	4975	6	50.7	30	999.0	83.0	21	25.0	14	438.0	999.0	10.0	999.0	5.460	31	99.99	1.78	2		
LYONS	5437	6	999.0	0	999.0	999.0	0	999.0	0	999.0	999.0	999.0	999.0	5.322	31	1.38	1.86	28		
MCALESTER	5664	6	52.2	30	.9	80.0	25	20.0	16	396.5	-44.5	13.0	-4.0	3.615	30	-2.24	1.11	18		
MCCURTAIN	5693	6	53.0	31	999.0	83.0	21	21.0	15	388.5	999.0	18.0	999.0	4.473	31	.56	1.10	2		
MUSKOGEE	6130	6	51.9	31	.8	82.0	24	20.0	15	421.5	-26.5	14.5	-2.5	7.051	31	3.81	2.02	1		
OKMULGEE	6670	6	50.1	30	-1.2	83.0	20	21.0	15	453.5	5.5	7.0	-16.0	5.513	30	2.48	1.32	2		
OKTAHA	6678	6	999.0	0	999.0	999.0	0	999.0	0	999.0	999.0	999.0	999.0	5.561	31	99.99	1.76	2		
QUINTON	7372	6	999.0	0	999.0	999.0	0	999.0	0	999.0	999.0	999.0	999.0	4.866	31	1.18	2.03	2		
SALLISAW	7862	6	51.1	31	-2.0	82.0	20	17.0	15	437.5	-4.5	6.0	-12.0	6.231	31	2.43	3.10	2		
SCIPIO	7979	6	999.0	0	999.0	999.0	0	999.0	0	999.0	999.0	999.0	999.0	5.270	31	99.99	1.82	2		
SCRAPER	7993	6	999.0	0	999.0	999.0	0	999.0	0	999.0	999.0	999.0	999.0	7.630	31	99.99	2.89	29		
SHORT	8170	6	999.0	0	999.0	999.0	0	999.0	0	999.0	999.0	999.0	999.0	6.772	31	99.99	2.21	2		
STILWELL	8506	6	49.9	31	999.0	82.0	21	17.0	15	473.0	999.0	3.5	999.0	6.890	31	3.19	1.60	29		
TAHLEQUAH	8677	6	49.8	31	-2.0	84.0	21	13.0	15	476.5	-3.5	4.0	-11.0	6.280	31	2.64	2.13	2		
WEBBERS FALLS	9445	6	49.1	30	-1.0	82.0	21	20.0	16	483.0	-18.0	5.0	-6.0	6.300	31	2.71	2.22	2		
WESTVILLE	9523	6	999.0	0	999.0	999.0	0	999.0	0	999.0	999.0	999.0	999.0	8.240	31	99.99	3.29	29		
WETUMKA	9571	6	999.0	0	999.0	999.0	0	999.0	0	999.0	999.0	999.0	999.0	5.832	31	2.71	2.40	28		

NOTE: 999.0, 9999.0, 99.99 indicates missing data TRACE = .001

MARCH 1988 SUMMARY FOR SOUTHWEST DIVISION (CD7)

NAME	ID	DIV	DEV				HEAT		DEV		COOL		DEV		TOT PPT	NUM OBS	FROM NORM	MAX 24-HR	DAY
			MEAN TEMP	NUM OBS	FROM NORM	MAX TEMP	DEG DAY	FROM NORM	DEG DAY	FROM NORM	FROM NORM	FROM NORM							
ALTUS IRR STA	179	7	53.0	31	.5	88.	24	20.	14	393.0	-14.0	21.0	2.0	2.080	31	.80	1.35	3	
ALTUS DAM	184	7	50.5	30	999.0	88.	10	21.	14	443.5	9999.0	9.5	9999.0	4.280	31	2.98	2.84	3	
ANADARKO	224	7	49.2	29	-1.9	86.	24	15.	14	467.5	23.5	9.5	-3.5	3.530	30	1.67	2.20	3	
APACHE	260	7	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	3.710	31	99.99	2.29	3	
ALTUS AFB	447	7	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	1.873	30	99.99	1.55	3	
CARNEGIE	1504	7	50.5	31	-.3	86.	24	18.	14	460.5	5.5	11.0	-3.0	2.710	31	1.06	2.09	2	
CHATTANOOGA	1706	7	52.0	31	-.3	88.	24	20.	14	414.5	2.5	13.0	-6.0	4.042	31	2.30	2.20	2	
DUNCAN	2668	7	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	4.900	31	99.99	2.62	2	
FREDERICK	3353	7	51.8	30	-2.0	89.	24	23.	14	408.5	31.5	11.5	-17.5	2.630	31	.93	1.40	2	
GRANDFIELD	3709	7	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	2.170	31	.40	1.51	2	
HOBART	4204	7	50.4	31	1.1	85.	25	21.	14	461.5	-35.5	8.5	-1.5	3.756	31	2.49	2.44	3	
HOLLIS	4249	7	51.6	31	-.7	89.	21	18.	14	422.5	9.5	7.5	-12.5	.521	30	-.53	.52	31	
LAWTON	5063	7	50.7	30	-1.3	88.	23	24.	5	436.5	12.5	8.0	-13.0	3.530	31	1.70	1.15	31	
FORT SILL	5068	7	50.2	30	999.0	89.	23	26.	14	453.0	9999.0	7.5	9999.0	3.723	31	1.89	2.31	2	
LOCO	5247	7	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	3.731	31	99.99	1.62	2	
LOOKEBA	5329	7	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	4.550	31	99.99	2.03	3	
MANGUM RES STA	5509	7	52.9	31	1.0	88.	24	22.	14	380.5	-45.5	4.0	-16.0	4.011	31	2.83	2.21	3	
RANDLETT	7403	7	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	.341	31	99.99	.33	17	
ROOSEVELT	7727	7	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	5.231	31	3.91	2.92	2	
SEDAN	8016	7	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	6.312	31	99.99	6.00	3	
SNYDER	8299	7	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	3.063	31	1.63	1.64	3	
VINSON	9212	7	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	2.371	31	1.09	2.04	3	
WALTERS	9278	7	54.4	31	1.3	90.	24	22.	14	352.5	-40.5	22.5	-1.5	6.740	31	4.61	3.20	28	
WICHITA MT WL REF	9629	7	50.0	30	-1.0	87.	24	20.	14	461.0	4.0	9.5	-10.5	3.850	31	1.96	1.90	2	
WILLOW	9668	7	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	3.672	31	99.99	3.21	3	

