OKLAHOMA
MONTHLY SUMMARY
APRIL 1993

TABLE OF CONTENTS

MONTHLY SUMMARY FOR APRIL 1993

Spring weather struck Oklahoma with a vengeance during April. A tornado struck Tulsa and Catoosa, killing seven people, injuring over 90 others and causing extensive damage, especially in Catoosa. Flooding forced the evacuations in Stillwater and winter weather made an encore appearance as snow and sleet were reported at several locations during the month. Temperatures averaged nearly four degrees below normal. Precipitation across the state averaged almost an inch above normal, although precipitation in many areas in northwestern Oklahoma was below normal for the month.

The statewide average temperature was 56.9 degrees, the ninth lowest April average temperature since 1892. Precipitation for the month averaged 4.04 inches. For the year-to-date, temperatures have averaged 45.2 degrees which is 2.1 degrees below normal and the 13th lowest temperature for the first third of the year. Precipitation, thus far, has averaged 11.82 inches or 2.92 inches above normal, a total that ranks as the 14th greatest January through April total for the state.

Two upper level disturbances crossed the state during the first week of the month, keeping skies mostly cloudy and the weather cool. Reports of precipitation in excess of an inch were commonplace in eastern Oklahoma on the 4th and 5th. Fair weather dominated the state from the 9th through the 11th as temperatures in many areas soared into the mid 80s.

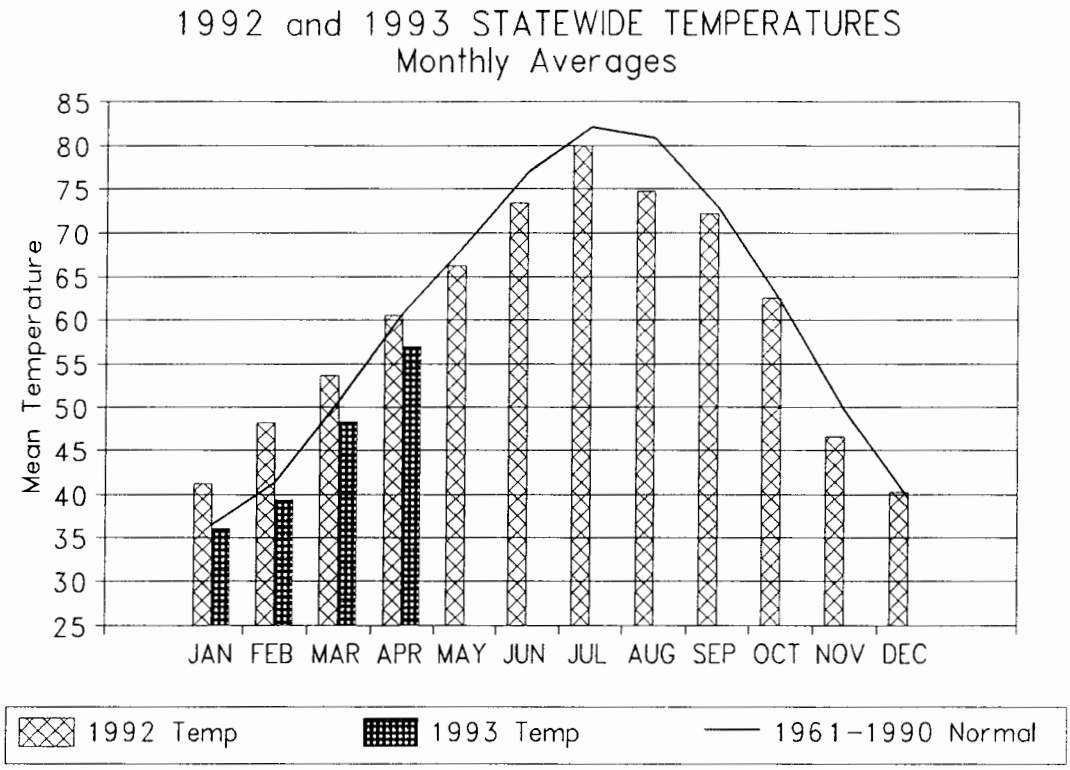
Rain and cooler air returned to the state by the middle of the month. Thunderstorms on the 13th produced street flooding in a number of areas in central and southeastern Oklahoma. Chandler reported over 6 inches of rain and Ada reported over 4 inches. Cooler air arrived on the 14th as snow reportedly fell, but did not accumulate, at several locations including Cement and the Wichita Mountains Wildlife Refuge. Sleet and a mixture of rain, sleet and snow were widely reported across northern portions of the state. Overnight low temperatures in the upper 20s were reported in the northwest on the 15th, 16th and 17th.

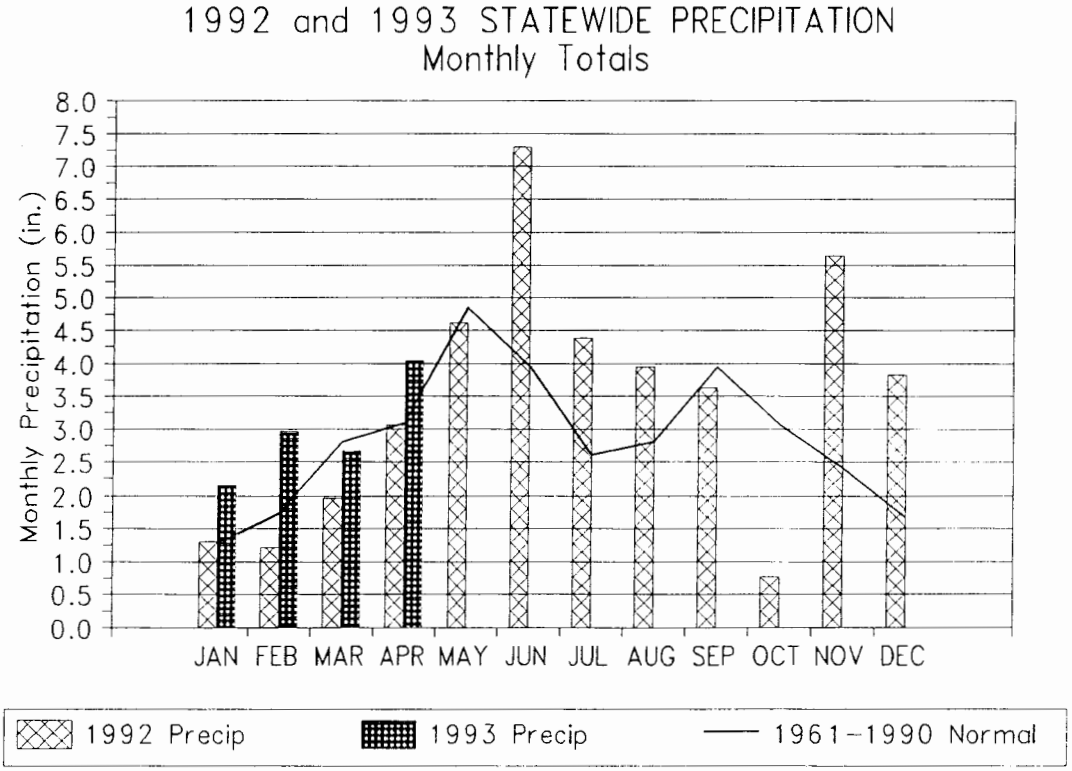
A cold front that moved through the state on the 23rd and 24th was the catalyst for the most significant weather event of the spring season, thus far, the Tulsa-Catoosa tornadoes of April 24. According to reports from the National Weather Service, two tornadoes killed seven people, injured at least 90 others, destroyed over 100 residences in Catoosa, destroyed at least 70 percent of the businesses in Catoosa, damaged about 1500 homes and inflicted major damage to Catoosa High School. Total damage has been estimated at $100 million. Another tornado the same evening destroyed seven mobile homes and two houses near Locust Grove in Mayes County. Large hail and damaging thunderstorm winds were reported at many locations across northeastern Oklahoma and, from a separate thunderstorm system, in southern Oklahoma.

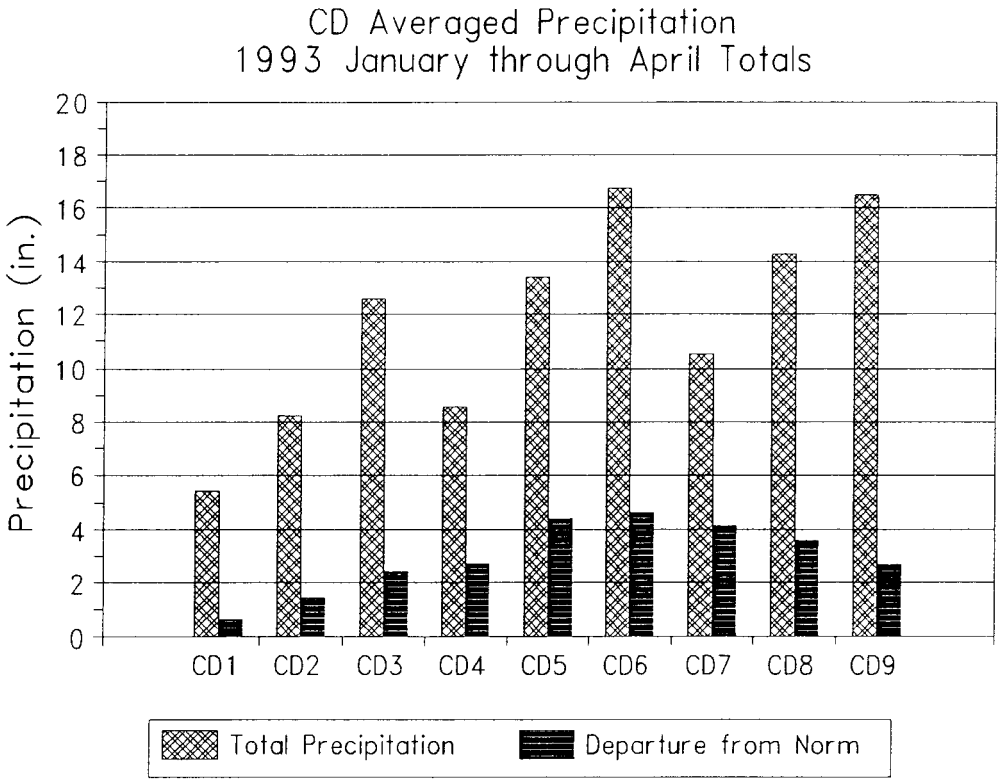
Another round of strong thunderstorms developed during late afternoon on the 28th. A tornado was reported by the public west of Retrop in Beckham County and reports of large hail and damaging winds were common in southwestern Oklahoma. Extremely heavy rain in Payne County prompted the evacuation of two apartment complexes in southwest Stillwater, and flooding caused the closure of numerous roads in the city. Water had receded by 9 AM on the 29th. City officials in Stillwater reported that approximately seven inches of rain fell in Stillwater overnight. The official observer a mile west of Stillwater reported 5.5 inches of precipitation. The nearby communities of Perkins and Ingalls each reported more than 4.5 inches of precipitation. The heavy rain moved eastward through the night into Creek and Okmulgee Counties, causing flooding south of Bristow and street flooding in Depew and Dewar.

Another round of thunderstorms developed in northwestern Oklahoma on the afternoon of the 30th, producing large hail in Harper, Woods, Woodward and Major Counties. A tornado was reported north of Mooreland and several funnel clouds were observed near Woodward.

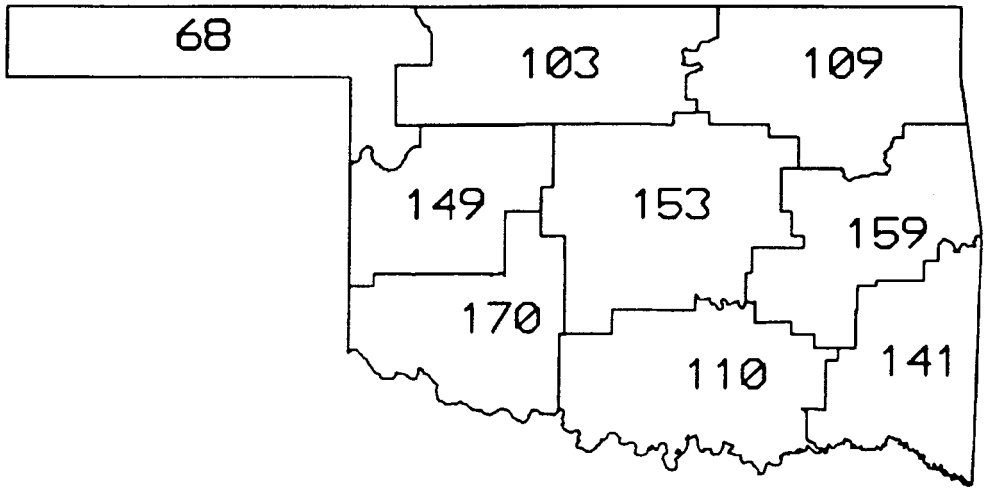
Howard L. Johnson


1992 and 1993 STATEWIDE TEMPERATURES
Monthly Averages
Mean Temperature
85
80
75
70
65
60
55
50
45
40
35
30
25
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1992 Temp
1993 Temp
1961-1990 Normal


1992 and 1993 STATEWIDE PRECIPITATION
Monthly Totals
Monthly Precipitation (in.)
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1992 Precip
1993 Precip
1961-1990 Normal



