OKLAHOMA
MONTHLY SUMMARY
MAY 1991

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*** PLEASE POST ***

MOVING NOTICE

We are pleased to announce that the Oklahoma Climatological Survey will move to its permanent location in the Energy Center Tower on July 25, 1991.

Please note our new campus address:

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Ken Crawford

Ken Crawford, Director
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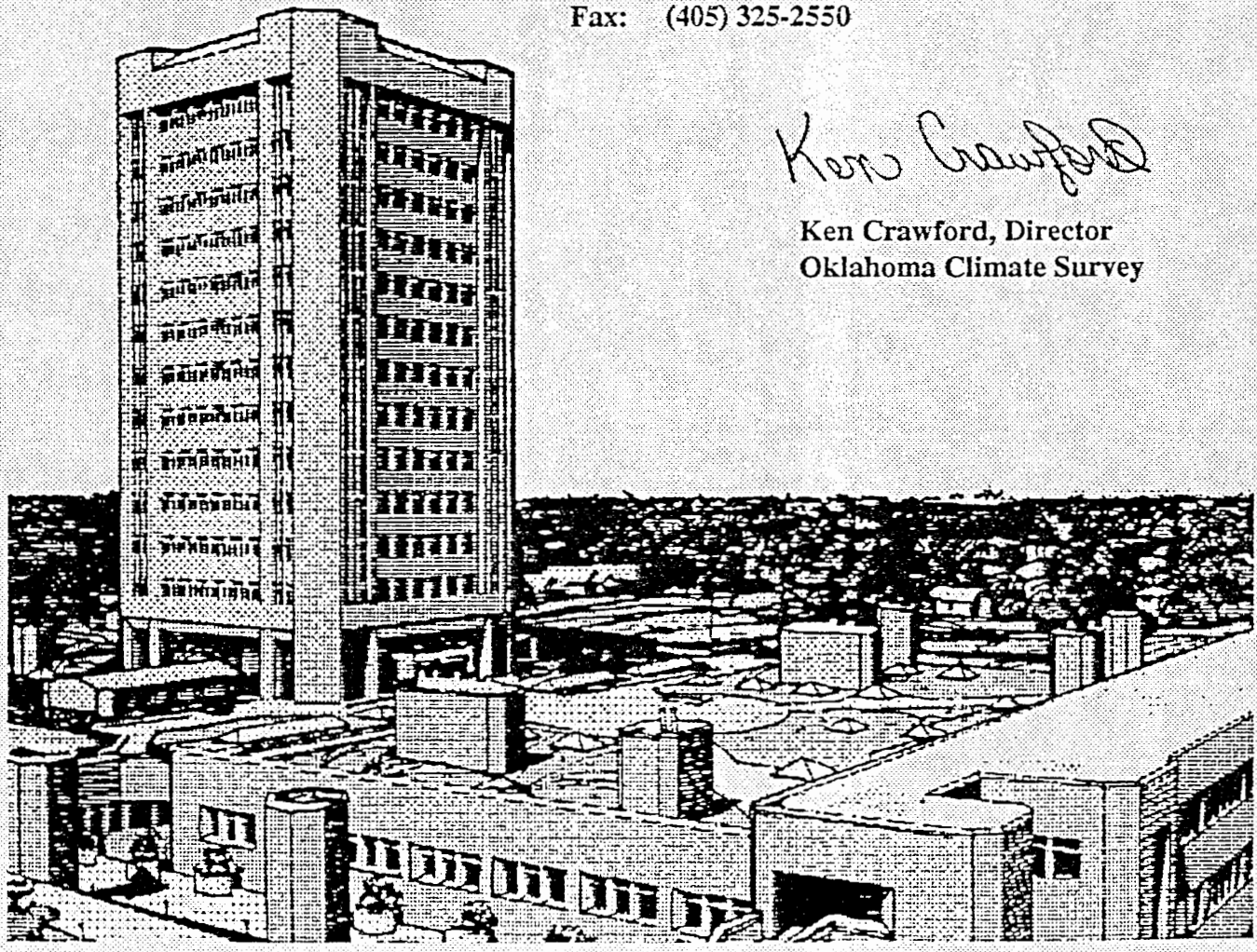


MAY 1991 OKLAHOMA SUMMARY

Frequent thunderstorms produced heavy rainfall across Oklahoma in May 1991. Precipitation was reported somewhere in the state on every day of the month, and over an inch of rain occurred somewhere on 20 days. Eight stations observed daily rainfall totals in excess of three inches. Much of the rain fell within a corridor from the southwest to the northeast corners of Oklahoma, while the eastern Panhandle and southeast sections of the state received less than normal precipitation. Overall the state averaged 5.05 inches, very close to the 1951-1980 normal of 4.87 inches. The year-to-date total of 12.16 inches is less than half of that received during the same period last year.

Apart from localized flooding produced by the heavy rains, May was relatively lacking in severe weather. Preliminary estimates of 11 tornadoes in Oklahoma places the month well below the historical average of 18 tornadoes. There were numerous reports of large hail, but most of the damage associated with the storms was a result of rainfall and high winds.

Temperatures were above normal throughout all parts of the state, according to preliminary data. The statewide-averaged temperature of 71.9 degrees, 3 degrees above normal, was the 6th highest among one hundred years of record-keeping. Northeastern and central Oklahoma showed the greatest departures from normal. The warmth boosted the year-to-date average temperature to 54.3 degrees, tied with 1953 for the 11th warmest on record.

Strong flow in the upper atmosphere was entrenched over the state early in the month, aiding thunderstorm development. Central and northeast sections of the state reported over two inches of rainfall, including 3.51 inches at Wewoka on the 3rd. Several weak tornadoes also were reported in central Oklahoma on the 2nd and 3rd. Strong winds from thunderstorms on the 4th, gusting as high as 85 miles per hour, produced damage at Chelsea. The focus for thunderstorm development was a stationary front across northwest Oklahoma. Behind the front, maximum temperatures remained as low as 49 degrees at Guymon on the 4th, and minimum temperatures dipped below freezing at Guymon and Gage on the 1st. South of the front, temperatures climbed to 88 degrees in numerous locations on the 3rd and 4th.

The passage of the cold front on the 5th marked the beginning of a quiescent period in Oklahoma's weather. Temperatures remained in the 60's and 70's across many sections of the state from the 5th through the 11th. Thunderstorms on the 8th produced large hail at a few locations, but generally did little more than bring heavy rain. The 3.52 inches recorded in Norman on the 8th was the highest daily total of the month.

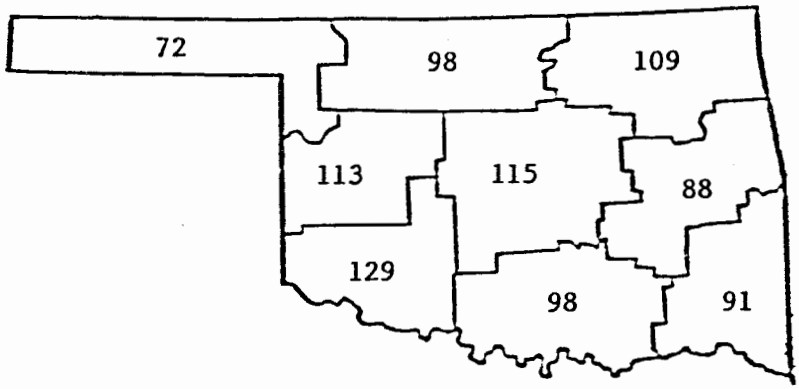
A significant outbreak of severe weather occurred on the 15th and 16th. An upper-air trough of low pressure moved toward the state on the 15th, developing thunderstorms across far western sections of the state. A tornado spawned from a storm near Laverne in Harper County eventually grew to a width of nearly 1/2 mile. Three people were injured when the tornado struck a trailer home south of Laverne. As the trough moved eastward, severe weather developed in eastern Oklahoma on the 16th. Three tornadoes were reported near Tulsa, including a damaging tornado near Catoosa.

Another active storm pattern developed from May 20-26. Rainfall in excess of two inches was reported at one or more stations daily from the 20th - 25th, including amounts over three inches at Waynoka on the 24th and Lyons and Marble City on the 25th. Damaging winds and large hail accompanied the storms in western Oklahoma on the 23rd and 24th. The storm pattern culminated with softball size hail and three tornadoes near Woodward on the 26th. The storms were also accompanied by frequent lightning, sparking many fires and posing a severe hazard to people near the storms.

Temperatures statewide reached their highest mark of the month from the 26th - 28th. All three days had stations reporting above the century mark. The 104 degree reading reported at Buffalo on the 27th broke the old record for the date by four degrees.

-Mark A. Shafer

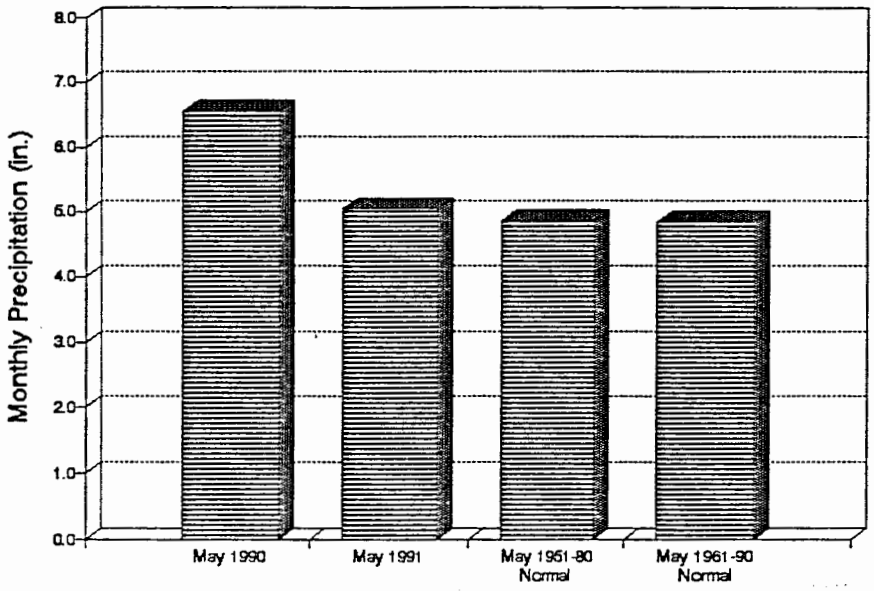
May 1991 percent of normal precipitation.



EXTREME VALUES OF TEMPERATURE AND PRECIPITATION IN EACH CLIMATE DIVISION
MAY, 1991

CD	MAX TEMP	DATE	LOCATION	MIN TEMP	DATE	LOCATION	MONTHLY PRECIP	LOCATION	24-HOUR PRECIP	DATE	LOCATION
1	104	27	BUFFALO	28	1	GUYMON	4.00	GUYMON	2.88	22	GOODWELL
2	99	27	CHEROKEE	34	1	WAYNOKA	6.96	WAYNOKA	3.10	24	WAYNOKA
3	98	29	UPPER SPAVINAW	39	6	PAWHUSKA	7.75	RALSTON	3.29	5	BARTLESVILLE
4	98	27	CLINTON	35	1	ERICK	7.57	LEEDEY	2.92	24	LEEDEY
				35	1	HAMMON					
				35	1	REYDON					
5	96	27	HENNESSEY	36	1	HENNESSEY	8.55	BLANCHARD	3.52	8	NORMAN
6	92	28	LAKE EUFAULA	39	6	SALLISAW	7.91	HOLDENVILLE	3.50	25	LYONS
	92	26	MCCURTAIN	39	6	TAHLEQUAH					
7	97	26	ALTUS	37	1	MANGUM	8.81	ALTUS	2.65	23	WILLOW
8	95	27	WAURIKA	39	6	CHICKASAW	7.74	KETCHUM RANCH	3.25	3	BOKCHITO
9	93	27	BOSWELL	38	6	TUSKAHOMA	6.66	BROKEN BOW	2.90	25	FANSHAWE

Comparison of Monthly Precipitation
Statewide Average for Oklahoma



Comparison of Monthly Temperature
Statewide Average for Oklahoma

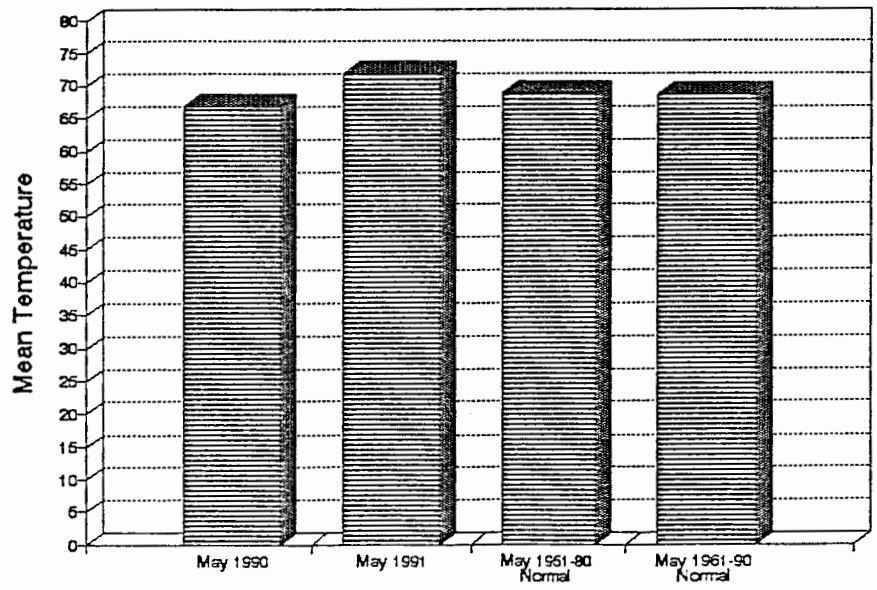


TABLE OF 1990/1991 COMPARISONS

Station	May Temperature (F) 1990	1991	May Precipitation (in.) 1990	1991
Arnett	64.2	67.8	2.59	2.53
Enid	67.2	71.2	3.60	2.83
Mutual	64.1	68.3	3.71	5.40
Tulsa	68.0	74.0	5.21	4.69
Elk City	68.0	70.4	5.30	7.03
Oklahoma City	69.5	72.5	5.79	6.29
McAlester	67.8	73.1	12.46	2.45
Altus Irr Sta	70.3	73.2	3.12	8.81
Durant	68.0	72.3	10.61	5.19
Ada	67.7	71.6	10.21	7.39
Antlers	68.8	73.3	11.07	5.51

