

OKLAHOMA MONTHLY SUMMARY NOVEMBER 1989

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NOVEMBER 1989 OKLAHOMA SUMMARY

Dry weather during November, Oklahoma's second consecutive extremely dry month, lead to further depletion of soil moisture supplies threatening crops and pasture and supporting numerous extensive wildfires. Each Climate Division (CD) received less than 20% of its normal precipitation for the month (see Map 1) as the State suffered its third driest November on record (see Table 1). Many stations recorded no precipitation during the entire month. Above normal temperatures and extremely dry weather Statewide aggravated the moisture shortage.

A weak surface front on November 1 delivered the only recorded precipitation of the month for several northern and central stations. Little available low-level moisture and only weak upper-level support limited most precipitation accumulations to less than .10". Nighttime sub-freezing temperatures briefly changed the precipitation to snow producing Oklahoma City's earliest snowfall in 22 years.

Sunny skies and an unusually warm, very dry southwesterly wind which followed the cold frontal passage sustained unseasonably high temperatures for several days. The warm air, more typical of mid-October, was very dry (see Figure 1) resulting in high evaporation rates which further tapped moisture from the critically dry soil. These conditions and abundant dead and drying organic matter remaining after a prolific and very wet summer combined to support hundreds of wildfires. Officials reported 42 fires on November 11, including one blaze which forced the evacuation of 50 Mannford homes. Over the next several days, while Forestry Division firefighters fought 50 to 60 fires daily, several thousand acres were destroyed. A State-mandated ban on outdoor fires issued in mid-month helped reduce fires by about 50%, according to Rob Doye of the State Agriculture Department.

A cold front produced limited additional precipitation in the eastern two-thirds of the State on November 21 and 22. Amounts ranged from nearly .10" in the central one-third to over .50" in the eastern one-third of the State. Strong high pressure behind the cold front accompanied a Canadian air mass into Oklahoma. The 20-30 mph winds and dry air associated with the air mass again increased fire danger. Southerly winds quickly returned, however, and temperatures returned to normal by November 26. Another dry cold front quickly followed on November 27. This cold Arctic air mass lowered temperatures into the teens as far south as Altus on the morning of November 29.

By month's end, a virtually Statewide topsoil moisture shortage was adversely affecting agriculture. The Panhandle and northeastern parts of the State reported forage shortages. Cattle grazing on western Oklahoma pastureland uprooted weakly-rooted wheat plants. Small grain and late-maturing row crop growth lagged behind expected rates. In spite of surface moisture shortages, the adequate subsoil moisture supply established during Oklahoma's excessively wet summer months remains over nearly one-half of the State.

-R. J. Sladewski

Map 1. November 1989 percent of normal precipitation.

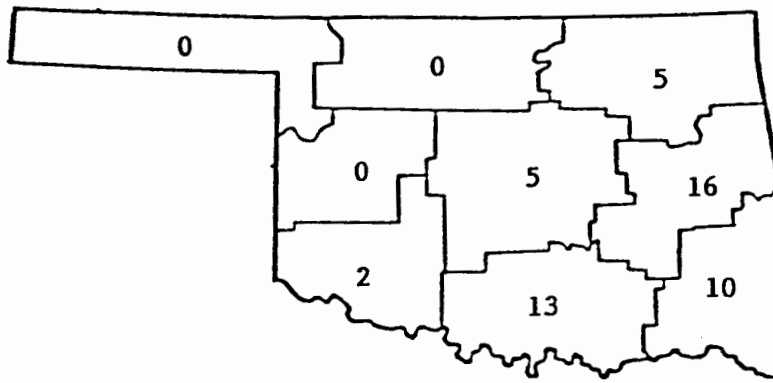


Table 1. Oklahoma's five driest Novembers (1892-1989).

RANK	YEAR	STATEWIDE-AVERAGED PRECIPITATION
1.	1910	.12"
2.	1949	.14"
3.	1989	.15"
4.	1955	.19"
5.	1904	.21"

These plots of Tulsa dew point and relative humidity for November 15-17, 1989 verse the long-term November mean conditions reveal the extremely dry conditions during one of Oklahoma's most destructive wildfire months on record. Although low air moisture itself does not trigger a wildfire, Department of Agriculture expert Rob Doye notices more dangerously erratic and powerful fires under such conditions. Strong winds and abundant drying organic matter also fueled this year's destruction.

