OKLAHOMA
MONTHLY SUMMARY
SEPTEMBER 1991

TABLE OF CONTENTS

SEPTEMBER 1991 OKLAHOMA SUMMARY

Heavy rainfall at the beginning and middle of September pushed the month to the 17th wettest September on record. Preliminary data show a state-average total of 5.23 inches, which is 1.66 inches above the 30-year mean. The heaviest rainfall occurred across southwest, central and northeastern sections of the state. Climate Divisions 5 and 7 (central and southwest) ended with over 200% of their normal September precipitation, while north central sections of the state (Climate Division 2) received only two thirds of normal precipitation, more than an inch below normal. The year-to-date stands 0.86 inch above normal with a state-average annual total of 27.01 inches.

Cloud cover associated with the rains in the first half of the month and frequent cold frontal passages later in the month kept temperatures cool. Record minimum temperatures were set near the 20th at numerous sites across the state. The state-average temperature of 70.9 degrees for September lags the 30-year normal by 2.6 degrees. This ranks the month as the 14th coolest September on record. The year-to-date still stands nearly a full degree above normal, which places it as the 24th warmest year on record.

A nearly stationary low pressure system over Texas helped draw moist air northward from the Gulf of Mexico to Oklahoma, setting up daily heavy rainfall events. The heaviest daily totals were 4.08 inches recorded at Oklahoma City on the 2nd and 4.25 inches at Lake Eufaula on the 5th. Several other stations reported daily totals in excess of three inches from the 1st through the 8th.

Skies cleared on the 9th, as high pressure built over the area and fronts retreated from the state. No measurable precipitation was reported in Oklahoma on the 10th. The clear skies also allowed temperatures to reach into the 90's across most of the state. Nowata hit the 100 degree mark on the 12th, the only such occurrence for the month. Minimum temperatures also remained high, especially in the northeast. Tulsa reported the warmest minimum temperature on four consecutive days from the 9th to 12th, and Nowata did not fall below 80 degrees on the 13th.

Heavy rains returned to the state on the 13th, with daily rainfall totals over an inch statewide. The heaviest rains were reported on the 14th and the 16th, with daily totals once again exceeding three inches. The latter event was associated with a strong cold front, which sent minimum temperatures plunging into the 40's across northern Oklahoma.

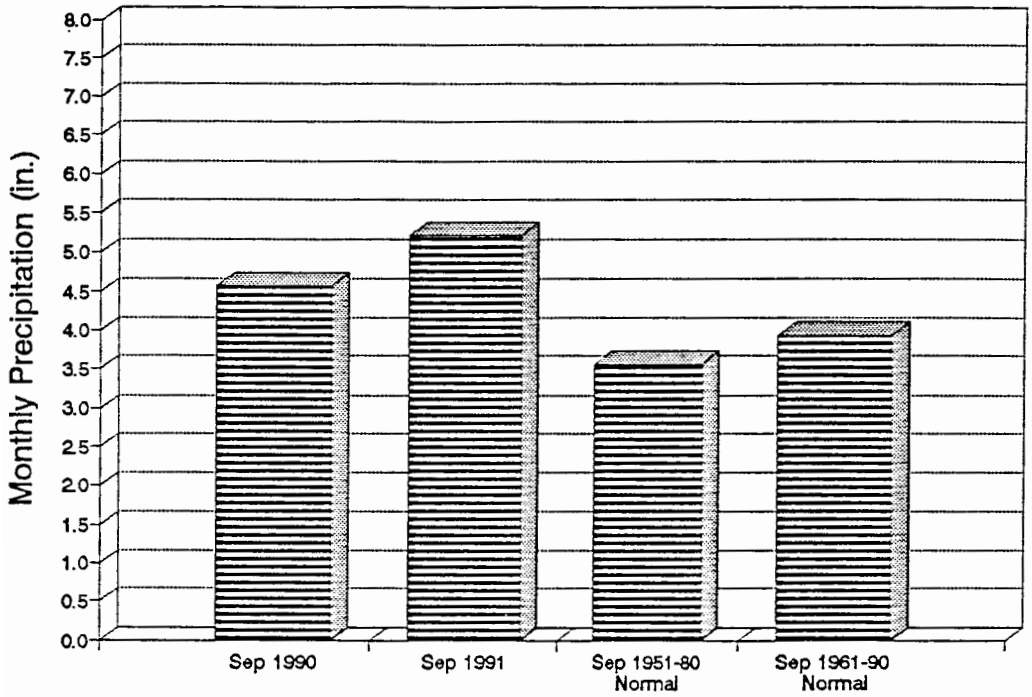
The cold air was reinforced by a much stronger front which crossed through the state on the 18th, bringing much lower temperatures deep into Texas and bringing the year's first significant snowfall to portions of the Rocky Mountains. In Oklahoma, maximum temperatures were held to the 50's and 60's and minimum temperatures dropped into the 30's and 40's across all parts of the state. Jefferson reported a minimum temperature of 30 degrees on the 19th, the month's coldest temperature. Most reporting stations showed maximum temperatures below 70 degrees on the 20th.

Much of the state remained under the influence of the cool air for the remainder of the month. Cold fronts continued to cross Oklahoma, bringing heavy rains to south central parts of the state from the 22nd to the 25th. The fronts also held daily maximum temperatures to the 60's and 70's through the 24th.

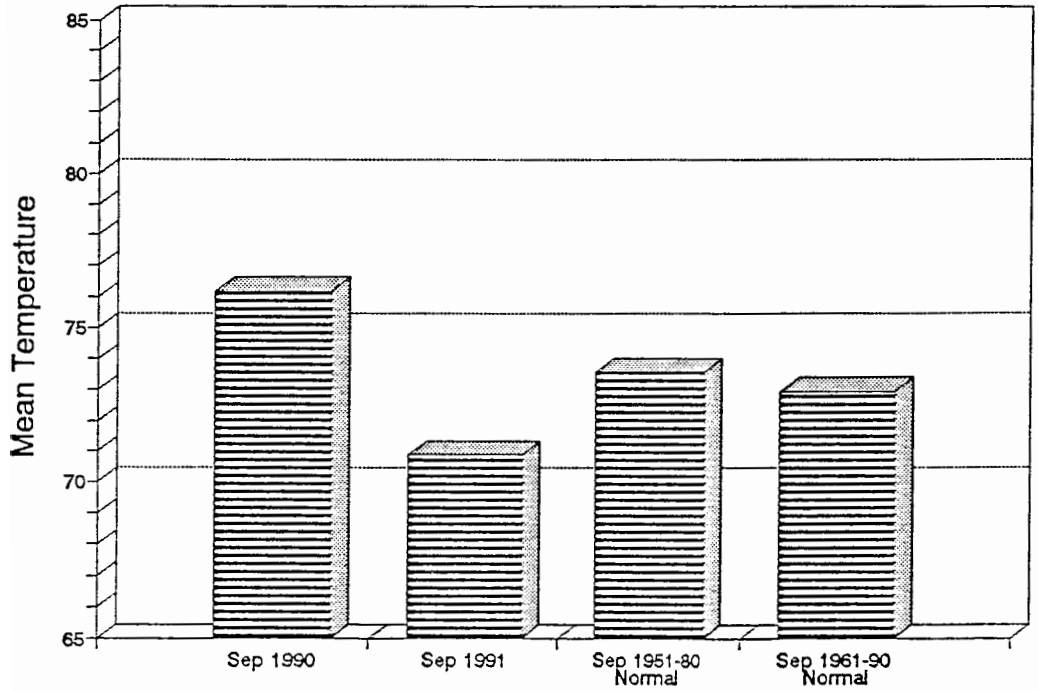
High pressure dominated the state after the 24th, bringing abundant sunshine and warming afternoon temperatures to the 80's. Buffalo reached 92 degrees on the 28th, the first 90-degree reading in Oklahoma since the 16th. However, the clear, dry conditions allowed minimum temperatures to fall to the 40's and 50's through the remainder of the month.

- Mark A. Shafer

Comparison of Monthly Precipitation
Statewide Average for Oklahoma

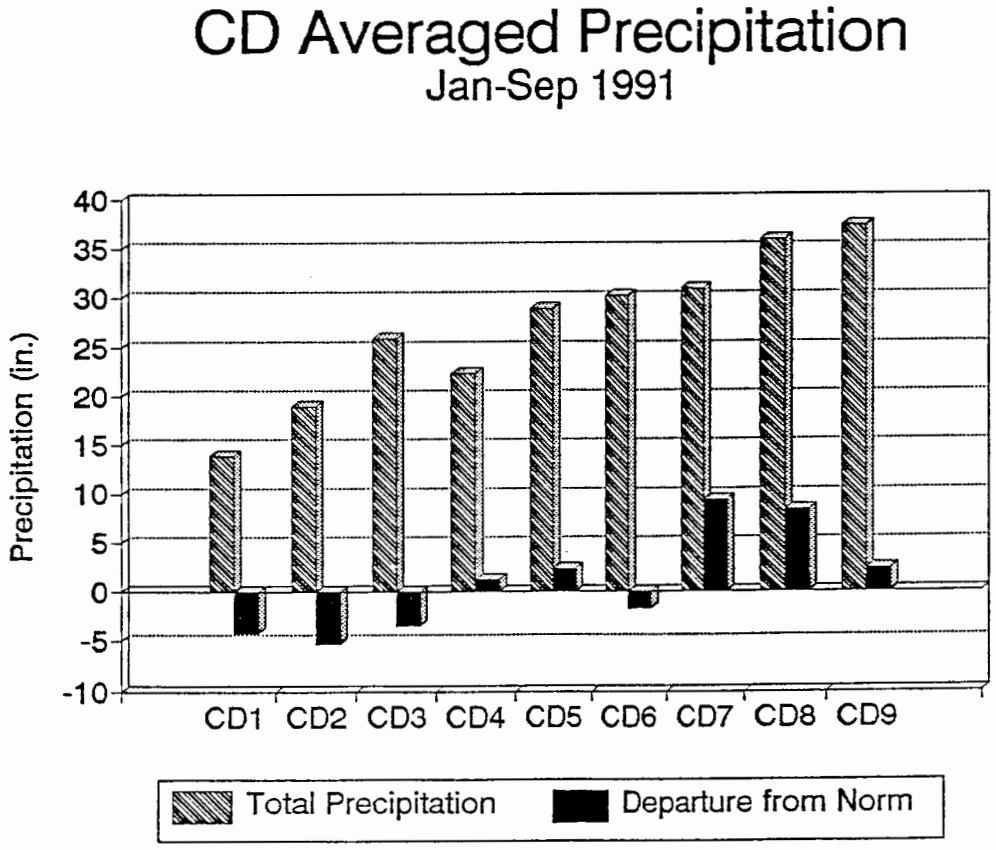


Comparison of Monthly Temperature
Statewide Average for Oklahoma



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

CD	MAX TEMP	DATE	LOCATION	MIN TEMP	DATE	LOCATION	MONTHLY PRECIP	LOCATION	24-HOUR PRECIP	DATE	LOCATION
1	95	11	BUFFALO	36	19	BUFFALO	3.34	ARNETT	1.97	4	GAGE
	95	9	GOODWELL								
2	96	11	JEFFERSON	30	19	JEFFERSON	4.73	MUTUAL	1.97	1	MUTUAL
3	97	9	MANNFORD	38	25	MANNFORD	9.06	ONETA	3.30	16	HOMINY
				38	19	RALSTON					
4	95	11	CLINTON	39	26	HAMMON	7.92	CLINTON	3.70	16	CLINTON
5	95	9	NORMAN	41	26	BRISTOW	11.85	OKLAHOMA CITY	4.08	2	OKLAHOMA CITY
				41	25	STILLWATER					
6	95	14	LAKE EUFAULA	38	20	STILWELL	11.62	EUFAULA	4.25	5	EUFAULA
	95	15	MCCURTAIN								
	95	11	WEBBERS FALLS								
7	92	9	CARNEGIE	42	26	CARNEGIE	10.01	APACHE	3.08	14	LAWTON
				42	25	HOBART					
8	94	16	ADA	40	25	MARLOW	12.06	HENNEPIN	3.45	8	MARIETTA
	94	12	CANEY								
	94	11	TISHOMINGO								
	94	10	WAURIKA								
9	94	11	WILBURTON	40	27	TUSKAHOMA	7.46	POTEAU	2.15	17	HEAVENER
				40	25	WILBURTON					



SEPTEMBER 1991 PERCENT OF NORMAL PRECIPITATION.