NOTE: 999.0, 9999.0, 99.99 indicates missing data TRACE = .001

MARCH 1988 SUMMARY FOR SOUTH CENTRAL DIVISION (CD8)

NAME	ID	DIV	DEV				DAY	TEMP	DAY	HEAT DEG	DEV FROM	COOL DEG	DEV FROM	TOT PPT	NUM OBS	DEV		24-HR DAY
			MEAN	NUM	FROM	MAX										MIN	NORM	
ADA	17	8	52.1	31	-.3	82.	24	20.	14	407.0	-6.0	8.0	-15.0	5.171	31	2.27	2.04	2
ALLEN	147	8	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	5.500	31	99.99	1.90	2
ARDMORE	292	8	54.4	31	-.7	84.	24	24.	14	342.0	2.0	13.5	-19.5	3.221	31	.27	1.62	17
ATOKA DAM	394	8	51.4	30	999.0	81.	24	26.	19	416.0	9999.0	8.5	9999.0	4.130	31	99.99	1.88	3
BOKCHITO	917	8	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	3.730	31	99.99	1.15	3
CANEY	1437	8	52.6	30	999.0	80.	23	24.	14	380.0	9999.0	7.5	9999.0	3.300	31	99.99	1.42	3
CENTRAHOMA	1648	8	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	3.320	31	99.99	1.60	2
CHICKASAW	1745	8	50.3	30	999.0	83.	24	17.	14	448.5	9999.0	8.0	9999.0	4.850	31	99.99	2.20	2
COMANCHE	2054	8	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	4.690	31	99.99	2.60	29
DAISY	2354	8	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	4.174	31	.33	1.47	4
DUNCAN	2660	8	51.4	30	-1.6	88.	24	24.	14	423.5	27.5	15.0	-9.0	9.660	31	7.52	6.75	29
DURANT	2678	8	51.5	30	999.0	80.	20	25.	15	405.5	9999.0	2.0	9999.0	4.130	31	.86	1.00	3
ELMORE CITY	2872	8	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	8.501	31	99.99	3.30	29
FARRIS	3083	8	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	4.020	31	99.99	1.20	3
GRADY	3688	8	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	2.520	31	99.99	.68	18
HEALDTON	4001	8	53.0	31	999.0	90.	24	21.	14	390.5	9999.0	19.5	9999.0	4.150	31	1.69	1.82	2
HENNEPIN	4052	8	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	7.113	31	99.99	2.75	2
KINGSTON	4865	8	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	2.460	31	-.70	1.05	3
LEHIGH	5108	8	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	3.343	31	99.99	1.17	3
LINDSAY	5216	8	51.3	31	999.0	84.	24	20.	14	435.0	9999.0	11.5	9999.0	3.742	31	1.48	1.77	2
MADILL	5468	8	53.7	30	.1	82.	24	23.	14	355.5	-22.5	16.5	-8.5	2.550	30	-.46	1.30	17
MARIETTA	5563	8	54.6	31	.8	85.	24	20.	14	343.0	-28.0	19.5	-4.5	1.951	31	-.80	.94	18
MARLOW	5581	8	53.2	31	999.0	88.	24	19.	14	383.0	9999.0	17.5	9999.0	3.303	31	1.30	1.60	29
MCGEE CREEK	5713	8	52.3	30	999.0	83.	20	24.	15	388.5	9999.0	6.5	9999.0	4.280	31	99.99	1.26	3
OSWALT	6787	8	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	2.481	31	99.99	1.34	17
PAULS VALLEY	6926	8	51.9	28	-.7	87.	24	18.	14	379.0	-26.0	12.5	-8.5	4.462	31	2.16	1.38	29
PONTOTOC	7214	8	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	5.000	31	1.71	1.50	2
TISHOMINGO	8884	8	51.4	27	999.0	81.	10	19.	14	374.5	9999.0	8.5	9999.0	2.871	30	-.30	1.22	3
TUSSY	9032	8	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	4.781	31	99.99	2.11	29
WAURIKA	9395	8	54.9	31	.7	91.	24	20.	14	340.0	-24.0	26.0	-4.0	2.500	31	.56	1.92	2
WAURIKA DAM	9399	8	52.2	30	999.0	90.	24	24.	14	399.0	9999.0	15.0	9999.0	3.621	31	99.99	2.34	2