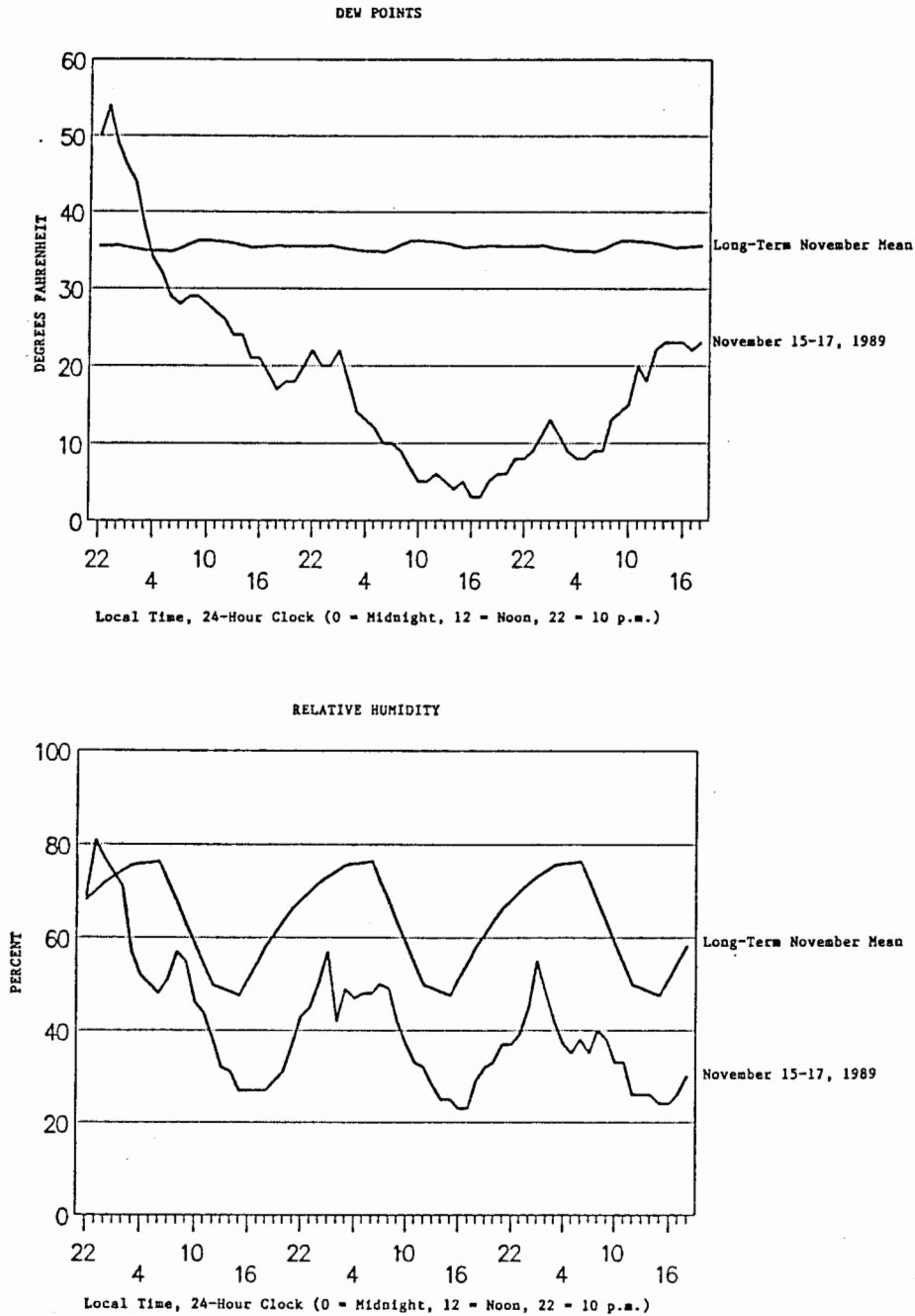


Figure 1. Tulsa low-level moisture comparisons between November 15-17, 1989 and mean November conditions.