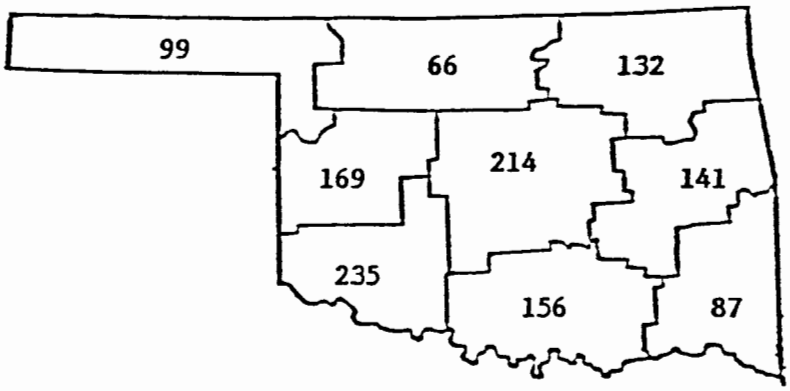


TABLE OF 1990/1991 COMPARISONS

Station	September Temperatures (F) 1990	1991	September Precipitations (in.) 1990	1991
Arnett	72.9	66.4	4.03	3.34
Enid	77.7	70.4	2.71	2.77
Mutual	74.6	68.3	1.97	4.73
Tulsa	78.6	73.3	4.29	6.15
Elk City	75.7	69.5	3.88	4.19
Oklahoma City	77.2	70.8	7.28	11.85
McAlester	77.3	72.6	5.00	5.45
Altus Irr Sta	77.2	70.7	1.47	4.59
Durant	77.5	72.6	7.35	3.67
Ada	77.2	70.8	6.91	7.67
Antlers	77.3	73.2	7.48	1.32

EXTREMES

Variable	Station	Division	Observation	Date
Minimum temperature (F)	Jefferson	2	30	19
Maximum temperature (F)	Nowata	3	100	12
	Bear Mt Tw	9	100	2
Maximum 24-hour precipitation	Eufaula	6	4.25"	5

SEPTEMBER 1991 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	66.4	30	-4.5	88.	4	40.	26	90.0	59.0	132.5	-75.5	3.343	30	1.43	1.42	4
BEAVER	593	1	69.7	30	-1.2	96.	9	35.	21	66.0	35.0	208.0	.0	.820	30	-.70	.70	1
BOISE CITY 2 E	908	1	66.4	30	-1.7	93.	3	38.	23	61.0	24.0	102.5	-27.5	1.800	30	.24	1.00	10
BUFFALO	1243	1	72.7	30	-.5	95.	11	36.	19	29.0	10.0	259.0	-6.0	1.910	30	-.89	1.39	3
FARGO	3070	1	*****	0	*****	****	0	****	0	******	******	******	******	1.761	30	-.06	.96	3
GAGE FAA APT	3407	1	70.1	29	-1.2	91.	9	37.	19	45.0	19.0	193.5	-21.5	2.794	30	1.19	1.97	4
GATE	3489	1	70.1	30	*****	94.	9	38.	19	56.5	******	208.5	******	.920	30	*****	.55	4
GOODWELL RES ST	3628	1	67.8	30	-1.7	95.	9	38.	23	66.5	27.5	151.0	-23.0	1.172	30	-.10	.50	6
GUYMON	3835	1	69.3	28	*****	98.	8	37.	23	53.5	******	174.5	******	.301	29	*****	.14	7
HOOKER	4298	1	68.4	30	-1.5	96.	8	42.	22	58.0	29.0	160.5	-15.5	.550	30	-1.07	.34	10
KENTON	4766	1	64.7	30	-4.2	94.	4	40.	28	66.5	34.5	58.5	-90.5	1.500	30	-.01	1.10	9
LAVERNE	5045	1	*****	0	*****	****	0	****	0	******	******	******	******	.381	30	-1.63	.13	7
OPTIMA LAKE	6740	1	68.8	30	*****	98.	9	37.	25	68.5	******	183.5	******	.240	29	*****	.09	1
REGNIER	7534	1	*****	0	*****	****	0	****	0	******	******	******	******	1.600	30	.19	.64	10
TURPIN 4 SSE	9017	1	69.0	30	*****	97.	9	38.	19	67.0	******	186.5	******	.690	30	*****	.63	1

SEPTEMBER 1991 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	72.0	30	*****	94.	10	37.	19	30.0	******	240.5	******	1.730	30	*****	.57	2
VANCE AFB	302	2	*****	0	*****	****	0	****	0	******	******	******	******	1.101	29	*****	.28	2
BILLINGS	755	2	70.9	30	*****	94.	12	37.	19	65.0	******	241.5	******	2.021	30	-2.20	.65	2
BLACKWELL 2E	818	2	71.5	30	*****	96.	10	37.	19	49.0	******	243.5	******	1.213	30	*****	.40	15
CEDARDALE	1620	2	*****	0	*****	****	0	****	0	******	******	******	******	3.545	30	*****	.99	1
CHEROKEE	1724	2	72.3	30	-1.2	94.	10	38.	19	34.0	19.0	253.5	-16.5	1.660	30	-1.01	1.11	1
ENID	2912	2	70.4	30	-3.4	92.	10	40.	19	49.0	34.0	210.5	-68.5	2.770	30	-.44	.78	1
FT SUPPLY DAM	3304	2	69.4	30	-2.8	92.	10	38.	24	67.5	42.5	201.0	-40.0	1.670	30	-.30	.61	1
FREEDOM	3358	2	70.1	30	*****	93.	12	33.	19	49.5	******	202.5	******	1.790	30	*****	1.21	1
GREAT SALT PLNS	3740	2	70.8	30	*****	95.	11	38.	19	60.5	******	236.0	******	2.051	25	*****	1.41	1
HARDY	3909	2	*****	0	*****	****	0	****	0	******	******	******	******	.752	30	*****	.44	14
HELENA 1 SSE	4019	2	70.2	30	*****	92.	13	37.	19	62.0	******	218.5	******	1.463	30	-1.41	.81	1
JEFFERSON	4573	2	71.5	30	-2.1	96.	11	30.	19	39.5	24.5	235.5	-37.5	1.272	30	-1.86	.55	2
LAMONT	5013	2	*****	0	*****	****	0	****	0	******	******	******	******	2.910	30	*****	.80	4
MEDFORD	5768	2	*****	0	*****	****	0	****	0	******	******	******	******	.770	30	*****	.26	6
MUTUAL	6139	2	68.3	30	-4.0	91.	12	39.	19	75.0	57.0	175.0	-62.0	4.731	30	2.25	1.97	1
NEWKIRK	6278	2	71.2	30	-1.6	94.	10	37.	19	44.0	22.0	230.5	-25.5	.897	30	-2.64	.64	15
ORIENTA	6751	2	*****	0	*****	****	0	****	0	******	******	******	******	3.040	31	*****	1.41	1
PERRY	7012	2	72.0	29	-2.2	93.	11	42.	19	39.5	24.5	241.5	-49.5	5.200	29	*****	1.80	18
PONCA CITY FAA	7201	2	73.1	30	.8	95.	10	39.	19	31.0	3.0	274.0	27.0	2.124	30	-1.72	1.49	15
RED ROCK 1 NNE	7505	2	*****	0	*****	****	0	****	0	******	******	******	******	2.080	30	-1.64	.65	1
WAYNOKA	9404	2	70.7	30	-2.7	94.	9	36.	19	45.5	29.5	216.0	-52.0	1.790	30	-.71	.36	1
WOODWARD	9760	2	*****	0	*****	****	0	****	0	******	******	******	******	.821	31	*****	.22	3

SEPTEMBER 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	******	******	******	******	8.730	30	*****	2.06	2
TINKER AFB	325	5	*****	0	*****	****	0	****	0	******	******	******	******	4.525	29	*****	1.76	16
BLANCHARD 2 SSW	830	5	70.7	30	*****	90.	9	44.	25	41.5	******	213.0	******	10.543	30	*****	1.61	3
BRISTOW	1144	5	70.6	30	-3.1	92.	10	41.	26	52.0	30.0	220.5	-62.5	6.042	30	2.04	1.20	16
CHANDLER	1684	5	70.7	30	-3.4	92.	9	43.	25	47.0	29.0	218.5	-72.5	4.740	31	.95	1.05	4
CHICKASHA EX ST	1750	5	70.9	30	-3.0	91.	10	45.	25	36.5	23.5	214.0	-66.0	9.880	30	6.40	1.74	2
COX CITY 1 E	2196	5	*****	0	*****	****	0	****	0	******	******	******	******	9.670	30	*****	1.41	14
CRESCENT	2242	5	*****	0	*****	****	0	****	0	******	******	******	******	6.020	31	*****	2.13	18
CUSHING	2318	5	70.8	29	-2.8	93.	10	42.	21	59.0	39.0	227.5	-50.5	5.710	29	*****	.93	1
EL RENO 1 N	2818	5	70.6	30	-2.8	91.	9	44.	25	43.0	28.0	209.5	-57.5	4.530	30	.92	1.22	19
GUTHRIE	3821	5	72.7	29	-1.4	94.	11	43.	19	29.0	14.0	251.5	-36.5	6.571	29	*****	2.16	18
HENNESSEY 2 SE	4055	5	71.0	30	-2.9	94.	11	41.	19	40.0	26.0	220.0	-61.0	3.630	30	.24	1.12	18
INGALLS	4489	5	*****	0	*****	****	0	****	0	******	******	******	******	5.162	28	*****	1.59	1
KINGFISHER 2 SE	4861	5	70.7	30	-3.5	92.	9	43.	25	43.0	29.0	215.0	-75.0	5.711	30	2.11	1.66	18
KONAWA	4915	5	*****	0	*****	****	0	****	0	******	******	******	******	10.100	30	5.98	3.54	5
MARSHALL	5589	5	*****	0	*****	****	0	****	0	******	******	******	******	6.800	31	3.29	1.36	3
MEEKER 4 W	5779	5	71.1	29	-2.6	90.	9	42.	25	34.5	17.5	211.0	-67.0	6.570	29	*****	1.39	1
NORMAN 3 S	6386	5	71.7	29	*****	95.	9	44.	25	28.5	******	223.0	******	10.120	30	6.39	3.73	16
OILTON 2 SE	6616	5	*****	0	*****	****	0	****	0	******	******	******	******	4.500	30	*****	1.60	15
OKEMAH	6638	5	72.3	30	-1.8	94.	9	45.	25	31.0	14.0	251.5	-38.5	9.360	30	5.56	3.22	4
OKLAHOMA CTY WS	6661	5	70.8	30	-2.5	91.	9	46.	25	39.5	24.5	214.5	-49.5	11.852	30	8.44	4.08	2
PERKINS	7003	5	*****	0	*****	****	0	****	0	******	******	******	******	6.240	31	2.02	1.38	18
PIEDMONT	7068	5	*****	0	*****	****	0	****	0	******	******	******	******	5.870	30	*****	1.32	4
PRAGUE	7264	5	*****	0	*****	****	0	****	0	******	******	******	******	7.881	29	*****	2.35	4
PURCELL 5 SW	7327	5	71.1	30	-3.1	91.	10	42.	25	42.0	30.0	226.0	-62.0	10.871	30	6.90	2.25	16
SEMINOLE	8042	5	72.5	30	-2.7	92.	11	44.	25	32.5	22.5	257.5	-58.5	8.310	30	4.29	3.95	16
SHAWNEE	8110	5	*****	0	*****	****	0	****	0	******	******	******	******	7.870	30	4.13	2.91	16
STELLA	8479	5	*****	0	*****	****	0	****	0	******	******	******	******	10.320	30	*****	3.54	16
STILLWATER 2 W	8501	5	70.5	30	-2.6	92.	11	41.	25	61.5	43.5	227.5	-33.5	5.702	30	1.77	1.62	1
STROUD 1 N	8563	5	*****	0	*****	****	0	****	0	******	******	******	******	6.242	30	*****	1.80	1
TECUMSEH	8751	5	*****	0	*****	****	0	****	0	******	******	******	******	8.842	31	*****	3.00	16
TROUSDALE	8960	5	*****	0	*****	****	0	****	0	******	******	******	******	9.530	30	*****	2.18	16
UNION CITY 1 SE	9086	5	*****	0	*****	****	0	****	0	******	******	******	******	6.664	30	2.90	1.22	2
WELTY 1 SSE	9479	5	*****	0	*****	****	0	****	0	******	******	******	******	6.982	30	*****	1.31	23
WEWOKA	9575	5	*****	0	*****	****	0	****	0	******	******	******	******	9.080	30	4.96	2.52	4

SEPTEMBER 1991 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	70.3	30	*****	94.	10	40.	25	63.5	******	222.0	******	4.512	30	-.21	2.15	16
BARTLESVILLE 2W	548	3	71.1	30	-1.7	95.	10	39.	19	54.0	36.0	237.0	-15.0	5.811	30	1.68	2.54	16
BIXBY	782	3	69.9	30	-2.8	90.	13	42.	25	72.0	51.0	218.5	-33.5	6.680	30	2.33	1.45	4
BURBANK	1256	3	*****	0	*****	****	0	****	0	******	******	******	******	2.322	30	*****	.71	1
CHELSEA 4 S	1717	3	*****	0	*****	****	0	****	0	******	******	******	******	4.180	30	*****	2.57	16
CLAREMORE	1828	3	70.6	30	-2.1	92.	13	41.	20	73.5	47.5	241.0	-16.0	7.140	30	3.26	2.55	16
CLEVELAND 5 WSW	1902	3	71.7	27	*****	95.	10	40.	19	38.5	******	220.0	******	5.770	29	*****	2.60	16
FORAKER	3250	3	*****	0	*****	****	0	****	0	******	******	******	******	2.510	30	-1.57	1.09	1
HOLLOW	4258	3	*****	0	*****	****	0	****	0	******	******	******	******	2.511	30	-2.33	.90	16
HOMINY	4289	3	*****	0	*****	****	0	****	0	******	******	******	******	6.331	30	1.85	3.30	16
HULAH DAM	4393	3	69.1	20	*****	96.	12	35.	23	65.0	******	146.5	******	.970	29	*****	.50	16
JAY TOWER	4567	3	68.9	30	*****	92.	11	40.	20	93.0	******	211.0	******	8.070	30	*****	3.00	4
KANSAS 1 ESE	4672	3	69.1	30	*****	89.	15	41.	25	75.0	******	198.5	******	5.561	30	*****	2.30	4
KEYSTONE DAM	4812	3	69.5	30	*****	93.	10	41.	25	79.5	******	213.5	******	4.863	27	*****	1.30	4
LENAPAH	5118	3	*****	0	*****	****	0	****	0	******	******	******	******	3.110	30	*****	1.03	4
MANNFORD 6 NW	5522	3	70.7	29	*****	97.	9	38.	25	54.5	******	220.0	******	5.020	29	*****	1.84	16
MARAMEC	5540	3	*****	0	*****	****	0	****	0	******	******	******	******	6.973	30	3.05	2.80	16
MIAMI	5855	3	69.6	30	-3.0	92.	1	39.	20	97.5	70.5	236.5	-18.5	3.171	30	-1.43	1.04	5
NOWATA	6485	3	72.1	27	*****	100.	12	44.	17	31.5	******	222.5	******	4.640	27	*****	1.95	17
ONETA 1 WNW	6713	3	*****	0	*****	****	0	****	0	******	******	******	******	9.060	30	*****	3.18	4
PAWHUSKA	6935	3	70.2	30	-2.4	93.	10	40.	25	61.0	37.0	216.5	-35.5	4.540	30	.43	1.73	16
PAWNEE	6940	3	*****	0	*****	****	0	****	0	******	******	******	******	4.470	30	.10	1.04	18
PRYOR 6 N	7309	3	69.1	30	-3.5	91.	12	39.	20	93.5	69.5	215.0	-37.0	6.201	30	2.04	1.62	4
RALSTON	7390	3	72.1	30	*****	96.	9	38.	19	41.5	******	255.5	******	2.342	30	-1.52	.70	18
RAMONA 4 N	7394	3	*****	0	*****	****	0	****	0	******	******	******	******	4.940	30	*****	1.61	16
SKIATOOK	8258	3	*****	0	*****	****	0	****	0	******	******	******	******	5.170	30	.84	2.31	16
SPAVINAW	8380	3	71.7	30	*****	91.	13	41.	25	49.0	******	249.5	******	5.944	30	1.56	2.75	4
TULSA WSO APT	8992	3	73.3	30	-.5	94.	10	45.	25	29.0	11.0	277.0	-5.0	6.152	30	1.78	2.16	16
UPPER SPAVINAW	9101	3	69.9	29	*****	96.	10	40.	20	79.5	******	222.5	******	5.604	30	*****	1.50	18
VINITA 2 N	9203	3	70.9	28	*****	93.	1	40.	27	65.5	******	231.5	******	5.850	28	*****	1.90	18
WAGONER	9247	3	71.3	30	-2.6	90.	13	43.	25	47.0	30.0	236.0	-48.0	7.221	30	3.13	3.10	4
WANN	9298	3	*****	0	*****	****	0	****	0	******	******	******	******	3.290	28	*****	1.47	16