EXTREMES

Varible	Station	Division	Observation	Date
Minimum temperature (F)	Boise City	1	27	1
	Kenton	1	27	1
Maximum temperature (F)	Buffalo	1	104	27
Maximum 24-hour precipitation	Optima Lake	1	4.09"	22

MAY 1991 SUMMARY FOR NORTHWEST DIVISION (CD1)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	MAX DAY	MIN TEMP	MIN DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	MAX DAY
ARNETT	332	1	67.8	31	1.5	93.	28	34.	2	65.0	-22.0	152.5	24.5	2.532	31	-1.61	1.10	24
BEAVER	593	1	68.7	31	2.4	100.	28	28.	1	83.5	-10.5	197.5	63.5	2.430	31	-.83	1.20	22
BOISE CITY 2 E	908	1	66.3	31	3.1	90.	27	27.	1	68.5	-61.5	107.5	33.5	1.790	31	-.64	1.76	22
BUFFALO	1243	1	72.7	31	4.2	104.	27	34.	1	39.0	-24.0	276.5	105.5	1.990	31	-2.40	.53	24
FARGO	3070	1	*****	0	*****	****	0	****	0	******	******	******	******	2.521	31	-1.44	.56	24
GAGE FAA APT	3407	1	70.7	31	4.2	96.	27	33.	1	45.5	-41.5	221.5	87.5	1.948	31	-1.71	.53	11
GATE	3489	1	70.7	31	*****	98.	28	34.	1	55.0	******	231.0	******	3.030	30	*****	1.37	24
GOODWELL RES ST	3628	1	66.6	31	1.9	93.	28	29.	1	82.5	-36.5	131.0	22.0	3.912	31	1.04	2.88	22
GUYMON	3835	1	68.1	31	*****	95.	27	28.	1	61.5	******	158.5	******	4.002	31	*****	2.46	22
HOOKER	4298	1	66.5	31	1.1	93.	28	33.	2	90.5	-6.5	136.0	27.0	5.250	31	1.82	2.38	22
KENTON	4766	1	64.6	31	1.1	92.	27	27.	1	98.0	-18.0	87.0	18.0	1.250	31	-1.24	.85	22
LAVERNE	5045	1	*****	0	*****	****	0	****	0	******	******	******	******	2.052	31	-1.34	.85	24
OPTIMA LAKE	6740	1	69.1	30	*****	97.	28	30.	1	52.5	******	175.0	******	6.030	31	*****	4.09	22
REGNIER	7534	1	*****	0	*****	****	0	****	0	******	******	******	******	2.170	31	.25	.91	22
TURPIN 4 SSE	9017	1	68.0	31	*****	96.	28	29.	1	78.0	******	170.0	******	4.230	31	*****	3.15	22

MAY 1991 SUMMARY FOR NORTH CENTRAL DIVISION (CD2)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	MAX DAY	MIN TEMP	MIN DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	MAX DAY
ALVA	193	2	72.6	31	*****	97.	26	37.	1	31.5	******	268.5	******	3.850	31	*****	1.23	3
VANCE AFB	302	2	*****	0	*****	****	0	****	0	******	******	******	******	4.164	31	*****	.82	24
BILLINGS	755	2	71.8	31	*****	92.	30	38.	1	32.5	******	242.5	******	3.301	31	-1.30	.95	16
BLACKWELL 2E	818	2	71.2	30	*****	94.	27	39.	1	40.0	******	225.0	******	3.292	31	*****	.78	24
BRAMAN	1075	2	*****	0	*****	****	0	****	0	******	******	******	******	3.060	31	*****	.67	3
CHEROKEE	1724	2	73.0	31	4.3	99.	27	39.	1	30.5	-14.5	280.0	120.0	4.030	31	.18	1.50	3
ENID	2912	2	71.7	31	2.7	95.	27	40.	2	30.5	-9.5	237.0	73.0	2.830	31	-2.18	.67	24
FT SUPPLY DAM	3304	2	68.5	31	1.0	96.	28	35.	1	62.5	-6.5	172.5	25.5	3.653	31	-.06	1.42	30
FREEDOM	3358	2	71.5	31	*****	95.	27	35.	1	38.0	******	239.0	******	4.190	31	*****	1.13	24
GREAT SALT PLNS	3740	2	73.0	31	*****	98.	27	41.	1	29.5	******	278.0	******	3.731	23	*****	.88	30
HARDY	3909	2	*****	0	*****	****	0	****	0	******	******	******	******	1.614	28	*****	.86	15
HELENA 1 SSE	4019	2	70.5	31	*****	95.	28	38.	3	51.0	******	221.5	******	5.561	31	1.22	1.31	30
JEFFERSON	4573	2	72.2	31	3.5	96.	27	38.	1	33.0	-14.0	256.5	94.5	3.381	31	-.54	.74	2
LAMONT	5013	2	*****	0	*****	****	0	****	0	******	******	******	******	3.280	31	*****	.73	3
MEDFORD	5768	2	*****	0	*****	****	0	****	0	******	******	******	******	3.161	31	*****	.95	29
MORRISON	6065	2	*****	0	*****	****	0	****	0	******	******	******	******	5.690	31	*****	1.14	8
MUTUAL	6139	2	68.3	28	*****	94.	28	34.	1	58.5	******	151.5	******	5.400	28	*****	2.11	24
NEWKIRK	6278	2	71.2	31	3.0	97.	27	41.	2	36.0	-15.0	227.0	76.0	4.832	31	.11	1.30	24
ORIENTA	6751	2	*****	0	*****	****	0	****	0	******	******	******	******	4.410	31	*****	1.53	24
PERRY	7012	2	73.2	28	*****	97.	27	40.	2	24.5	******	254.5	******	4.640	28	*****	1.21	24
PONCA CITY FAA	7201	2	72.8	31	5.1	93.	27	40.	1	31.5	-33.5	272.0	124.0	5.840	31	1.35	1.91	21
RED ROCK 1 NNE	7505	2	*****	0	*****	****	0	****	0	******	******	******	******	5.600	31	.97	2.52	21
WAYNOKA	9404	2	70.3	30	1.2	95.	27	34.	1	37.0	-11.0	195.5	20.5	6.961	31	2.52	3.10	24
WOODWARD	9760	2	*****	0	*****	****	0	****	0	******	******	******	******	5.020	31	*****	1.32	24

MAY 1991 SUMMARY FOR NORTHEAST DIVISION (CD3)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	MAX DAY	MIN TEMP	MIN DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	MAX 24-HR DAY
BARNSDALL	535	3	71.5	31	*****	89.	29	40.	6	29.0	******	231.5	******	6.202	31	.93	1.68	5
BARTLESVILLE 2W	548	3	72.4	31	3.7	92.	29	41.	1	25.5	-10.5	253.5	103.5	6.900	31	2.23	3.29	5
BIXBY	782	3	71.0	31	2.4	90.	28	41.	7	27.5	-15.5	215.0	60.0	5.790	31	1.14	1.53	3
BURBANK	1256	3	*****	0	*****	****	0	****	0	******	******	******	******	4.533	31	*****	1.15	22
CHELSEA 4 S	1717	3	*****	0	*****	****	0	****	0	******	******	******	******	4.820	31	*****	1.14	5
CLAREMORE	1828	3	71.5	31	3.6	90.	29	40.	6	30.0	-33.0	230.0	78.0	6.450	31	1.78	1.88	5
CLEVELAND 5 WSW	1902	3	72.5	27	*****	92.	28	41.	2	21.5	******	224.5	******	6.890	31	*****	2.56	21
FORAKER	3250	3	*****	0	*****	****	0	****	0	******	******	******	******	3.593	31	-1.23	.94	23
HOMINY	4289	3	*****	0	*****	****	0	****	0	******	******	******	******	5.980	31	1.34	1.06	24
HULAH DAM	4393	3	70.1	22	*****	91.	29	39.	6	29.0	******	141.0	******	5.060	31	.75	1.70	21
JAY TOWER	4567	3	73.5	18	*****	92.	29	44.	1	4.5	******	157.0	******	1.320	21	*****	1.10	25
KANSAS 1 ESE	4672	3	70.9	31	*****	87.	28	40.	6	21.5	******	203.5	******	2.734	31	*****	1.10	25
KEYSTONE DAM	4812	3	70.5	27	*****	90.	30	40.	6	27.5	******	177.0	******	3.365	27	*****	.88	5
LENAPAH	5118	3	*****	0	*****	****	0	****	0	******	******	******	******	4.090	31	*****	.73	5
MANNFORD 6 NW	5522	3	72.0	30	*****	91.	28	40.	6	21.0	******	231.5	******	6.040	31	1.25	1.03	23
MARAMEC	5540	3	*****	0	*****	****	0	****	0	******	******	******	******	6.191	31	1.18	1.35	24
MIAMI	5855	3	71.6	28	*****	88.	28	41.	6	12.5	******	198.5	******	3.642	31	-1.39	1.19	25
NOWATA	6485	3	71.6	31	3.4	90.	29	41.	6	27.0	-19.0	231.0	86.0	4.981	31	.36	1.08	5
ONETA 1 WNW	6713	3	*****	0	*****	****	0	****	0	******	******	******	******	4.781	31	*****	1.09	3
PAWHUSKA	6935	3	71.4	31	3.2	89.	29	39.	6	30.0	-18.0	228.0	81.0	5.321	31	.56	1.02	15
PAWNEE	6940	3	*****	0	*****	****	0	****	0	******	******	******	******	6.290	31	1.45	1.77	24
PRYOR 6 N	7309	3	72.3	25	*****	89.	29	43.	1	11.5	******	194.0	******	3.403	31	-1.48	.96	25
RALSTON	7390	3	73.1	31	*****	92.	29	40.	6	24.5	******	274.5	******	7.750	31	3.03	2.53	24
RAMONA 4 N	7394	3	*****	0	*****	****	0	****	0	******	******	******	******	4.180	31	*****	1.62	5
SKIATOOK	8258	3	*****	0	*****	****	0	****	0	******	******	******	******	5.840	31	1.17	1.12	22
SPAVINAW	8380	3	73.2	31	*****	91.	28	43.	6	9.0	******	264.5	******	3.276	31	-1.78	1.17	5
TULSA WSO APT	8992	3	74.0	31	4.9	93.	27	45.	6	16.5	-23.5	295.0	128.0	4.695	31	-.45	1.05	3
UPPER SPAVINAW	9101	3	76.1	31	*****	98.	29	41.	5	13.0	******	358.5	******	5.035	31	*****	2.90	5
VINITA 2 N	9203	3	71.3	30	3.7	89.	29	41.	6	25.0	-37.0	214.5	71.5	5.212	30	*****	1.11	22
WAGONER	9247	3	73.0	31	3.8	89.	28	43.	6	11.5	-18.5	258.0	97.0	4.403	31	-.43	.94	25
WANN	9298	3	*****	0	*****	****	0	****	0	******	******	******	******	7.480	31	*****	2.60	5
WYNONA	9792	3	*****	0	*****	****	0	****	0	******	******	******	******	5.902	31	*****	1.07	24

MAY 1991 SUMMARY FOR WEST CENTRAL DIVISION (CD4)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	MAX DAY	MIN TEMP	MIN DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	MAX 24-HR DAY
CANTON DAM	1445	4	69.6	31	1.1	95.	28	36.	1	40.5	-9.5	183.5	24.5	5.720	31	.77	1.75	24
CLINTON	1909	4	73.1	31	4.1	98.	27	39.	1	27.5	-13.5	278.0	113.0	4.320	31	-.68	1.40	24
COLONY	2039	4	*****	0	*****	****	0	****	0	******	******	******	******	4.670	31	*****	1.27	24
CORDELL	2125	4	*****	0	*****	****	0	****	0	******	******	******	******	4.800	31	.12	1.56	30
ELK CITY 1 E	2849	4	70.4	31	*****	94.	27	39.	1	34.5	******	201.0	******	7.034	31	2.10	1.63	30
ERICK 4 E	2944	4	71.1	31	2.6	94.	26	35.	1	37.5	-8.5	225.5	71.5	5.420	31	1.01	1.35	30
GEARY	3497	4	70.9	28	*****	92.	27	40.	1	27.0	******	192.0	******	4.111	30	*****	1.45	24
HAMMON 1 NNE	3871	4	69.6	31	1.3	95.	28	35.	1	47.5	-15.5	191.5	26.5	6.624	31	2.06	2.60	30
LEEDEY	5090	4	*****	0	*****	****	0	****	0	******	******	******	******	7.570	31	2.79	2.92	24
MACKIE 4 NNW	5463	4	*****	0	*****	****	0	****	0	******	******	******	******	2.980	31	*****	1.48	30
MORAVIA 2 NNE	6035	4	*****	0	*****	****	0	****	0	******	******	******	******	6.071	31	1.32	1.47	24
OKEENE	6629	4	71.9	31	2.4	96.	28	39.	1	30.5	-5.5	244.5	68.5	5.660	31	.67	1.41	24
RETROP	7565	4	*****	0	*****	****	0	****	0	******	******	******	******	6.800	31	*****	2.40	23
REYDON	7579	4	70.6	31	*****	95.	27	35.	1	41.5	******	214.5	******	4.191	31	-.10	1.83	30
SAYRE	7952	4	*****	0	*****	****	0	****	0	******	******	******	******	4.990	31	.58	1.41	30
SWEETWATER 2 E	8652	4	*****	0	*****	****	0	****	0	******	******	******	******	4.121	31	*****	1.57	2
TALOGA	8708	4	70.9	30	3.0	96.	28	36.	1	36.0	-20.0	212.5	66.5	6.290	31	1.16	2.10	24
THOMAS	8815	4	*****	0	*****	****	0	****	0	******	******	******	******	4.660	31	*****	1.90	24
VICI	9172	4	*****	0	*****	****	0	****	0	******	******	******	******	4.070	31	*****	1.35	24
WATONGA	9364	4	72.0	31	*****	95.	27	38.	1	34.5	******	250.0	******	4.451	31	-.53	1.61	20
WEATHERFORD	9422	4	71.6	31	2.3	95.	28	40.	1	28.0	-5.0	234.0	67.0	4.392	31	-.33	1.83	24