TABLE OF 1988/1989 COMPARISONS

Station	November Temperature (F)		November Precipitation (in.)	
	88	89	88	89
ARNETT	47.3	47.2	.76	.00
ENID	50.0	49.3	1.74	.04
MUTUAL	47.1	47.2	.63	.001
TULSA	52.7	54.4	4.38	.15
ELK CITY	50.3	51.6	1.77	.00
OKLAHOMA CITY	51.9	53.6	2.43	.09
MCALESTER	53.9	55.5	3.87	.46
ALTUS IRR. STA.	52.7	53.1	.46	.00
DURANT	53.5	54.0	2.43	.15
ADA	52.4	54.3	2.43	.31
ANTLERS	54.2	54.9	3.10	.00

EXTREMES

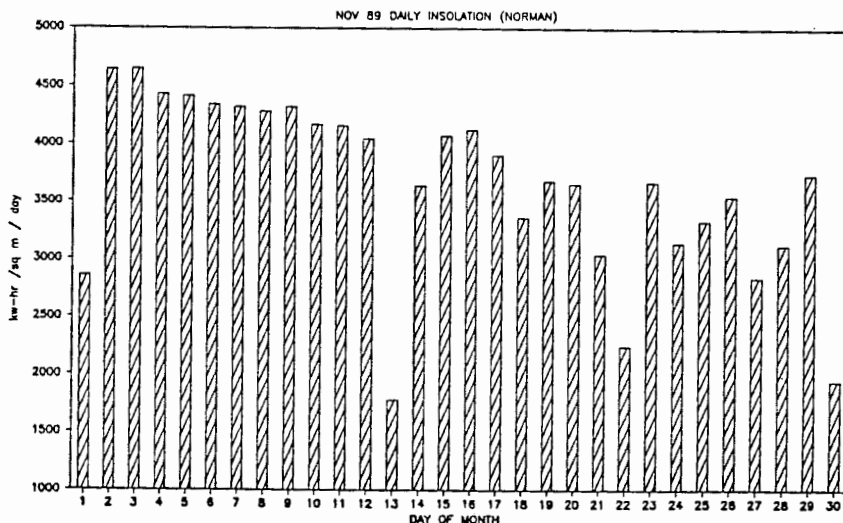
Variable	Station	Division	Observation	Date
Minimum Temperature (F)	Taloga	4	10	29
Maximum Temperature (F)	Bear Mt	9	89	5
Maximum 24-hour Precipitation	Pontotoc	8	1.80"	22

INSOLATION DATA AVAILABLE

The University of Oklahoma's School of Meteorology is observing and archiving incoming solar radiation data as part of a cooperative effort with the Agricultural Research Service, USDA at Durant, OK. The observation site, operated continuously since September 1987, is located at Max Westheimer Airport in Norman. The data are representative of central Oklahoma and available through the Oklahoma Climatological Survey. The table and chart below depict the November 1989 daily observations.

November 1989 Daily Insolation Data for Norman, OK
(Insolation units are watt-hours per square meter per day)

DATE	INSOLATION AMOUNT
1	2860.30
2	4640.87
3	4645.87
4	4433.37
5	4416.42
6	4341.42
7	4320.59
8	4281.98
9	4319.76
10	4169.20
11	4158.09
12	4045.87
13	1779.38
14	3638.64
15	4071.14
16	4124.20
17	3903.92
18	3359.75
19	3679.47
20	3653.64
21	3039.19
22	2245.82
23	3667.81
24	3141.41
25	3328.08
26	3545.03
27	2841.97
28	3121.97
29	3738.36
30	1942.13



NOVEMBER 1989 SUMMARY FOR NORTHWEST DIVISION (CD1)