NOTE: 999.0, 9999.0, 99.99 indicates missing data TRACE = .001

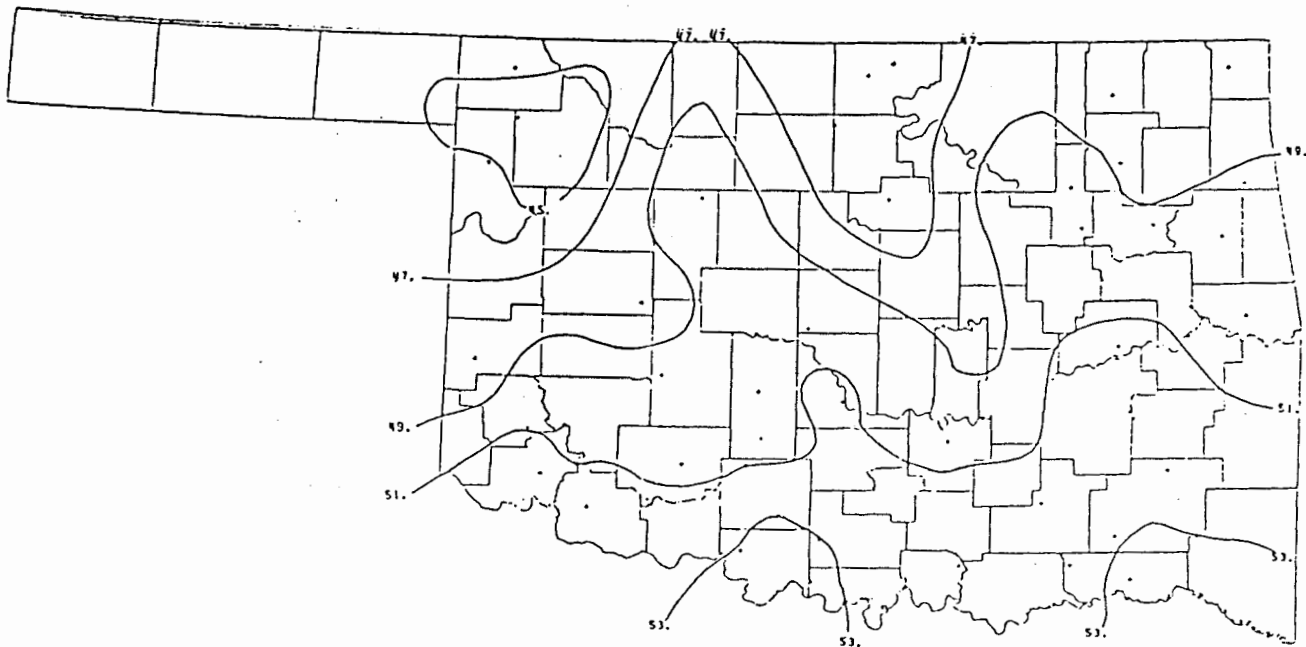
MARCH 1988 SUMMARY FOR SOUTHEAST DIVISION (CD9)

NAME	ID	DIV	DEV						HEAT	DEV	COOL	DEV	DEV					
			MEAN	NUM	FROM	MAX	MIN		DEG	FROM	DEG	FROM	TOT	NUM	FROM	MAX		
			TEMP	OBS	NORM	TEMP	DAY	TEMP	DAY	DAY	NORM	DAY	NORM	PPT	OBS	NORM	24-HR	DAY
ANTLERS	256	9	54.2	31	1.4	81.	24	30.	15	343.0	-55.0	9.5	-10.5	3.510	31	-.06	1.45	2
BATTIEST	567	9	51.1	31	999.0	78.	24	19.	15	435.5	9999.0	3.5	9999.0	4.580	31	99.99	1.12	30
BEAR MT TW	584	9	52.9	31	999.0	79.	24	23.	15	378.0	9999.0	4.0	9999.0	6.440	31	2.00	2.55	30
BENGAL	670	9	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	5.021	31	99.99	1.28	3
BOSWELL	980	9	52.6	31	999.0	80.	24	22.	14	393.5	9999.0	9.0	9999.0	3.843	31	.52	1.15	3
BROKEN BOW	1162	9	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	4.640	31	.17	1.25	2
BKN BOW DAM	1168	9	51.6	30	999.0	81.	21	21.	15	404.0	9999.0	3.0	9999.0	5.400	31	99.99	.97	3
CARTER TW	1544	9	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	5.310	31	.74	1.42	30
FANSHAW	3065	9	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	4.710	31	.29	1.02	3
HEAVENER	4008	9	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	3.450	31	-.70	.80	18
HEE MT TW	4017	9	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	5.890	31	99.99	1.62	30
HUGO	4384	9	54.4	31	-.2	80.	24	23.	14	338.0	-9.0	9.0	-15.0	5.960	31	2.16	2.30	30
IDABEL	4451	9	51.6	30	-2.3	80.	25	25.	15	405.5	41.5	4.0	-16.0	5.430	31	1.07	1.40	12
POTEAU	7254	9	50.0	30	999.0	84.	20	17.	14	455.0	9999.0	6.0	9999.0	3.982	31	99.99	1.09	1
SOBOL TW	8305	9	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	5.370	31	1.23	1.55	29
SPIRO	8416	9	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	4.370	31	.23	1.28	2
TUSKAHOMA	9023	9	52.7	31	999.0	80.	24	18.	15	396.0	9999.0	16.0	9999.0	4.744	31	99.99	1.11	30
VALLIANT	9118	9	999.0	0	999.0	999.	0	999.	0	999.0	9999.0	999.0	9999.0	3.900	31	-.31	1.16	30