MAY 1991 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	******	******	******	******	7.030	31	*****	1.53	24
TINKER AFB	325	5	*****	0	*****	****	0	****	0	******	******	******	******	5.954	31	*****	1.72	8
BLANCHARD 2 SSW	830	5	72.3	31	*****	89.	27	43.	6	23.0	******	249.0	******	8.552	31	*****	1.96	8
BRISTOW	1144	5	71.8	31	2.7	91.	28	40.	6	28.0	-4.0	237.5	78.5	6.353	31	.62	2.05	21
CHANDLER	1684	5	72.5	31	3.3	94.	29	42.	1	27.5	-4.5	260.5	97.5	5.200	31	-.21	1.07	3
CHICKASHA EX ST	1750	5	72.4	31	2.2	92.	27	41.	5	32.5	8.5	260.5	74.5	6.721	31	1.60	1.74	24
COX CITY 1 E	2196	5	*****	0	*****	****	0	****	0	******	******	******	******	8.450	31	*****	2.40	3
CRESCENT	2242	5	*****	0	*****	****	0	****	0	******	******	******	******	5.640	31	*****	1.66	8
CUSHING	2318	5	70.8	29	*****	91.	27	39.	6	27.5	******	195.0	******	5.820	29	*****	1.50	23
EL RENO 1 N	2818	5	71.9	31	3.2	91.	27	39.	1	34.0	-3.0	247.0	95.0	5.250	31	.08	1.29	3
GUTHRIE	3821	5	74.0	31	4.7	93.	27	42.	1	13.5	-20.5	291.0	124.0	5.452	31	.03	1.72	8
HENNESSEY 2 SE	4055	5	72.0	31	2.8	96.	27	36.	1	34.0	-7.0	251.0	79.0	3.180	31	-2.14	1.00	24
INGALLS	4489	5	*****	0	*****	****	0	****	0	******	******	******	******	6.383	31	*****	2.15	8
KINGFISHER 2 SE	4861	5	72.0	31	2.6	93.	27	38.	1	32.0	-3.0	248.5	77.5	5.180	31	.24	2.20	24
KONAWA	4915	5	*****	0	*****	****	0	****	0	******	******	******	******	6.630	31	.53	2.36	3
MARSHALL	5589	5	*****	0	*****	****	0	****	0	******	******	******	******	4.160	31	-1.09	1.40	2
MEEKER 4 W	5779	5	71.1	31	2.1	89.	27	39.	1	35.0	.0	223.0	64.0	6.810	31	1.17	1.91	7
MULHALL	6110	5	*****	0	*****	****	0	****	0	******	******	******	******	4.450	31	*****	1.47	8
NORMAN 3 S	6386	5	72.3	31	*****	92.	28	41.	6	26.0	******	252.0	******	7.732	31	1.84	3.52	8
OILTON 2 SE	6616	5	*****	0	*****	****	0	****	0	******	******	******	******	5.340	31	*****	1.35	7
OKEMAH	6638	5	73.2	31	4.1	94.	28	44.	6	15.5	-11.5	269.0	115.0	6.800	31	1.78	1.94	3
OKLAHOMA CTY WS	6661	5	72.5	31	4.1	90.	28	43.	1	25.5	-15.5	257.5	110.5	6.296	31	.80	1.88	3
PERKINS	7003	5	*****	0	*****	****	0	****	0	******	******	******	******	6.150	31	.95	1.46	8
PIEDMONT	7068	5	*****	0	*****	****	0	****	0	******	******	******	******	6.170	31	*****	1.35	8
PRAGUE	7264	5	*****	0	*****	****	0	****	0	******	******	******	******	6.260	31	1.00	1.70	25
PURCELL 5 SW	7327	5	72.3	31	2.8	90.	28	38.	6	22.0	-13.0	249.5	74.5	6.642	31	.62	1.70	8
SEMINOLE	8042	5	73.3	31	2.9	92.	28	42.	6	11.5	-11.5	268.0	77.0	8.070	31	2.72	2.15	24
SHAWNEE	8110	5	*****	0	*****	****	0	****	0	******	******	******	******	7.821	31	1.81	1.43	8
STELLA	8479	5	*****	0	*****	****	0	****	0	******	******	******	******	6.120	31	*****	1.52	8
STILLWATER 2 W	8501	5	70.1	31	1.7	92.	28	37.	1	39.5	-8.5	198.5	44.5	7.042	31	1.96	2.18	20
STROUD 1 N	8563	5	*****	0	*****	****	0	****	0	******	******	******	******	5.810	31	*****	.87	3
TECUMSEH	8751	5	*****	0	*****	****	0	****	0	******	******	******	******	8.041	31	*****	1.75	8
TROUSDALE	8960	5	*****	0	*****	****	0	****	0	******	******	******	******	5.810	31	*****	2.60	3
UNION CITY 1 SE	9086	5	*****	0	*****	****	0	****	0	******	******	******	******	6.272	31	.37	1.65	8
WELTY 1 SSE	9479	5	*****	0	*****	****	0	****	0	******	******	******	******	4.762	31	*****	1.25	3
WEWOKA	9575	5	*****	0	*****	****	0	****	0	******	******	******	******	7.440	31	2.11	3.51	3

MAY 1991 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	******	******	******	******	5.040	31	*****	2.09	3
BEGGS	631	6	*****	0	*****	****	0	****	0	******	******	******	******	5.170	31	*****	1.43	3
BOYNTON	1027	6	*****	0	*****	****	0	****	0	******	******	******	******	4.531	31	*****	1.70	25
CALVIN	1391	6	*****	0	*****	****	0	****	0	******	******	******	******	5.523	31	-.30	2.43	3
CHECOTAH	1711	6	*****	0	*****	****	0	****	0	******	******	******	******	3.834	31	-1.55	2.23	3
CLAYTON 11 WNW	1858	6	*****	0	*****	****	0	****	0	******	******	******	******	3.900	31	*****	2.15	3
DEWAR 2 NE	2485	6	*****	0	*****	****	0	****	0	******	******	******	******	5.230	31	.12	2.16	3
DUSTIN	2690	6	*****	0	*****	****	0	****	0	******	******	******	******	5.810	31	*****	2.93	3
EUFAULA	2993	6	74.1	29	*****	91.	28	45.	6	9.0	******	271.5	******	2.660	29	*****	1.74	3
HANNA	3884	6	72.5	31	*****	91.	28	41.	6	17.0	******	249.0	******	4.193	31	-1.25	2.66	3
HARTSHORNE	3946	6	*****	0	*****	****	0	****	0	******	******	******	******	3.641	31	*****	1.91	3
HASKELL	3956	6	*****	0	*****	****	0	****	0	******	******	******	******	2.801	31	-2.17	1.24	2
HOLDENVILLE	4235	6	72.0	31	2.3	90.	27	41.	6	23.0	.0	239.0	70.0	7.910	31	2.31	2.84	3
LAKE EUFAULA	4975	6	72.6	31	*****	92.	28	45.	6	13.0	******	247.5	******	4.851	31	*****	2.75	3
LYONS 2 N	5437	6	*****	0	*****	****	0	****	0	******	******	******	******	6.322	31	1.01	3.50	25
MARBLE CITY	5546	6	*****	0	*****	****	0	****	0	******	******	******	******	6.654	31	*****	3.37	25
MCALESTER FAA	5664	6	73.1	31	3.6	90.	28	41.	6	17.0	-17.0	267.0	93.0	2.455	31	-3.16	1.38	3
MCCURTAIN 1 SE	5693	6	74.1	31	*****	92.	26	40.	6	10.5	******	292.5	******	3.804	31	-1.87	1.83	25
MUSKOGEE	6130	6	73.5	31	4.0	89.	28	41.	6	7.5	-24.5	272.5	100.5	4.040	31	-.99	1.24	2
OKMULGEE W W	6670	6	70.5	31	1.2	91.	29	40.	6	36.5	6.5	206.5	43.5	4.422	31	-.66	1.87	3
OKTAHA 2 NE	6678	6	*****	0	*****	****	0	****	0	******	******	******	******	4.570	31	*****	2.01	3
QUINTON	7372	6	*****	0	*****	****	0	****	0	******	******	******	******	4.703	31	-.87	1.60	3
SALLISAW 2 NE	7862	6	72.9	31	3.2	90.	29	39.	6	10.0	-15.0	254.0	84.0	3.362	29	*****	1.59	25
SCIPIO	7979	6	*****	0	*****	****	0	****	0	******	******	******	******	4.620	31	*****	2.12	3
SCRAPER	7993	6	*****	0	*****	****	0	****	0	******	******	******	******	4.030	31	*****	2.80	25
SHORT	8170	6	*****	0	*****	****	0	****	0	******	******	******	******	4.541	31	*****	1.85	3
STILWELL 1 NE	8506	6	71.6	31	*****	88.	29	37.	6	22.5	******	228.5	******	6.154	31	.52	3.50	25
TAHLEQUAH	8677	6	72.6	31	4.4	90.	29	39.	6	17.0	-39.0	253.5	98.5	3.461	31	-2.01	1.53	25
WEBBERS FALLS	9445	6	72.0	31	3.0	91.	30	41.	6	23.5	-12.5	241.0	81.0	5.223	31	-.09	2.56	3
WESTVILLE	9523	6	*****	0	*****	****	0	****	0	******	******	******	******	4.830	31	*****	2.30	3
WETUMKA 3 NE	9571	6	*****	0	*****	****	0	****	0	******	******	******	******	7.205	31	1.78	2.00	24

MAY 1991 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	73.6	31	2.0	97.	26	43.	1	15.0	-3.0	283.0	61.0	8.810	31	4.16	2.43	12
ALTUS DAM	184	7	73.0	31	*****	95.	28	41.	1	18.0	******	266.5	******	8.240	31	3.46	2.25	24
APACHE	260	7	*****	0	*****	****	0	****	0	******	******	******	******	7.410	31	*****	1.61	2
ALTUS AFB	447	7	*****	0	*****	****	0	****	0	******	******	******	******	5.575	31	*****	1.63	12
CARNEGIE 2 ENE	1504	7	72.1	26	*****	92.	27	39.	6	22.5	******	206.0	******	6.810	28	*****	2.30	23
CHATTANOOGA	1706	7	73.8	29	*****	95.	26	43.	5	10.5	******	267.0	******	7.770	29	*****	2.56	24
DUNCAN 12 W	2668	7	*****	0	*****	****	0	****	0	******	******	******	******	6.390	31	*****	2.03	3
FREDERICK	3353	7	72.2	31	-.1	95.	27	43.	5	16.5	1.5	241.0	.0	6.590	31	1.85	2.20	23
GRANDFIELD 4 NW	3709	7	*****	0	*****	****	0	****	0	******	******	******	******	5.650	31	.71	2.44	25
HOBART FAA APT	4204	7	72.7	31	3.6	96.	27	39.	1	31.0	-8.0	269.5	103.5	4.796	31	-.18	1.59	24
HOLLIS	4249	7	72.5	28	*****	100.	26	39.	1	27.5	******	237.0	******	5.951	28	*****	1.15	23
LAWTON	5063	7	72.2	30	1.6	93.	28	45.	5	13.0	-9.0	228.5	33.5	7.100	30	*****	2.00	3
FORT SILL	5068	7	72.3	31	*****	92.	16	45.	1	23.0	******	250.0	******	6.926	31	1.24	3.35	23
LOOKEBA 2 ENE	5329	7	*****	0	*****	****	0	****	0	******	******	******	******	5.270	31	*****	1.60	24
MANGUM RES STA	5509	7	72.7	31	1.7	96.	27	37.	1	27.0	3.0	265.0	55.0	6.960	31	2.24	2.00	24
RANDLETT 9 E	7403	7	*****	0	*****	****	0	****	0	******	******	******	******	4.540	31	*****	2.12	3
ROOSEVELT	7727	7	*****	0	*****	****	0	****	0	******	******	******	******	6.250	31	1.00	2.52	24
SEDAN	8016	7	*****	0	*****	****	0	****	0	******	******	******	******	6.270	31	*****	1.85	25
SNYDER	8299	7	*****	0	*****	****	0	****	0	******	******	******	******	5.291	31	.29	1.76	24
VINSON 3 WNW	9212	7	*****	0	*****	****	0	****	0	******	******	******	******	5.800	31	1.16	1.45	23
WALTERS	9278	7	73.9	31	2.4	94.	27	43.	1	13.0	-4.0	289.0	70.0	4.550	31	-.76	1.98	2
WICHITA MT WLR	9629	7	69.7	31	.5	90.	28	38.	6	32.5	2.5	179.0	19.0	6.892	31	1.65	2.10	3
WILLOW	9668	7	*****	0	*****	****	0	****	0	******	******	******	******	7.001	31	*****	2.65	23

MAY 1991 SUMMARY FOR SOUTH CENTRAL DIVISION (CD8)