NAME	ID	CD	DEV						HEAT DEG	DEV FROM	COOL DEG	DEV FROM	TOT PPT	NUM OBS	DEV FROM	MAX 24-HR	DAY	
			MEAN TEMP	NUM OBS	FROM NORM	MAX TEMP	MIN DAY	TEMP DAY										
ARNETT	332	1	47.2	30	1.5	85.	12	17.	29	534.5	-44.5	.5	.5	.000	30	-1.09	.00	30
BEAVER	593	1	44.8	30	.2	84.	13	13.	29	606.0	-6.0	.0	.0	.000	30	-.89	.00	30
BOISE CITY 2 E	908	1	48.0	29	4.1	79.	4	13.	16	493.5	-139.5	.0	.0	.001	30	-.63	.00	1
BUFFALO	1243	1	49.4	30	2.4	85.	11	13.	23	469.5	-70.5	1.0	1.0	.000	30	-1.33	.00	30
FARGO	3070	1	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	-1.02	.00	30
GAGE FAA APT	3407	1	48.5	30	3.2	85.	11	14.	29	497.0	-94.0	1.0	1.0	.000	30	-.84	.00	30
GATE	3489	1	46.2	27	*****	77.	21	15.	16	507.0	*****	.0	*****	.000	28	*****	.00	30
GOODWELL RES	ST3628	1	46.1	30	1.8	81.	13	13.	16	568.0	-53.0	.0	.0	.000	30	-.64	.00	30
GUYMON	3835	1	46.8	28	*****	82.	12	14.	2	509.5	*****	.0	*****	.001	30	*****	.00	2
HOOKER	4298	1	46.5	30	2.4	82.	13	14.	16	554.5	-72.5	.0	.0	.000	30	-.76	.00	30
KENTON	4766	1	44.9	30	1.0	81.	13	11.	16	603.5	-29.5	.0	.0	.001	30	-.53	.00	2
LAVERNE	5045	1	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	-.99	.00	30
OPTIMA LAKE	6740	1	45.5	29	*****	83.	13	12.	28	566.5	*****	.0	*****	.000	29	*****	.00	30
RANGE	7412	1	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	*****	.00	30
REGNIER	7534	1	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	-.51	.00	30
TURPIN 4 SSE	9017	1	45.1	30	*****	81.	13	14.	16	596.5	*****	.0	*****	.000	30	*****	.00	30

NOVEMBER 1989 SUMMARY FOR NORTH CENTRAL DIVISION (CD2)

NAME	ID	CD	DEV						HEAT DEG	DEV FROM	COOL DEG	DEV FROM	TOT PPT	NUM OBS	DEV FROM	MAX 24-HR	DAY	
			MEAN TEMP	NUM OBS	FROM NORM	MAX TEMP	MIN DAY	TEMP DAY										
ALVA	193	2	49.7	30	*****	85.	11	18.	28	464.0	*****	4.0	*****	.000	30	*****	.00	30
VANCE AFB	302	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.030	29	*****	.03	2
BILLINGS	755	2	50.3	30	*****	79.	12	13.	29	449.5	*****	7.5	*****	.002	30	-1.89	.00	22
BLACKWELL 2E	818	2	48.2	30	*****	78.	11	18.	29	504.0	*****	1.0	*****	.002	30	*****	.00	22
BRAMAN	1075	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.061	30	*****	.06	2
CHEROKEE	1724	2	48.6	30	1.3	83.	11	16.	29	494.5	-36.5	2.5	2.5	.000	30	-1.28	.00	30
ENID	2912	2	49.4	30	.9	81.	11	20.	28	470.5	-24.5	3.5	3.5	.040	30	-1.74	.04	2
FREEDOM	3358	2	46.7	30	*****	86.	11	13.	23	550.0	*****	.0	*****	.000	30	*****	.00	30
GREAT SALT PLNS	3740	2	48.7	30	*****	87.	12	18.	29	495.5	*****	6.0	*****	.002	30	-1.45	.00	22
HARDY	3909	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.001	30	*****	.00	21
HELENA 1 SSE	4019	2	45.5	30	*****	83.	12	15.	29	585.5	*****	.0	*****	.002	30	-1.54	.00	22
JEFFERSON	4573	2	48.1	30	.3	85.	11	12.	29	508.5	-7.5	2.0	2.0	.001	30	-1.92	.00	1
LAMONT	5013	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.020	30	*****	.02	2
MEDFORD	5768	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.011	30	*****	.01	8
MORRISON	6065	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.040	30	*****	.04	22
MUTUAL	6139	2	47.2	30	.6	84.	12	19.	29	533.5	-18.5	.5	.5	.001	30	-1.15	.00	22
NEWKIRK	6278	2	49.7	30	2.3	78.	12	19.	29	460.5	-67.5	1.5	1.5	.031	30	-1.91	.03	22
ORIENTA	6751	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	*****	.00	30
PERRY	7012	2	45.7	30	-3.9	70.	6	14.	29	580.0	118.0	.0	.0	.040	30	-1.76	.04	2
PONCA CITY FAA	7201	2	50.4	29	3.8	81.	11	17.	29	427.5	-124.5	3.5	3.5	.021	30	-2.03	.02	2
RED ROCK 1 NNE	7505	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	-1.72	.00	30
RENFROW	7556	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.010	30	-1.69	.01	22
WAYNOKA	9404	2	47.9	30	-.0	86.	11	14.	29	516.5	3.5	2.5	2.5	.000	30	-1.28	.00	30
WOODWARD	9760	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	*****	.00	30