SEPTEMBER 1991 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	69.0	30	-4.4	90.	12	43.	25	67.5	52.5	188.0	-79.0	3.471	30	.34	.91	16
CHEYENNE	1738	4	*****	0	*****	****	0	****	0	******	******	******	******	3.580	31	*****	1.18	7
CLINTON	1909	4	71.3	30	-2.3	95.	11	42.	25	38.0	22.0	228.0	-46.0	7.922	30	4.92	3.70	16
COLONY	2039	4	*****	0	*****	****	0	****	0	******	******	******	******	6.060	30	*****	1.15	19
CORDELL	2125	4	*****	0	*****	****	0	****	0	******	******	******	******	5.001	30	2.20	1.19	19
ELK CITY 1 E	2849	4	69.5	30	*****	89.	12	41.	23	48.0	******	183.0	******	4.193	30	1.61	1.16	7
ERICK 4 E	2944	4	69.7	30	-3.4	89.	10	42.	25	33.0	20.0	175.0	-81.0	4.742	30	1.93	1.24	7
GEARY	3497	4	69.8	27	*****	90.	9	44.	19	40.0	******	170.5	******	5.160	30	1.94	.95	19
HAMMON 1 NNE	3871	4	67.9	30	-4.6	90.	10	39.	26	82.0	60.0	170.0	-77.0	5.803	30	3.09	1.20	7
LEEDEY	5090	4	*****	0	*****	****	0	****	0	******	******	******	******	3.720	30	1.49	.84	2
MACKIE 4 NNW	5463	4	*****	0	*****	****	0	****	0	******	******	******	******	3.110	30	*****	1.48	7
MORAVIA 2 NNE	6035	4	*****	0	*****	****	0	****	0	******	******	******	******	4.893	30	2.12	1.18	19
OKEENE	6629	4	70.6	30	-3.7	92.	9	41.	19	40.0	23.0	209.0	-87.0	2.810	30	-.12	1.25	2
RETROP	7565	4	*****	0	*****	****	0	****	0	******	******	******	******	5.050	30	*****	1.35	18
REYDON	7579	4	70.2	30	*****	90.	10	41.	25	44.5	******	200.0	******	4.291	30	1.95	2.00	7
SAYRE	7952	4	*****	0	*****	****	0	****	0	******	******	******	******	3.370	30	.93	.77	19
SWEETWATER 2 E	8652	4	*****	0	*****	****	0	****	0	******	******	******	******	4.076	31	*****	1.23	19
TALOGA	8708	4	67.0	23	*****	89.	11	39.	19	55.0	******	100.5	******	3.310	30	.68	.60	7
THOMAS	8815	4	*****	0	*****	****	0	****	0	******	******	******	******	4.570	30	*****	1.46	18
VICI	9172	4	*****	0	*****	****	0	****	0	******	******	******	******	5.090	30	*****	1.48	1
WATONGA	9364	4	72.3	30	*****	92.	9	46.	25	25.0	******	243.0	******	4.804	30	1.85	1.21	1
WEATHERFORD	9422	4	69.5	30	-4.2	92.	12	44.	20	64.0	49.0	199.0	-77.0	4.302	30	1.02	1.05	19

SEPTEMBER 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
BEGGS	631	6	*****	0	*****	****	0	****	0	******	******	******	******	6.090	28	*****	1.22	3
BOYNTON	1027	6	*****	0	*****	****	0	****	0	******	******	******	******	6.590	30	*****	2.05	4
CALVIN	1391	6	*****	0	*****	****	0	****	0	******	******	******	******	5.590	30	1.27	1.32	8
CHECOTAH	1711	6	*****	0	*****	****	0	****	0	******	******	******	******	6.070	30	1.61	1.37	5
DEWAR 2 NE	2485	6	*****	0	*****	****	0	****	0	******	******	******	******	5.520	30	1.21	1.68	16
EUFAULA	2993	6	72.6	30	*****	92.	13	46.	25	25.5	******	254.5	******	11.621	30	7.42	4.25	5
HANNA	3884	6	71.5	30	*****	92.	11	43.	25	41.0	******	236.5	******	6.050	30	1.89	2.49	4
HARTSHORNE	3946	6	*****	0	*****	****	0	****	0	******	******	******	******	4.510	30	*****	1.42	19
HASKELL	3956	6	*****	0	*****	****	0	****	0	******	******	******	******	6.671	30	2.70	1.39	16
HOLDENVILLE	4235	6	71.4	30	-3.2	91.	11	43.	25	37.5	26.5	228.5	-70.5	7.500	30	3.50	2.13	16
LAKE EUFAULA	4975	6	71.6	29	*****	95.	14	46.	26	49.0	******	241.0	******	5.330	29	*****	1.08	19
LYONS 2 N	5437	6	*****	0	*****	****	0	****	0	******	******	******	******	5.531	30	1.27	1.36	16
MARBLE CITY	5546	6	*****	0	*****	****	0	****	0	******	******	******	******	9.522	30	*****	2.35	4
MCALESTER FAA	5664	6	72.6	30	-1.6	92.	13	42.	25	30.0	14.0	258.0	-34.0	5.452	30	.49	1.75	17
MCCURTAIN 1 SE	5693	6	71.6	30	*****	95.	15	41.	27	49.0	******	247.0	******	3.676	30	-.78	1.25	19
MUSKOGEE	6130	6	71.4	30	-2.8	92.	10	42.	25	48.5	31.5	240.5	-52.5	5.510	30	1.39	1.34	4
OKMULGEE W W	6670	6	69.4	30	-4.1	92.	12	41.	25	78.0	62.0	209.0	-62.0	7.322	30	3.52	1.75	19
OKTAHA 2 NE	6678	6	*****	0	*****	****	0	****	0	******	******	******	******	5.250	30	*****	1.96	16
QUINTON	7372	6	*****	0	*****	****	0	****	0	******	******	******	******	4.806	30	.40	1.18	19
SALLISAW 2 NE	7862	6	71.4	30	-2.8	93.	11	42.	25	45.5	35.5	238.0	-48.0	6.462	30	2.05	2.01	19
SCIPIO	7979	6	*****	0	*****	****	0	****	0	******	******	******	******	3.720	30	*****	.82	19
SCRAPER	7993	6	*****	0	*****	****	0	****	0	******	******	******	******	4.470	30	*****	.92	23
SHORT	8170	6	*****	0	*****	****	0	****	0	******	******	******	******	4.600	30	*****	1.23	19
STILWELL 1 NE	8506	6	69.4	30	*****	91.	11	38.	20	74.0	******	205.5	******	4.322	30	.01	1.30	16
TAHLEQUAH	8677	6	70.3	30	-2.6	91.	12	40.	20	55.5	31.5	215.0	-46.0	6.650	30	2.31	2.01	4
WEBBERS FALLS	9445	6	71.2	30	-2.3	95.	11	42.	26	58.5	43.5	245.0	-25.0	5.450	30	1.11	1.40	16
WESTVILLE	9523	6	*****	0	*****	****	0	****	0	******	******	******	******	5.970	30	*****	2.43	16
WETUMKA 3 NE	9571	6	*****	0	*****	****	0	****	0	******	******	******	******	6.604	30	2.58	1.73	16

SEPTEMBER 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	70.7	30	-4.7	92.	11	43.	25	39.0	32.0	209.5	-109.5	4.590	30	1.74	1.70	19
ALTUS DAM	184	7	71.1	30	*****	94.	12	41.	26	46.5	******	230.5	******	3.870	30	1.13	1.47	19
ANADARKO	224	7	70.1	30	-4.4	89.	9	43.	25	45.0	32.0	198.5	-99.5	9.120	30	5.78	2.90	2
APACHE	260	7	*****	0	*****	****	0	****	0	******	******	******	******	10.010	30	*****	2.27	24
ALTUS AFB	447	7	*****	0	*****	****	0	****	0	******	******	******	******	3.504	27	*****	1.92	19
CARNEGIE 2 ENE	1504	7	70.7	30	-3.8	92.	9	42.	26	39.0	25.0	208.5	-87.5	4.191	30	.83	1.05	18
CHATTANOOGA	1706	7	71.4	30	-4.3	91.	11	46.	25	35.0	27.0	228.5	-100.5	9.750	30	6.68	2.40	14
DUNCAN 12 W	2668	7	*****	0	*****	****	0	****	0	******	******	******	******	9.120	30	*****	3.06	14
FREDERICK	3353	7	69.7	30	-6.9	90.	10	45.	25	49.0	42.0	190.5	-164.5	5.460	30	2.46	1.78	19
GRANDFIELD 4 NW	3709	7	*****	0	*****	****	0	****	0	******	******	******	******	8.780	30	5.33	2.40	4
HOBART FAA APT	4204	7	70.3	30	-3.5	91.	11	42.	25	44.0	28.0	202.5	-77.5	5.070	30	2.20	1.05	19
HOLLIS	4249	7	70.6	28	*****	91.	10	43.	26	34.5	******	192.5	******	6.160	29	*****	2.22	18
LAWTON	5063	7	70.0	30	-5.1	91.	12	44.	25	60.0	54.0	209.5	-99.5	9.664	30	6.68	3.08	14
FORT SILL	5068	7	70.4	30	*****	89.	11	45.	25	37.5	******	199.0	******	9.273	30	6.29	2.16	13
LOOKEBA 2 ENE	5329	7	*****	0	*****	****	0	****	0	******	******	******	******	4.360	30	*****	1.63	19
MANGUM RES STA	5509	7	70.7	30	-4.3	91.	11	42.	25	32.0	26.0	201.5	-101.5	2.890	30	.11	1.20	19
RANDLETT 9 E	7403	7	*****	0	*****	****	0	****	0	******	******	******	******	8.340	30	*****	2.45	14
ROOSEVELT	7727	7	*****	0	*****	****	0	****	0	******	******	******	******	3.750	30	.97	1.02	19
SEDAN	8016	7	*****	0	*****	****	0	****	0	******	******	******	******	3.036	30	*****	.62	14
SNYDER	8299	7	*****	0	*****	****	0	****	0	******	******	******	******	4.481	30	1.67	1.34	19
VINSON 3 WNW	9212	7	*****	0	*****	****	0	****	0	******	******	******	******	8.331	30	5.46	2.24	2
WALTERS	9278	7	71.4	30	-4.8	91.	10	46.	25	35.5	22.5	229.0	-120.0	9.010	30	5.75	1.83	14
WICHITA MT WLR	9629	7	66.8	26	*****	88.	10	41.	21	84.0	******	130.0	******	6.800	30	3.69	1.60	2
WILLOW	9668	7	*****	0	*****	****	0	****	0	******	******	******	******	4.831	31	*****	1.21	18

SEPTEMBER 1991 SUMMARY FOR SOUTH CENTRAL DIVISION (CD8)