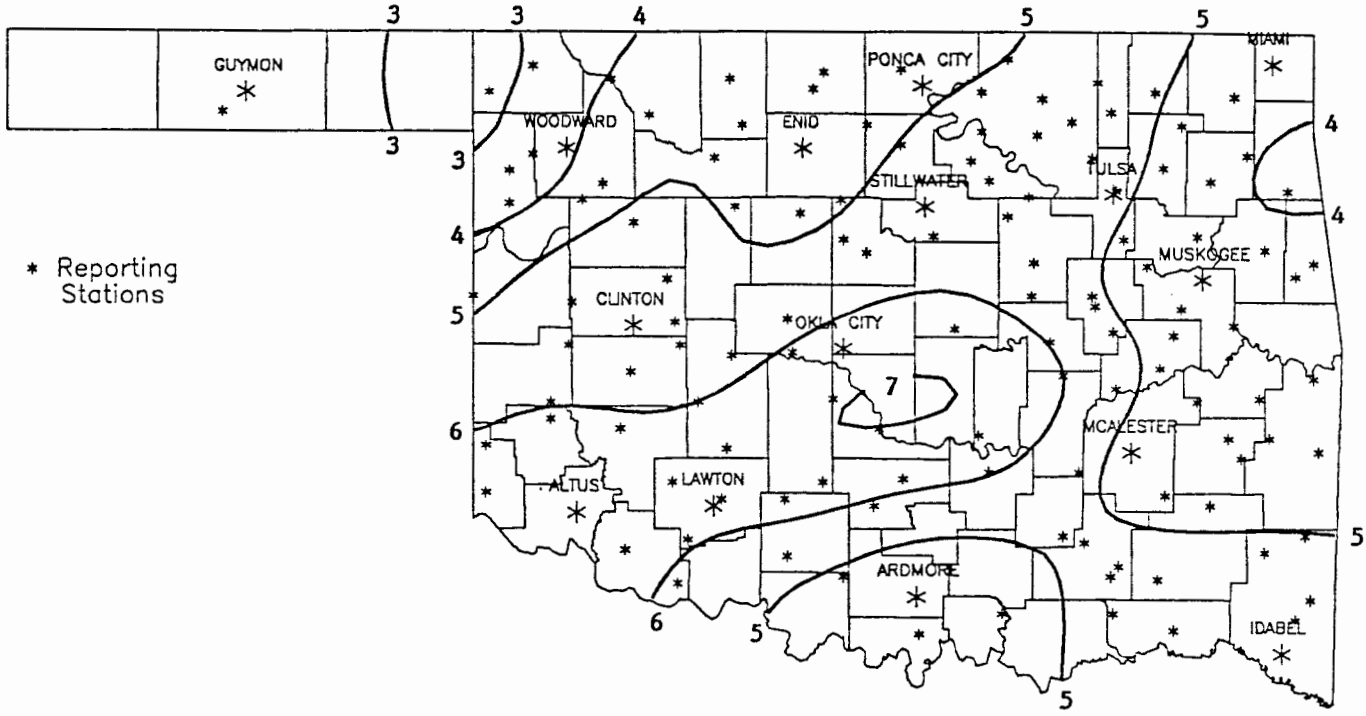
NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
ADA	17	8	71.6	31	1.9	89.	28	43.	6	28.0	5.0	233.0	65.0	7.390	31	1.76	1.88	3
ALLEN	147	8	*****	0	*****	****	0	****	0	******	******	******	******	4.150	25	*****	2.50	3
ARDMORE	292	8	73.4	31	1.0	90.	28	44.	6	10.5	3.5	271.0	35.0	3.960	31	-.68	2.00	3
ATOKA DAM	394	8	73.8	31	*****	93.	28	44.	6	15.0	******	287.0	******	5.955	31	*****	2.62	3
BOKCHITO	917	8	*****	0	*****	****	0	****	0	******	******	******	******	7.360	31	*****	3.25	3
CANEY	1437	8	73.5	31	*****	92.	27	44.	6	16.5	******	279.0	******	5.130	31	*****	1.80	3
CHICKASAW NRA	1745	8	71.5	31	*****	89.	29	39.	6	26.5	******	227.0	******	4.360	31	*****	2.12	3
COLEMAN	2011	8	*****	0	*****	****	0	****	0	******	******	******	******	6.370	31	*****	2.10	8
COMANCHE	2054	8	*****	0	*****	****	0	****	0	******	******	******	******	6.020	31	*****	2.42	3
DAISY 4 ENE	2354	8	*****	0	*****	****	0	****	0	******	******	******	******	4.354	31	-1.95	1.97	3
DUNCAN	2660	8	72.4	31	1.5	92.	28	44.	6	16.0	-1.0	246.0	46.0	6.011	31	.39	2.50	24
DURANT USDA	2678	8	72.3	31	*****	92.	29	42.	6	17.0	******	244.5	******	5.190	31	.19	2.43	3
ELMORE CITY	2872	8	*****	0	*****	****	0	****	0	******	******	******	******	4.610	31	*****	2.50	3
FARRIS 3 WNW	3083	8	*****	0	*****	****	0	****	0	******	******	******	******	6.070	31	*****	2.27	3
GRADY	3688	8	*****	0	*****	****	0	****	0	******	******	******	******	4.020	31	*****	1.82	3
HEALDTON	4001	8	73.6	31	*****	93.	27	41.	6	15.5	******	283.5	******	4.010	31	-.84	1.80	3
HENNEPIN	4052	8	*****	0	*****	****	0	****	0	******	******	******	******	4.191	31	*****	2.10	3
KETCHUM RANCH	4780	8	*****	0	*****	****	0	****	0	******	******	******	******	7.740	31	*****	3.00	3
KINGSTON	4865	8	*****	0	*****	****	0	****	0	******	******	******	******	3.680	31	-1.36	1.45	3
LEHIGH	5108	8	*****	0	*****	****	0	****	0	******	******	******	******	4.404	31	*****	1.80	3
LINDSAY 2 W	5216	8	71.7	31	*****	89.	27	42.	6	23.0	******	231.0	******	7.592	31	1.31	1.48	8
LOCO 6 SE	5247	8	*****	0	*****	****	0	****	0	******	******	******	******	4.710	31	*****	1.64	3
MADILL	5468	8	73.8	31	2.9	92.	28	43.	6	11.0	-2.0	283.0	87.0	3.880	31	-1.22	2.03	2
MARIETTA	5563	8	73.5	31	2.7	91.	28	44.	6	13.5	-1.5	277.5	82.5	4.070	31	-.48	1.59	3
MARLOW 1 WSW	5581	8	73.1	31	*****	93.	27	40.	6	19.0	******	269.5	******	6.420	31	.41	1.91	23
MCGEE CREEK DAM	5713	8	72.8	31	*****	92.	29	43.	6	17.0	******	259.5	******	6.830	31	*****	2.86	3
PAULS VALLEY	6926	8	73.0	31	1.9	93.	28	40.	6	17.0	-1.0	265.5	58.5	6.370	31	.91	2.75	3
PONTOTOC	7214	8	*****	0	*****	****	0	****	0	******	******	******	******	5.291	31	-.44	1.48	2
TISHOMINGO NWLR	8884	8	73.9	27	*****	93.	28	41.	6	13.5	******	254.0	******	2.910	31	-1.97	1.43	3
TUSSY	9032	8	*****	0	*****	****	0	****	0	******	******	******	******	4.380	31	*****	2.13	3
WAURIKA	9395	8	74.4	31	2.5	95.	27	43.	1	14.0	1.0	306.5	79.5	3.903	31	-.95	2.50	3
WAURIKA DAM	9399	8	72.8	29	*****	93.	28	41.	6	17.5	******	244.0	******	3.963	29	*****	2.12	3

MAY 1991 SUMMARY FOR SOUTHEAST DIVISION (CD9)

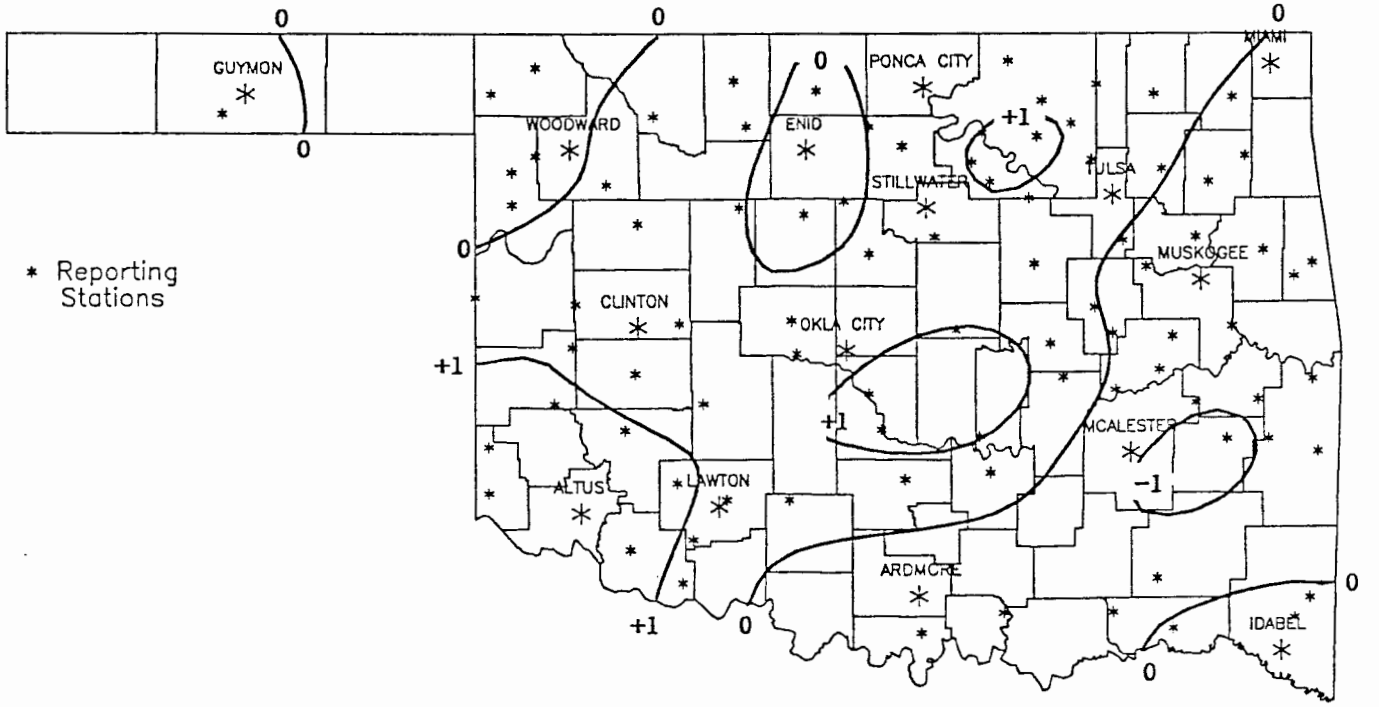
NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
ANTLERS	256	9	73.3	31	3.5	91.	28	42.	6	13.0	-13.0	270.0	96.0	5.510	31	-.43	1.35	3
BATTIEST 1 SSW	567	9	70.7	31	*****	87.	28	37.	6	26.0	******	204.0	******	6.530	30	*****	2.15	25
BEAR MT TWR	584	9	73.5	22	*****	90.	28	45.	7	6.5	******	193.0	******	7.470	25	*****	2.45	3
BENGAL	670	9	*****	0	*****	****	0	****	0	******	******	******	******	4.753	31	*****	2.25	25
BOSWELL 4 NNW	980	9	74.5	31	*****	93.	27	45.	6	6.0	******	300.5	******	4.982	31	.03	1.41	15
BROKEN BOW 1 N	1162	9	*****	0	*****	****	0	****	0	******	******	******	******	6.660	31	.97	1.30	3
BROKEN BOW DAM	1168	9	72.9	31	*****	92.	29	41.	6	15.0	******	258.5	******	5.770	31	*****	1.40	4
CARNASAW TWR	1499	9	*****	0	*****	****	0	****	0	******	******	******	******	5.980	21	*****	2.87	6
CARTER TWR	1544	9	*****	0	*****	****	0	****	0	******	******	******	******	9.590	31	3.65	3.50	25
FANSHAWE	3065	9	*****	0	*****	****	0	****	0	******	******	******	******	5.520	31	-.39	2.90	25
FLAGPOLE TWR	3169	9	*****	0	*****	****	0	****	0	******	******	******	******	4.270	31	*****	1.70	3
HEAVENER 1 SE	4008	9	*****	0	*****	****	0	****	0	******	******	******	******	4.440	31	-1.08	1.69	3
HEE MT TWR	4017	9	*****	0	*****	****	0	****	0	******	******	******	******	6.801	31	*****	2.00	2
HUGO	4384	9	73.6	31	2.3	89.	31	44.	6	6.5	-2.5	274.5	69.5	6.531	31	.87	2.19	3
IDABEL	4451	9	73.3	31	2.8	92.	29	43.	7	13.0	-2.0	270.0	84.0	5.012	31	-.66	1.32	25
POTEAU W W	7254	9	73.4	31	*****	92.	28	46.	6	10.0	******	271.0	******	3.522	31	*****	1.42	24
SMITHVILLE 1 W	8285	9	70.9	31	*****	89.	28	37.	6	22.0	******	206.0	******	6.962	31	*****	3.00	3
SPIRO	8416	9	*****	0	*****	****	0	****	0	******	******	******	******	4.750	31	-.61	2.19	25
TUSKAHOMA	9023	9	73.5	31	*****	91.	28	38.	6	10.5	******	275.5	******	4.681	31	*****	1.33	3
VALLIANT 3 W	9118	9	*****	0	*****	****	0	****	0	******	******	******	******	8.821	31	3.32	2.01	20
WILBURTON 9 ENE	9634	9	73.2	31	4.0	91.	28	39.	6	12.5	-25.5	266.0	98.0	4.803	31	-.82	1.80	2