CD PERCENT OF NORMAL PRECIPITATION



APRIL 1993

EXTREME VALUES OF TEMPERATURE AND PRECIPITATION IN EACH CLIMATE DIVISION
APRIL, 1993

CD	MAX TEMP	DATE	LOCATION	MIN TEMP	DATE	LOCATION	24-HOUR PRECIP	DATE	LOCATION	MONTHLY PRECIP	LOCATION
1	91	19	BUFFALO	25	2	BUFFALO	1.10	29	GAGE FAA APT	1.91	GAGE FAA APT
2	90	23	ALVA	23	2	FREEDOM	3.19	30	MEDFORD	6.05	PERRY
	90	24	FREEDOM								
3	85	10	MANNFORD	24	2	PRYOR	1.97	29	PAWNEE	5.83	KANSAS
4	90	18	ERICK	28	2	HAMMON	3.83	29	CORDELL	5.67	CORDELL
	90	23	REYDON	28	2	TALOGA					
5	89	12	BLANCHARD	27	2	STILLWATER	6.70	14	CHANDLER	10.97	CHANDLER
	89	12	CHICKASHA								
	89	12	GUTHRIE								
6	87	19	MCALESTER	23	2	TAHLEQUAH	2.90	14	WETUMKA	8.65	CLAYTON
7	91	18	HOLLIS	22	2	WALTERS	4.08	29	SEDAN	6.03	SEDAN
8	90	24	HEALDTON	27	2	MARLOW	4.08	14	ADA	8.08	DAISY
	90	13	WAURIKA DAM	27	22	MCGEE CREEK					
9	84	10	ANTLERS	27	1	POTEAU	2.37	15	BENGAL	8.76	SPIRO
	84	10	POTEAU	27	2	WILBURTON					
	84	10	WILBURTON								

TABLE OF 1992/1993 COMPARISONS

Station	April Temperature (F) 1992	1993	April Precipitation (in.) 1992	1993
Arnett	56.3	51.2	1.59	0.80
Enid	58.7	55.7	2.63	3.52
Mutual	56.8	52.5	1.88	1.92
Tulsa	62.2	56.7	5.03	4.60
Elk City	60.7	57.0	1.49	1.86
Oklahoma City	61.3	56.2	3.64	2.51
McAlester	62.7	60.3	4.83	5.10
Altus Irr Sta	62.8	59.5	2.36	3.39
Durant	62.0	58.0	2.43	4.21
Ada	61.6	57.5	5.15	7.13
Antlers	62.4	59.3	2.66	5.36

EXTREMES

Variable	Station	Division	Observation	Date
Minimum temperature (F)	Freedom	2	23	2
	Tahlequah	6	23	2
Maximum temperature (F)	Buffalo	1	91	19
	Hollis	7	91	18
Maximum 24-hour precipitation	Stillwater	5	5.50"	29

APRIL 1993 SUMMARY FOR NORTHWEST DIVISION (CD1)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
ARNETT	332	1	51.2	28	*****	87.	24	30.	2	388.5	******	3.0	******	.804	28	*****	.65	4
BEAVER	593	1	52.3	30	-3.5	88.	24	26.	17	389.5	95.5	9.0	-9.0	2.092	30	.54	1.04	29
BOISE CITY 2 E	908	1	53.9	30	-1.3	83.	23	27.	15	337.5	31.5	3.5	-8.5	1.021	30	-.16	.90	3
BUFFALO	1243	1	56.2	30	-3.5	91.	19	25.	2	285.0	77.0	19.5	-29.5	1.450	30	-.90	.45	28
FARGO	3070	1	*****	0	*****	****	0	****	0	******	******	******	******	1.460	30	-.55	.54	29
GAGE FAA APT	3407	1	55.5	30	-3.2	89.	23	27.	2	294.5	73.5	11.0	-21.0	1.915	30	.04	1.10	29
GATE	3489	1	53.4	30	-3.8	87.	24	28.	2	359.5	95.5	11.5	-18.5	.843	30	-.99	.25	4
GOODWELL RES ST	3628	1	52.2	30	-2.3	86.	24	28.	3	386.0	59.0	.5	-11.5	.642	30	-.59	.62	4
GUYMON	3835	1	53.2	26	*****	88.	23	27.	22	318.0	******	10.5	******	.311	28	*****	.30	4
HOOKER	4298	1	52.6	30	-3.8	87.	24	29.	17	374.0	97.0	2.5	-16.5	.192	30	-1.19	.17	4
KENTON	4766	1	52.2	27	*****	82.	23	27.	15	347.0	******	2.5	******	.002	30	-1.21	.00	27
LAVERNE	5045	1	*****	0	*****	****	0	****	0	******	******	******	******	1.154	29	*****	.51	29
OPTIMA LAKE	6740	1	53.2	30	*****	88.	24	27.	16	367.0	******	12.0	******	.364	30	*****	.19	3
REGNIER	7534	1	*****	0	*****	****	0	****	0	******	******	******	******	.910	30	-.18	.48	3
TURPIN 4 SSE	9017	1	52.7	29	*****	86.	24	28.	16	363.0	******	5.0	******	.070	30	*****	.04	28

APRIL 1993 SUMMARY FOR NORTH CENTRAL DIVISION (CD2)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
ALVA	193	2	55.4	30	*****	82.	26	29.	2	290.0	******	1.5	******	1.910	30	*****	.65	4
VANCE AFB	302	2	*****	0	*****	****	0	****	0	******	******	******	******	3.233	30	*****	1.05	15
BILLINGS	755	2	52.3	30	-5.8	82.	13	25.	2	380.5	144.5	.0	-29.0	3.040	30	-.05	1.05	15
BLACKWELL 2E	818	2	54.7	29	-4.0	77.	27	26.	2	297.5	79.5	.0	-29.0	3.080	30	.11	1.36	29
BRAMAN	1075	2	*****	0	*****	****	0	****	0	******	******	******	******	2.780	29	*****	1.25	29
CEDARDALE	1620	2	*****	0	*****	****	0	****	0	******	******	******	******	1.211	31	*****	.51	29
CHEROKEE	1724	2	55.9	30	-4.2	79.	26	29.	2	277.5	89.5	4.0	-37.0	1.230	30	-1.15	.80	29
ENID	2912	2	55.7	30	-4.8	80.	12	28.	2	285.5	108.5	7.0	-35.0	3.520	30	.65	1.22	15
FT SUPPLY DAM	3304	2	52.8	30	-4.4	88.	24	29.	16	371.0	109.0	5.5	-22.5	1.042	30	-.70	.27	17
FREEDOM	3358	2	52.6	30	-7.2	90.	24	23.	2	381.0	183.0	8.5	-33.5	1.750	30	-.42	.52	4
GREAT SALT PLNS	3740	2	53.8	30	-4.6	79.	27	28.	2	335.5	105.5	.5	-31.5	1.540	30	-1.12	.49	28
HARDY	3909	2	*****	0	*****	****	0	****	0	******	******	******	******	3.344	30	*****	1.05	28
HELENA 1 SSE	4019	2	52.5	30	-4.6	78.	27	26.	2	374.5	116.5	.0	-21.0	2.221	30	-.26	1.32	28
JEFFERSON	4573	2	56.2	30	-3.5	80.	26	26.	2	266.5	66.5	3.5	-37.5	3.680	30	.92	1.91	30
LAMONT	5013	2	*****	0	*****	****	0	****	0	******	******	******	******	3.000	30	*****	1.43	29
MEDFORD	5768	2	*****	0	*****	****	0	****	0	******	******	******	******	5.360	29	*****	3.19	30
MORRISON	6065	2	*****	0	*****	****	0	****	0	******	******	******	******	4.080	30	*****	2.90	29
MUTUAL	6139	2	52.5	30	-4.6	81.	24	29.	16	374.5	111.5	.0	-26.0	1.920	30	-.51	.90	29
NEWKIRK	6278	2	54.5	30	-5.1	78.	27	24.	2	317.0	116.0	2.5	-36.5	3.380	30	.29	1.38	29
ORIENTA	6751	2	*****	0	*****	****	0	****	0	******	******	******	******	1.290	30	-1.32	.68	29
PERRY	7012	2	57.0	30	-4.4	80.	26	28.	2	253.5	92.5	13.5	-39.5	6.051	30	3.35	3.00	29
PONCA CITY FAA	7201	2	56.7	30	-2.4	80.	27	28.	2	264.0	52.0	14.0	-21.0	3.663	30	.84	1.37	29
RED ROCK 1 NNE	7505	2	*****	0	*****	****	0	****	0	******	******	******	******	5.290	30	2.53	2.58	29
WAYNOKA	9404	2	54.5	30	-5.5	85.	23	26.	2	323.5	127.5	8.5	-37.5	1.020	30	-1.07	.39	29
WOODWARD	9760	2	*****	0	*****	****	0	****	0	******	******	******	******	.982	31	-1.07	.45	29

APRIL 1993 SUMMARY FOR NORTHEAST DIVISION (CD3)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
BARNSDALL	535	3	55.8	30	-5.3	82.	10	25.	2	286.0	123.0	10.5	-35.5	3.623	30	.28	.98	18
BARTLESVILLE 2W	548	3	56.5	30	-4.8	83.	10	25.	2	263.5	102.5	10.0	-40.0	3.262	30	-.13	.84	29
BIXBY	782	3	54.7	29	-4.7	82.	13	29.	2	307.5	117.5	7.5	-14.5	5.240	29	*****	1.40	29
BURBANK	1256	3	*****	0	*****	****	0	****	0	******	******	******	******	3.523	30	.76	1.28	28
CHELSEA 4 S	1717	3	*****	0	*****	****	0	****	0	******	******	******	******	4.350	30	*****	1.02	18
CLAREMORE	1828	3	53.3	30	-5.7	80.	13	28.	2	357.0	155.0	5.0	-17.0	4.440	30	.89	.93	15
CLEVELAND 5 WSW	1902	3	57.7	28	*****	82.	13	32.	2	220.0	******	15.0	******	4.870	30	*****	1.40	4
FORAKER	3250	3	*****	0	*****	****	0	****	0	******	******	******	******	2.090	30	-1.03	.62	18
HOLLOW	4258	3	*****	0	*****	****	0	****	0	******	******	******	******	4.482	30	.86	1.29	15
HOMINY	4289	3	*****	0	*****	****	0	****	0	******	******	******	******	3.762	30	.69	.82	5
HULAH DAM	4393	3	53.4	29	-5.3	82.	11	25.	2	341.5	127.5	4.5	-20.5	2.011	29	*****	.70	18
JAY TOWER	4567	3	52.8	30	*****	80.	11	28.	2	367.0	******	2.0	******	3.770	30	*****	1.10	15
KANSAS 1 ESE	4672	3	55.1	30	-5.4	79.	10	26.	2	305.0	134.0	7.0	-29.0	5.828	30	1.55	1.77	25
KEYSTONE DAM	4812	3	54.6	28	*****	81.	13	27.	2	295.5	******	4.0	******	4.173	29	*****	1.02	15
LENAPAH	5118	3	*****	0	*****	****	0	****	0	******	******	******	******	3.610	29	*****	.90	15
MANNFORD 6 NW	5522	3	58.1	30	-3.9	85.	10	26.	2	235.0	87.0	28.5	-29.5	4.420	30	1.13	1.06	5
MARAMEC	5540	3	*****	0	*****	****	0	****	0	******	******	******	******	5.210	30	2.16	1.56	29
MIAMI	5855	3	54.2	29	-4.5	82.	23	28.	2	314.0	106.0	.0	-19.0	1.180	24	*****	.70	18
NOWATA	6485	3	55.5	30	-4.8	80.	12	28.	2	293.0	108.0	6.5	-37.5	3.330	30	-.31	.76	14
ONETA 1 WNW	6713	3	*****	0	*****	****	0	****	0	******	******	******	******	3.560	30	*****	.80	15
PAWHUSKA	6935	3	56.1	30	-4.5	80.	10	26.	2	276.5	100.5	10.0	-34.0	3.760	30	.42	1.02	29
PAWNEE	6940	3	*****	0	*****	****	0	****	0	******	******	******	******	4.850	30	1.74	1.97	29
PRYOR 6 N	7309	3	52.7	30	-6.1	79.	11	24.	2	369.0	156.0	.5	-26.5	3.992	30	.08	1.18	15
RALSTON	7390	3	56.7	30	-4.3	80.	12	26.	2	260.5	90.5	10.0	-37.0	2.883	30	-.28	1.20	29
RAMONA 4 N	7394	3	*****	0	*****	****	0	****	0	******	******	******	******	4.131	30	*****	1.64	25
SKIATOOK	8258	3	*****	0	*****	****	0	****	0	******	******	******	******	2.700	30	-.75	.64	18
SPAVINAW	8380	3	57.2	30	-4.4	78.	27	28.	2	257.5	107.5	23.5	-24.5	3.244	30	-.75	1.07	15
TULSA WSO APT	8992	3	56.7	30	-4.8	83.	10	28.	2	269.0	118.0	21.0	-25.0	4.602	30	.88	.95	15
UPPER SPAVINAW	9101	3	57.9	27	*****	84.	10	36.	6	222.0	******	31.5	******	4.964	28	*****	1.28	5
VINITA 2 N	9203	3	56.1	30	-3.4	78.	10	25.	2	279.0	85.0	11.5	-17.5	2.801	30	-1.03	.91	15
WAGONER	9247	3	57.8	30	-4.0	81.	12	29.	2	241.0	103.0	24.0	-18.0	4.411	29	*****	1.04	15
WANN	9298	3	*****	0	*****	****	0	****	0	******	******	******	******	3.430	30	*****	1.00	4
WYNONA	9792	3	*****	0	*****	****	0	****	0	******	******	******	******	3.304	30	*****	.99	5