NOVEMBER 1989 SUMMARY FOR NORTHEAST DIVISION (CD3)

NAME	ID	CD	DEV				HEAT			DEV		COOL		DEV		TOT PPT	NUM OBS	FROM NORM	MAX	24-HR DAY
			MEAN TEMP	NUM OBS	FROM NORM	MAX TEMP	DEG DAY	FROM NORM	DEG DAY	FROM NORM	DEG DAY	FROM NORM	FROM NORM	FROM NORM						
BARNSDALL	535	3	51.3	30	*****	85.	11	13.	29	417.5	*****	6.0	*****	.050	30	-2.27	.05	22		
BARTLESVILLE ZW	548	3	50.5	30	2.2	86.	11	13.	29	440.0	-61.0	5.0	5.0	.060	30	-2.19	.06	22		
BIXBY	782	3	50.2	30	1.5	84.	12	15.	30	451.5	-37.5	7.5	7.5	.040	30	-2.69	.04	22		
BURBANK	1256	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	*****	.00	30		
CHELSEA 4 S	1717	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.560	30	*****	.52	23		
CLAREMORE	1828	3	49.0	27	*****	85.	12	15.	30	438.0	*****	6.0	*****	.023	30	-2.77	.02	22		
CLEVELAND 5 WSW	1902	3	53.8	28	*****	85.	11	17.	29	324.0	*****	11.5	*****	.010	28	*****	.01	22		
FORAKER	3250	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.002	30	-2.37	.00	20		
HOLLOW	4258	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	-2.99	.00	30		
HOMINY	4289	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.020	30	-2.04	.02	22		
JAY TOWER	4567	3	52.8	30	*****	84.	12	17.	29	380.5	*****	15.0	*****	.470	30	*****	.47	22		
KANSAS 1 ESE	4672	3	51.0	27	*****	80.	11	18.	29	381.5	*****	3.0	*****	.250	30	*****	.25	22		
KEYSTONE DAM	4812	3	50.3	23	*****	83.	13	16.	29	351.0	*****	12.5	*****	.003	23	*****	.00	27		
LENAPAH	5118	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	*****	.00	30		
MANNFORD 6 NW	5522	3	53.1	30	*****	86.	11	13.	29	374.5	*****	18.5	*****	.001	30	-2.20	.00	20		
MARAMEC	5540	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.091	30	-1.92	.09	21		
MIAMI	5855	3	49.9	30	1.5	83.	13	15.	29	457.0	-41.0	4.5	4.5	.000	30	-2.95	.00	30		
NOWATA	6485	3	51.1	27	*****	84.	11	14.	29	382.5	*****	7.0	*****	.400	30	-2.15	.40	21		
ONETA 1 WNW	6713	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.150	30	*****	.15	22		
PAWHUSKA	6935	3	50.0	30	2.0	84.	12	14.	29	452.5	-57.5	4.0	4.0	.031	30	-2.00	.03	22		
PAWHUSKA	6937	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.001	30	*****	.00	22		
PAWNEE	6940	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.030	30	-1.85	.03	22		
PRYOR 6 N	7309	3	48.6	29	.4	84.	12	13.	30	481.0	-23.0	6.0	6.0	.120	30	-2.78	.12	22		
QUAPAW	7358	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.150	30	-2.73	.15	22		
RALSTON	7390	3	51.2	30	*****	88.	11	13.	29	418.0	*****	3.5	*****	.001	30	-1.95	.00	22		
RAMONA 4 N	7394	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	*****	.00	30		
SKIATOOK	8258	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	-2.35	.00	30		
SPAVINAW	8380	3	55.2	28	*****	81.	12	20.	29	289.5	*****	14.5	*****	.220	28	*****	.22	22		
TULSA WSO APT	8992	3	54.4	30	5.2	85.	11	22.	29	341.5	-132.5	23.0	23.0	.151	30	-2.41	.15	22		
UPPER SPAVINAW	9101	3	55.6	25	*****	82.	14	20.	30	263.5	*****	29.0	*****	.001	27	*****	.00	5		
VINITA 2 N	9203	3	51.6	30	3.7	82.	11	12.	29	422.0	-91.0	19.5	19.5	.200	30	-2.76	.20	22		
WAGONER	9247	3	54.6	30	4.5	84.	11	17.	29	335.0	-112.0	23.5	23.5	.370	30	-2.83	.37	22		
WANN	9298	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.001	30	*****	.00	21		
WYONONA	9792	3	55.3	30	*****	83.	12	20.	29	314.5	*****	22.0	*****	.060	30	*****	.06	22		