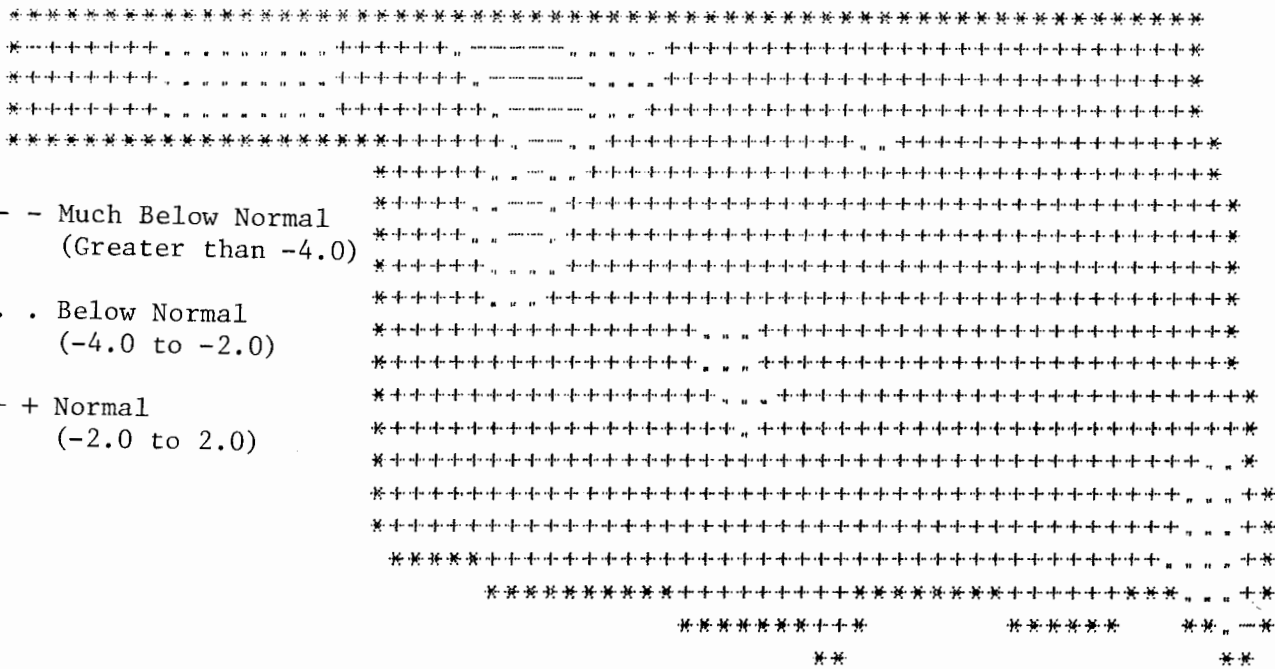
NOTE: 999.0, 9999.0, 99.99 indicates missing data TRACE = .001

MARCH 1988 CLIMATE DIVISION SUMMARY

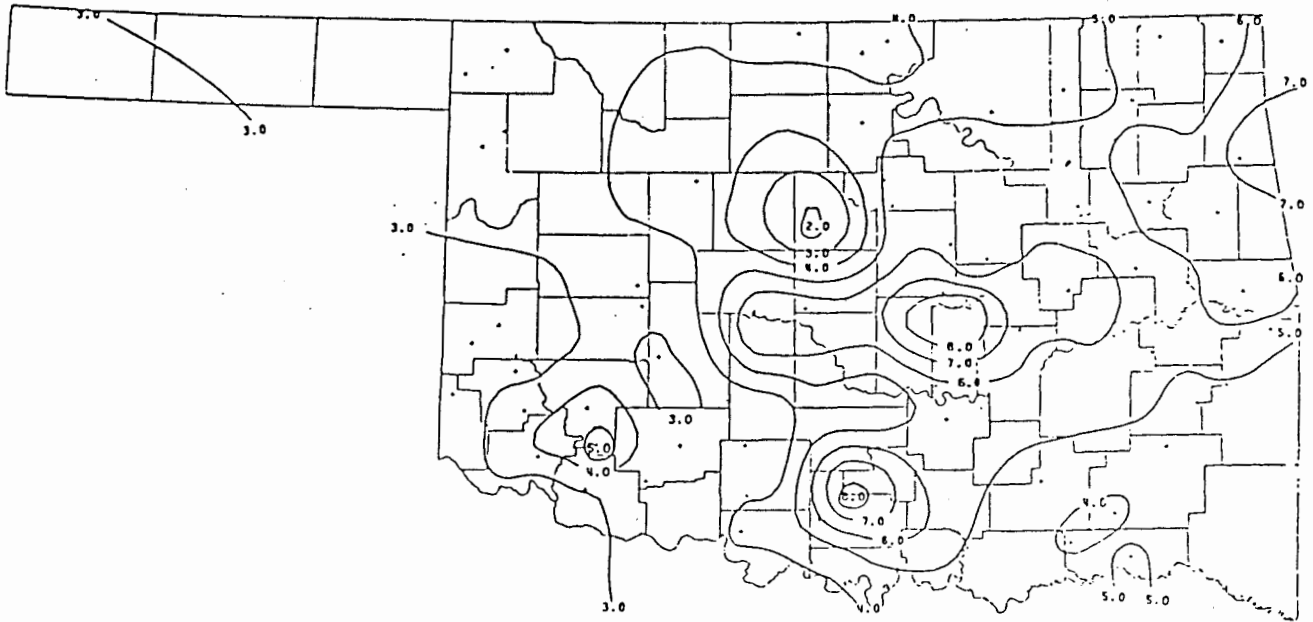
CLIMATE	MEAN	NUM	DEV						HEAT	DEV	COOL	DEV	DEV			
			FROM	MAX	MIN		DEGREE	FROM	DEGREE	FROM	TOT	NUM	FROM	MAX		
DIV	TEMP	STA	NORM	TEMP	DAY	TEMP	DAY	DAYS	NORM	DAYS	NORM	PPT	STA	NORM	24-HR	DAY
1	43.6	12	-1.8	85.0	23	10.0	4	639.0	24.4	.3	-5.5	2.11	15	.98	2.80	3
2	45.9	15	-2.1	86.0	22	3.0	31	588.0	48.2	2.8	-9.2	4.23	25	2.37	4.90	3
3	48.9	18	.3	89.0	20	15.0	14	500.3	-21.4	9.1	-2.7	5.36	33	2.40	3.60	29
4	48.0	10	-1.3	85.0	20	9.0	4	521.6	21.8	1.7	-11.4	3.29	21	1.71	3.42	3
5	49.6	17	-.5	87.0	24	11.0	14	481.0	2.0	8.7	-7.1	5.38	39	3.08	5.00	31
6	51.2	12	.3	84.0	21	13.0	15	433.3	-22.4	0.9	-8.1	5.91	29	2.40	3.29	29
7	51.3	13	-.5	90.0	24	15.0	14	427.3	-.4	11.0	-8.0	3.49	25	1.93	6.00	3
8	52.5	17	-1.0	91.0	24	17.0	14	388.9	7.9	12.7	-13.0	4.18	31	1.42	6.75	29
9	52.4	9	-1.4	84.0	20	17.0	14	394.3	24.6	7.1	-14.2	4.81	18	.68	2.55	30