APRIL 1993 SUMMARY FOR WEST CENTRAL DIVISION (CD4)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
CANTON DAM	1445	4	52.9	30	-5.3	79.	19	29.	2	365.0	128.0	1.5	-31.5	2.942	29	*****	.98	29
CHEYENNE	1738	4	*****	0	*****	****	0	****	0	******	******	******	******	1.930	30	-.09	1.19	29
CLINTON	1909	4	56.5	30	-4.5	83.	12	30.	2	260.0	89.0	5.0	-46.0	2.782	30	.47	1.33	29
COLONY	2039	4	*****	0	*****	****	0	****	0	******	******	******	******	2.820	30	*****	.95	29
CORDELL	2125	4	*****	0	*****	****	0	****	0	******	******	******	******	5.672	30	3.64	3.83	29
ELK CITY 1 E	2849	4	57.0	29	-3.3	85.	12	32.	2	242.5	64.5	10.0	-27.0	1.861	29	*****	.76	29
ERICK 4 E	2944	4	57.5	30	-2.7	90.	18	30.	2	239.0	58.0	13.5	-23.5	1.970	30	-.07	.81	29
GEARY	3497	4	59.3	30	-.9	87.	12	35.	2	195.0	7.0	25.0	-19.0	3.940	30	1.53	1.93	29
HAMMON 1 NNE	3871	4	52.8	30	-5.7	84.	19	28.	2	366.5	136.5	.0	-35.0	2.391	30	.43	.86	29
LEEDEY	5090	4	*****	0	*****	****	0	****	0	******	******	******	******	3.320	31	1.08	2.48	28
MACKIE 4 NNW	5463	4	*****	0	*****	****	0	****	0	******	******	******	******	2.730	30	*****	1.42	29
MORAVIA 2 NNE	6035	4	*****	0	*****	****	0	****	0	******	******	******	******	3.810	30	1.80	2.08	29
OKEENE	6629	4	55.8	30	-5.2	80.	18	29.	2	280.5	108.5	3.0	-46.0	2.830	30	.45	1.36	29
RETROP	7565	4	*****	0	*****	****	0	****	0	******	******	******	******	3.630	30	*****	2.00	29
REYDON	7579	4	59.2	30	.1	90.	23	34.	2	204.0	-15.0	30.5	-11.5	2.321	30	.30	.85	14
SAYRE	7952	4	*****	0	*****	****	0	****	0	******	******	******	******	1.360	30	-.56	.55	29
TALOGA	8708	4	54.7	30	-4.4	80.	18	28.	2	313.5	104.5	4.0	-28.0	3.583	30	1.22	2.15	29
THOMAS	8815	4	*****	0	*****	****	0	****	0	******	******	******	******	3.930	30	*****	1.68	29
VICI	9172	4	*****	0	*****	****	0	****	0	******	******	******	******	4.820	30	2.35	2.00	30
WATONGA	9364	4	55.8	30	-4.2	82.	18	29.	2	281.0	92.0	6.0	-33.0	3.711	30	1.31	1.90	29
WEATHERFORD	9422	4	55.0	30	-3.7	85.	13	29.	2	308.5	91.5	8.0	-20.0	3.011	30	.89	1.67	29

APRIL 1993 SUMMARY FOR CENTRAL DIVISION (CD5)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
AMBER	200	5	*****	0	*****	****	0	****	0	******	******	******	******	3.570	30	*****	1.78	29
ARCADIA	288	5	*****	0	*****	****	0	****	0	******	******	******	******	3.450	30	*****	1.65	30
TINKER AFB	325	5	*****	0	*****	****	0	****	0	******	******	******	******	2.293	30	*****	.84	29
BLANCHARD 2 SSW	830	5	58.8	30	-3.4	89.	12	30.	2	215.0	74.0	28.5	-28.5	2.891	30	-.22	1.35	29
BRISTOW	1144	5	58.1	30	-4.1	84.	10	28.	2	227.5	83.5	21.0	-39.0	7.780	30	4.45	4.17	29
CHANDLER	1684	5	58.9	29	-3.2	86.	10	29.	2	203.0	62.0	26.0	-28.0	4.520	30	1.33	2.10	29
CHICKASHA EX ST	1750	5	57.8	30	-4.7	89.	12	30.	2	239.0	104.0	24.5	-35.5	4.590	30	1.84	2.28	29
COX CITY 1 E	2196	5	*****	0	*****	****	0	****	0	******	******	******	******	2.750	30	*****	.88	14
CRESCENT	2242	5	*****	0	*****	****	0	****	0	******	******	******	******	5.420	30	*****	2.31	29
CUSHING	2318	5	55.2	30	-4.9	83.	13	32.	2	303.5	123.5	9.0	-24.0	5.561	30	2.25	3.30	29
EL RENO 1 N	2818	5	57.4	30	-3.2	87.	12	35.	16	246.5	69.5	18.0	-27.0	4.070	30	1.50	1.72	29
GUTHRIE	3821	5	59.3	30	-2.5	89.	12	28.	2	208.0	56.0	37.5	-18.5	7.201	30	4.54	3.87	29
HENNESSEY 4 ESE	4055	5	54.6	27	*****	77.	22	28.	2	282.0	******	.0	******	4.831	27	*****	2.00	29
INGALLS	4489	5	*****	0	*****	****	0	****	0	******	******	******	******	7.242	30	*****	4.57	29
KINGFISHER 2 SE	4861	5	56.3	30	-4.8	86.	12	28.	2	273.0	99.0	11.0	-46.0	3.951	30	1.34	1.55	29
KONAWA	4915	5	*****	0	*****	****	0	****	0	******	******	******	******	4.850	30	.77	1.12	29
MARSHALL	5589	5	*****	0	*****	****	0	****	0	******	******	******	******	6.010	30	3.45	3.83	29
MEEKER 4 W	5779	5	57.4	30	-4.2	83.	24	29.	2	247.5	89.5	19.5	-36.5	3.410	30	.15	1.47	28
MULHALL	6110	5	*****	0	*****	****	0	****	0	******	******	******	******	6.940	30	*****	3.50	29
NORMAN 3 S	6386	5	57.2	30	-5.3	88.	12	30.	2	257.5	129.5	22.5	-30.5	2.891	30	-.34	1.46	29
OILTON 2 SE	6616	5	*****	0	*****	****	0	****	0	******	******	******	******	6.530	30	*****	3.57	28
OKEMAH	6638	5	59.0	30	-2.9	85.	10	33.	2	205.5	68.5	26.0	-18.0	4.982	30	1.06	1.70	29
OKLAHOMA CTY WS	6661	5	56.2	30	-4.3	86.	12	31.	2	274.5	98.5	9.0	-29.0	2.505	30	-.26	1.09	14
PERKINS	7003	5	*****	0	*****	****	0	****	0	******	******	******	******	7.490	30	4.57	4.86	29
PIEDMONT	7068	5	*****	0	*****	****	0	****	0	******	******	******	******	5.210	30	*****	2.60	29
PRAGUE	7264	5	*****	0	*****	****	0	****	0	******	******	******	******	4.190	30	.49	1.20	4
PURCELL 5 SW	7327	5	58.8	30	-3.6	86.	12	28.	2	217.0	85.0	31.0	-23.0	3.201	30	-.41	.95	29
SEMINOLE	8042	5	59.7	30	-3.9	86.	11	31.	2	194.5	88.5	36.0	-28.0	4.180	30	.36	1.05	29
SHAWNEE	8110	5	*****	0	*****	****	0	****	0	******	******	******	******	3.070	30	-.91	.78	14
STELLA	8479	5	*****	0	*****	****	0	****	0	******	******	******	******	2.750	30	*****	.77	29
STILLWATER 2 W	8501	5	55.9	30	-3.4	86.	13	27.	2	282.0	78.0	9.0	-24.0	8.300	30	5.38	5.50	29
STROUD 1 N	8563	5	*****	0	*****	****	0	****	0	******	******	******	******	6.121	30	*****	3.25	29
TECUMSEH	8751	5	*****	0	*****	****	0	****	0	******	******	******	******	2.750	30	*****	.65	14
TROUSDALE	8960	5	*****	0	*****	****	0	****	0	******	******	******	******	3.080	30	*****	.62	14
UNION CITY 1 SE	9086	5	*****	0	*****	****	0	****	0	******	******	******	******	3.321	30	.46	1.48	29
WELTY 1 SSE	9479	5	*****	0	*****	****	0	****	0	******	******	******	******	6.390	30	*****	2.60	29
WEWOKA	9575	5	*****	0	*****	****	0	****	0	******	******	******	******	5.070	30	1.36	1.51	29

APRIL 1993 SUMMARY FOR EAST CENTRAL DIVISION (CD6)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
ASHLAND	364	6	*****	0	*****	****	0	****	0	******	******	******	******	6.941	30	*****	1.80	4
BEGGS	631	6	*****	0	*****	****	0	****	0	******	******	******	******	5.860	30	*****	2.50	29
BOYNTON	1027	6	*****	0	*****	****	0	****	0	******	******	******	******	4.882	30	*****	1.34	29
CALVIN	1391	6	*****	0	*****	****	0	****	0	******	******	******	******	5.842	30	1.64	1.40	14
CHECOTAH	1711	6	*****	0	*****	****	0	****	0	******	******	******	******	6.853	30	2.73	2.55	29
CLAYTON 14 WNW	1858	6	*****	0	*****	****	0	****	0	******	******	******	******	8.650	30	*****	2.85	14
DEWAR 2 NE	2485	6	*****	0	*****	****	0	****	0	******	******	******	******	6.060	30	2.04	2.36	29
DUSTIN	2690	6	*****	0	*****	****	0	****	0	******	******	******	******	6.450	30	*****	1.66	29
EUFAULA	2993	6	58.9	30	-4.4	83.	11	33.	2	212.0	96.0	29.0	-36.0	5.390	29	*****	1.80	14
HANNA	3884	6	58.8	30	-3.6	83.	12	31.	2	217.0	91.0	30.5	-17.5	6.481	30	2.39	1.62	4
HARTSHORNE	3946	6	*****	0	*****	****	0	****	0	******	******	******	******	7.460	30	*****	1.96	14
HASKELL	3956	6	*****	0	*****	****	0	****	0	******	******	******	******	6.440	30	2.79	1.98	29
HOLDENVILLE	4235	6	59.0	23	*****	85.	10	29.	2	158.0	******	20.5	******	7.430	30	3.44	2.39	14
LAKE EUFAULA	4975	6	56.5	28	*****	85.	13	33.	2	253.0	******	15.0	******	7.032	29	*****	2.32	29
LYONS 2 N	5437	6	*****	0	*****	****	0	****	0	******	******	******	******	6.551	30	1.78	2.65	14
MARBLE CITY	5546	6	*****	0	*****	****	0	****	0	******	******	******	******	7.622	30	*****	1.85	15
MCALESTER FAA	5664	6	60.3	30	-1.6	87.	19	32.	2	193.5	51.5	53.5	4.5	5.102	30	1.00	1.11	4
MCCURTAIN 1 SE	5693	6	59.1	30	-3.9	85.	10	31.	2	214.5	100.5	36.5	-17.5	8.580	30	4.04	2.20	15
MUSKOGEE	6130	6	58.2	30	-3.8	82.	12	30.	2	236.0	104.0	31.5	-10.5	5.321	30	1.24	1.63	28
OKMULGEE W W	6670	6	54.8	30	-5.4	83.	11	30.	2	307.0	135.0	2.5	-25.5	7.232	30	3.04	3.42	28
OKTAHA 2 NE	6678	6	*****	0	*****	****	0	****	0	******	******	******	******	5.110	30	*****	1.42	29
QUINTON	7372	6	*****	0	*****	****	0	****	0	******	******	******	******	6.671	30	2.60	1.86	4
SALLISAW 2 NE	7862	6	57.6	30	-4.7	85.	11	26.	2	251.0	120.0	29.5	-20.5	7.933	30	3.54	2.87	14
SCIPIO	7979	6	*****	0	*****	****	0	****	0	******	******	******	******	7.020	30	*****	2.55	14
SCRAPER	7993	6	*****	0	*****	****	0	****	0	******	******	******	******	3.910	30	*****	.88	5
SHORT	8170	6	*****	0	*****	****	0	****	0	******	******	******	******	8.382	30	*****	2.73	15
STILWELL 1 NE	8506	6	55.7	30	-4.6	81.	10	28.	2	292.0	117.0	12.0	-22.0	7.510	30	3.01	1.74	15
TAHLEQUAH	8677	6	56.3	30	-4.8	81.	11	23.	2	279.5	117.5	17.5	-27.5	5.410	30	1.25	1.40	4
WEBBERS FALLS	9445	6	55.1	30	-5.2	85.	11	28.	2	311.0	137.0	14.5	-18.5	7.690	30	3.49	1.78	29
WETUMKA 3 NE	9571	6	*****	0	*****	****	0	****	0	******	******	******	******	7.840	30	3.60	2.90	14