MAY 1991 CLIMATE DIVISION SUMMARY

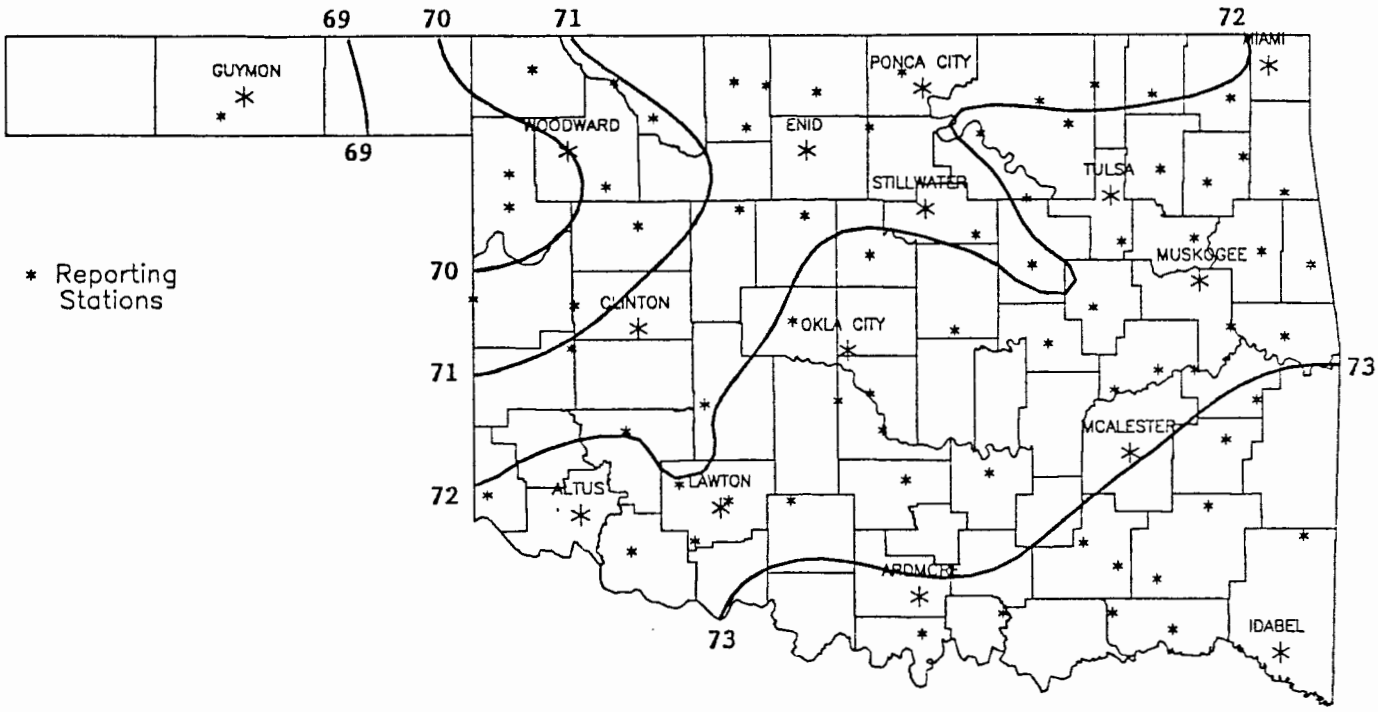
CLIMATE DIV	MEAN TEMP	NUM STA	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEGREE DAYS	DEV FROM NORM	COOL DEGREE DAYS	DEV FROM NORM	TOT PPT	NUM STA	DEV FROM NORM	MAX 24-HR	DAY
1	68.3	12	2.8	104.0	27	27.0	1	68.3	-30.8	170.3	54.3	3.01	14	-.26	4.09	22
2	71.6	13	3.2	99.0	27	34.0	1	37.2	-16.4	239.6	81.4	4.31	20	-.07	3.10	24
3	72.4	14	4.1	98.0	29	39.0	6	22.2	-27.4	249.2	98.8	5.25	29	.41	3.29	5
4	71.1	10	2.3	98.0	27	35.0	1	35.8	-9.8	223.5	62.0	5.24	20	.48	2.92	24
5	72.2	15	3.1	96.0	27	36.0	1	26.6	-8.6	250.8	86.0	6.28	35	.83	3.52	8
6	72.5	11	3.2	92.0	26	37.0	6	18.0	-15.8	250.1	83.9	4.81	29	-.60	3.50	25
7	72.5	9	1.7	100.0	26	37.0	1	21.0	-1.6	252.4	50.4	6.27	19	1.30	3.35	23
8	73.0	15	1.9	95.0	27	39.0	6	17.3	2.2	264.2	60.1	5.24	30	-.09	3.25	3
9	72.9	10	2.7	93.0	27	37.0	6	13.4	-8.6	259.6	76.4	5.74	18	.08	3.50	25



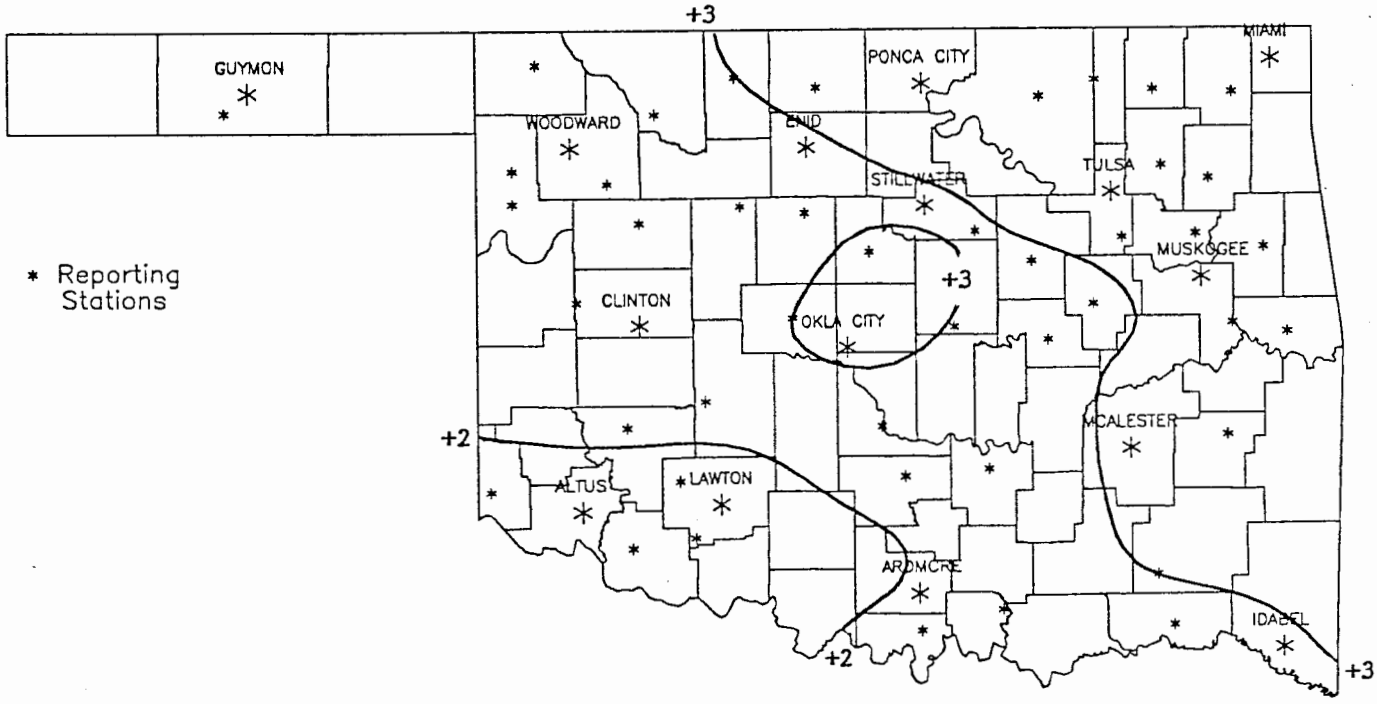
MAY 1991 TOTAL PRECIPITATION
(Inches)



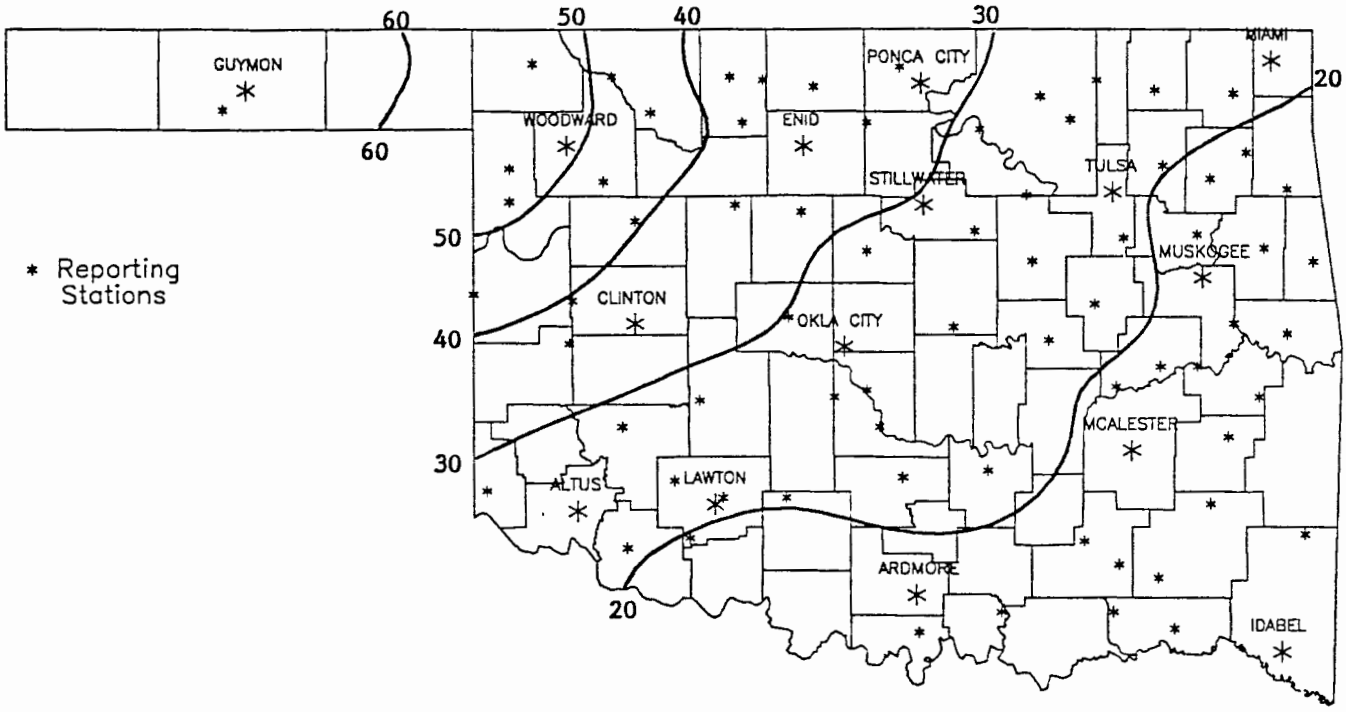
MAY 1991 DEVIATION FROM NORMAL PRECIPITATION
(Inches)



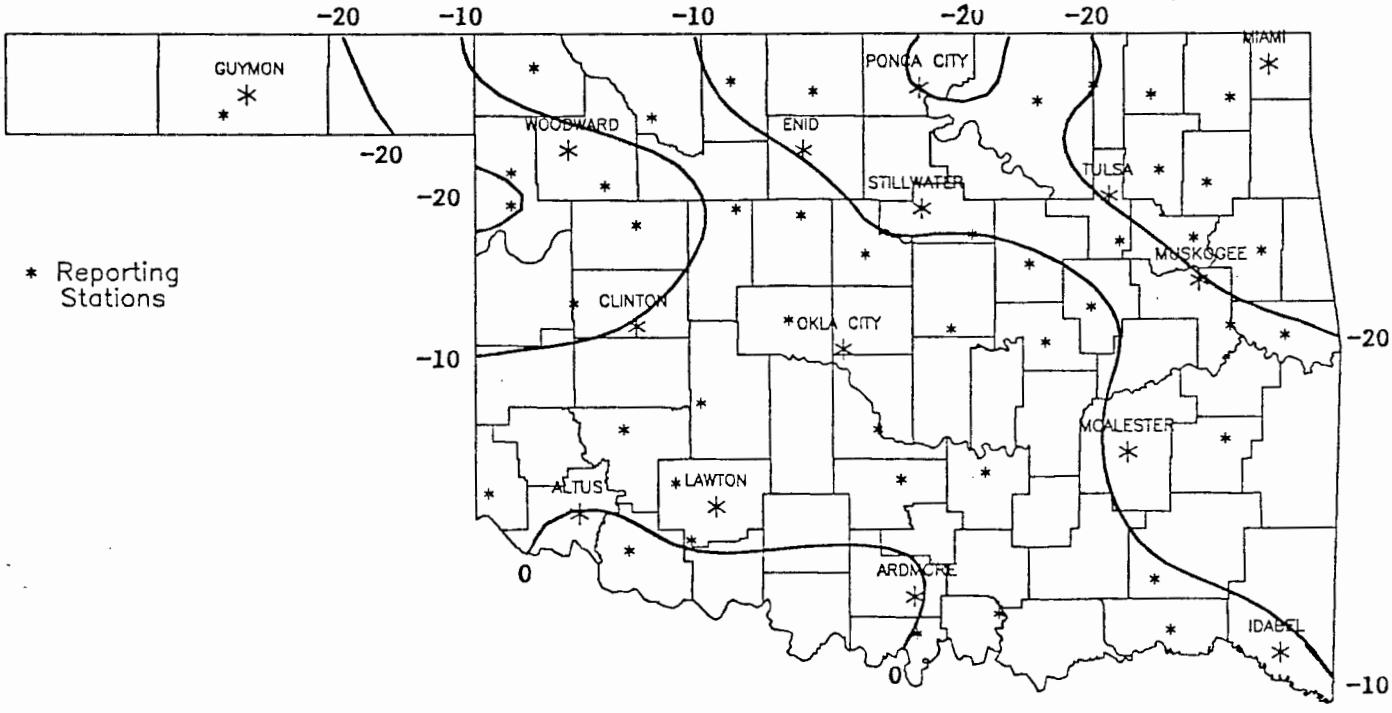
MAY 1991 AVERAGE MONTHLY TEMPERATURES
(Degrees F)



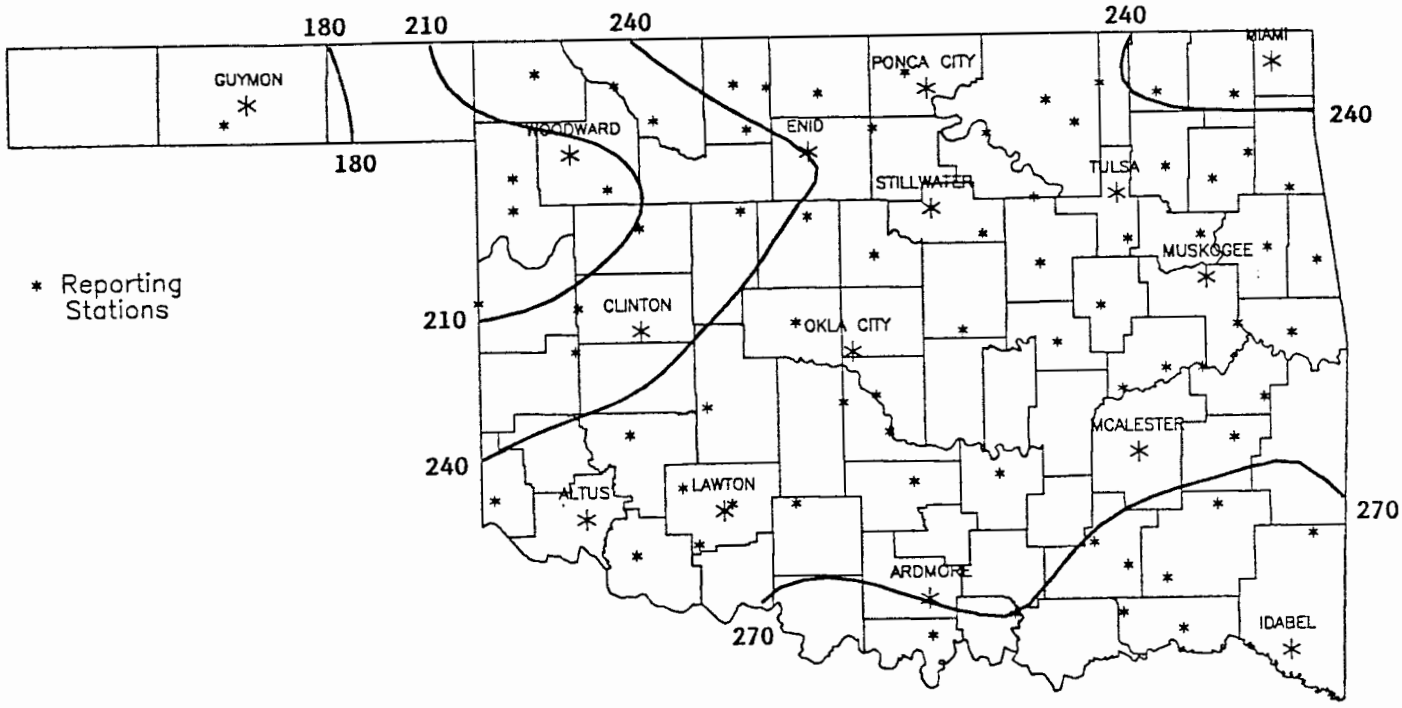
MAY 1991 DEVIATION FROM NORMAL TEMPERATURES
(Degrees F)