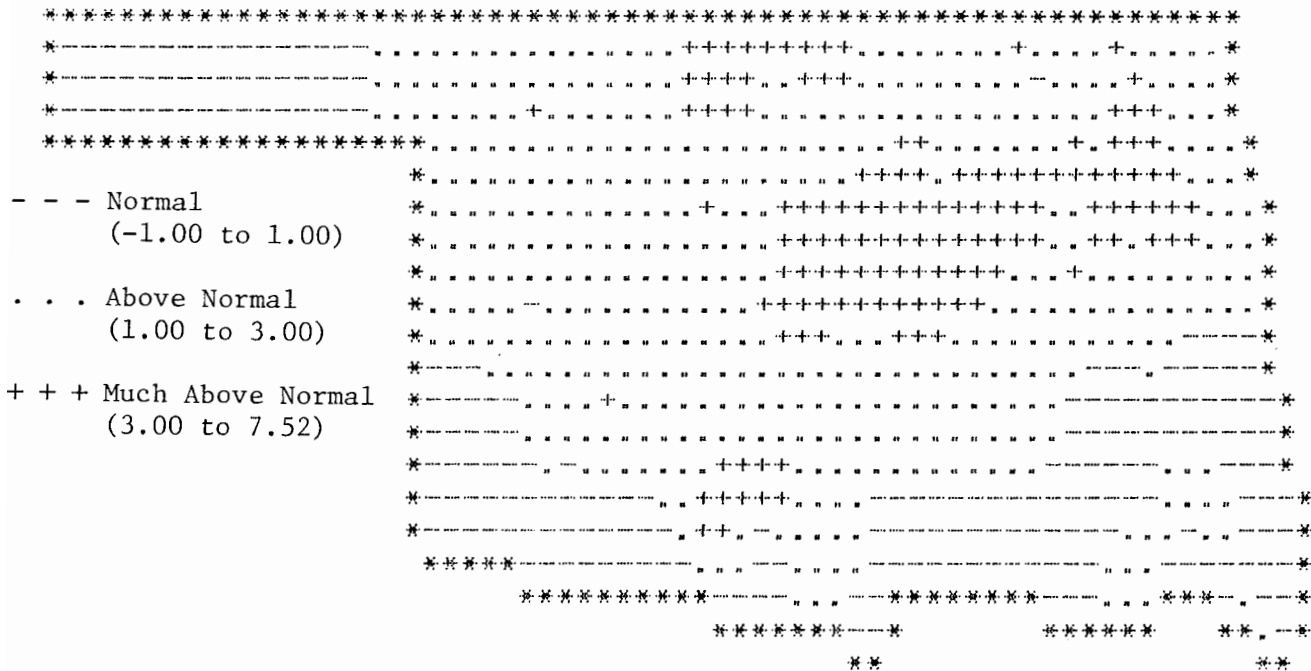
MARCH 1988 AVERAGE MONTHLY TEMPERATURE
(Degrees F)



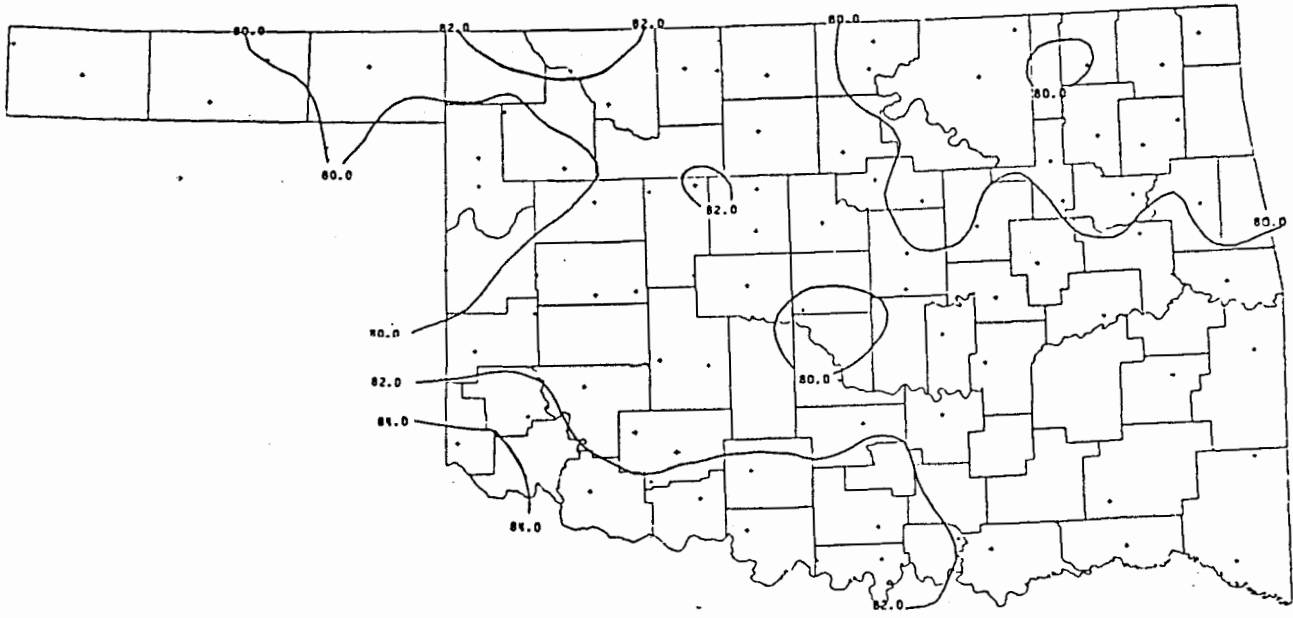
MARCH 1988 DEVIATION FROM NORMAL TEMPERATURES