APRIL 1993 SUMMARY FOR SOUTHWEST DIVISION (CD7)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
ALTUS IRR STA	179	7	59.5	30	-3.8	90.	12	33.	2	190.0	67.0	25.0	-47.0	3.390	30	1.47	1.78	29
ALTUS DAM	184	7	59.2	30	-2.3	88.	19	35.	2	216.5	60.5	41.0	-7.0	5.250	30	3.34	3.18	29
ANADARKO	224	7	58.1	26	*****	87.	12	28.	2	197.5	******	18.0	******	3.660	30	1.20	1.52	29
APACHE	260	7	*****	0	*****	****	0	****	0	******	******	******	******	4.530	30	1.93	2.00	29
ALTUS AFB	447	7	*****	0	*****	****	0	****	0	******	******	******	******	2.832	29	*****	1.35	29
CARNEGIE 2 ENE	1504	7	58.4	30	-3.2	87.	12	27.	2	218.0	64.0	20.0	-32.0	5.570	30	3.21	2.87	29
CHATTANOOGA	1706	7	59.9	28	*****	86.	12	31.	2	167.0	******	25.0	******	2.070	28	*****	1.72	14
DUNCAN 11 W	2668	7	*****	0	*****	****	0	****	0	******	******	******	******	2.221	30	*****	1.15	13
FREDERICK	3353	7	56.7	30	-5.6	87.	13	34.	3	261.0	125.0	13.0	-42.0	3.160	30	.86	1.80	29
GRANDFIELD 4 NW	3709	7	*****	0	*****	****	0	****	0	******	******	******	******	3.850	30	1.45	1.90	14
HEADRICK	3998	7	*****	0	*****	****	0	****	0	******	******	******	******	2.420	30	*****	1.05	20
HOBART FAA APT	4204	7	57.9	28	*****	88.	12	32.	2	209.0	******	11.0	******	4.072	29	*****	1.73	29
HOLLIS	4249	7	59.0	30	-3.9	91.	18	32.	2	189.5	58.5	11.0	-57.0	3.030	30	1.05	1.68	28
LAWTON	5063	7	57.7	30	-4.2	87.	13	34.	2	240.0	101.0	21.0	-25.0	3.121	30	.69	1.73	14
FORT SILL	5068	7	58.6	30	*****	88.	12	33.	2	210.5	******	18.5	******	3.374	30	*****	2.14	14
LOOKEBA 2 ENE	5329	7	*****	0	*****	****	0	****	0	******	******	******	******	3.371	30	.91	1.13	15
MANGUM RES STA	5509	7	57.7	30	-5.2	86.	12	33.	9	226.0	95.0	7.0	-61.0	4.730	30	2.94	1.73	29
RANDLETT 9 E	7403	7	*****	0	*****	****	0	****	0	******	******	******	******	3.611	30	*****	1.66	29
ROOSEVELT	7727	7	*****	0	*****	****	0	****	0	******	******	******	******	3.820	30	1.46	1.83	29
SEDAN	8016	7	*****	0	*****	****	0	****	0	******	******	******	******	6.031	30	*****	4.08	29
SNYDER	8299	7	*****	0	*****	****	0	****	0	******	******	******	******	2.341	30	.09	.88	16
VINSON 3 WNW	9212	7	*****	0	*****	****	0	****	0	******	******	******	******	3.060	29	*****	1.52	29
WALTERS	9278	7	60.3	30	-3.2	89.	12	34.	2	178.0	57.0	36.0	-40.0	2.400	30	-.48	1.37	14
WICHITA MT WLR	9629	7	54.9	27	*****	85.	19	28.	2	280.5	******	7.5	******	3.531	27	*****	1.70	15
WILLOW	9668	7	*****	0	*****	****	0	****	0	******	******	******	******	3.961	30	*****	1.51	29

APRIL 1993 SUMMARY FOR SOUTH CENTRAL DIVISION (CD8)

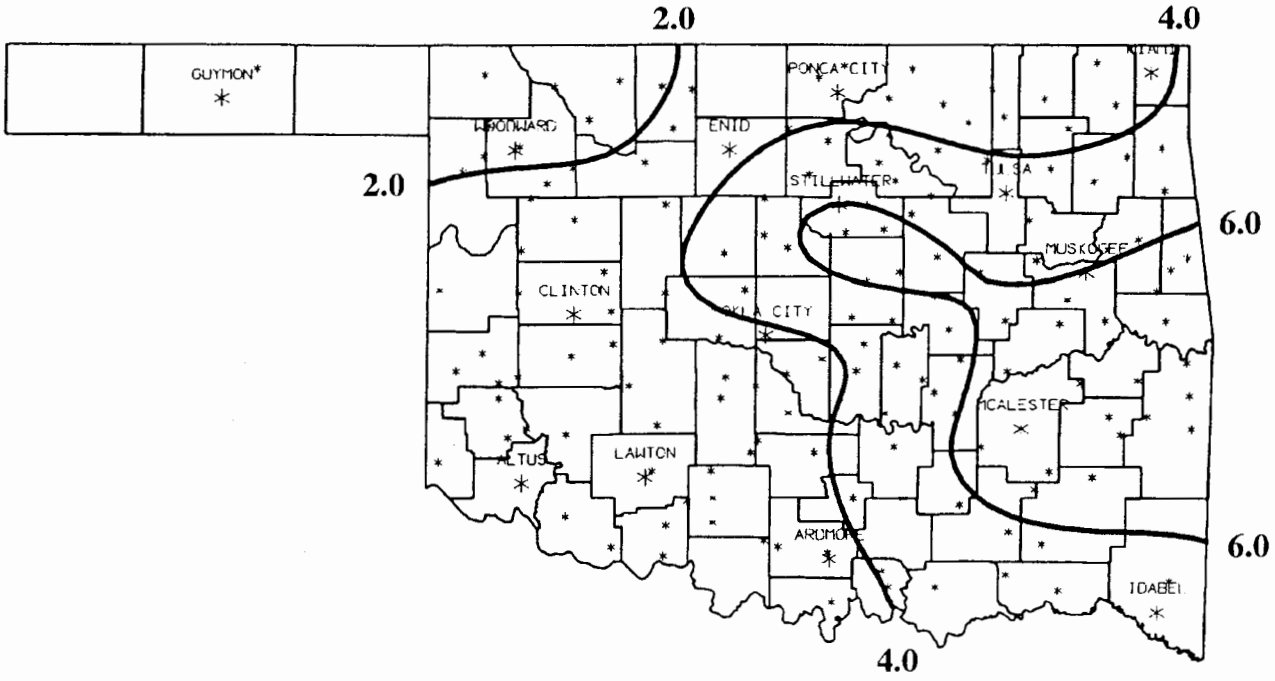
NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
ADA	17	8	57.5	30	-4.9	86.	10	30.	2	239.5	107.5	14.5	-39.5	7.131	30	3.64	4.08	14
ALLEN	147	8	*****	0	*****	****	0	****	0	******	******	******	******	4.920	30	*****	1.60	4
ARDMORE	292	8	61.0	29	-3.8	89.	11	33.	2	165.0	69.0	49.5	-40.5	3.830	30	.30	1.10	14
ATOKA DAM	394	8	57.5	22	*****	85.	12	31.	2	190.5	******	24.5	******	5.980	22	*****	1.90	26
BOKCHITO	917	8	*****	0	*****	****	0	****	0	******	******	******	******	3.820	30	*****	1.32	29
CANEY	1437	8	60.6	30	*****	82.	26	34.	2	176.5	******	44.5	******	3.610	30	*****	1.67	14
CENTRAHOMA	1648	8	*****	0	*****	****	0	****	0	******	******	******	******	6.300	30	*****	1.70	14
CHICKASAW NRA	1745	8	56.9	30	-4.7	88.	11	28.	2	263.0	118.0	20.5	-22.5	4.170	30	.58	1.45	14
COLEMAN	2011	8	*****	0	*****	****	0	****	0	******	******	******	******	2.940	30	*****	1.35	4
COMANCHE	2054	8	*****	0	*****	****	0	****	0	******	******	******	******	3.090	30	.11	1.25	14
DAISY 4 ENE	2354	8	*****	0	*****	****	0	****	0	******	******	******	******	8.081	30	3.03	2.25	14
DUNCAN	2660	8	57.8	30	-4.7	88.	13	33.	2	238.0	111.0	21.5	-30.5	2.750	30	-.24	1.17	14
DURANT USDA	2678	8	58.0	30	-4.2	84.	20	31.	2	226.5	87.5	17.0	-38.0	4.210	30	-.03	1.43	29
ELMORE CITY	2872	8	*****	0	*****	****	0	****	0	******	******	******	******	4.030	29	*****	1.85	14
FARRIS 3 WNW	3083	8	*****	0	*****	****	0	****	0	******	******	******	******	7.140	30	2.77	2.00	9
GRADY	3688	8	*****	0	*****	****	0	****	0	******	******	******	******	2.050	30	*****	.65	4
HEALDTON	4001	8	60.4	30	-2.8	90.	24	29.	2	187.5	68.5	50.0	-15.0	3.920	30	.48	1.75	4
HENNEPIN	4052	8	*****	0	*****	****	0	****	0	******	******	******	******	4.670	30	*****	2.22	14
KETCHUM RANCH	4780	8	*****	0	*****	****	0	****	0	******	******	******	******	3.230	30	*****	1.20	4
KINGSTON	4865	8	*****	0	*****	****	0	****	0	******	******	******	******	4.120	30	.24	1.28	4
LEHIGH	5108	8	*****	0	*****	****	0	****	0	******	******	******	******	7.075	30	*****	2.30	14
LINDSAY 2 W	5216	8	58.5	30	-3.9	86.	12	30.	2	219.5	82.5	25.5	-33.5	2.991	30	-.36	.83	14
LOCO 6 SE	5247	8	*****	0	*****	****	0	****	0	******	******	******	******	2.590	30	*****	1.19	29
MADILL	5468	8	60.7	30	-2.9	87.	10	31.	2	173.0	71.0	43.5	-16.5	3.630	30	-.37	1.10	13
MARIETTA	5563	8	61.5	30	-2.0	89.	10	33.	2	155.5	52.5	52.0	-9.0	3.221	30	-.39	1.64	29
MARLOW 1 WSW	5581	8	59.1	30	-3.2	88.	12	27.	2	210.0	77.0	32.0	-20.0	2.930	30	.01	1.46	14
MCGEE CREEK DAM	5713	8	57.6	28	*****	86.	10	27.	22	220.0	******	13.5	******	5.050	30	*****	1.25	13
PAULS VALLEY	6926	8	59.9	30	-3.3	87.	24	28.	2	189.5	67.5	36.5	-31.5	3.000	30	-.45	.90	14
PONTOTOC	7214	8	*****	0	*****	****	0	****	0	******	******	******	******	3.670	30	-.15	1.45	13
TISHOMINGO NWLR	8884	8	58.8	24	*****	84.	19	33.	2	173.5	******	25.5	******	4.550	26	*****	1.79	5
TUSSY	9032	8	*****	0	*****	****	0	****	0	******	******	******	******	3.710	30	*****	1.32	14
WAURIKA	9395	8	61.6	30	-2.5	90.	12	33.	2	154.0	44.0	53.0	-30.0	1.951	30	-.99	1.30	29
WAURIKA DAM	9399	8	57.3	25	*****	90.	13	34.	2	209.0	******	17.5	******	2.261	25	*****	.88	14

APRIL 1993 SUMMARY FOR SOUTHEAST DIVISION (CD9)