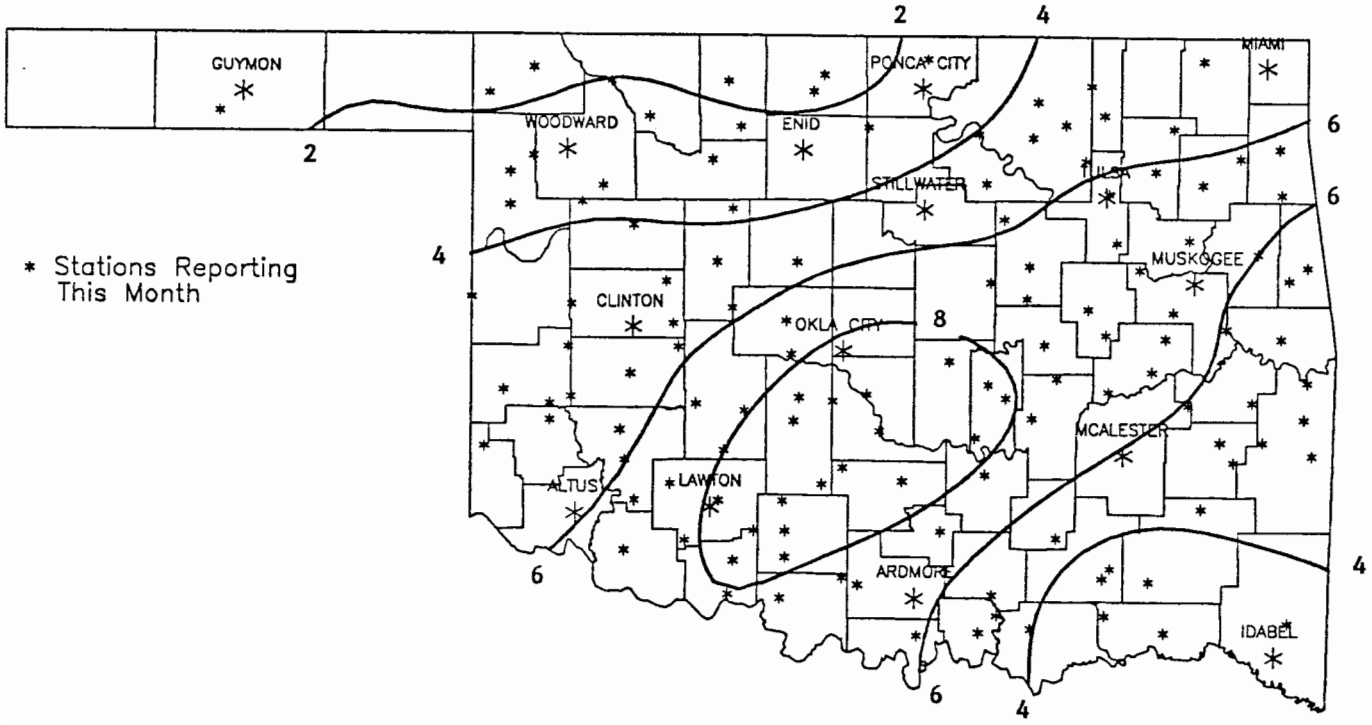
NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
ADA	17	8	70.9	30	-3.7	94.	16	42.	26	48.0	36.0	225.0	-75.0	7.670	30	3.66	2.96	8
ALLEN	147	8	*****	0	*****	****	0	****	0	******	******	******	******	6.100	30	*****	2.20	8
ARDMORE	292	8	72.3	29	-4.9	89.	11	45.	25	30.5	30.5	242.0	-129.0	10.270	29	*****	3.29	16
ATOKA DAM	394	8	73.9	30	*****	94.	14	47.	27	22.5	******	289.5	******	3.120	27	*****	.81	8
BOKCHITO	917	8	*****	0	*****	****	0	****	0	******	******	******	******	2.490	30	*****	.83	2
CANEY	1437	8	73.0	30	*****	94.	12	48.	25	19.5	******	260.5	******	2.100	30	*****	.65	1
CENTRAHOMA	1648	8	*****	0	*****	****	0	****	0	******	******	******	******	5.850	31	*****	2.00	17
CHICKASAW NRA	1745	8	70.5	30	*****	90.	14	41.	25	57.5	******	222.5	******	8.121	30	*****	2.82	16
COLEMAN	2011	8	*****	0	*****	****	0	****	0	******	******	******	******	5.750	30	*****	1.30	16
COMANCHE	2054	8	*****	0	*****	****	0	****	0	******	******	******	******	8.160	30	*****	1.98	3
DAISY 4 ENE	2354	8	*****	0	*****	****	0	****	0	******	******	******	******	3.696	31	-2.00	.80	15
DUNCAN	2660	8	70.2	30	-5.5	90.	10	45.	25	50.0	42.0	206.0	-123.0	11.070	30	7.42	3.40	4
DURANT USDA	2678	8	72.4	30	*****	93.	12	45.	27	29.0	******	250.5	******	3.670	30	-1.94	.90	25
ELMORE CITY	2872	8	*****	0	*****	****	0	****	0	******	******	******	******	10.970	22	*****	2.60	3
FARRIS 3 WNW	3083	8	*****	0	*****	****	0	****	0	******	******	******	******	2.600	30	*****	.76	3
GRADY	3688	8	*****	0	*****	****	0	****	0	******	******	******	******	5.670	30	*****	2.60	16
HEALDTON	4001	8	70.8	30	*****	90.	11	42.	25	43.5	******	217.5	******	5.861	30	1.77	1.71	16
HENNEPIN	4052	8	*****	0	*****	****	0	****	0	******	******	******	******	12.061	30	*****	1.62	5
KETCHUM RANCH	4780	8	*****	0	*****	****	0	****	0	******	******	******	******	9.630	30	*****	3.00	4
KINGSTON	4865	8	*****	0	*****	****	0	****	0	******	******	******	******	3.370	30	-1.30	.97	17
LEHIGH	5108	8	*****	0	*****	****	0	****	0	******	******	******	******	3.922	30	*****	1.10	17
LINDSAY 2 W	5216	8	70.8	30	*****	90.	9	43.	25	39.0	******	214.5	******	9.488	30	5.69	1.72	5
LOCO 6 SE	5247	8	*****	0	*****	****	0	****	0	******	******	******	******	6.322	30	*****	.90	16
MADILL	5468	8	72.6	30	-3.3	91.	11	44.	30	24.0	17.0	252.5	-81.5	4.341	30	-.26	1.34	24
MARIETTA	5563	8	73.1	30	-2.8	91.	11	46.	25	19.5	9.5	261.5	-75.5	8.470	30	4.48	3.45	8
MARLOW 1 WSW	5581	8	71.5	30	*****	92.	10	40.	25	38.0	******	232.0	******	9.390	30	5.73	2.72	14
MCGEE CREEK DAM	5713	8	72.9	30	*****	93.	13	44.	25	31.5	******	268.5	******	3.060	30	*****	.80	16
PAULS VALLEY	6926	8	72.0	30	-3.6	92.	9	42.	25	30.5	21.5	240.0	-87.0	8.945	30	5.27	2.60	5
PONTOTOC	7214	8	*****	0	*****	****	0	****	0	******	******	******	******	7.540	25	*****	1.94	7
TISHOMINGO NWLR	8884	8	72.1	30	*****	94.	11	43.	25	31.0	******	243.0	******	5.260	30	.39	1.18	8
TUSSY	9032	8	*****	0	*****	****	0	****	0	******	******	******	******	8.800	30	*****	1.62	25
WAURIKA	9395	8	72.3	30	-4.2	94.	10	44.	25	27.0	21.0	245.0	-106.0	6.470	30	3.07	1.30	1
WAURIKA DAM	9399	8	71.4	27	*****	91.	14	47.	25	30.0	******	201.5	******	5.912	27	*****	1.48	18

SEPTEMBER 1991 SUMMARY FOR SOUTHEAST DIVISION (CD9)

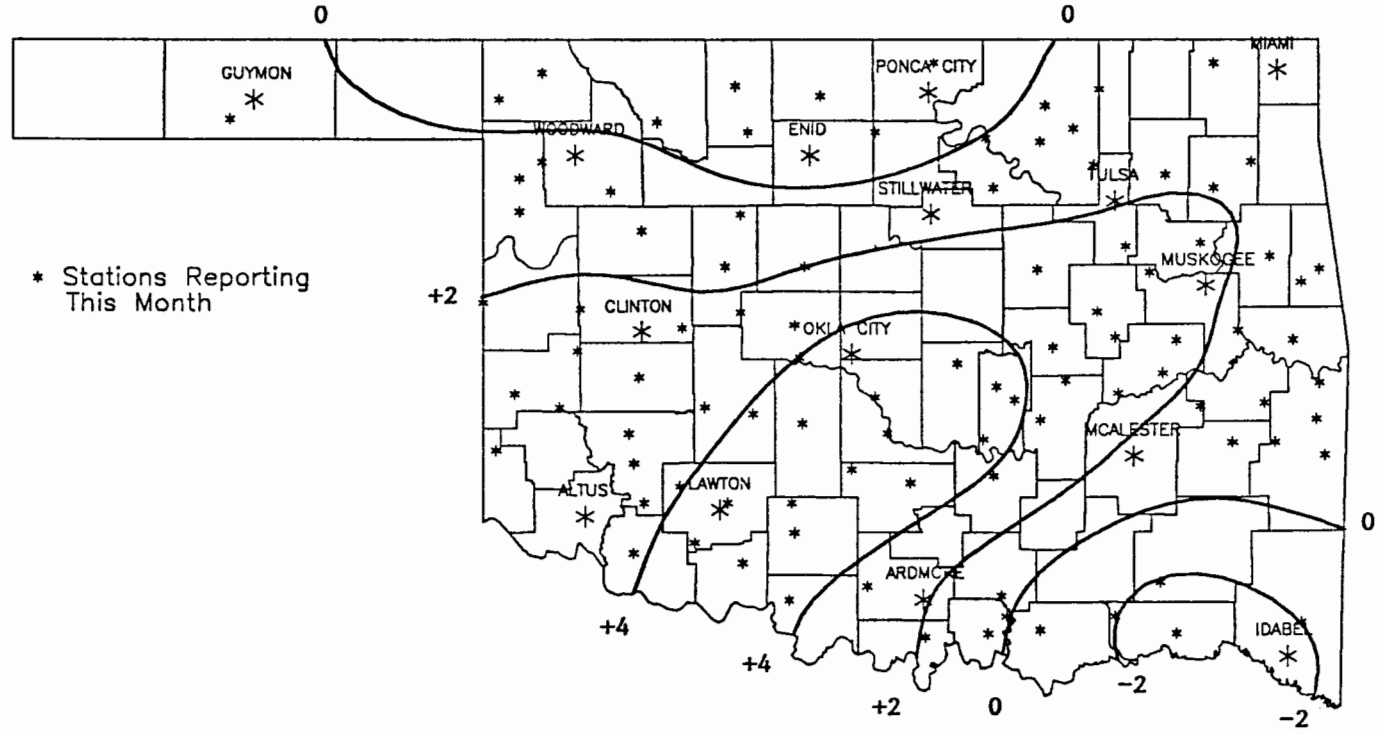
NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
ANTLERS	256	9	73.0	30	-1.4	92.	13	43.	27	25.0	16.0	264.0	-27.0	1.320	30	-3.95	.44	23
BATTIEST 1 SSW	567	9	70.3	30	*****	89.	9	41.	27	45.0	******	204.0	******	5.640	30	*****	1.98	8
BEAR MT TWR	584	9	74.3	19	*****	100.	2	46.	25	13.0	******	189.5	******	3.331	25	*****	1.09	8
BENGAL	670	9	*****	0	*****	****	0	****	0	******	******	******	******	4.751	30	*****	1.20	19
BOSWELL 4 NNW	980	9	73.2	30	*****	93.	11	41.	27	24.0	******	269.0	******	2.983	30	-1.93	1.60	8
BROKEN BOW 1 N	1162	9	*****	0	*****	****	0	****	0	******	******	******	******	2.230	30	-2.49	1.00	3
BROKEN BOW DAM	1168	9	73.0	30	*****	93.	12	45.	28	17.5	******	257.5	******	3.060	30	*****	.93	18
CARNASAW TWR	1499	9	*****	0	*****	****	0	****	0	******	******	******	******	2.730	30	-2.26	.57	19
CARTER TWR	1544	9	*****	0	*****	****	0	****	0	******	******	******	******	2.580	30	-2.38	.85	19
FANSHAWE	3065	9	*****	0	*****	****	0	****	0	******	******	******	******	4.901	30	.22	1.32	19
FLAGPOLE TWR	3169	9	*****	0	*****	****	0	****	0	******	******	******	******	2.070	30	*****	.60	16
HEAVENER 1 SE	4008	9	*****	0	*****	****	0	****	0	******	******	******	******	6.170	30	1.65	2.15	17
HEE MT TWR	4017	9	*****	0	*****	****	0	****	0	******	******	******	******	3.751	30	*****	1.17	19
HUGO	4384	9	73.6	30	-2.2	91.	15	45.	25	21.5	21.5	279.5	-48.5	1.232	30	-3.92	.40	1
IDABEL	4451	9	73.6	30	-1.3	92.	16	45.	30	19.0	13.0	275.5	-27.5	1.935	30	-2.60	.80	2
JADIE TOWER	4560	9	*****	0	*****	****	0	****	0	******	******	******	******	2.970	30	*****	.76	3
POTEAU	7246	9	72.1	30	-2.4	93.	11	41.	26	36.5	23.5	249.5	-48.5	7.464	30	3.21	1.40	7
SMITHVILLE 1 W	8285	9	73.7	19	*****	90.	11	38.	27	21.0	******	185.5	******	3.594	28	*****	1.40	17
SPIRO	8416	9	*****	0	*****	****	0	****	0	******	******	******	******	3.980	30	-.05	.91	19
TUSKAHOMA	9023	9	71.6	30	*****	91.	11	40.	27	41.5	******	240.0	******	4.910	30	*****	1.35	5
VALLIANT 3 W	9118	9	*****	0	*****	****	0	****	0	******	******	******	******	2.674	30	-2.31	1.10	8
WILBURTON 9 ENE	9634	9	71.6	30	-2.1	94.	11	40.	25	45.5	29.5	242.0	-35.0	5.052	30	.11	1.40	18