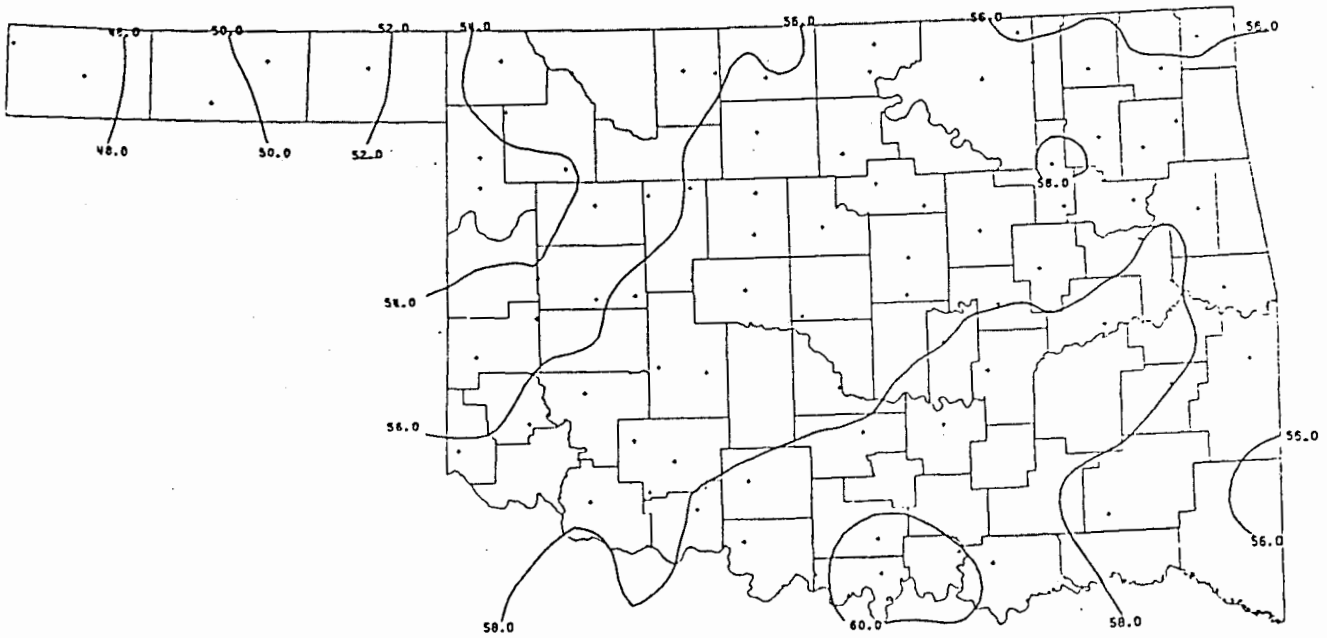
MARCH 1988 TOTAL PRECIPITATION
(Inches)



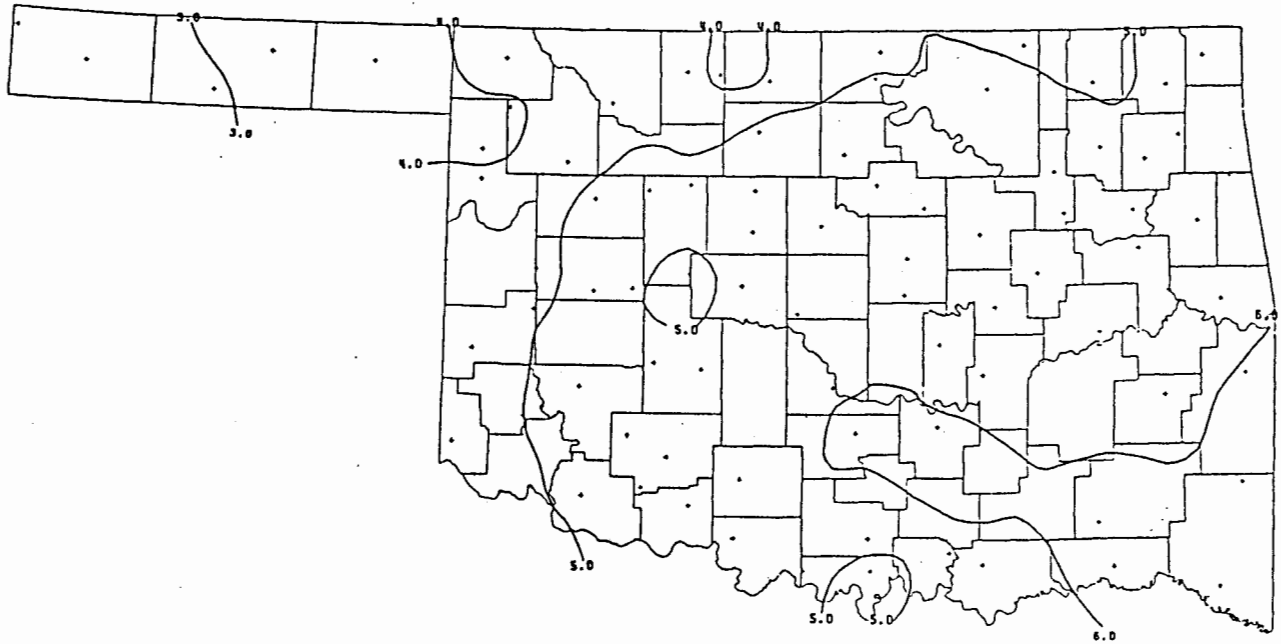
MARCH 1988 DEVIATION FROM NORMAL PRECIPITATION