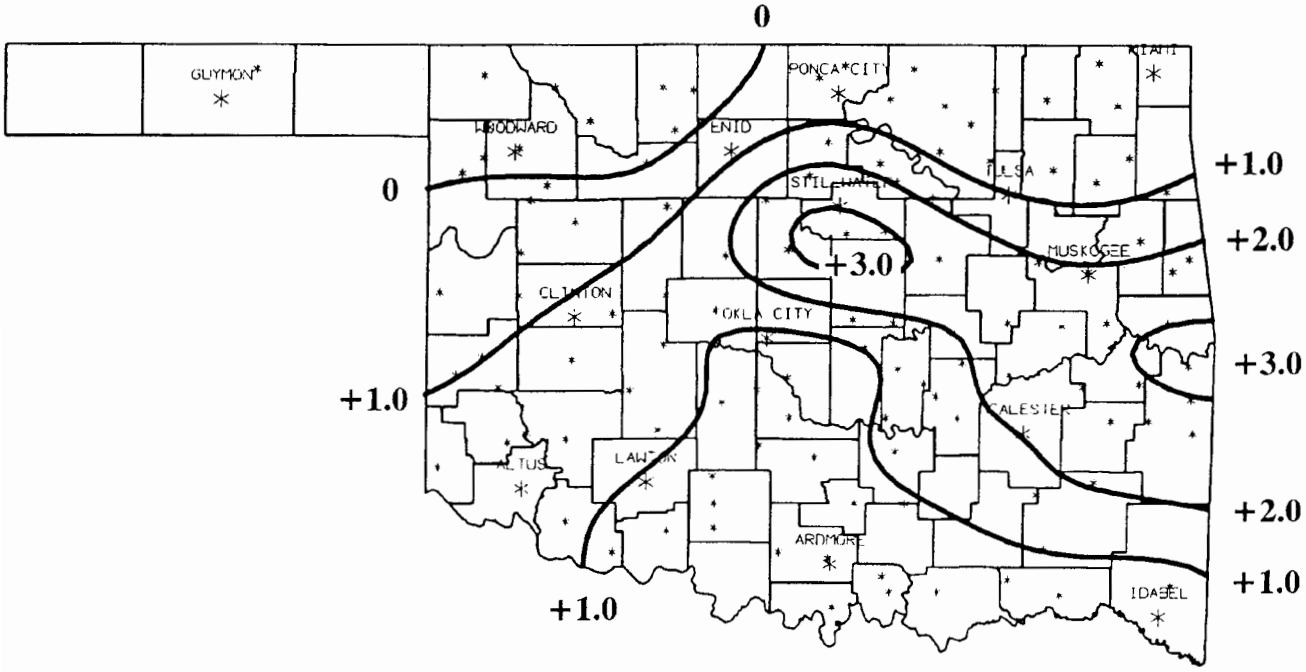
NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
ANTLERS	256	9	59.3	30	-3.6	84.	10	33.	22	200.0	91.0	30.5	-15.5	5.360	30	1.04	2.11	14
BATTIEST 1 SSW	567	9	55.0	30	*****	79.	10	29.	22	307.0	******	7.0	******	7.030	30	*****	2.20	15
BEAR MT TWR	584	9	56.1	21	*****	84.	11	37.	16	203.5	******	17.5	******	4.361	25	*****	1.25	15
BENGAL	670	9	*****	0	*****	****	0	****	0	******	******	******	******	7.260	30	*****	2.37	15
BOSWELL 4 NNW	980	9	59.0	30	-3.8	83.	19	32.	2	208.5	93.5	29.5	-19.5	4.355	30	.45	1.45	29
BROKEN BOW 1 N	1162	9	*****	0	*****	****	0	****	0	******	******	******	******	4.210	30	-.30	1.04	29
BROKEN BOW DAM	1168	9	57.2	23	*****	85.	11	34.	21	186.0	******	5.5	******	4.870	30	.22	1.43	14
CARNASAW TWR	1499	9	*****	0	*****	****	0	****	0	******	******	******	******	5.040	30	.15	1.14	15
CARTER TWR	1544	9	*****	0	*****	****	0	****	0	******	******	******	******	4.010	30	-.67	1.26	15
FANSHAWE	3065	9	*****	0	*****	****	0	****	0	******	******	******	******	7.510	30	2.90	2.20	15
HEAVENER 1 SE	4008	9	*****	0	*****	****	0	****	0	******	******	******	******	7.360	30	2.89	2.30	15
HEE MT TWR	4017	9	*****	0	*****	****	0	****	0	******	******	******	******	6.440	30	1.71	1.64	15
HUGO	4384	9	60.8	30	-3.3	82.	11	35.	2	161.0	71.0	35.5	-27.5	4.332	30	.16	1.22	14
IDABEL	4451	9	57.9	30	-4.1	85.	11	34.	2	228.5	97.5	16.0	-25.0	6.322	30	1.90	1.57	20
POTEAU	7246	9	57.0	30	-5.9	84.	10	27.	2	248.0	135.0	7.5	-42.5	6.770	30	2.33	1.87	28
SMITHVILLE 1 W	8285	9	55.8	30	-4.8	89.	19	30.	16	290.5	132.5	16.0	-10.0	6.801	30	2.06	1.70	25
SPIRO	8416	9	*****	0	*****	****	0	****	0	******	******	******	******	8.760	30	4.40	2.23	29
TUSKAHOMA	9023	9	58.3	30	-4.6	83.	11	29.	2	227.0	108.0	27.0	-29.0	6.970	30	2.25	1.98	15
VALLIANT 3 W	9118	9	*****	0	*****	****	0	****	0	******	******	******	******	4.101	31	-.24	1.14	15
WILBURTON 9 ENE	9634	9	57.8	30	-4.2	84.	10	27.	2	239.0	100.0	24.0	-25.0	5.872	30	1.17	1.74	14

APRIL 1993 CLIMATE DIVISION SUMMARY

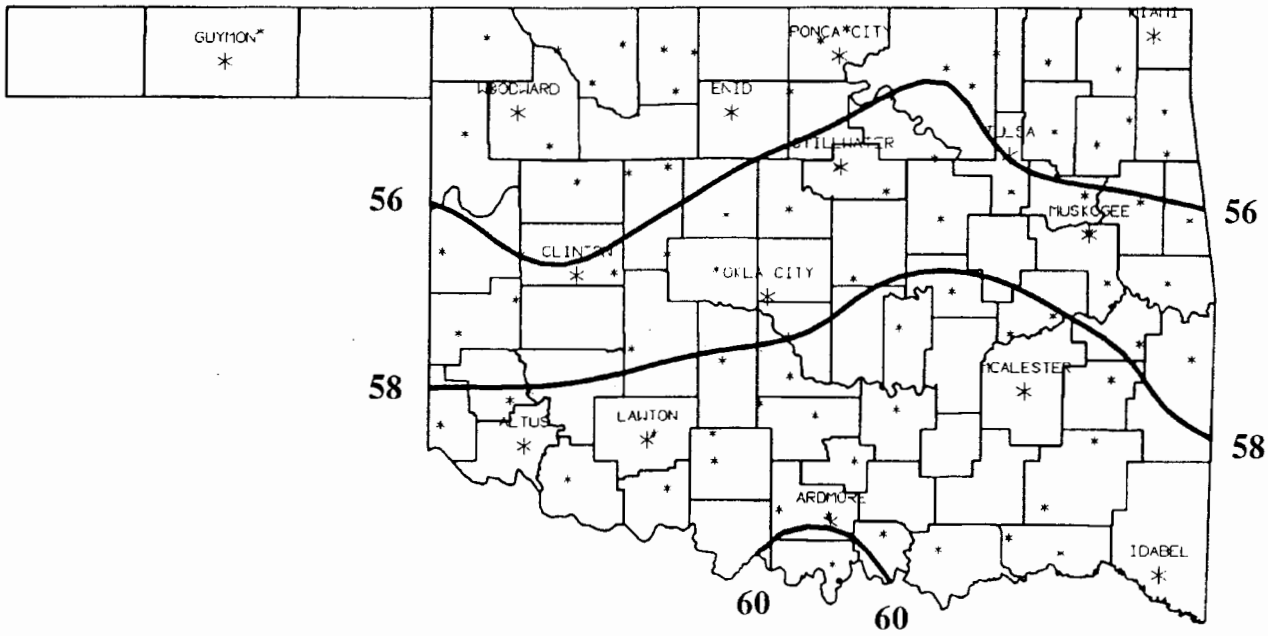
CLIMATE DIV	MEAN TEMP	NUM STA	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEGREE DAYS	DEV FROM NORM	COOL DEGREE DAYS	DEV FROM NORM	TOT PPT	NUM STA	DEV FROM NORM	MAX 24-HR	DAY
1	53.5	9	-2.9	91.0	19	25.0	2	350.7	71.4	8.3	-14.3	.91	12	-.68	1.10	29
2	54.5	15	-4.6	90.0	24	23.0	2	319.5	106.5	4.6	-31.6	2.67	23	.10	3.19	30
3	55.4	17	-4.9	85.0	10	24.0	2	295.4	117.5	10.7	-27.1	3.85	26	.34	1.97	29
4	56.0	11	-3.8	90.0	23	28.0	2	277.8	82.0	9.7	-29.9	3.19	19	1.01	3.83	29
5	57.7	15	-3.8	89.0	12	27.0	2	239.6	86.8	21.9	-28.0	4.68	36	1.48	5.50	29
6	57.5	10	-4.2	87.0	19	23.0	2	251.4	108.4	25.7	-18.8	6.69	28	2.50	3.42	28
7	58.6	9	-3.6	91.0	18	27.0	2	214.4	70.9	21.4	-36.2	3.69	20	1.41	4.08	29
8	59.5	13	-3.4	90.0	13	27.0	22	199.8	77.2	35.4	-25.5	4.13	29	.43	4.08	14
9	57.9	9	-4.6	89.0	19	27.0	2	234.4	112.3	21.4	-25.4	5.97	19	1.45	2.37	15



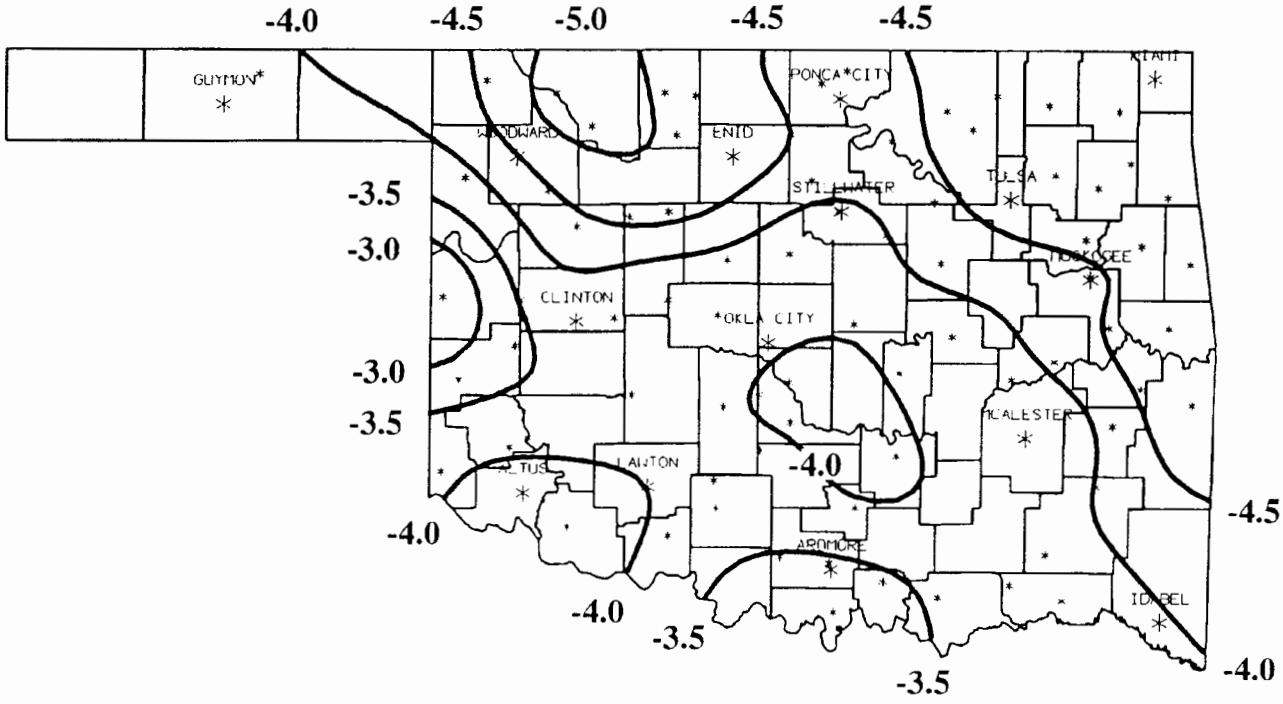
APRIL 1993 TOTAL PRECIPITATION
(Inches)



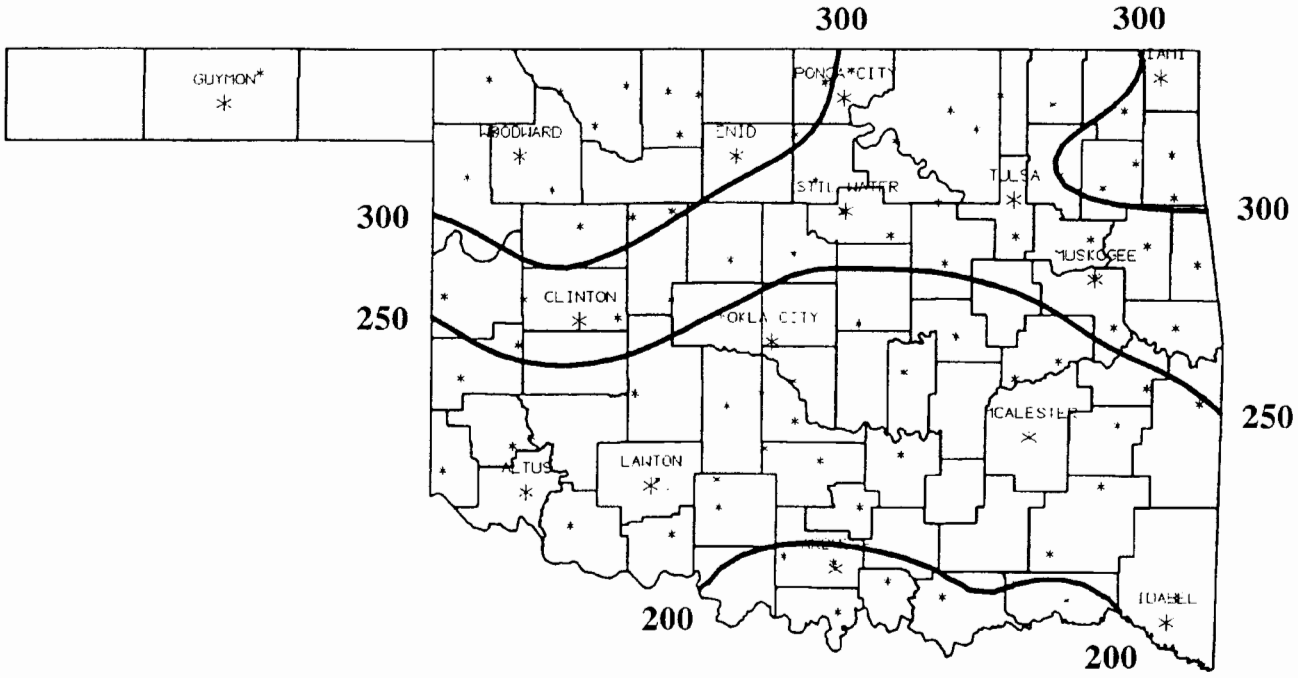
APRIL 1993 DEVIATION FROM NORMAL PRECIPITATION
(Inches)