SEPTEMBER 1991 CLIMATE DIVISION SUMMARY

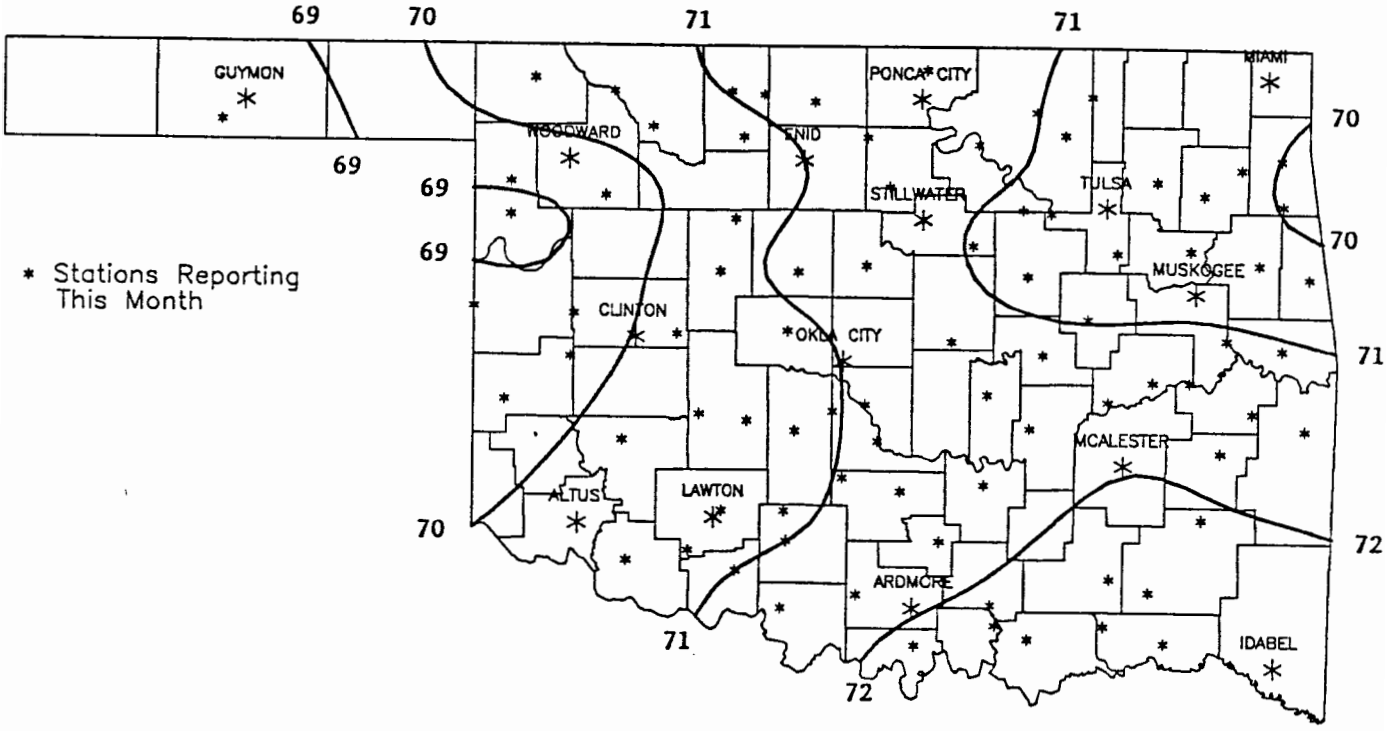
CLIMATE DIV	MEAN TEMP	NUM STA	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEGREE DAYS	DEV FROM NORM	COOL DEGREE DAYS	DEV FROM NORM	TOT PPT	NUM STA	DEV FROM NORM	MAX 24-HR	DAY
1	68.6	11	-1.8	98.0	9	35.0	21	61.3	30.8	167.6	-23.0	1.48	13	-.25	1.97	4
2	71.0	15	-2.2	96.0	11	30.0	19	49.4	30.6	228.0	-34.4	1.95	20	-1.19	1.97	1
3	70.5	16	-2.4	100.0	12	35.0	23	66.4	43.5	229.4	-27.8	5.22	25	.95	3.30	16
4	70.0	9	-3.4	95.0	11	39.0	19	49.1	32.1	199.4	-68.8	4.51	22	1.73	3.70	16
5	71.2	16	-2.7	95.0	9	41.0	25	41.3	25.6	225.0	-57.5	7.75	29	3.94	4.08	2
6	71.2	12	-2.7	95.0	11	38.0	20	49.3	33.8	234.9	-46.8	5.98	26	1.71	4.25	5
7	70.6	11	-4.5	94.0	12	41.0	21	42.0	32.1	209.8	-101.8	6.58	22	3.58	3.08	14
8	72.0	16	-4.0	94.0	10	40.0	25	33.8	26.4	241.9	-93.7	6.37	28	2.12	3.45	8
9	72.4	9	-2.2	100.0	2	38.0	27	30.6	21.8	253.4	-46.0	3.62	20	-1.18	2.15	17



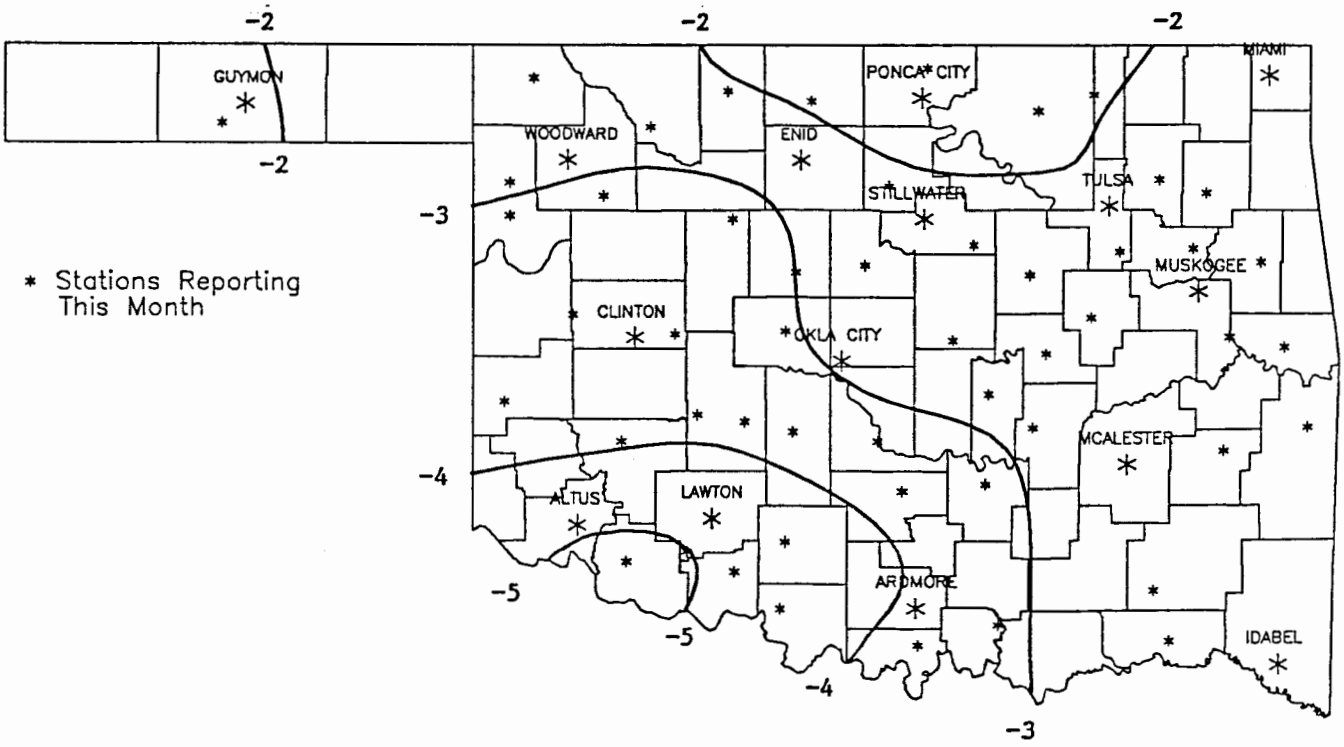
SEPTEMBER 1991 TOTAL PRECIPITATION
(Inches)



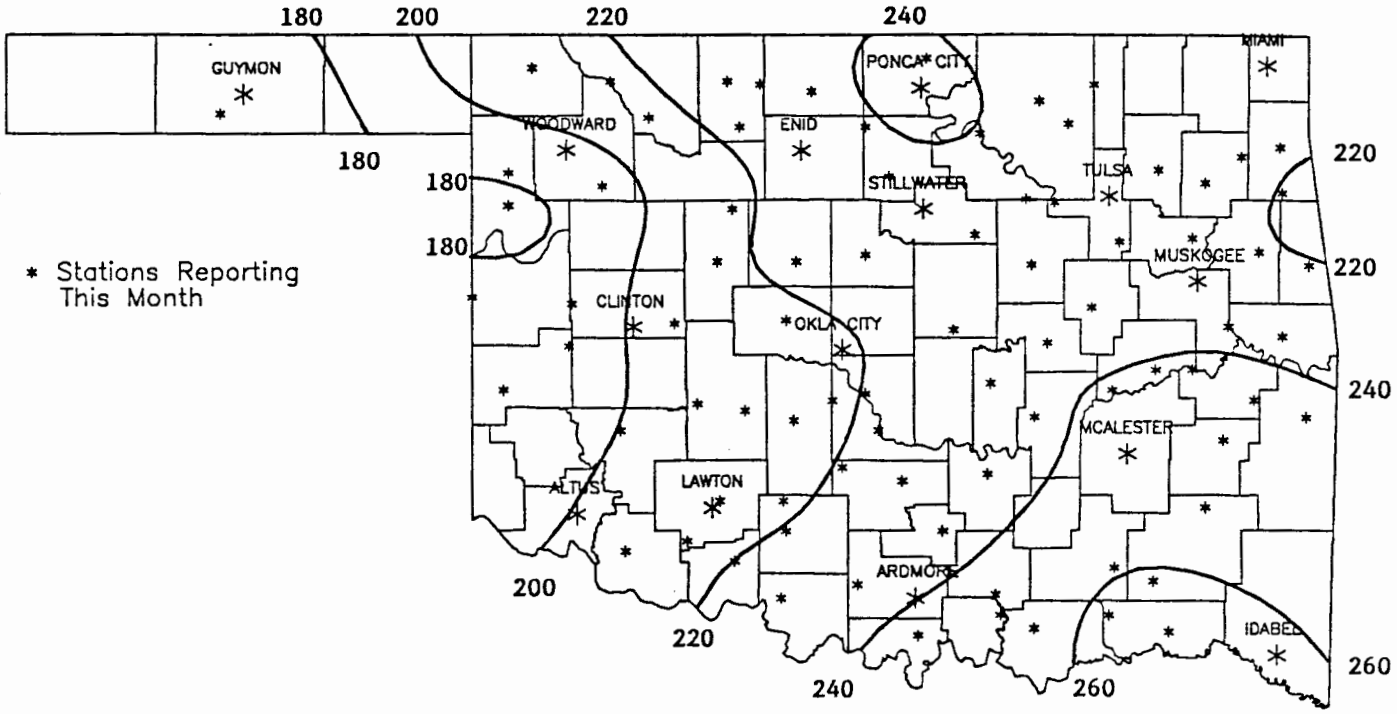
SEPTEMBER 1991 DEVIATION FROM NORMAL PRECIPITATION
(Inches)



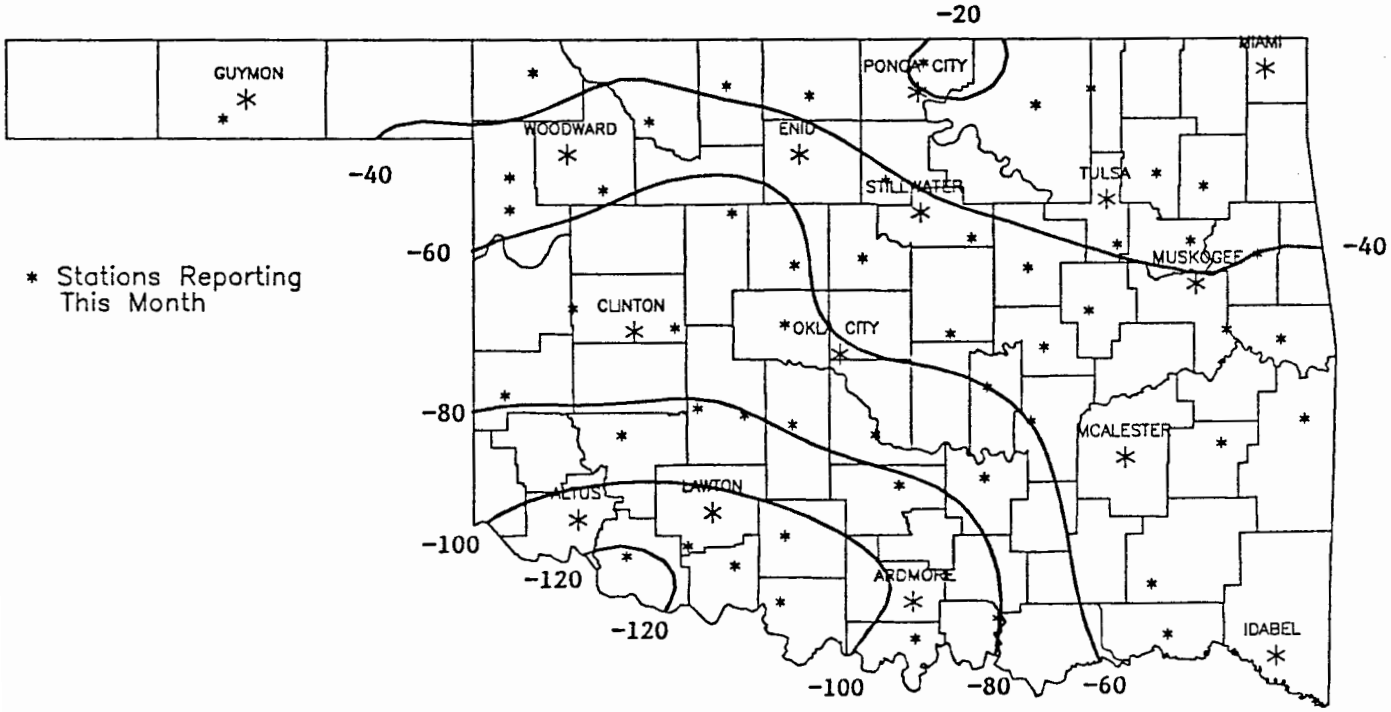
SEPTEMBER 1991 AVERAGE MONTHLY TEMPERATURES
(Degrees F)