NOVEMBER 1989 SUMMARY FOR WEST CENTRAL DIVISION (CD4)

NAME	ID	CD	DEV				HEAT			DEV		COOL		DEV		TOT PPT	NUM OBS	FROM NORM	MAX	24-HR DAY
			MEAN TEMP	NUM OBS	FROM NORM	MAX TEMP	DEG DAY	FROM NORM	DEG DAY	FROM NORM	DEG DAY	FROM NORM	FROM NORM	FROM NORM						
CANTON DAM	1445	4	47.6	24	*****	82.	13	17.	24	420.0	*****	3.5	*****	.001	24	*****	.00	2		
CHEYENNE	1738	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	*****	.00	30		
CLINTON	1909	4	51.8	30	3.3	83.	10	17.	29	395.5	-99.5	.0	.0	.000	30	-1.47	.00	30		
COLONY	2039	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	*****	.00	30		
CORDELL	2125	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	-1.39	.00	30		
ELK CITY 1 E	2849	4	51.1	23	*****	80.	11	21.	28	319.5	*****	.0	*****	.000	23	*****	.00	30		
ERICK 4 E	2944	4	50.1	30	1.7	83.	20	19.	29	447.5	-50.5	.5	.5	.000	30	-.99	.00	30		
GEARY	3497	4	49.9	26	*****	79.	10	19.	23	392.0	*****	.0	*****	.000	26	*****	.00	30		
HAMMON 1 NNE	3871	4	48.2	30	.7	88.	11	15.	23	509.5	-15.5	5.5	5.5	.000	30	-1.39	.00	30		
LEEDEY	5090	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	-1.33	.00	30		
MACKIE 4 NNW	5463	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	*****	.00	30		
MORAVIA 2 NNE	6035	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	-1.05	.00	30		
OKEENE	6629	4	50.6	30	1.5	82.	11	17.	29	436.5	-40.5	5.5	5.5	.000	30	-1.60	.00	30		
RETROP	7565	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	*****	.00	30		
REYDON	7579	4	50.3	30	*****	84.	11	17.	23	441.5	*****	.0	*****	.000	30	-.96	.00	30		
SAYRE	7952	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	-1.09	.00	30		
SWEETWATER 2 E	8652	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	*****	.00	30		
TALOGA	8708	4	49.0	30	2.0	83.	9	10.	29	480.5	-59.5	.0	.0	.000	30	-1.47	.00	30		
THOMAS	8815	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	*****	.00	30		
VICI	9172	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	*****	.00	30		
WATONGA	9364	4	50.2	30	*****	81.	10	19.	29	446.5	*****	2.5	*****	.001	30	-1.42	.00	2		
WEATHERFORD	9422	4	50.4	30	1.5	82.	11	19.	29	438.5	-44.5	.5	.5	.000	30	-1.36	.00	30		

NOVEMBER 1989 SUMMARY FOR CENTRAL DIVISION (CD5)