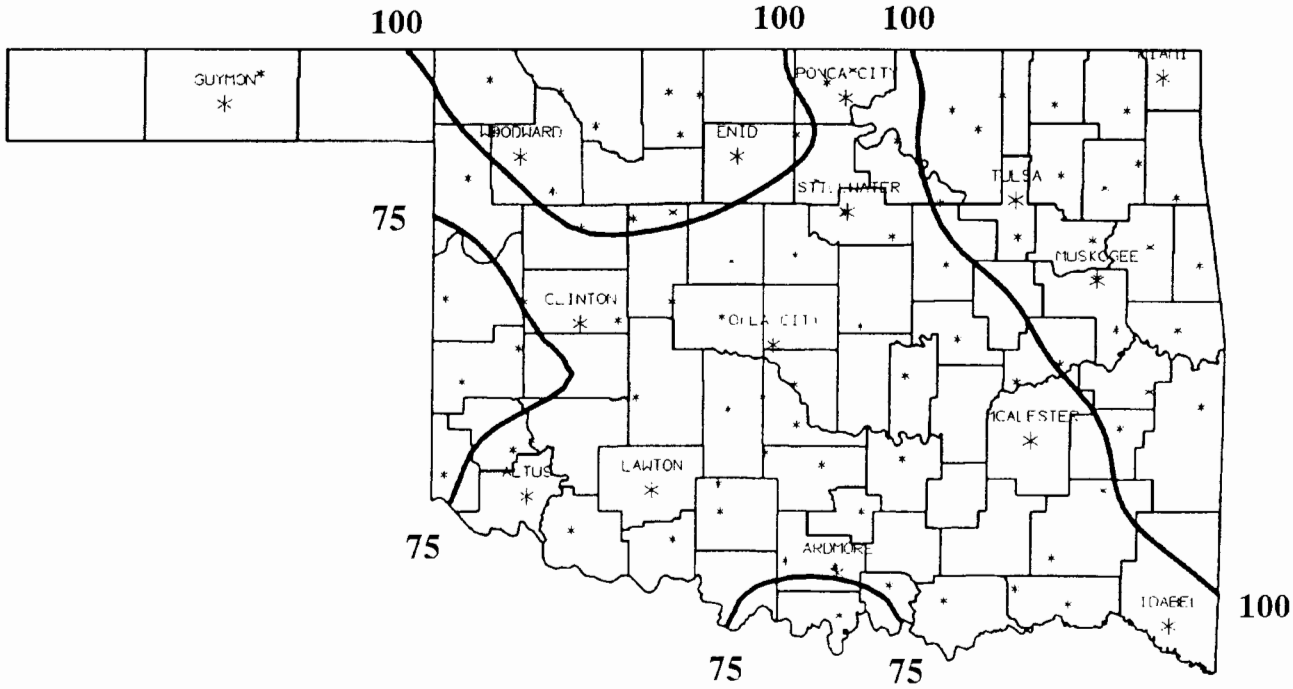
APRIL 1993 AVERAGE MONTHLY TEMPERATURES
(Degrees F)



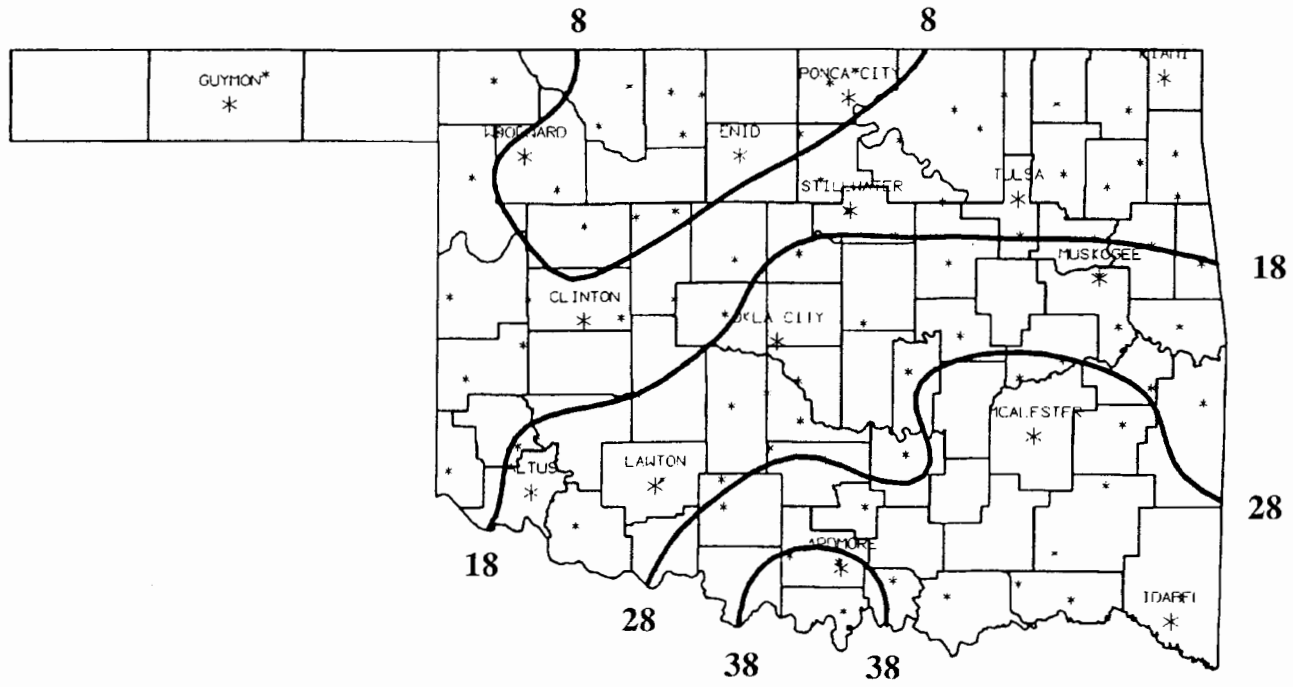
APRIL 1993 DEVIATION FROM NORMAL TEMPERATURES
(Degrees F)



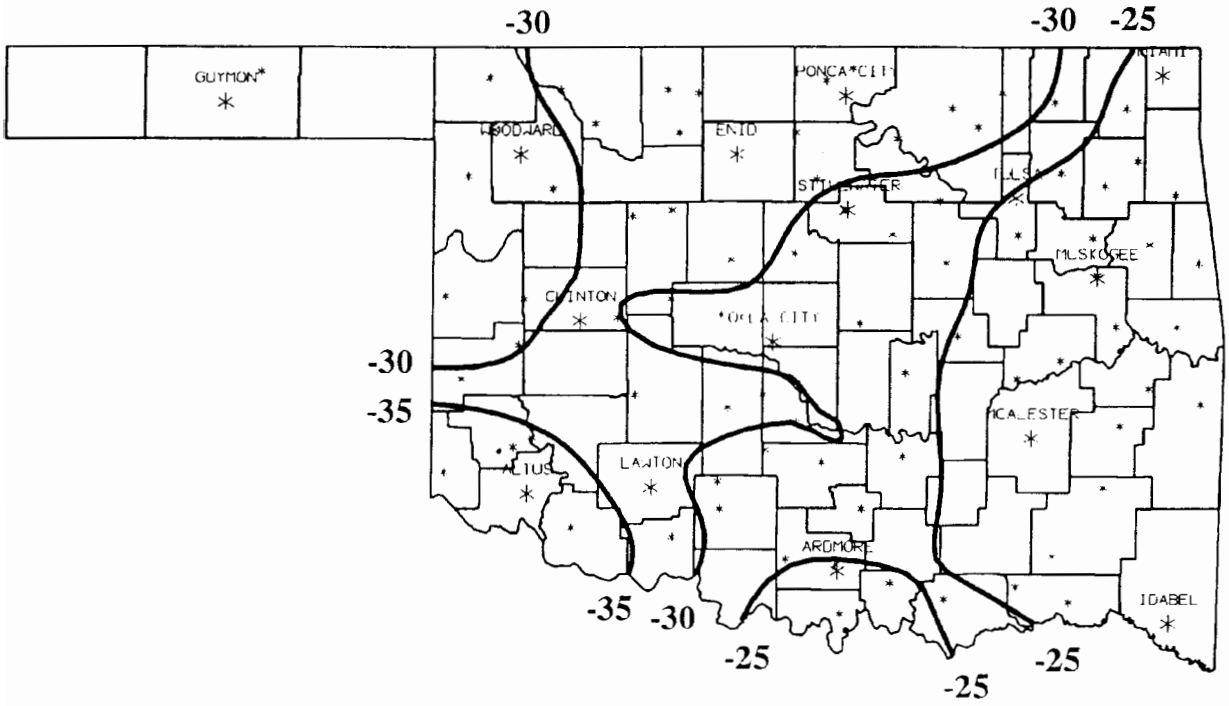
APRIL 1993 HEATING DEGREE DAYS



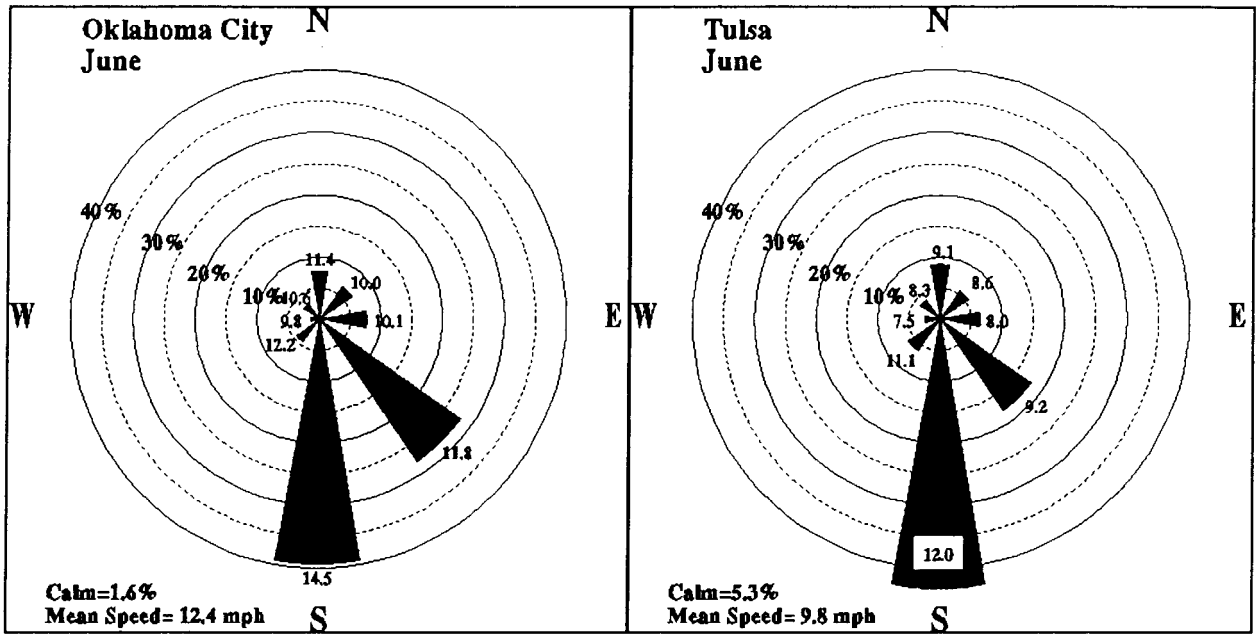
APRIL 1993 DEVIATION FROM NORMAL HEATING DEGREE DAYS



APRIL 1993 COOLING DEGREE DAYS



APRIL 1993 DEVIATION FROM NORMAL COOLING DEGREE DAYS



June Wind Roses for Oklahoma City and Tulsa. Percents represent the frequency of winds from each direction. The numbers at the ends of the bars indicate the average wind speed (miles per hour) from that direction.