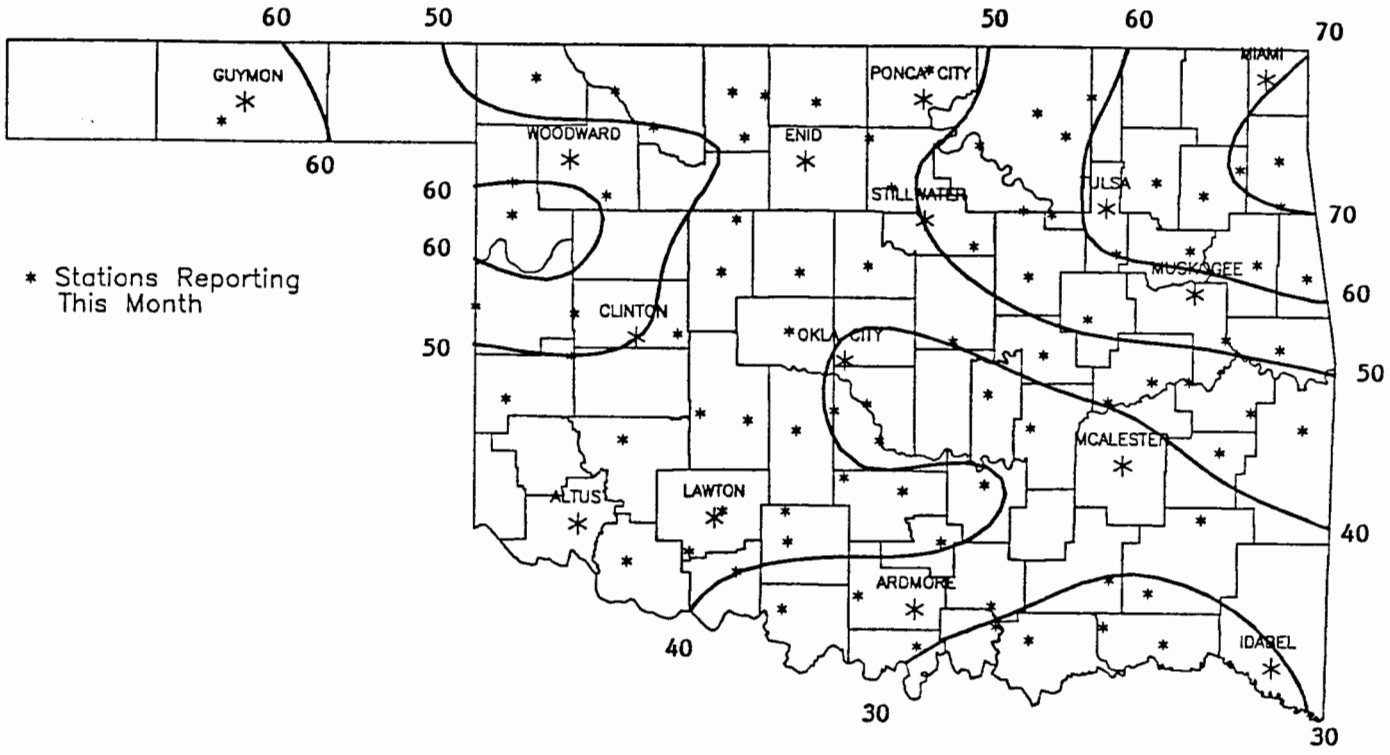
SEPTEMBER 1991 DEVIATION FROM NORMAL TEMPERATURES
(Degrees F)



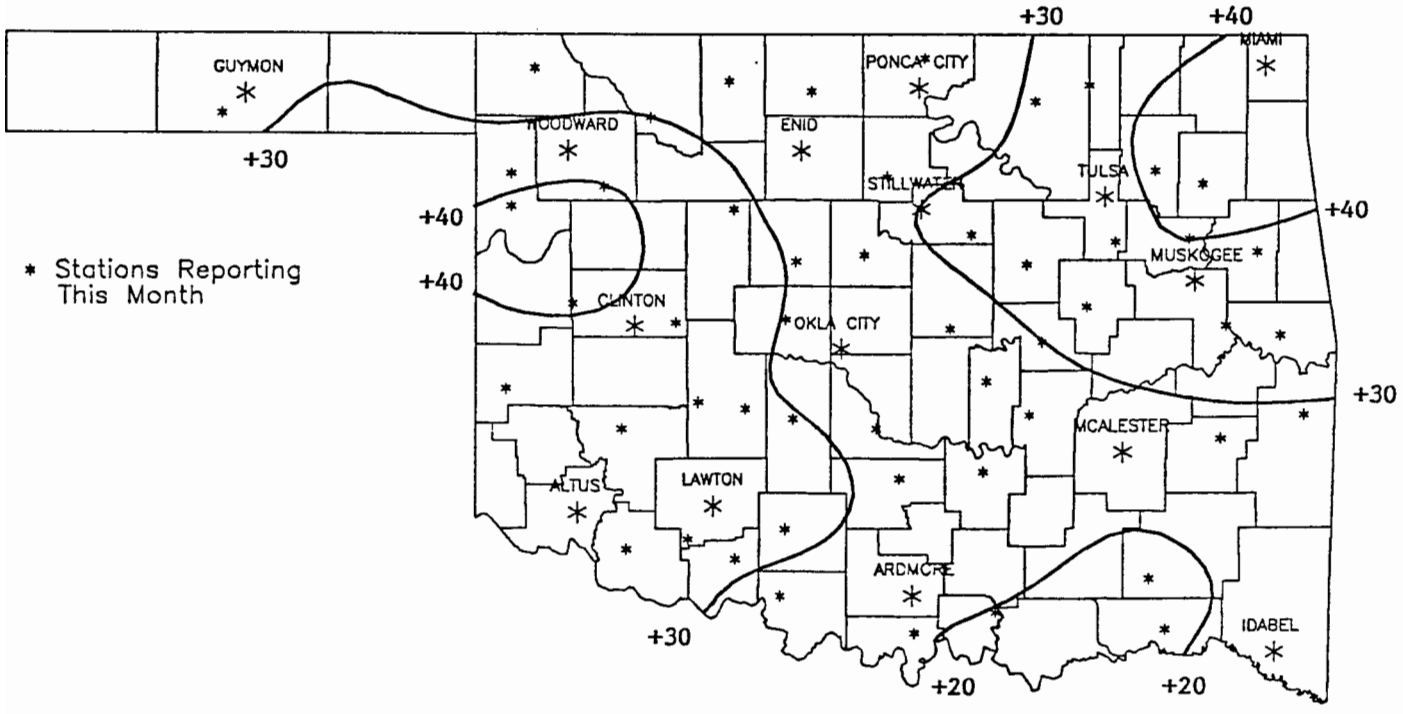
SEPTEMBER 1991 COOLING DEGREE DAYS



SEPTEMBER 1991 DEVIATION FROM NORMAL COOLING DEGREE DAYS

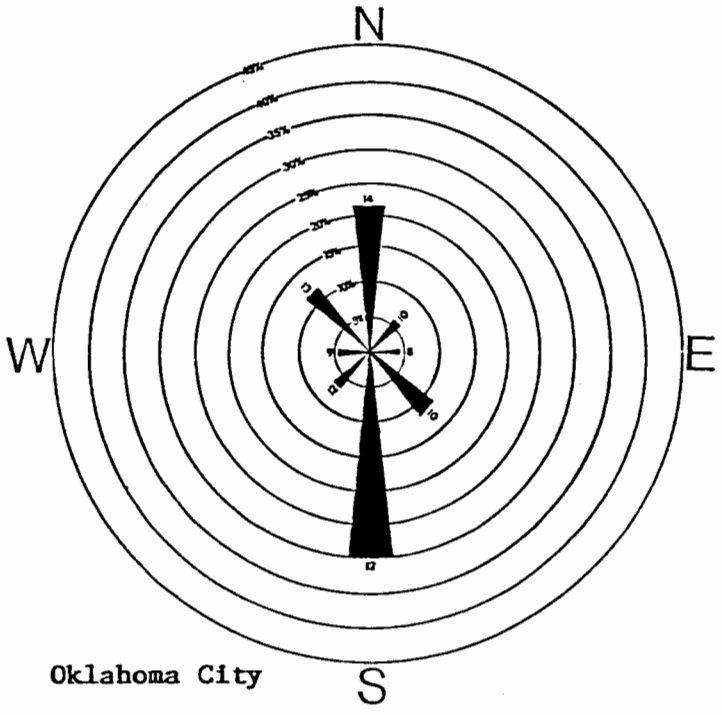


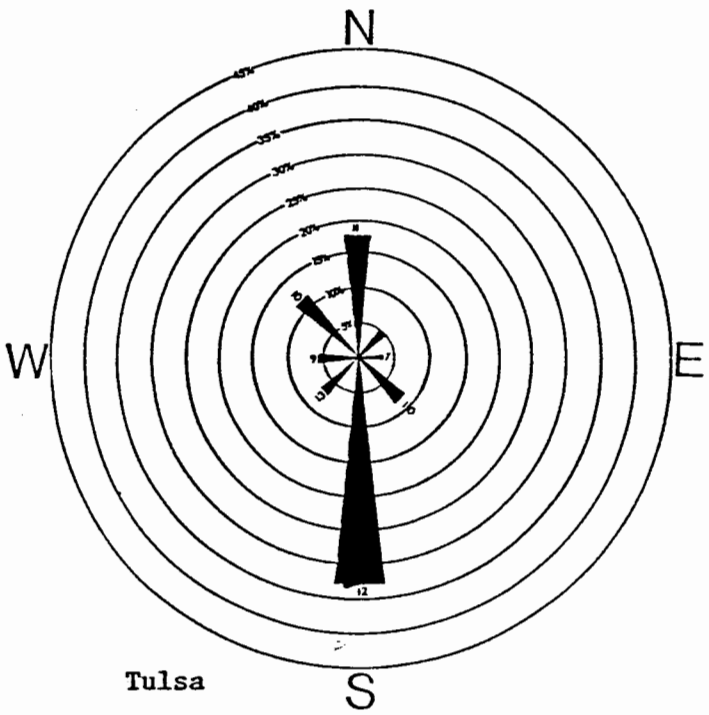
SEPTEMBER 1991 HEATING DEGREE DAYS



SEPTEMBER 1991 DEVIATION FROM NORMAL HEATING DEGREE DAYS

November wind roses for Oklahoma City and Tulsa for 10-year (1965-1974) mean winds (data adapted from NOAA Airport Climatology Series). Percents represent the percentage 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.