30-YEAR MEAN MAY MAXIMUM TEMPERATURE

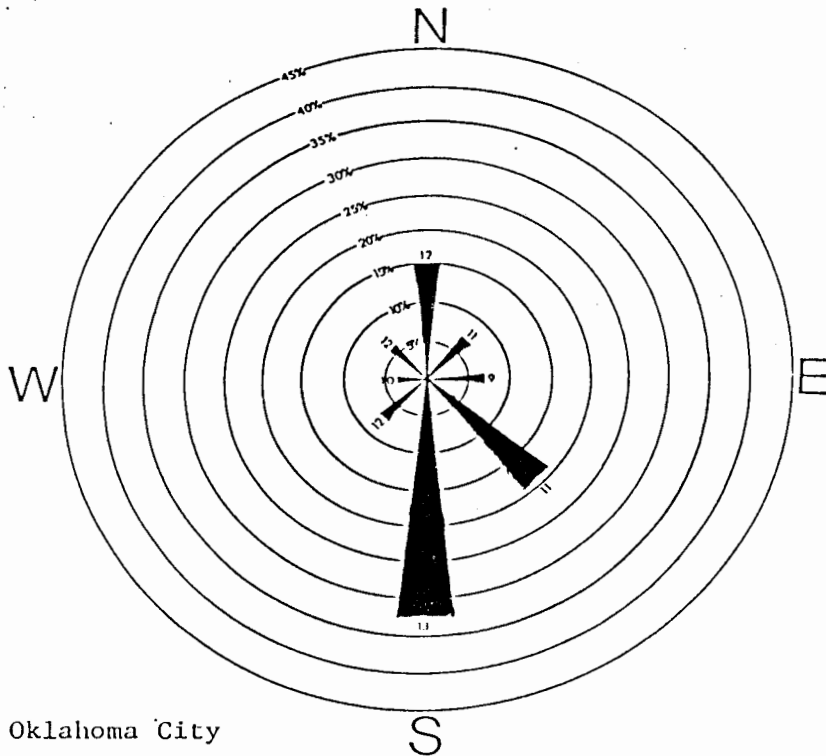


30-YEAR MEAN MAY DAILY MINIMUM TEMPERATURE

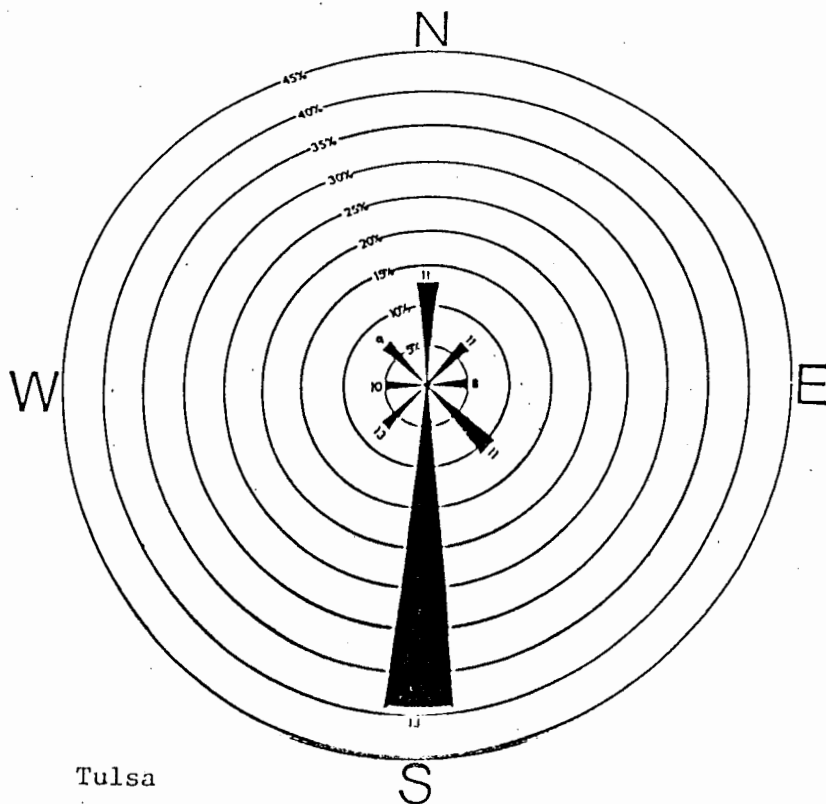


30-YEAR MEAN MAY PRECIPITATION

May wind roses for Oklahoma City and Tulsa for 10-year (1965-1974) mean winds (data adapted from NOAA Airport Climatology Series). Percents represent the percentage of winds coming from a direction. The numbers at the end of the bars indicate the average speed of winds from that direction. Graphics by Tim Johnson.