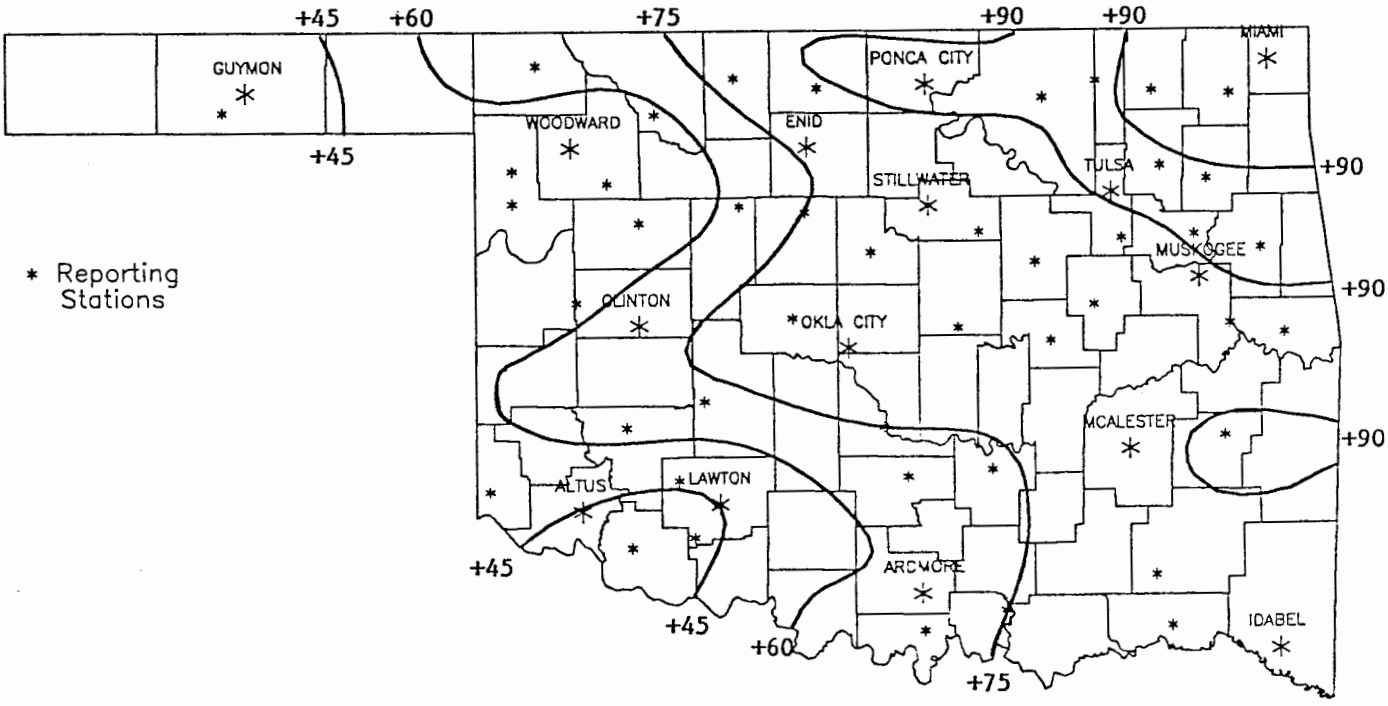
MAY 1991 HEATING DEGREE DAYS



MAY 1991 DEVIATION FROM NORMAL HEATING DEGREE DAYS

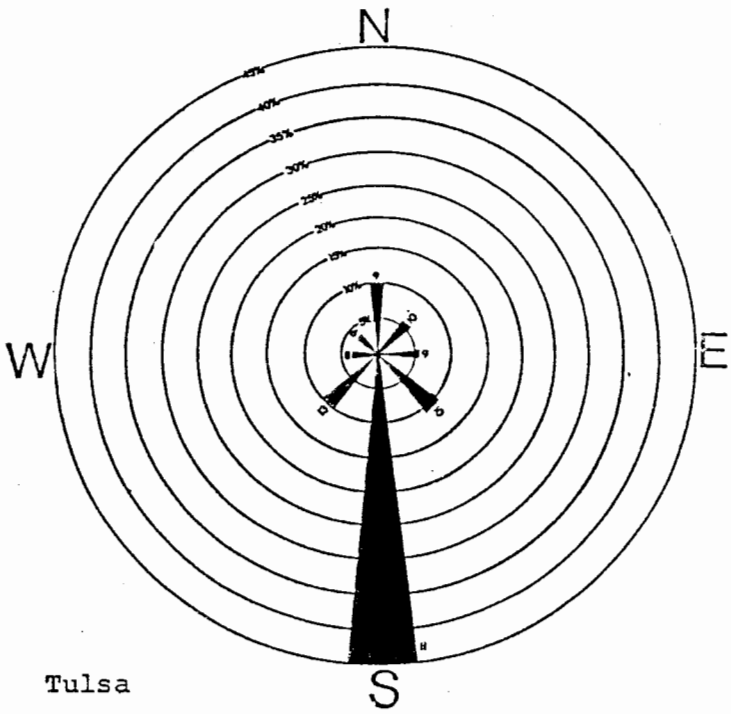


MAY 1991 COOLING DEGREE DAYS

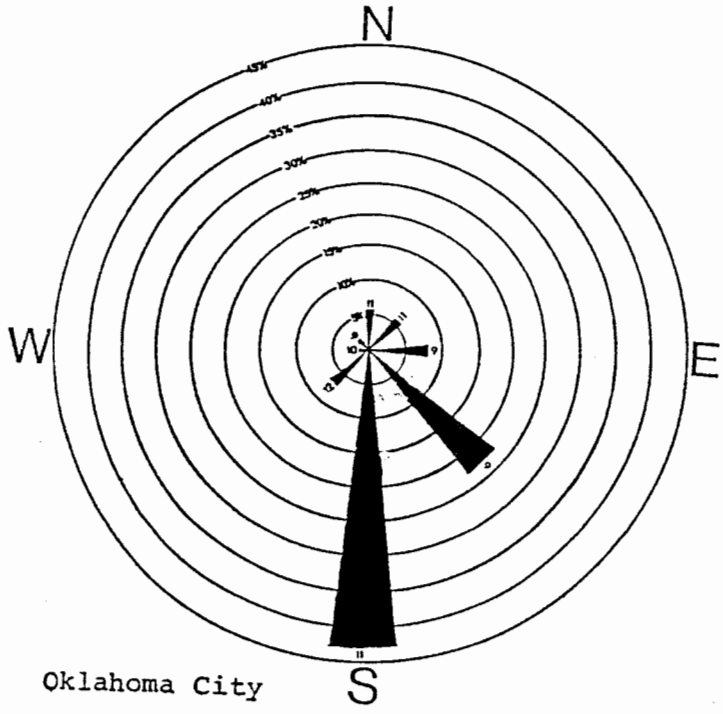


MAY 1991 DEVIATION FROM NORMAL COOLING DEGREE DAYS

July wind roses for Oklahoma City and Tulsa for 10-year (1965-1974) mean winds (data adapted from NOAA Airport Climatology Series). Percents represent the percentages for winds coming from a direction. The numbers at the end of the bars indicate the average speed (miles per hour) of winds from that direction.