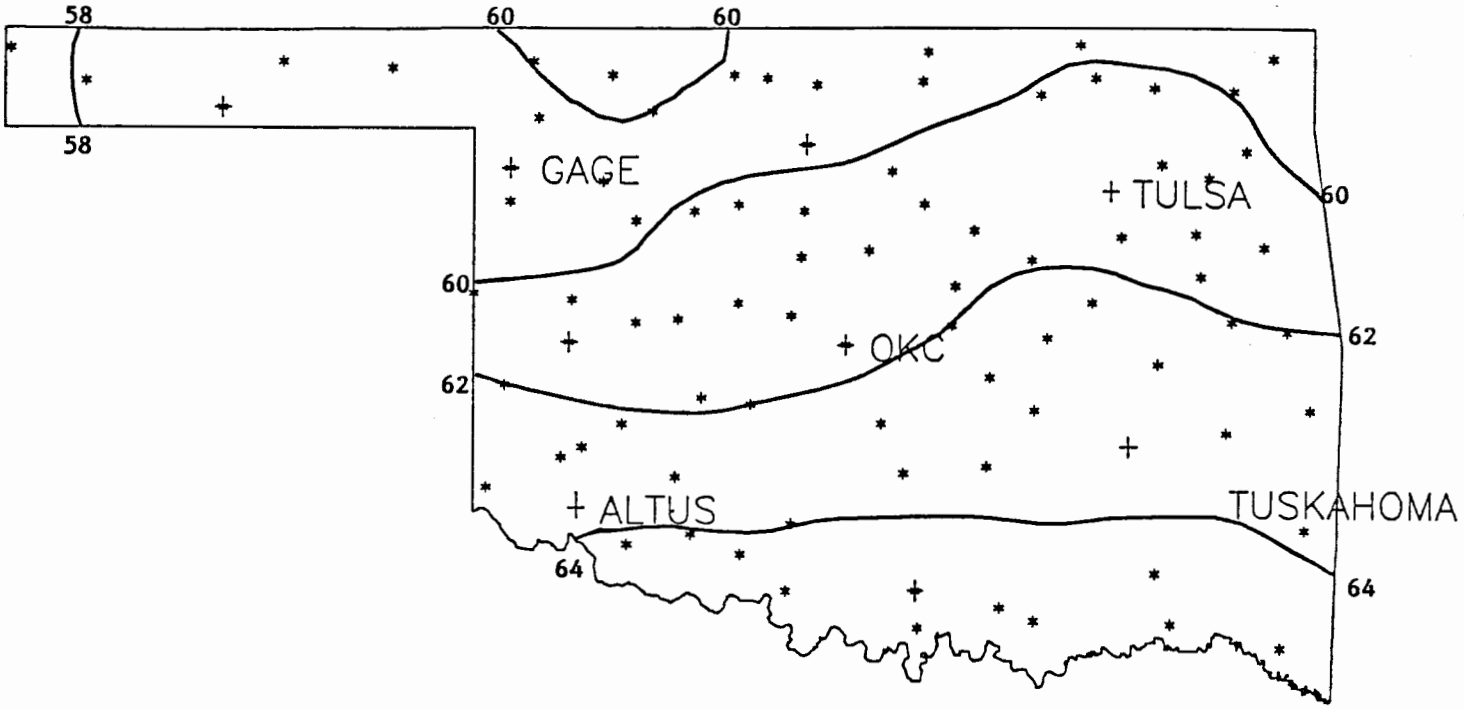
NOVEMBER 1991 SUNRISE AND SUNSET

Oklahoma City

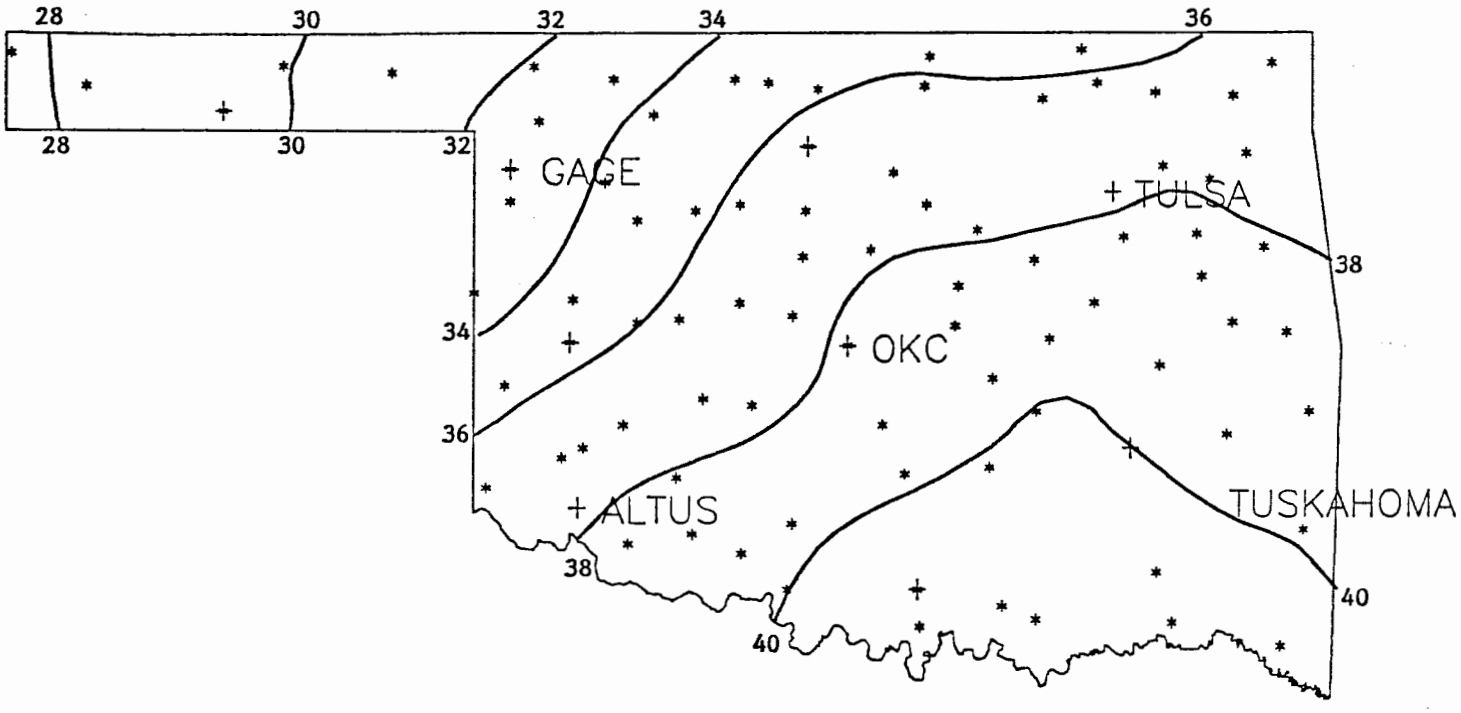
DATE	SUNRISE	SUNSET	DAYLIGHT
911101	6:51AM	5:38PM LT	10:47
911102	6:52AM	5:37PM LT	10:45
911103	6:52AM	5:36PM LT	10:43
911104	6:53AM	5:35PM LT	10:41
911105	6:54AM	5:34PM LT	10:39
911106	6:55AM	5:33PM LT	10:38
911107	6:56AM	5:32PM LT	10:36
911108	6:57AM	5:31PM LT	10:34
911109	6:58AM	5:31PM LT	10:32
911110	6:59AM	5:30PM LT	10:31
911111	7: 0AM	5:29PM LT	10:29
911112	7: 1AM	5:29PM LT	10:27
911113	7: 2AM	5:28PM LT	10:26
911114	7: 3AM	5:27PM LT	10:24
911115	7: 4AM	5:27PM LT	10:22
911116	7: 5AM	5:26PM LT	10:21
911117	7: 6AM	5:25PM LT	10:19
911118	7: 7AM	5:25PM LT	10:18
911119	7: 8AM	5:24PM LT	10:16
911120	7: 9AM	5:24PM LT	10:15
911121	7:10AM	5:24PM LT	10:13
911122	7:11AM	5:23PM LT	10:12
911123	7:12AM	5:23PM LT	10:11
911124	7:13AM	5:22PM LT	10: 9
911125	7:14AM	5:22PM LT	10: 8
911126	7:15AM	5:22PM LT	10: 7
911127	7:16AM	5:22PM LT	10: 6
911128	7:17AM	5:21PM LT	10: 5
911129	7:18AM	5:21PM LT	10: 4
911130	7:18AM	5:21PM LT	10: 2

Tulsa

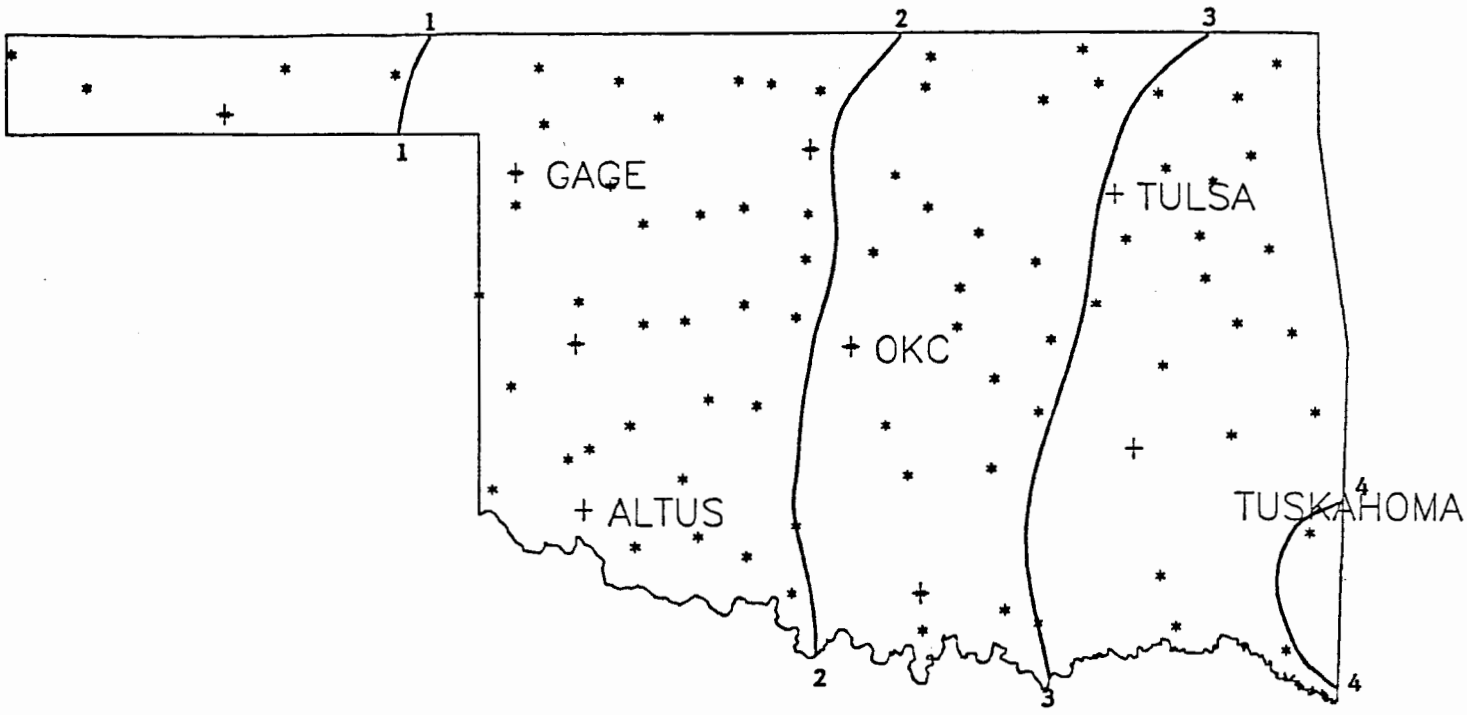
DATE	SUNRISE	SUNSET	DAYLIGHT
911101	6:45AM	5:30PM LT	10:45
911102	6:46AM	5:29PM LT	10:43
911103	6:47AM	5:28PM LT	10:41
911104	6:48AM	5:27PM LT	10:39
911105	6:49AM	5:26PM LT	10:37
911106	6:50AM	5:25PM LT	10:35
911107	6:51AM	5:24PM LT	10:33
911108	6:52AM	5:23PM LT	10:31
911109	6:53AM	5:23PM LT	10:30
911110	6:54AM	5:22PM LT	10:28
911111	6:55AM	5:21PM LT	10:26
911112	6:56AM	5:20PM LT	10:24
911113	6:57AM	5:20PM LT	10:23
911114	6:58AM	5:19PM LT	10:21
911115	6:59AM	5:18PM LT	10:19
911116	7: 0AM	5:18PM LT	10:18
911117	7: 1AM	5:17PM LT	10:16
911118	7: 2AM	5:17PM LT	10:15
911119	7: 3AM	5:16PM LT	10:13
911120	7: 4AM	5:16PM LT	10:12
911121	7: 5AM	5:15PM LT	10:10
911122	7: 6AM	5:15PM LT	10: 9
911123	7: 7AM	5:14PM LT	10: 7
911124	7: 8AM	5:14PM LT	10: 6
911125	7: 9AM	5:14PM LT	10: 5
911126	7:10AM	5:13PM LT	10: 3
911127	7:11AM	5:13PM LT	10: 2
911128	7:12AM	5:13PM LT	10: 1
911129	7:13AM	5:12PM LT	9:60
911130	7:13AM	5:12PM LT	9:59



30-YEAR MEAN NOVEMBER MAXIMUM TEMPERATURE



30-YEAR MEAN NOVEMBER DAILY MINIMUM TEMPERATURE



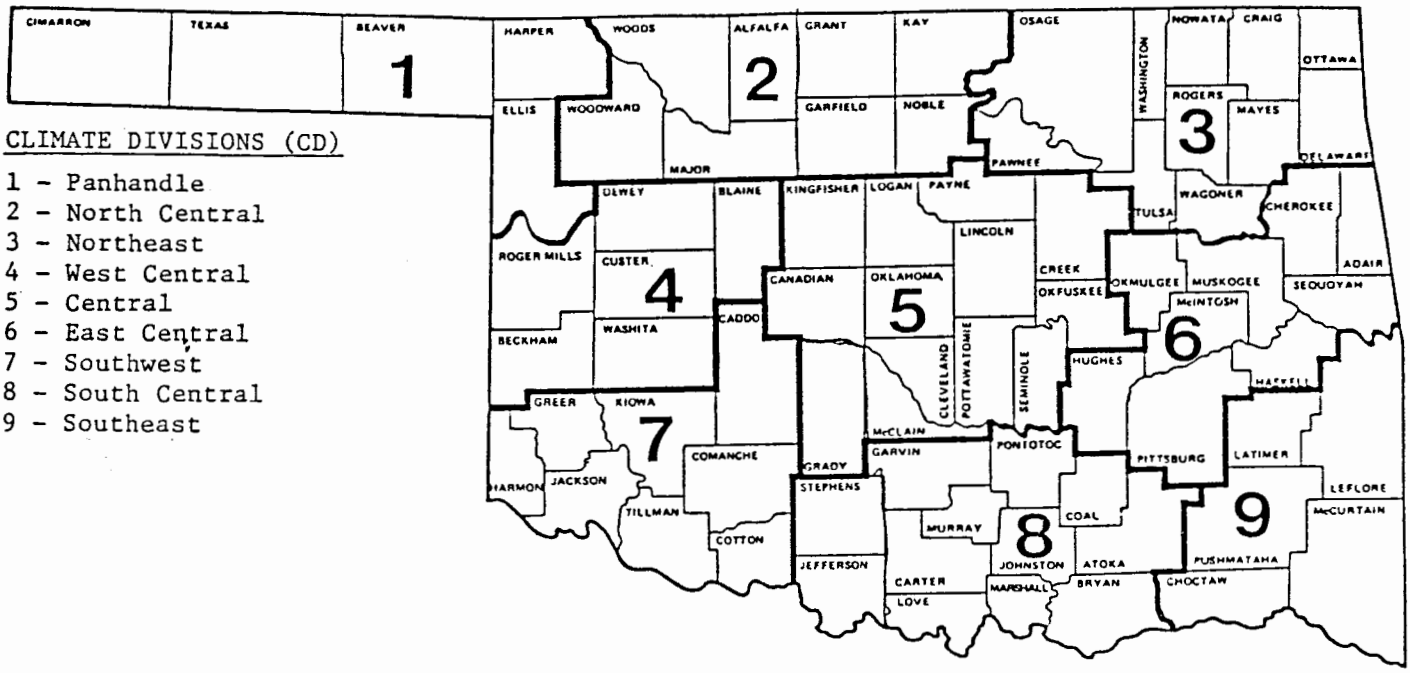
30-YEAR MEAN NOVEMBER PRECIPITATION

90-DAY NATIONAL WEATHER SERVICE OUTLOOK

(October-December 1991)

Precipitation - Above Normal Southeast
Near Normal Elsewhere

Temperature - Below 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

November 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
67.0 max		63.0 max		62.0 max		64.0 max		62.0 max		63.0 max		64.0 max	
45.0 min		43.0 min		41.0 min		41.0 min		41.0 min		41.0 min		41.0 min	
.053 ppt		.091 ppt		.089 ppt		.095 ppt		.048 ppt		.040 ppt		.025 ppt	
9 hdd		12 hdd		14 hdd		12 hdd		13 hdd		13 hdd		12 hdd	
1 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd	
Highest Max 84-1982		Highest Max 81-1978		Highest Max 82-1931		Highest Max 81-1978		Highest Max 81-1945		Highest Max 85-1945		Highest Max 86-1980	
Lowest Max 35-1951		Lowest Max 31-1951		Lowest Max 40-1954		Lowest Max 40-1990		Lowest Max 35-1951		Lowest Max 39-1959		Lowest Max 44-1968	
Lowest Min 29-1966		Lowest Min 22-1966		Lowest Min 21-1939		Lowest Min 23-1936		Lowest Min 23-1951		Lowest Min 20-1959		Lowest Min 26-1959	
Highest Min 68-1982		Highest Min 62-1983		Highest Min 61-1959		Highest Min 56-1964		Highest Min 59-1965		Highest Min 59-1965		Highest Min 61-1966	
Greatest Ppt 1.05-1981		Greatest Ppt 1.51-1951		Greatest Ppt 1.51-1964		Greatest Ppt 2.17-1986		Greatest Ppt .99-1946		Greatest Ppt .68-1978		Greatest Ppt 1.03-1944	