Oklahoma City



Tulsa

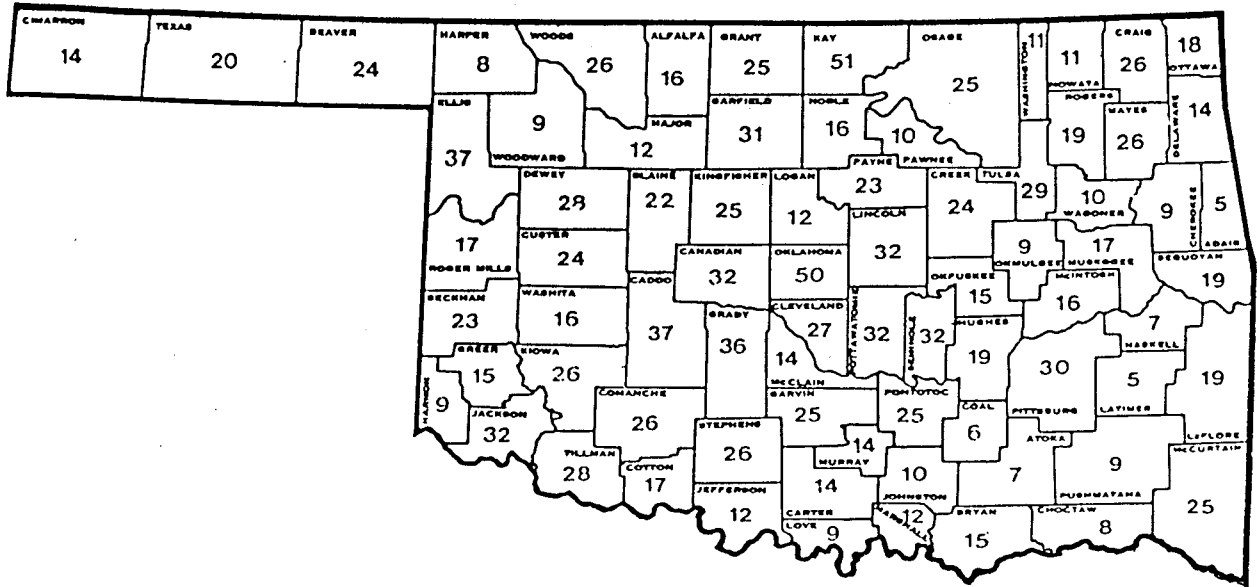
Many Oklahomans associate spring with severe weather, and rightfully so. Nearly 3/4 of Oklahoma's tornadoes occur during the spring. Tornadoes are most frequent in May (35%). The following and additional Oklahoma tornado information were compiled and published by the OSU Extension (Publication no. 9413).

Oklahoma Tornado Statistics

Oklahoma, being geographically located in the Southern Great Plains where warm moist air flowing northward from the Gulf of Mexico interacts with cooler dry air spreading eastward from the Rocky Mountains, has a high frequency of tornado occurrences compared with many other areas of the United States. During the 25-year period 1950-74, a total of 1352 tornadoes are known to have struck Oklahoma. Although 75 percent of the 1352 tornadoes struck in April, May and June, tornadoes can and have struck in every month of the year. In mid-winter, January 22, 1957 at 6 am in the morning, a tornado struck in Haskell and Sequoyah Counties killing 10 persons and injuring an additional 21. In Oklahoma, more tornadoes have been reported in May than in any other month of the year. During the period 1950-1974, 35 percent of Oklahoma's tornadoes occurred in May.

Though tornadoes occur with a much greater frequency during the hours from mid afternoon through early evening, they can and have occurred at all hours of the day and night. The greater frequency during the afternoon and early evening can be explained to a large extent as the result of an increase in the instability of the atmosphere caused by a buildup of heat near the earth's surface on long, warm, sunny afternoons. After sunset, the layer of the atmosphere near the earth's surface begins to cool allowing the atmosphere to stabilize, lessening the threat of a tornado occurrence.

Surface winds in connection with developing tornadoes are usually from the southwest and approximately 56 percent of all tornadoes move from the southwest toward the northeast. Tornadoes, however, have been known to come from almost any direction, even stopping their forward movement, turning, and looping their path. For instance, a tornado at Oklahoma City on June 12, 1942 moved southeastward, curved to the southwest, then recurved to the east, moved northward, and finally westward, its path describing almost a complete circle.



Tornado Occurrences By County, 1950-1974

Though tornado frequency in Oklahoma is relatively high, the threat of someone's home, car, or place of employment being struck is extremely low. When considering the fact that the area affected by the average Oklahoma tornado is approximately five tenths of a square mile, that during the period 1950-74 an average of 54 tornadoes struck in Oklahoma each year, and that the total area of the State is approximately 69,000 square miles, the probability of any point in the state being in a

tornado path is about .0004 or approximately once in 2500 years. This is to say, that on the average you would expect a given point in the State to be in a tornado path once every 2,500 years and is not to say that it is impossible for a particular point to be struck by a tornado in successive years or more than once in a single year.

Table 1. Monthly Tornado Occurrences, 1950-74

YRS	J	F	M	A	M	J	J	A	S	O	N	D
50-54	0	7	15	45	55	34	16	7	6	3	5	2
55-59	5	7	17	82	121	45	24	14	11	4	14	0
60-64	1	7	18	54	169	37	20	10	5	2	6	0
65-69	4	1	3	67	78	66	6	6	10	1	0	3
70-74	1	3	11	39	50	79	7	6	12	15	10	6
SUM	11	24	64	287	473	261	73	43	44	25	35	11

Table 2. Tornado Deaths, Injuries and Damages

Years	Deaths	Injuries	Damages*
50-54	14	214	7,661
55-59	57	576	22,969
60-64	53	429	17,548
65-69	4	62	11,306
70-74	39	700	54,978
SUM	167	1981	114,462

*Thousands of dollars using 1967 dollar base.

Table 3. Outstanding Oklahoma Tornadoes

Date	Location	Deaths	Injuries
May 8, 1882	McAlester	21	42
Apr. 25, 1893	Cleveland Co.	31	unk
May 10, 1905	Snyder	97	58
May 2, 1920	Peggs	60	80
Nov 19, 1930	Bethany	23	77
Apr 27, 1942	Pryor/Claremore	52	181
Jun 12, 1942	SW Okla. City	35	29
Apr 12, 1945	Antlers	69	353
Apr 9, 1947	Woodward	101*	782
Mar 20, 1948	Tinker AFB	0	8
Mar 25, 1948	Tinker AFB	0**	1
Mar 25, 1955	Blackwell	20	280
Jun 8, 1974	Drumright	14	150

* Total of 109 Killed in Texas and Oklahoma

** First severe weather forecast