Tulsa



Oklahoma City

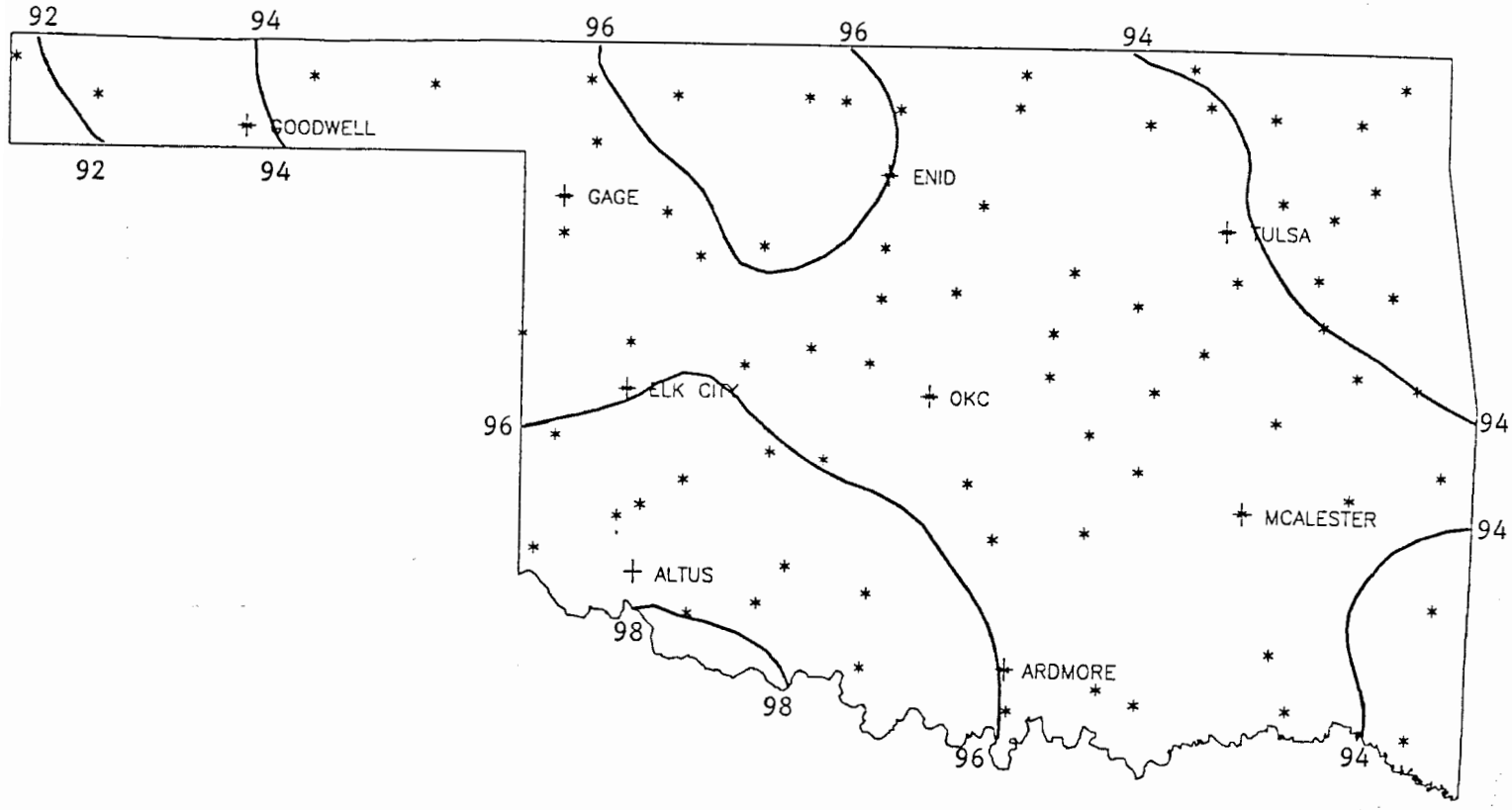
JULY 1991 SUNRISE AND SUNSET

Oklahoma City

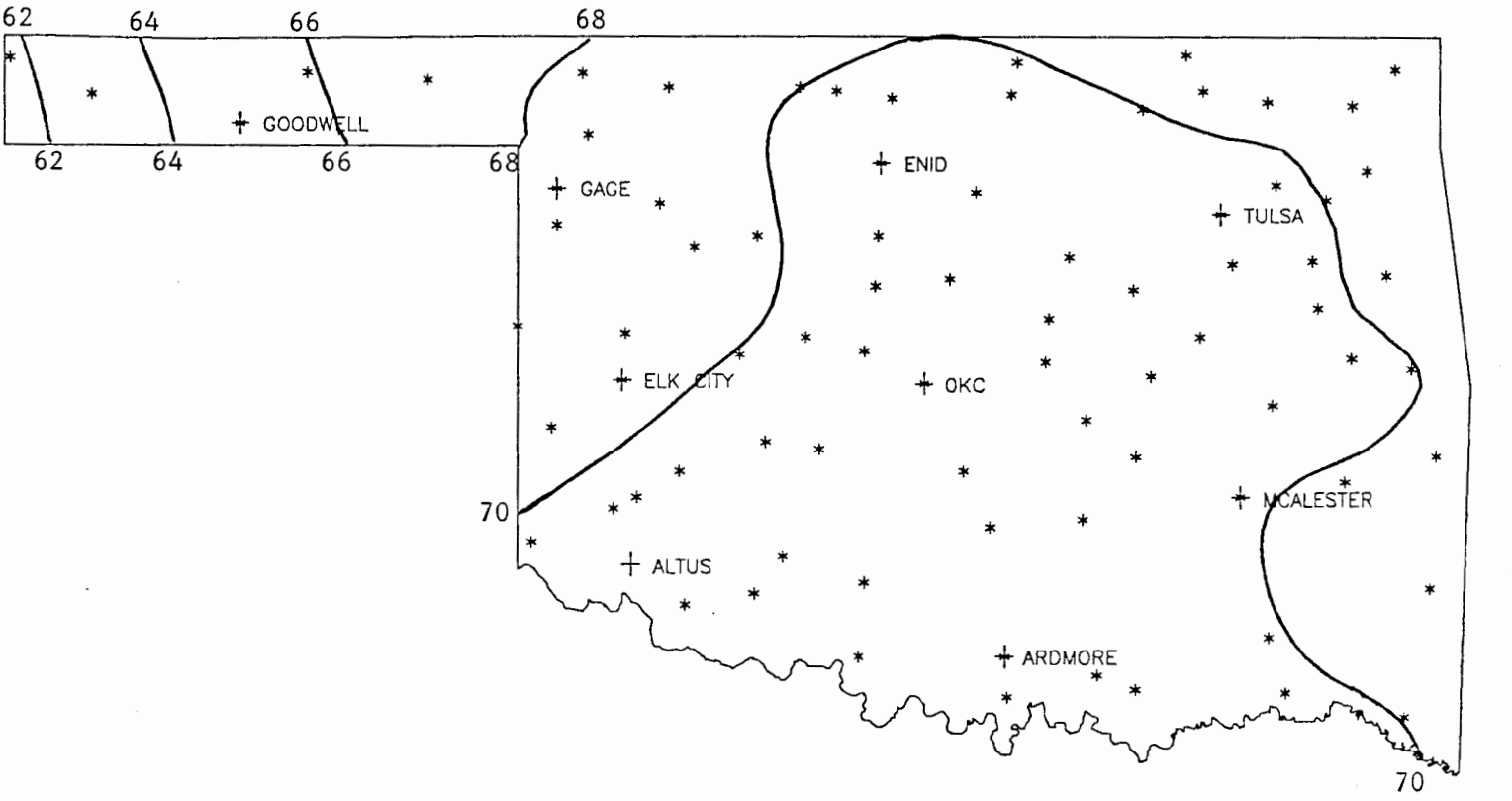
19910701	6:21AM	8:47PM LT	14:27
19910702	6:21AM	8:47PM LT	14:26
19910703	6:22AM	8:47PM LT	14:26
19910704	6:22AM	8:47PM LT	14:25
19910705	6:22AM	8:47PM LT	14:25
19910706	6:23AM	8:47PM LT	14:24
19910707	6:23AM	8:47PM LT	14:23
19910708	6:24AM	8:47PM LT	14:23
19910709	6:24AM	8:46PM LT	14:22
19910710	6:25AM	8:46PM LT	14:21
19910711	6:25AM	8:46PM LT	14:20
19910712	6:26AM	8:46PM LT	14:20
19910713	6:27AM	8:45PM LT	14:19
19910714	6:27AM	8:45PM LT	14:18
19910715	6:28AM	8:45PM LT	14:17
19910716	6:28AM	8:44PM LT	14:16
19910717	6:29AM	8:44PM LT	14:15
19910718	6:30AM	8:43PM LT	14:14
19910719	6:30AM	8:43PM LT	14:13
19910720	6:31AM	8:42PM LT	14:12
19910721	6:32AM	8:42PM LT	14:10
19910722	6:32AM	8:41PM LT	14: 9
19910723	6:33AM	8:41PM LT	14: 8
19910724	6:34AM	8:40PM LT	14: 7
19910725	6:34AM	8:40PM LT	14: 5
19910726	6:35AM	8:39PM LT	14: 4
19910727	6:36AM	8:38PM LT	14: 3
19910728	6:36AM	8:38PM LT	14: 1
19910729	6:37AM	8:37PM LT	13:60
19910730	6:38AM	8:36PM LT	13:58
19910731	6:38AM	8:35PM LT	13:57

Tulsa

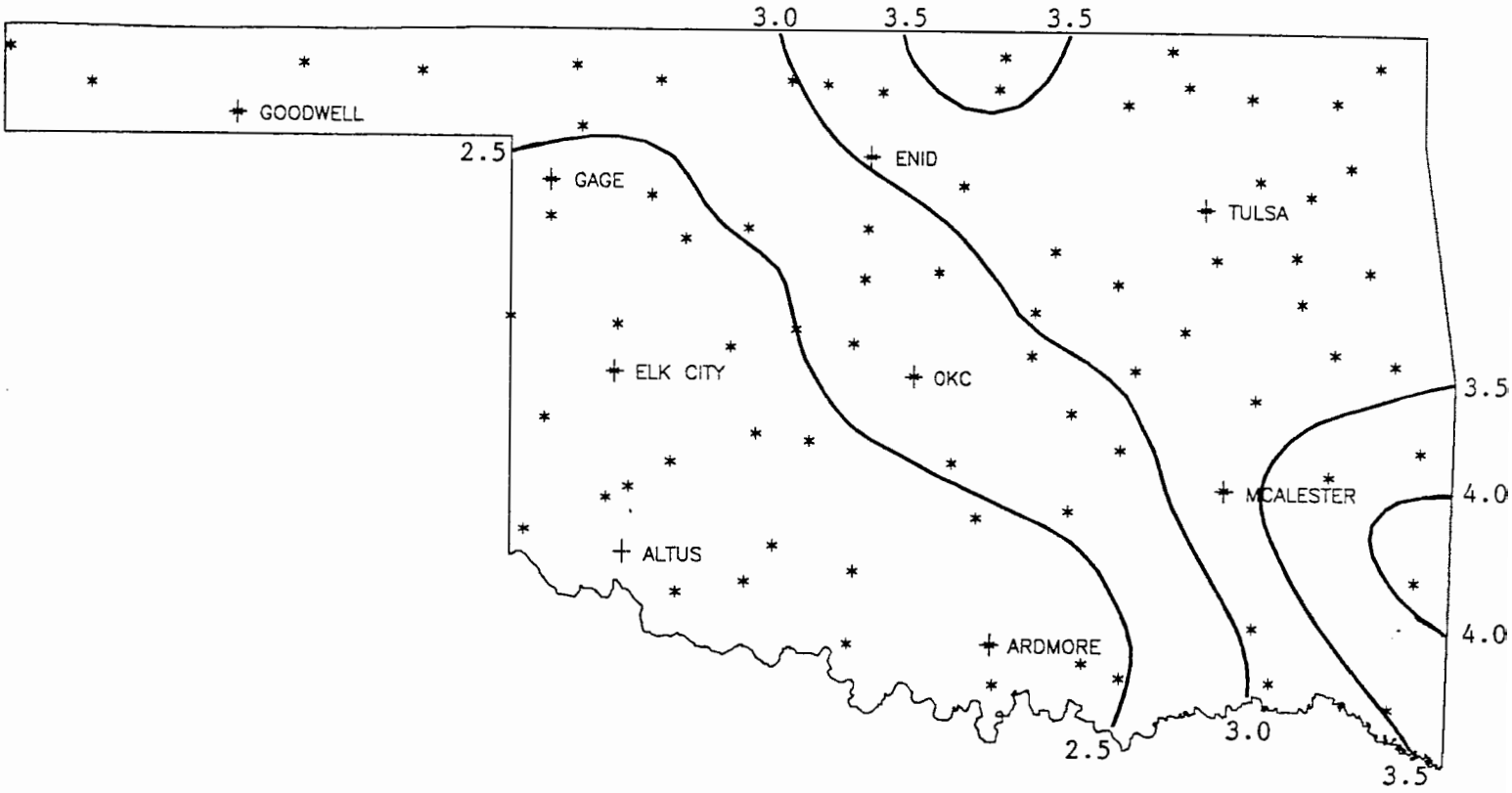
19910701	6:12AM	8:43PM LT	14:31
19910702	6:12AM	8:43PM LT	14:30
19910703	6:13AM	8:43PM LT	14:30
19910704	6:13AM	8:42PM LT	14:29
19910705	6:14AM	8:42PM LT	14:29
19910706	6:14AM	8:42PM LT	14:28
19910707	6:14AM	8:42PM LT	14:28
19910708	6:15AM	8:42PM LT	14:27
19910709	6:16AM	8:42PM LT	14:26
19910710	6:16AM	8:41PM LT	14:25
19910711	6:17AM	8:41PM LT	14:25
19910712	6:17AM	8:41PM LT	14:24
19910713	6:18AM	8:41PM LT	14:23
19910714	6:18AM	8:40PM LT	14:22
19910715	6:19AM	8:40PM LT	14:21
19910716	6:20AM	8:39PM LT	14:20
19910717	6:20AM	8:39PM LT	14:19
19910718	6:21AM	8:39PM LT	14:18
19910719	6:22AM	8:38PM LT	14:17
19910720	6:22AM	8:38PM LT	14:15
19910721	6:23AM	8:37PM LT	14:14
19910722	6:24AM	8:36PM LT	14:13
19910723	6:24AM	8:36PM LT	14:12
19910724	6:25AM	8:35PM LT	14:10
19910725	6:26AM	8:35PM LT	14: 9
19910726	6:26AM	8:34PM LT	14: 8
19910727	6:27AM	8:33PM LT	14: 6
19910728	6:28AM	8:32PM LT	14: 5
19910729	6:28AM	8:32PM LT	14: 3
19910730	6:29AM	8:31PM LT	14: 2
19910731	6:30AM	8:30PM LT	14: 0



30-YEAR MEAN JULY DAILY MAXIMUM TEMPERATURE



30-YEAR MEAN JULY DAILY MINIMUM TEMPERATURE



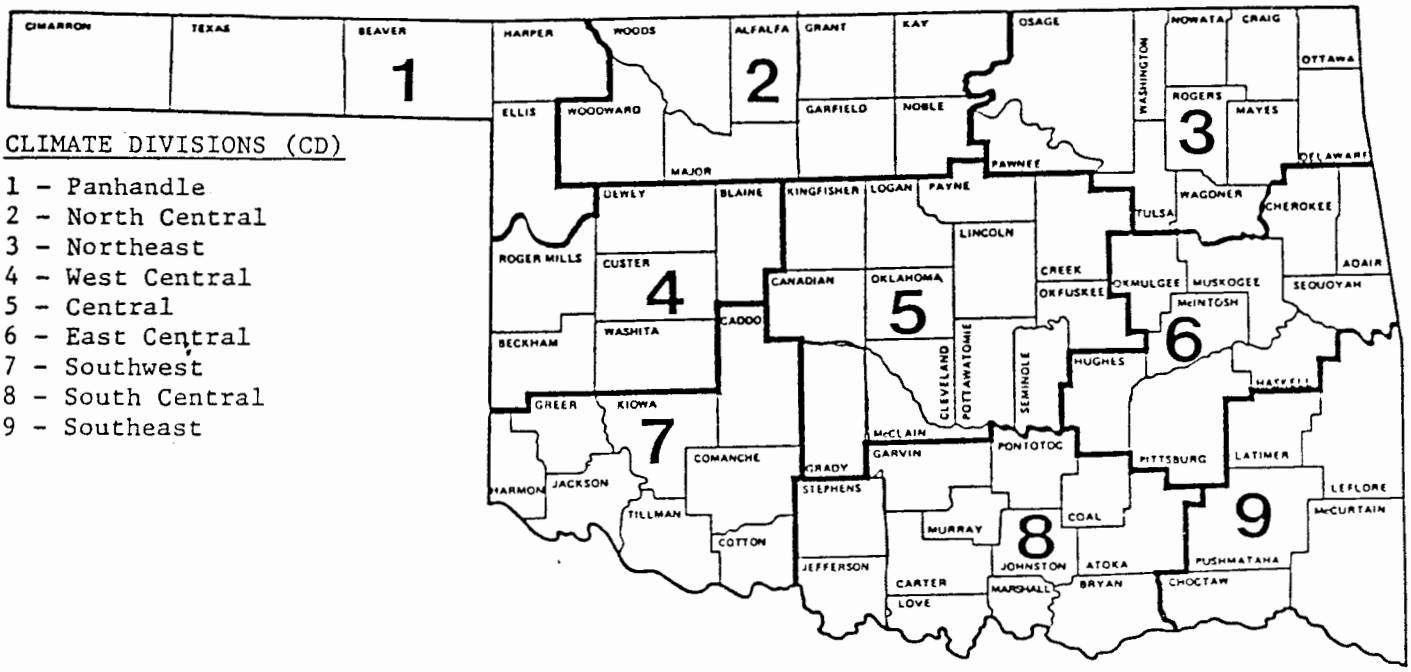
30-YEAR MEAN JULY PRECIPITATION

90-DAY NATIONAL WEATHER SERVICE OUTLOOK

(June-August 1991)

Precipitation - Below Normal East
Near Normal Elsewhere

Temperature - Above Normal Statewide



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 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.

OKLAHOMA CITY CLIMATE CALENDAR

July 1991

The data on this calendar are for Oklahoma City. Normal values are calculated for the period 1948-1988. Extremes are found for the period of record (1924-present).