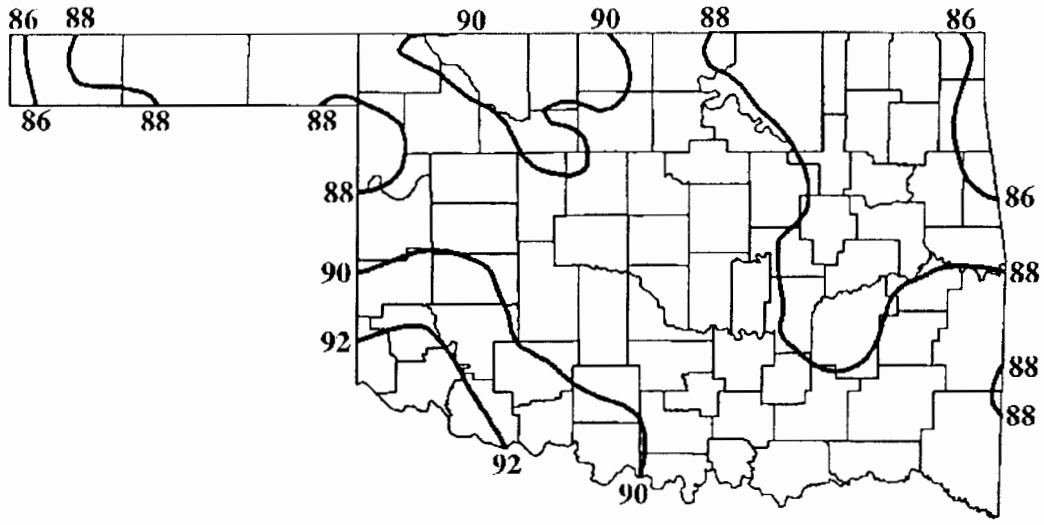
JUNE 1993 SUNRISE AND SUNSET

OKLAHOMA CITY

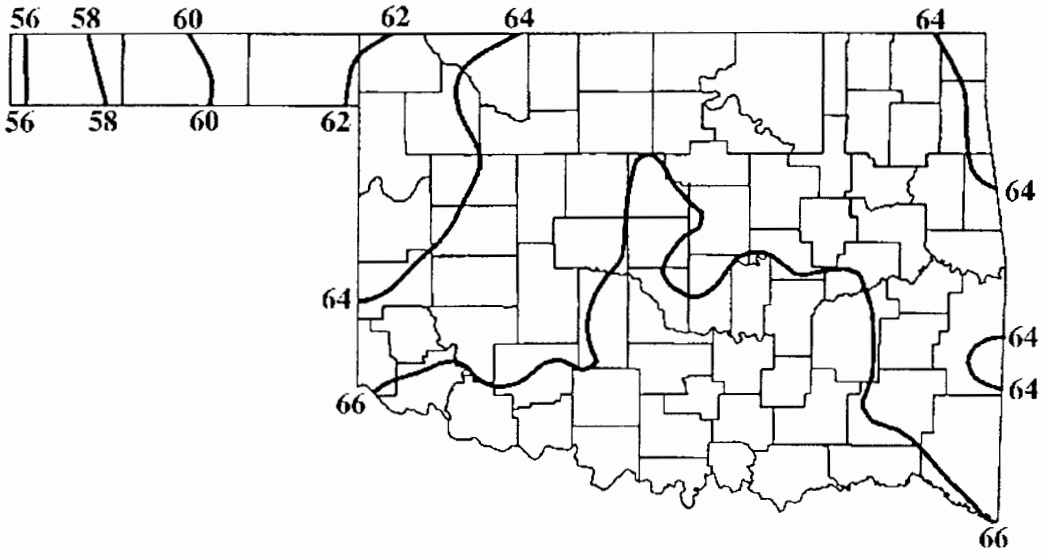
DATE	SUNRISE	SUNSET	DAYLIGHT
93 6 1	6:19AM	8:37PM CDT	14 hrs 19 mins
93 6 2	6:18AM	8:38PM CDT	14 hrs 19 mins
93 6 3	6:18AM	8:38PM CDT	14 hrs 20 mins
93 6 4	6:18AM	8:39PM CDT	14 hrs 21 mins
93 6 5	6:18AM	8:40PM CDT	14 hrs 22 mins
93 6 6	6:18AM	8:40PM CDT	14 hrs 23 mins
93 6 7	6:17AM	8:41PM CDT	14 hrs 23 mins
93 6 8	6:17AM	8:41PM CDT	14 hrs 24 mins
93 6 9	6:17AM	8:42PM CDT	14 hrs 24 mins
93 610	6:17AM	8:42PM CDT	14 hrs 25 mins
93 611	6:17AM	8:43PM CDT	14 hrs 26 mins
93 612	6:17AM	8:43PM CDT	14 hrs 26 mins
93 613	6:17AM	8:43PM CDT	14 hrs 26 mins
93 614	6:17AM	8:44PM CDT	14 hrs 27 mins
93 615	6:17AM	8:44PM CDT	14 hrs 27 mins
93 616	6:17AM	8:45PM CDT	14 hrs 28 mins
93 617	6:17AM	8:45PM CDT	14 hrs 28 mins
93 618	6:17AM	8:45PM CDT	14 hrs 28 mins
93 619	6:17AM	8:46PM CDT	14 hrs 28 mins
93 620	6:18AM	8:46PM CDT	14 hrs 28 mins
93 621	6:18AM	8:46PM CDT	14 hrs 28 mins
93 622	6:18AM	8:46PM CDT	14 hrs 28 mins
93 623	6:18AM	8:46PM CDT	14 hrs 28 mins
93 624	6:18AM	8:47PM CDT	14 hrs 28 mins
93 625	6:19AM	8:47PM CDT	14 hrs 28 mins
93 626	6:19AM	8:47PM CDT	14 hrs 28 mins
93 627	6:19AM	8:47PM CDT	14 hrs 28 mins
93 628	6:20AM	8:47PM CDT	14 hrs 28 mins
93 629	6:20AM	8:47PM CDT	14 hrs 27 mins
93 630	6:20AM	8:47PM CDT	14 hrs 27 mins

TULSA

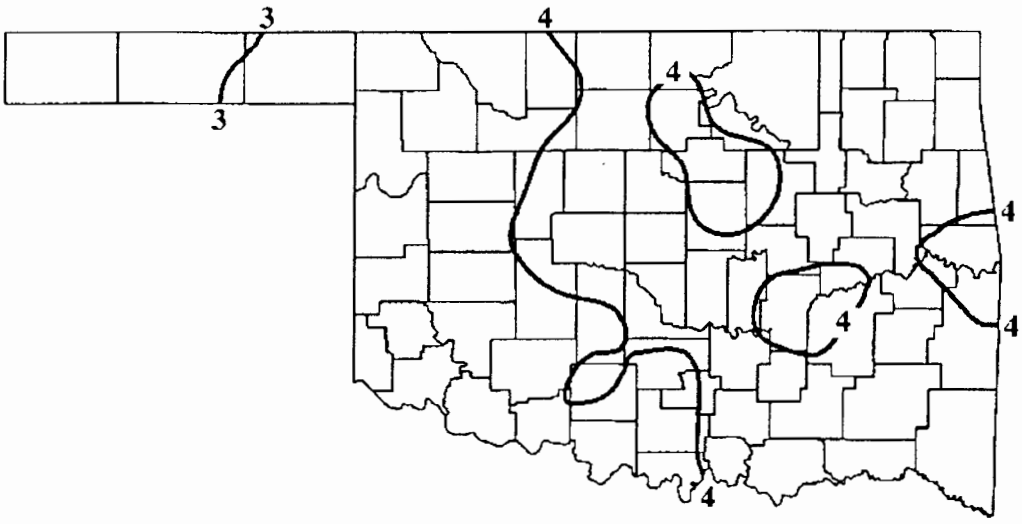
DATE	SUNRISE	SUNSET	DAYLIGHT
93 6 1	6:10AM	8:32PM CDT	14 hrs 23 mins
93 6 2	6:10AM	8:33PM CDT	14 hrs 23 mins
93 6 3	6: 9AM	8:34PM CDT	14 hrs 24 mins
93 6 4	6: 9AM	8:34PM CDT	14 hrs 25 mins
93 6 5	6: 9AM	8:35PM CDT	14 hrs 26 mins
93 6 6	6: 9AM	8:35PM CDT	14 hrs 27 mins
93 6 7	6: 8AM	8:36PM CDT	14 hrs 27 mins
93 6 8	6: 8AM	8:36PM CDT	14 hrs 28 mins
93 6 9	6: 8AM	8:37PM CDT	14 hrs 29 mins
93 610	6: 8AM	8:37PM CDT	14 hrs 29 mins
93 611	6: 8AM	8:38PM CDT	14 hrs 30 mins
93 612	6: 8AM	8:38PM CDT	14 hrs 30 mins
93 613	6: 8AM	8:39PM CDT	14 hrs 31 mins
93 614	6: 8AM	8:39PM CDT	14 hrs 31 mins
93 615	6: 8AM	8:40PM CDT	14 hrs 31 mins
93 616	6: 8AM	8:40PM CDT	14 hrs 32 mins
93 617	6: 8AM	8:40PM CDT	14 hrs 32 mins
93 618	6: 8AM	8:41PM CDT	14 hrs 32 mins
93 619	6: 8AM	8:41PM CDT	14 hrs 32 mins
93 620	6: 9AM	8:41PM CDT	14 hrs 33 mins
93 621	6: 9AM	8:41PM CDT	14 hrs 33 mins
93 622	6: 9AM	8:42PM CDT	14 hrs 33 mins
93 623	6: 9AM	8:42PM CDT	14 hrs 33 mins
93 624	6: 9AM	8:42PM CDT	14 hrs 33 mins
93 625	6:10AM	8:42PM CDT	14 hrs 32 mins
93 626	6:10AM	8:42PM CDT	14 hrs 32 mins
93 627	6:10AM	8:42PM CDT	14 hrs 32 mins
93 628	6:11AM	8:43PM CDT	14 hrs 32 mins
93 629	6:11AM	8:43PM CDT	14 hrs 32 mins
93 630	6:11AM	8:43PM CDT	14 hrs 31 mins



June Normal Daily Maximum Temperatures (°F)



June Normal Daily Minimum Temperatures (°F)



June Normal Monthly Precipitation (inches)

90-DAY NATIONAL WEATHER SERVICE OUTLOOK

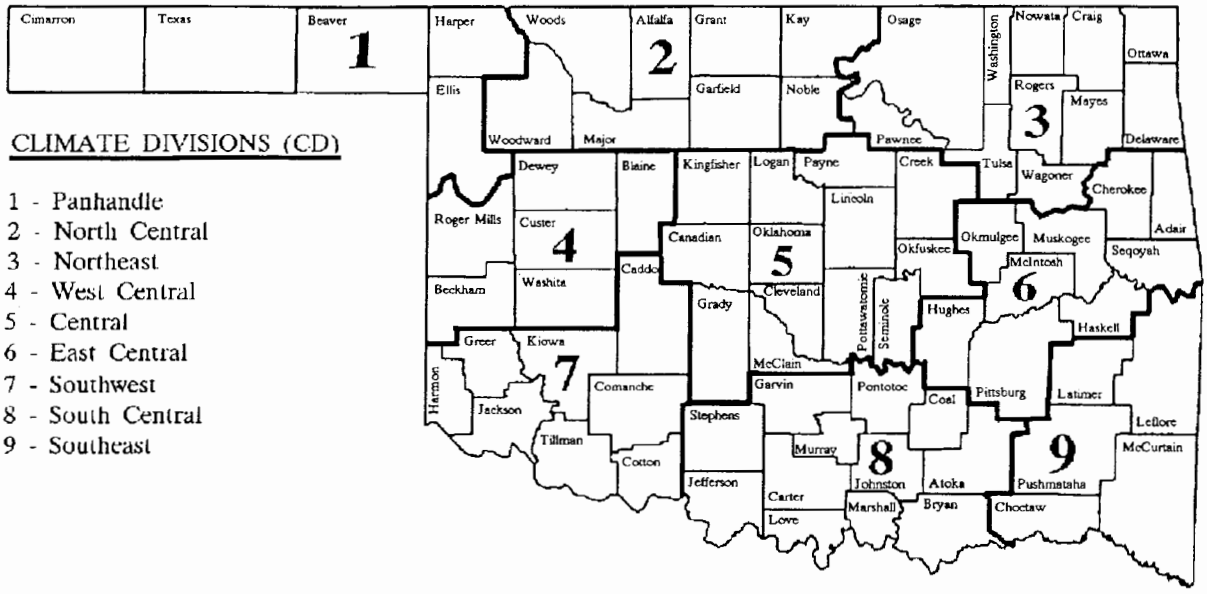
(MAY 1993 - JULY 1993)

Precipitation - Above Normal in Panhandle and Southwest Half of State

Near Normal Elsewhere

Temperature - Below Normal Statewide

OKLAHOMA



CLIMATE DIVISIONS (CD)

1 - Panhandle
2 - North Central
3 - Northeast
4 - West Central
5 - Central
6 - East Central
7 - Southwest
8 - South Central
9 - Southeast

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 exceeds 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 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 the average temperature for the day is less than 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:

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

Deviation from Normal Cooling Degree Days: A positive value indicates higher that 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.

OKLAHOMA CITY CLIMATE CALENDAR

June 1993

The data on this calendar are for Oklahoma City. Normal values are calculated for the period 1961-1990. Extremes are found for the period of record (1891-present).