Normal 8	Actual	Normal 9	Actual	Normal 10	Actual	Normal 11	Actual	Normal 12	Actual	Normal 13	Actual	Normal 14	Actual
64.0 max		63.0 max		62.0 max		63.0 max		63.0 max		64.0 max		61.0 max	
41.0 min		40.0 min		38.0 min		39.0 min		39.0 min		40.0 min		41.0 min	
.064 ppt		.017 ppt		.022 ppt		.035 ppt		.059 ppt		.065 ppt		.047 ppt	
12 hdd		14 hdd		15 hdd		14 hdd		14 hdd		13 hdd		14 hdd	
0 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd	
Highest Max 87-1980		Highest Max 82-1988		Highest Max 81-1980		Highest Max 81-1989		Highest Max 78-1990		Highest Max 80-1967		Highest Max 79-1973	
Lowest Max 40-1953		Lowest Max 37-1958		Lowest Max 33-1950		Lowest Max 43-1968		Lowest Max 33-1976		Lowest Max 28-1986		Lowest Max 30-1959	
Lowest Min 23-1955		Lowest Min 25-1955		Lowest Min 20-1950		Lowest Min 19-1950		Lowest Min 19-1986		Lowest Min 12-1940		Lowest Min 15-1959	
Highest Min 66-1966		Highest Min 60-1984		Highest Min 58-1964		Highest Min 63-1982		Highest Min 58-1951		Highest Min 61-1989		Highest Min 63-1973	
Greatest Ppt .71-1990		Greatest Ppt 1.15-1977		Greatest Ppt 1.17-1937		Greatest Ppt 1.10-1988		Greatest Ppt .99-1957		Greatest Ppt 1.51-1985		Greatest Ppt 1.13-1985	

Normal 15	Actual	Normal 16	Actual	Normal 17	Actual	Normal 18	Actual	Normal 19	Actual	Normal 20	Actual	Normal 21	Actual
62.0 max		59.0 max		59.0 max		58.0 max		59.0 max		58.0 max		58.0 max	
40.0 min		39.0 min		37.0 min		38.0 min		37.0 min		35.0 min		35.0 min	
.115 ppt		.028 ppt		.081 ppt		.065 ppt		.116 ppt		.048 ppt		.023 ppt	
14 hdd		16 hdd		17 hdd		17 hdd		17 hdd		18 hdd		18 hdd	
0 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd	
Highest Max 80-1965		Highest Max 82-1941		Highest Max 77-1966		Highest Max 80-1930		Highest Max 78-1979		Highest Max 79-1982		Highest Max 80-1927	
Lowest Max 37-1978		Lowest Max 33-1955		Lowest Max 32-1959		Lowest Max 37-1972		Lowest Max 34-1972		Lowest Max 35-1972		Lowest Max 31-1964	
Lowest Min 15-1940		Lowest Min 14-1932		Lowest Min 11-1959		Lowest Min 17-1951		Lowest Min 18-1937		Lowest Min 19-1937		Lowest Min 20-1964	
Highest Min 61-1971		Highest Min 64-1958		Highest Min 54-1975		Highest Min 57-1979		Highest Min 60-1977		Highest Min 60-1990		Highest Min 53-1956	
Greatest Ppt 1.70-1968		Greatest Ppt 3.94-1931		Greatest Ppt 1.70-1984		Greatest Ppt 1.37-1964		Greatest Ppt 1.70-1934		Greatest Ppt 1.74-1979		Greatest Ppt 1.17-1931	

Normal 22	Actual	Normal 23	Actual	Normal 24	Actual	Normal 25	Actual	Normal 26	Actual	Normal 27	Actual	Normal 28	Actual
59.0 max		58.0 max		56.0 max		60.0 max		57.0 max		51.0 max		50.0 max	
36.0 min		35.0 min		35.0 min		37.0 min		35.0 min		32.0 min		30.0 min	
.039 ppt		.028 ppt		.081 ppt		.070 ppt		.138 ppt		.063 ppt		.014 ppt	
17 hdd		19 hdd		20 hdd		16 hdd		18 hdd		23 hdd		25 hdd	
0 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd	
Highest Max 78-1966		Highest Max 79-1973		Highest Max 76-1990		Highest Max 84-1965		Highest Max 78-1970		Highest Max 76-1927		Highest Max 81-1949	
Lowest Max 38-1957		Lowest Max 35-1970		Lowest Max 36-1950		Lowest Max 39-1982		Lowest Max 32-1952		Lowest Max 33-1958		Lowest Max 30-1952	
Lowest Min 18-1926		Lowest Min 19-1950		Lowest Min 15-1950		Lqwest Min 20-1950		Lowest Min 13-1975		Lowest Min 16-1976		Lowest Min 15-1976	
Highest Min 60-1966		Highest Min 60-1965		Highest Min 60-1966		Highest Min 62-1966		Highest Min 62-1990		Highest Min 56-1960		Highest Min 48-1962	
Greatest Ppt 1.54-1931		Greatest Ppt 1.62-1931		Greatest Ppt .77-1944		Greatest Ppt 2.01-1940		Greatest Ppt .97-1935		Greatest Ppt 1.28-1982		Greatest Ppt .54-1948	

Normal 29	Actual	Normal 30	Actual
53.0 max		54.0 max	
30.0 min		32.0 min	
.008 ppt		.025 ppt	
23 hdd		22 hdd	
0 cdd		0 cdd	
Highest Max 80-1927		Highest Max 74-1933	
Lowest Max 34-1974		Lowest Max 38-1983	
Lowest Min 13-1976		Lowest Min 13-1976	
Highest Min 51-1975		Highest Min 56-1970	
Greatest Ppt .61-1930		Greatest Ppt .47-1985	

NOVEMBER AVERAGES

Temperature	:	**48.8°F**
Precipitation	:	**1.69"**
Heating Degree Days	:	**481**
Cooling Degree Days	:	**1**

TULSA CLIMATE CALENDAR

November 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
69.0 max		65.0 max		63.0 max		64.0 max		62.0 max		62.0 max		63.0 max	
46.0 min		44.0 min		41.0 min		42.0 min		41.0 min		41.0 min		41.0 min	
.092 ppt		.168 ppt		.166 ppt		.077 ppt		.024 ppt		.065 ppt		.029 ppt	
8 hdd		11 hdd		13 hdd		12 hdd		13 hdd		14 hdd		13 hdd	
1 cdd		0 cdd		1 cdd		0 cdd		0 cdd		0 cdd		0 cdd	
Highest Max 85-1916		Highest Max 89-1909		Highest Max 88-1909		Highest Max 86-1914		Highest Max 87-1914		Highest Max 87-1945		Highest Max 85-1980	
Lowest Max 37-1951		Lowest Max 35-1951		Lowest Max 42-1954		Lowest Max 39-1951		Lowest Max 34-1951		Lowest Max 39-1959		Lowest Max 45-1953	
Lowest Min 25-1925		Lowest Min 20-1966		Lowest Min 21-1966		Lowest Min 24-1951		Lowest Min 25-1976		Lowest Min 20-1959		Lowest Min 23-1959	
Highest Min 64-1987		Highest Min 65-1983		Highest Min 67-1983		Highest Min 60-1987		Highest Min 60-1965		Highest Min 60-1965		Highest Min 60-1966	
Greatest Ppt 1.27-1984		Greatest Ppt 2.82-1974		Greatest Ppt 3.20-1974		Greatest Ppt 1.25-1986		Greatest Ppt .32-1957		Greatest Ppt .90-1964		Greatest Ppt .63-1957	

Normal 8	Actual	Normal 9	Actual	Normal 10	Actual	Normal 11	Actual	Normal 12	Actual	Normal 13	Actual	Normal 14	Actual
64.0 max		63.0 max		63.0 max		62.0 max		63.0 max		65.0 max		62.0 max	
43.0 min		40.0 min		39.0 min		39.0 min		40.0 min		39.0 min		41.0 min	
.093 ppt		.037 ppt		.058 ppt		.034 ppt		.086 ppt		.070 ppt		.060 ppt	
12 hdd		13 hdd		14 hdd		14 hdd		13 hdd		13 hdd		14 hdd	
0 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd	
Highest Max 84-1980		Highest Max 82-1934		Highest Max 83-1949		Highest Max 85-1989		Highest Max 80-1989		Highest Max 84-1910		Highest Max 79-1989	
Lowest Max 44-1971		Lowest Max 42-1950		Lowest Max 37-1950		Lowest Max 31-1986		Lowest Max 34-1986		Lowest Max 30-1986		Lowest Max 33-1959	
Lowest Min 23-1925		Lowest Min 23-1955		Lowest Min 21-1950		Lowest Min 17-1950		Lowest Min 15-1911		Lowest Min 12-1940		Lowest Min 13-1916	
Highest Min 67-1966		Highest Min 58-1984		Highest Min 62-1949		Highest Min 60-1949		Highest Min 62-1951		Highest Min 62-1989		Highest Min 62-1958	
Greatest Ppt 1.45-1977		Greatest Ppt .55-1974		Greatest Ppt .63-1986		Greatest Ppt 1.11-1988		Greatest Ppt 2.64-1972		Greatest Ppt 1.80-1985		Greatest Ppt 1.08-1978	

Normal 15	Actual	Normal 16	Actual	Normal 17	Actual	Normal 18	Actual	Normal 19	Actual	Normal 20	Actual	Normal 21	Actual
63.0 max		61.0 max		60.0 max		58.0 max		60.0 max		58.0 max		58.0 max	
42.0 min		40.0 min		39.0 min		39.0 min		38.0 min		36.0 min		35.0 min	
.250 ppt		.063 ppt		.138 ppt		.090 ppt		.168 ppt		.197 ppt		.032 ppt	
13 hdd		15 hdd		16 hdd		16 hdd		16 hdd		18 hdd		18 hdd	
0 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd	
Highest Max 82-1950		Highest Max 83-1963		Highest Max 80-1969		Highest Max 82-1930		Highest Max 81-1908		Highest Max 81-1989		Highest Max 79-1927	
Lowest Max 38-1976		Lowest Max 37-1955		Lowest Max 32-1959		Lowest Max 37-1972		Lowest Max 35-1972		Lowest Max 38-1972		Lowest Max 34-1954	
Lowest Min 11-1940		Lowest Min 14-1932		Lowest Min 11-1959		Lowest Min 19-1951		Lowest Min 14-1937		Lowest Min 16-1937		Lowest Min 18-1964	
Highest Min 63-1964		Highest Min 65-1958		Highest Min 55-1975		Highest Min 60-1985		Highest Min 61-1979		Highest Min 62-1979		Highest Min 53-1966	
Greatest Ppt 2.50-1964		Greatest Ppt 1.49-1978		Greatest Ppt 1.24-1952		Greatest Ppt 1.26-1964		Greatest Ppt 1.65-1963		Greatest Ppt 4.59-1979		Greatest Ppt .70-1961	

Normal 22	Actual	Normal 23	Actual	Normal 24	Actual	Normal 25	Actual	Normal 26	Actual	Normal 27	Actual	Normal 28	Actual
59.0 max		58.0 max		56.0 max		60.0 max		57.0 max		52.0 max		50.0 max	
37.0 min		35.0 min		35.0 min		37.0 min		36.0 min		33.0 min		31.0 min	
.067 ppt		.022 ppt		.161 ppt		.072 ppt		.110 ppt		.077 ppt		.031 ppt	
17 hdd		18 hdd		20 hdd		16 hdd		18 hdd		23 hdd		25 hdd	
0 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd	
Highest Max 79-1966		Highest Max 78-1974		Highest Max 80-1965		Highest Max 84-1965		Highest Max 83-1965		Highest Max 77-1927		Highest Max 81-1949	
Lowest Max 38-1971		Lowest Max 33-1970		Lowest Max 36-1950		Lowest Max 38-1975		Lowest Max 30-1975		Lowest Max 35-1985		Lowest Max 28-1976	
Lowest Min 16-1929		Lowest Min 17-1970		Lowest Min 14-1950		Lowest Min 17-1950		Lowest Min 18-1975		Lowest Min 16-1938		Lowest Min 13-1976	
Highest Min 62-1966		Highest Min 63-1966		Highest Min 61-1966		Highest Min 61-1966		Highest Min 65-1990		Highest Min 56-1960		Highest Min 44-1981	
Greatest Ppt .90-1982		Greatest Ppt .35-1952		Greatest Ppt 2.54-1973		Greatest Ppt 1.03-1986		Greatest Ppt 1.56-1982		Greatest Ppt 1.13-1982		Greatest Ppt .53-1968	

Normal 29	Actual	Normal 30	Actual
53.0 max		54.0 max	
30.0 min		31.0 min	
.045 ppt		.032 ppt	
23 hdd		23 hdd	
0 cdd		0 cdd	
Highest Max 82-1927		Highest Max 76-1933	
Lowest Max 36-1979		Lowest Max 33-1974	
Lowest Min 10-1976		Lowest Min 13-1964	
Highest Min 54-1975		Highest Min 55-1970	
Greatest Ppt 1.08-1975		Greatest Ppt .73-1981	

NOVEMBER AVERAGES

Temperature	:	**49.3°F**
Precipitation	:	**2.61"**
Heating Degree Days	:	**472**
Cooling Degree Days	:	**2**