Normal 1	Actual	Normal 2	Actual	Normal 3	Actual	Normal 4	Actual	Normal 5	Actual	Normal 6	Actual	Normal 7	Actual
90.2 max		91.8 max		92.4 max		91.1 max		91.2 max		91.9 max		92.5 max	
69.5 min		70.3 min		71.1 min		69.9 min		69.3 min		69.8 min		70.1 min	
.204 ppt		.074 ppt		.066 ppt		.070 ppt		.103 ppt		.071 ppt		.068 ppt	
0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd	
15 cdd		16 cdd		17 cdd		16 cdd		16 cdd		16 cdd		17 cdd	
Highest Max	102-1980	Highest Max	105-1948	Highest Max	103-1980	Highest Max	102-1934	Highest Max	102-1966	Highest Max	102-1953	Highest Max	105-1970
Lowest Max	69-1951	Lowest Max	61-1988	Lowest Max	80-1941	Lowest Max	76-1972	Lowest Max	77-1958	Lowest Max	73-1958	Lowest Max	76-1960
Lowest Min	57-1951	Lowest Min	61-1945	Lowest Min	62-1968	Lowest Min	59-1940	Lowest Min	57-1942	Lowest Min	55-1972	Lowest Min	57-1952
Highest Min	78-1931	Highest Min	78-1980	Highest Min	78-1933	Highest Min	80-1933	Highest Min	80-1933	Highest Min	77-1986	Highest Min	77-1963
Greatest Ppt	3.35-1940	Greatest Ppt	1.61-1972	Greatest Ppt	2.97-1947	Greatest Ppt	.95-1960	Greatest Ppt	3.21-1979	Greatest Ppt	1.84-1929	Greatest Ppt	1.39-1953

Normal 8	Actual	Normal 9	Actual	Normal 10	Actual	Normal 11	Actual	Normal 12	Actual	Normal 13	Actual	Normal 14	Actual
92.8 max		93.0 max		93.2 max		93.1 max		92.9 max		93.1 max		93.3 max	
70.3 min		70.4 min		70.2 min		70.6 min		70.8 min		70.1 min		70.0 min	
.035 ppt		.047 ppt		.051 ppt		.038 ppt		.079 ppt		.121 ppt		.057 ppt	
0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd	
17 cdd		17 cdd		17 cdd		17 cdd		17 cdd		17 cdd		17 cdd	
Highest Max	105-1964	Highest Max	106-1964	Highest Max	104-1933	Highest Max	107-1933	Highest Max	107-1954	Highest Max	106-1954	Highest Max	107-1954
Lowest Max	82-1958	Lowest Max	81-1961	Lowest Max	76-1953	Lowest Max	76-1953	Lowest Max	64-1953	Lowest Max	73-1953	Lowest Max	80-1926
Lowest Min	57-1958	Lowest Min	61-1952	Lowest Min	58-1961	Lowest Min	58-1931	Lowest Min	56-1953	Lowest Min	56-1975	Lowest Min	58-1990
Highest Min	78-1931	Highest Min	80-1933	Highest Min	80-1933	Highest Min	81-1933	Highest Min	82-1933	Highest Min	81-1934	Highest Min	80-1934
Greatest Ppt	1.32-1959	Greatest Ppt	1.88-1926	Greatest Ppt	1.90-1945	Greatest Ppt	.83-1940	Greatest Ppt	1.80-1926	Greatest Ppt	2.10-1963	Greatest Ppt	.71-1961

Normal 15	Actual	Normal 16	Actual	Normal 17	Actual	Normal 18	Actual	Normal 19	Actual	Normal 20	Actual	Normal 21	Actual
92.6 max		93.1 max		93.5 max		93.9 max		93.6 max		93.5 max		93.3 max	
70.9 min		71.0 min		70.8 min		71.8 min		71.5 min		71.0 min		70.8 min	
.080 ppt		.047 ppt		.154 ppt		.025 ppt		.058 ppt		.054 ppt		.133 ppt	
0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd	
17 cdd		17 cdd		17 cdd		18 cdd		18 cdd		18 cdd		17 cdd	
Highest Max	108-1936	Highest Max	106-1980	Highest Max	106-1980	Highest Max	108-1936	Highest Max	109-1936	Highest Max	107-1936	Highest Max	107-1939
Lowest Max	80-1952	Lowest Max	74-1967	Lowest Max	80-1950	Lowest Max	72-1967	Lowest Max	74-1953	Lowest Max	77-1944	Lowest Max	78-1970
Lowest Min	59-1967	Lowest Min	64-1990	Lowest Min	63-1967	Lowest Min	64-1931	Lowest Min	63-1931	Lowest Min	60-1970	Lowest Min	54-1970
Highest Min	82-1936	Highest Min	79-1939	Highest Min	79-1943	Highest Min	81-1936	Highest Min	82-1936	Highest Min	77-1930	Highest Min	80-1981
Greatest Ppt	1.70-1938	Greatest Ppt	.81-1953	Greatest Ppt	1.71-1959	Greatest Ppt	1.41-1990	Greatest Ppt	.81-1953	Greatest Ppt	1.15-1973	Greatest Ppt	1.64-1950

Normal 22	Actual	Normal 23	Actual	Normal 24	Actual	Normal 25	Actual	Normal 26	Actual	Normal 27	Actual	Normal 28	Actual
93.4 max		93.0 max		93.9 max		94.5 max		94.0 max		94.0 max		92.7 max	
71.3 min		70.5 min		71.3 min		72.0 min		72.0 min		71.2 min		70.8 min	
.092 ppt		.165 ppt		.082 ppt		.077 ppt		.082 ppt		.265 ppt		.200 ppt	
0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd	
18 cdd		17 cdd		18 cdd		18 cdd		18 cdd		18 cdd		17 cdd	
Highest Max	107-1974	Highest Max	104-1943	Highest Max	106-1943	Highest Max	106-1977	Highest Max	106-1978	Highest Max	105-1986	Highest Max	108-1986
Lowest Max	78-1990	Lowest Max	77-1989	Lowest Max	73-1947	Lowest Max	78-1926	Lowest Max	75-1959	Lowest Max	75-1959	Lowest Max	75-1961
Lowest Min	57-1970	Lowest Min	55-1970	Lowest Min	61-1927	Lowest Min	66-1989	Lowest Min	64-1933	Lowest Min	65-1933	Lowest Min	61-1931
Highest Min	79-1981	Highest Min	79-1943	Highest Min	78-1934	Highest Min	83-1934	Highest Min	78-1930	Highest Min	78-1931	Highest Min	80-1946
Greatest Ppt	1.00-1960	Greatest Ppt	3.02-1960	Greatest Ppt	2.92-1975	Greatest Ppt	1.48-1950	Greatest Ppt	.88-1976	Greatest Ppt	1.88-1977	Greatest Ppt	5.75-1981

Normal 29	Actual	Normal 30	Actual	Normal 31	Actual
93.4 max		93.6 max		93.1 max	
70.9 min		71.1 min		70.7 min	
.163 ppt		.042 ppt		.053 ppt	
0 hdd		0 hdd		0 hdd	
17 cdd		18 cdd		17 cdd	
Highest Max	108-1986	Highest Max	108-1986	Highest Max	107-1980
Lowest Max	82-1927	Lowest Max	79-1933	Lowest Max	80-1990
Lowest Min	57-1931	Lowest Min	57-1971	Lowest Min	53-1971
Highest Min	79-1966	Highest Min	80-1986	Highest Min	79-1943
Greatest Ppt	2.02-1975	Greatest Ppt	.71-1936	Greatest Ppt	1.07-1978

JULY AVERAGES

Temperature	:	81.8°F
Precipitation	:	2.86"
Heating Degree Days	:	0
Cooling Degree Days	:	530

TULSA CLIMATE CALENDAR

July 1991

The data on this calendar are for Tulsa. Normal values are calculated for the period 1948-1987. Temperature extremes are for the period 1905-1990; precipitation extremes are for the period 1948-1990.

Normal 1	Actual	Normal 2	Actual	Normal 3	Actual	Normal 4	Actual	Normal 5	Actual	Normal 6	Actual	Normal 7	Actual
91.0 max		93.0 max		93.0 max		92.0 max		92.0 max		93.0 max		93.0 max	
71.0 min		72.0 min		72.0 min		72.0 min		70.0 min		71.0 min		72.0 min	
.100 ppt		.070 ppt		.140 ppt		.100 ppt		.100 ppt		.100 ppt		.070 ppt	
0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd	
16 cdd		17 cdd		18 cdd		17 cdd		16 cdd		17 cdd		18 cdd	
Highest Max	106-1917	Highest Max	105-1933	Highest Max	107-1911	Highest Max	108-1911	Highest Max	108-1911	Highest Max	105-1917	Highest Max	103-1917
Lowest Max	73-1951	Lowest Max	78-1951	Lowest Max	81-1972	Lowest Max	76-1972	Lowest Max	77-1972	Lowest Max	78-1960	Lowest Max	79-1958
Lowest Min	57-1924	Lowest Min	54-1924	Lowest Min	54-1924	Lowest Min	56-1924	Lowest Min	53-1915	Lowest Min	55-1972	Lowest Min	58-1967
Highest Min	82-1980	Highest Min	83-1980	Highest Min	80-1933	Highest Min	85-1980	Highest Min	82-1990	Highest Min	82-1980	Highest Min	84-1980
Greatest Ppt	.90-1959	Greatest Ppt	1.41-1972	Greatest Ppt	1.89-1960	Greatest Ppt	1.30-1960	Greatest Ppt	1.55-1950	Greatest Ppt	1.52-1965	Greatest Ppt	.97-1953

Normal 8	Actual	Normal 9	Actual	Normal 10	Actual	Normal 11	Actual	Normal 12	Actual	Normal 13	Actual	Normal 14	Actual
93.0 max		94.0 max		94.0 max		94.0 max		94.0 max		93.0 max		94.0 max	
72.0 min		72.0 min		72.0 min		73.0 min		73.0 min		72.0 min		72.0 min	
.040 ppt		.050 ppt		.120 ppt		.100 ppt		.130 ppt		.120 ppt		.150 ppt	
0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd	
18 cdd		18 cdd		18 cdd		18 cdd		18 cdd		18 cdd		18 cdd	
Highest Max	106-1917	Highest Max	107-1925	Highest Max	105-1933	Highest Max	107-1954	Highest Max	109-1954	Highest Max	111-1954	Highest Max	112-1954
Lowest Max	81-1958	Lowest Max	73-1950	Lowest Max	75-1950	Lowest Max	72-1963	Lowest Max	66-1953	Lowest Max	76-1953	Lowest Max	77-1961
Lowest Min	61-1958	Lowest Min	59-1952	Lowest Min	59-1961	Lowest Min	59-1905	Lowest Min	59-1975	Lowest Min	54-1975	Lowest Min	54-1967
Highest Min	81-1980	Highest Min	82-1980	Highest Min	84-1980	Highest Min	82-1969	Highest Min	84-1980	Highest Min	85-1980	Highest Min	85-1954
Greatest Ppt	.60-1953	Greatest Ppt	.85-1949	Greatest Ppt	1.17-1962	Greatest Ppt	2.30-1963	Greatest Ppt	1.35-1953	Greatest Ppt	1.57-1961	Greatest Ppt	1.35-1951

Normal 15	Actual	Normal 16	Actual	Normal 17	Actual	Normal 18	Actual	Normal 19	Actual	Normal 20	Actual	Normal 21	Actual
92.0 max		93.0 max		94.0 max		95.0 max		95.0 max		94.0 max		94.0 max	
73.0 min		73.0 min		73.0 min		74.0 min		74.0 min		72.0 min		73.0 min	
.220 ppt		.120 ppt		.090 ppt		.040 ppt		.020 ppt		.060 ppt		.090 ppt	
0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd	
18 cdd		18 cdd		18 cdd		20 cdd		20 cdd		19 cdd		19 cdd	
Highest Max	111-1936	Highest Max	109-1980	Highest Max	110-1936	Highest Max	113-1936	Highest Max	113-1936	Highest Max	109-1936	Highest Max	109-1939
Lowest Max	78-1959	Lowest Max	72-1967	Lowest Max	82-1950	Lowest Max	74-1967	Lowest Max	83-1950	Lowest Max	78-1970	Lowest Max	77-1950
Lowest Min	54-1967	Lowest Min	57-1967	Lowest Min	59-1967	Lowest Min	64-1984	Lowest Min	61-1947	Lowest Min	56-1971	Lowest Min	55-1970
Highest Min	85-1980	Highest Min	87-1980	Highest Mln	82-1980	Highest Min	84-1954	Highest Min	83-1980	Highest Min	82-1981	Highest Min	83-1954
Greatest Ppt	3.91-1961	Greatest Ppt	2.55-1967	Greatest Ppt	1.85-1989	Greatest Ppt	.77-1987	Greatest Ppt	1.37-1988	Greatest Ppt	1.06-1966	Greatest Ppt	1.77-1959

Normal 22	Actual	Normal 23	Actual	Normal 24	Actual	Normal 25	Actual	Normal 26	Actual	Normal 27	Actual	Normal 28	Actual
94.0 max		94.0 max		94.0 max		94.0 max		94.0 max		94.0 max		93.0 max	
73.0 min		73.0 min		73.0 min		74.0 min		74.0 min		73.0 min		73.0 min	
.170 ppt		.100 ppt		.110 ppt		.140 ppt		.100 ppt		.290 ppt		.160 ppt	
0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd		0 hdd	
19 cdd		19 cdd		19 cdd		19 cdd		19 cdd		19 cdd		18 cdd	
Highest Max	109-1974	Highest Max	107-1936	Highest Max	110-1934	Highest Max	108-1934	Highest Max	106-1978	Highest Max	106-1936	Highest Max	109-1936
Lowest Max	77-1959	Lowest Max	79-1960	Lowest Max	76-1962	Lowest Max	80-1950	Lowest Max	75-1959	Lowest Max	76-1977	Lowest Max	80-1968
Lowest Min	57-1970	Lowest Min	58-1970	Lowest Min	60-1927	Lowest Min	54-1911	Lowest Min	60-1905	Lowest Min	59-1971	Lowest Min	61-1920
Highest Min	85-1954	Highest Min	83-1954	Highest Min	80-1983	Highest Min	81-1986	Highest Min	81-1981	Highest Min	81-1986	Highest Min	83-1986
Greatest Ppt	3.12-1960	Greatest Ppt	1.85-1973	Greatest Ppt	1.95-1973	Greatest Ppt	2.20-1967	Greatest Ppt	1.33-1959	Greatest Ppt	7.54-1963	Greatest Ppt	2.72-1976

Normal 29	Actual	Normal 30	Actual	Normal 31	Actual
94.0 max		94.0 max		94.0 max	
73.0 min		72.0 min		72.0 min	
.080 ppt		.150 ppt		.090 ppt	
0 hdd		0 hdd		0 hdd	
19 cdd		18 cdd		18 cdd	
Highest Max	110-1986	Highest Max	110-1986	Highest Max	108-1980
Lowest Max	79-1981	Lowest Max	79-1971	Lowest Max	81-1979
Lowest Min	60-1969	Lowest Min	55-1971	Lowest Mln	51-1971
Highest Min	81-1986	Highest Min	85-1980	Highest Mln	81-1958
Greatest Ppt	1.24-1950	Greatest Ppt	3.78-1981	Greatest Ppt	1.04-1979

JULY AVERAGES

Temperature	:	83.0°F
Precipitation	:	3.42"
Heating Degree Days	:	0
Cooling Degree Days	:	564