Normal 1	Actual	Normal 2	Actual	Normal 3	Actual	Normal 4	Actual	Normal 5	Actual	Normal 6	Actual	Normal 7	Actual
80.7 max		81.5 max		81.5 max		82.8 max		83.8 max		85.2 max		86.6 max	
61.7 min		62.1 min		61.9 min		62.6 min		63.6 min		64.0 min		64.9 min	
.25 ppt		.24 ppt		.23 ppt		.21 ppt		.11 ppt		.09 ppt		.11 ppt	
0 hdd		1 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd	
7 cdd		7 cdd		7 cdd		8 cdd		9 cdd		10 cdd		11 cdd	
Highest Max	99-1913	Highest Max	97-1910	Highest Max	96-1953	Highest Max	95-1913	Highest Max	99-1917	Highest Max	102-1911	Highest Max	100-1911
Lowest Max	58-1903	Lowest Max	56-1919	Lowest Max	64-1919	Lowest Max	62-1928	Lowest Max	66-1892	Lowest Max	69-1983	Lowest Max	66-1891
Lowest Min	48-1962	Lowest Min	6-1917	Lowest Min	49-1919	Lowest Min	47-1954	Lowest Min	48-1919	Lowest Min	52-1917	Lowest Min	51-1983
Highest Min	75-1943	Highest Min	74-1980	Highest Min	75-1925	Highest Min	75-1911	Highest Min	75-1980	Highest Min	75-1990	Highest Min	78-1980
Greatest ppt	3.37-1952	Greatest ppt	1.66-1973	Greatest ppt	6.75-1932	Greatest ppt	3.90-1904	Greatest ppt	1.48-1927	Greatest ppt	3.01-1941	Greatest ppt	1.44-1908
Normal 8	**Actual**	**Normal 9**	**Actual**	**Normal 10**	**Actual**	**Normal 11**	**Actual**	**Normal 12**	**Actual**	**Normal 13**	**Actual**	**Normal 14**	**Actual**
87.2 max		86.2 max		86.4 max		86.6 max		87.0 max		87.4 max		88.5 max	
66.4 min		66.0 min		64.9 min		66.0 min		66.3 min		66.7 min		67.2 min	
.18 ppt		.11 ppt		.17 ppt		.12 ppt		.10 ppt		.15 ppt		.18 ppt	
0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd	
12 cdd		11 cdd		11 cdd		11 cdd		12 cdd		12 cdd		13 cdd	
Highest Max	100-1988	Highest Max	100-1933	Highest Max	99-1934	Highest Max	100-1953	Highest Max	104-1953	Highest Max	101-1924	Highest Max	106-1953
Lowest Max	64-1913	Lowest Max	60-1913	Lowest Max	68-1955	Lowest Max	68-1898	Lowest Max	72-1903	Lowest Max	70-1927	Lowest Max	63-1927
Lowest Min	52-1915	Lowest Min	54-1974	Lowest Min	50-1955	Lowest Min	51-1955	Lowest Min	50-1895	Lowest Min	52-1906	Lowest Min	51-1947
Highest Min	76-1984	Highest Min	77-1953	Highest Min	76-1953	Highest Min	75-1953	Highest Min	78-1958	Highest Min	78-1958	Highest Min	78-1953
Greatest ppt	2.60-1974	Greatest ppt	2.38-1907	Greatest ppt	4.48-1945	Greatest ppt	1.61-1951	Greatest ppt	4.74-1944	Greatest ppt	4.56-1989	Greatest ppt	3.95-1930
Normal 15	**Actual**	**Normal 16**	**Actual**	**Normal 17**	**Actual**	**Normal 18**	**Actual**	**Normal 19**	**Actual**	**Normal 20**	**Actual**	**Normal 21**	**Actual**
87.8 max		86.7 max		87.9 max		88.8 max		89.4 max		89.8 max		89.8 max	
66.5 min		66.3 min		66.5 min		67.8 min		67.8 min		67.6 min		68.4 min	
.10 ppt		.18 ppt		.07 ppt		.06 ppt		.09 ppt		.22 ppt		.25 ppt	
0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd	
12 cdd		12 cdd		12 cdd		13 cdd		14 cdd		14 cdd		14 cdd	
Highest Max	105-1953	Highest Max	106-1911	Highest Max	102-1924	Highest Max	101-1936	Highest Max	101-1953	Highest Max	105-1953	Highest Max	104-1953
Lowest Max	71-1908	Lowest Max	70-1961	Lowest Max	69-1963	Lowest Max	68-1912	Lowest Max	70-1920	Lowest Max	73-1905	Lowest Max	69-1902
Lowest Min	55-1969	Lowest Min	50-1917	Lowest Min	53-1912	Lowest Min	53-1912	Lowest Min	55-1926	Lowest Min	51-1976	Lowest Min	55-1906
Highest Min	79-1953	Highest Min	77-1953	Highest Min	78-1990	Highest Min	78-1924	Highest Min	80-1953	Highest Min	77-1990	Highest Min	79-1953
Greatest ppt	3.01-1930	Greatest ppt	3.59-1955	Greatest ppt	1.85-1975	Greatest ppt	.93-1957	Greatest ppt	1.68-1987	Greatest ppt	2.28-1958	Greatest ppt	3.28-1948
Normal 22	**Actual**	**Normal 23**	**Actual**	**Normal 24**	**Actual**	**Normal 25**	**Actual**	**Normal 26**	**Actual**	**Normal 27**	**Actual**	**Normal 28**	**Actual**
90.0 max		88.3 max		88.4 max		88.7 max		89.5 max		91.0 max		91.3 max	
68.2 min		67.8 min		68.3 min		68.3 min		68.3 min		68.3 min		68.9 min	
.16 ppt		.20 ppt		.14 ppt		.21 ppt		.11 ppt		.04 ppt		.14 ppt	
0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd	
14 cdd		13 cdd		13 cdd		14 cdd		14 cdd		15 cdd		15 cdd	
Highest Max	107-1936	Highest Max	101-1934	Highest Max	104-1911	Highest Max	105-1980	Highest Max	104-1918	Highest Max	103-1980	Highest Max	105-1980
Lowest Max	73-1912	Lowest Max	68-1921	Lowest Max	74-1909	Lowest Max	68-1967	Lowest Max	69-1904	Lowest Max	75-1904	Lowest Max	78-1923
Lowest Min	50-1902	Lowest Min	58-1958	Lowest Min	54-1957	Lowest Min	51-1974	Lowest Min	50-1958	Lowest Min	52-1974	Lowest Min	56-1974
Highest Min	79-1936	Highest Min	77-1934	Highest Min	78-1953	Highest Min	82-1911	Highest Min	81-1933	Highest Min	79-1947	Highest Min	78-1986
Greatest ppt	2.38-1957	Greatest ppt	2.79-1908	Greatest ppt	2.06-1948	Greatest ppt	2.29-1960	Greatest ppt	1.70-1985	Greatest ppt	2.19-1907	Greatest ppt	3.10-1988
Normal 29	**Actual**	**Normal 30**	**Actual**										
91.8 max		91.8 max											
69.7 min		70.4 min											
.06 ppt		.08 ppt											
0 hdd		0 hdd											
16 cdd		16 cdd											
Highest Max	103-1925	Highest Max	102-1925										
Lowest Max	76-1908	Lowest Max	73-1923										
Lowest Min	54-1923	Lowest Min	58-1923										
Highest Min	78-1947	Highest Min	80-1980										
Greatest ppt	2.00-1987	Greatest ppt	2.33-1981										

JUNE AVERAGES

TEMPERATURE	:	76.9°F
PRECIPITATION	:	4.36"
HEATING DEGREE DAYS	:	1
COOLING DEGREE DAYS	:	362

TULSA CLIMATE CALENDAR

June 1993

The data on this calendar are for Tulsa. Normal values are calculated for the period 1948-1991. Temperature extremes are for the period 1905-1992; precipitation extremes are for the period 1948-1992.

Normal 1	Actual	Normal 2	Actual	Normal 3	Actual	Normal 4	Actual	Normal 5	Actual	Normal 6	Actual	Normal 7	Actual
82.0 max		81.0 max		82.0 max		84.0 max		84.0 max		86.0 max		87.0 max	
62.0 min		63.0 min		63.0 min		64.0 min		65.0 min		65.0 min		66.0 min	
.21 ppt		.28 ppt		.13 ppt		.16 ppt		.24 ppt		.20 ppt		.15 ppt	
0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd	
7 cdd		8 cdd		8 cdd		10 cdd		10 cdd		11 cdd		12 cdd	
Highest Max 98-1934		Highest Max 102-1911		Highest Max 101-1911		Highest Max 102-1911		Highest Max 102-1911		Highest Max 105-1911		Highest Max 100-1911	
Lowest Max 71-1957		Lowest Max 61-1970		Lowest Max 58-1970		Lowest Max 71-1982		Lowest Max 73-1985		Lowest Max 74-1983		Lowest Max 73-1989	
Lowest Min 51-1982		Lowest Min 49-1907		Lowest Min 52-1946		Lowest Min 49-1954		Lowest Min 49-1919		Lowest Min 54-1950		Lowest Min 51-1935	
Highest Min 77-1980		Highest Min 76-1980		Highest Min 73-1985		Highest Min 75-1980		Highest Min 78-1980		Highest Min 77-1990		Highest Min 79-1980	
Greatest ppt 2.83-1963		Greatest ppt 2.14-1973		Greatest ppt 1.67-1982		Greatest ppt 2.87-1985		Greatest ppt 3.11-1952		Greatest ppt 2.65-1974		Greatest ppt 1.25-1966	

Normal 8	Actual	Normal 9	Actual	Normal 10	Actual	Normal 11	Actual	Normal 12	Actual	Normal 13	Actual	Normal 14	Actual
88.0 max		87.0 max		87.0 max		88.0 max		88.0 max		88.0 max		89.0 max	
68.0 min		67.0 min		67.0 min		67.0 min		68.0 min		68.0 min		68.0 min	
.21 ppt		.12 ppt		.10 ppt		.15 ppt		.11 ppt		.07 ppt		.21 ppt	
0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd	
13 cdd		12 cdd		12 cdd		13 cdd		13 cdd		13 cdd		14 cdd	
Highest Max 104-1911		Highest Max 105-1911		Highest Max 108-1911		Highest Max 100-1924		Highest Max 99-1953		Highest Max 101-1924		Highest Max 107-1911	
Lowest Max 75-1971		Lowest Max 68-1969		Lowest Max 70-1955		Lowest Max 75-1975		Lowest Max 73-1985		Lowest Max 76-1989		Lowest Max 70-1969	
Lowest Min 52-1915		Lowest Min 56-1978		Lowest Min 54-1955		Lowest Min 51-1955		Lowest Min 50-1913		Lowest Min 52-1985		Lowest Min 51-1942	
Highest Min 79-1984		Highest Min 79-1981		Highest Min 75-1953		Highest Min 77-1964		Highest Min 77-1958		Highest Min 80-1958		Highest Min 78-1963	
Greatest ppt 4.90-1974		Greatest ppt 2.84-1979		Greatest ppt 1.27-1950		Greatest ppt 2.07-1967		Greatest ppt 1.20-1965		Greatest ppt .88-1975		Greatest ppt 2.58-1961	

Normal 15	Actual	Normal 16	Actual	Normal 17	Actual	Normal 18	Actual	Normal 19	Actual	Normal 20	Actual	Normal 21	Actual
89.0 max		87.0 max		88.0 max		90.0 max		89.0 max		90.0 max		89.0 max	
68.0 min		67.0 min		67.0 min		69.0 min		69.0 min		69.0 min		69.0 min	
.19 ppt		.08 ppt		.17 ppt		.10 ppt		.06 ppt		.09 ppt		.24 ppt	
0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd	
13 cdd		12 cdd		13 cdd		15 cdd		14 cdd		15 cdd		15 cdd	
Highest Max 102-1924		Highest Max 106-1911		Highest Max 102-1925		Highest Max 104-1918		Highest Max 106-1918		Highest Max 107-1918		Highest Max 107-1936	
Lowest Max 71-1961		Lowest Max 74-1961		Lowest Max 72-1980		Lowest Max 78-1976		Lowest Max 76-1973		Lowest Max 77-1951		Lowest Max 74-1978	
Lowest Min 52-1933		Lowest Min 50-1917		Lowest Min 52-1960		Lowest Min 54-1912		Lowest Min 51-1912		Lowest Min 53-1976		Lowest Min 54-1961	
Highest Min 77-1980		Highest Min 78-1953		Highest Min 79-1990		Highest Min 80-1953		Highest Min 80-1953		Highest Min 77-1964		Highest Min 78-1952	
Greatest ppt 2.66-1981		Greatest ppt .83-1958		Greatest ppt 3.97-1980		Greatest ppt 1.50-1978		Greatest ppt .87-1992		Greatest ppt 1.45-1978		Greatest ppt 4.37-1948	

Normal 22	Actual	Normal 23	Actual	Normal 24	Actual	Normal 25	Actual	Normal 26	Actual	Normal 27	Actual	Normal 28	Actual
90.0 max		88.0 max		89.0 max		89.0 max		90.0 max		91.0 max		91.0 max	
69.0 min		69.0 min		70.0 min		70.0 min		70.0 min		69.0 min		70.0 min	
.14 ppt		.26 ppt		.09 ppt		.18 ppt		.15 ppt		.07 ppt		.17 ppt	
0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd	
15 cdd		14 cdd		14 cdd		15 cdd		15 cdd		15 cdd		16 cdd	
Highest Max 106-1936		Highest Max 103-1934		Highest Max 104-1933		Highest Max 105-1933		Highest Max 105-1918		Highest Max 102-1980		Highest Max 106-1925	
Lowest Max 80-1965		Lowest Max 69-1948		Lowest Max 77-1982		Lowest Max 70-1967		Lowest Max 75-1968		Lowest Max 78-1985		Lowest Max 81-1948	
Lowest Min 56-1935		Lowest Min 57-1920		Lowest Min 55-1974		Lowest Min 52-1974		Lowest Min 53-1974		Lowest Min 53-1968		Lowest Min 58-1985	
Highest Min 77-1984		Highest Min 77-1950		Highest Min 80-1980		Highest Min 80-1980		Highest Min 80-1978		Highest Min 80-1980		Highest Min 80-1980	
Greatest ppt 1.67-1985		Greatest ppt 2.65-1948		Greatest ppt 1.12-1968		Greatest ppt 1.98-1967		Greatest ppt 2.77-1948		Greatest ppt 1.15-1956		Greatest ppt 2.75-1977	

Normal 29	Actual	Normal 30	Actual
92.0 max		91.0 max	
71.0 min		72.0 min	
.06 ppt		.14 ppt	
0 hdd		0 hdd	
17 cdd		17 cdd	
Highest Max 105-1925		Highest Max 107-1925	
Lowest Max 78-1973		Lowest Max 76-1951	
Lowest Min 57-1923		Lowest Min 57-1943	
Highest Min 80-1980		Highest Min 80-1980	
Greatest ppt 1.97-1992		Greatest ppt 2.78-1951	

JUNE AVERAGES

TEMPERATURE	:	77.7°F
PRECIPITATION	:	4.53"
HEATING DEGREE DAYS	:	0
COOLING DEGREE DAYS	:	391