NAME	ID	CD	DEV				MIN		HEAT	DEV	COOL	DEV	DEV					
			MEAN	NUM	FROM	MAX	DAY	TEMP	DAY	DEG	FROM	DEG	FROM	TOT	NUM	FROM	MAX	
			TEMP	OBS	NORM	TEMP	DAY	TEMP	DAY	DAY	NORM	DAY	NORM	PPT	OBS	NORM	24-HR	DAY
AMBER	200	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.020	30	*****	.02	2
ARCADIA	288	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.080	30	*****	.08	2
TINKER AFB	325	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.080	29	*****	.08	2
BLANCHARD 2 SSW	830	5	53.2	30	*****	81.	10	20.	29	361.0	*****	6.0	*****	.001	30	*****	.00	3
BRISTOW	1144	5	54.0	30	4.3	84.	11	15.	29	345.0	-119.0	13.5	8.5	.060	30	-2.27	.04	2
CHANDLER	1684	5	53.5	30	3.1	84.	11	19.	29	356.0	-87.0	12.5	12.5	.000	30	-2.09	.00	30
CHICKASHA EX ST	1750	5	52.7	30	2.7	83.	10	17.	29	373.0	-77.0	4.5	4.5	.060	30	-1.49	.03	22
COX CITY 1 E	2196	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.002	30	*****	.00	22
CRESCENT	2242	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	*****	.00	30
CUSHING	2318	5	51.2	30	2.3	83.	11	22.	29	421.5	-61.5	7.5	7.5	.000	30	-2.01	.00	30
EL RENO 1 N	2818	5	51.4	30	2.9	81.	11	20.	23	410.5	-84.5	3.0	3.0	.000	30	-1.64	.00	30
GUTHRIE	3821	5	52.6	30	3.3	83.	12	19.	29	380.5	-90.5	7.5	7.5	.170	30	-1.63	.10	22
HENNESSEY 2 SE	4055	5	49.0	30	.5	79.	10	17.	29	482.5	-12.5	1.5	1.5	.060	30	-1.57	.06	2
INGALLS	4489	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.050	30	*****	.03	2
KINGFISHER 2 SE	4861	5	50.4	30	1.5	81.	11	18.	29	437.0	-46.0	.0	.0	.030	30	-1.50	.03	22
KONAWA	4915	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.090	30	-2.05	.09	22
MARSHALL	5589	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	-1.63	.00	30
MEEKER 4 W	5779	5	53.2	30	3.9	82.	20	16.	29	366.5	-104.5	13.5	13.5	.040	30	-2.01	.04	22
MULHALL	6110	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.070	30	*****	.07	2
NORMAN 3 S	6386	5	53.0	30	*****	82.	10	19.	29	364.0	*****	5.5	*****	.160	30	-1.88	.10	2
OILTON 2 SE	6616	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.180	30	*****	.18	14
OKEMAH	6638	5	53.8	30	3.1	82.	11	23.	29	346.0	-83.0	11.5	11.5	.010	30	-2.43	.01	2
OKLAHOMA CTY WS	6661	5	53.6	30	4.8	81.	11	23.	29	351.0	-135.0	8.0	8.0	.092	30	-1.44	.07	2
PERKINS	7003	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	-2.07	.00	30
PIEDMONT	7068	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.090	30	*****	.09	2
PRAGUE	7264	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.050	30	-2.16	.05	2
PURCELL 5 SW	7327	5	52.3	30	2.8	82.	10	16.	29	384.5	-82.5	5.0	5.0	.300	30	-1.76	.15	22
SEMINOLE	8042	5	54.6	30	2.9	81.	11	20.	29	324.0	-80.0	12.5	7.5	.001	30	-2.52	.00	2
SHAWNEE	8110	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.050	30	-2.29	.03	2
STELLA	8479	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.060	30	*****	.06	22
STILLWATER 2 W	8501	5	50.0	30	1.1	83.	11	14.	29	449.5	-33.5	.0	.0	.001	30	-1.78	.00	2
STROUD 1 N	8563	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.081	30	*****	.08	2
TECUMSEH	8751	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	*****	.00	30
TROUSDALE	8960	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.590	30	*****	.49	3
UNION CITY 1 SE	9086	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	-2.06	.00	30
WELTY 1 SSE	9479	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	*****	.00	30
WEWOKA	9575	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.400	30	-1.83	.40	22

NOVEMBER 1989 SUMMARY FOR EAST CENTRAL DIVISION (CD6)

NAME	ID	CD	DEV						HEAT	DEV	COOL	DEV	DEV					
			MEAN	NUM	FROM	MAX	MIN	DAY	DEG	FROM	DEG	FROM	TOT	NUM	FROM	MAX		
			TEMP	OBS	NORM	TEMP	DAY	TEMP	DAY	DAY	NORM	DAY	NORM	PPT	OBS	NORM	24-HR	DAY
ASHLAND	364	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.901	30	*****	.55	22
BEGGS	631	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	*****	.00	30
BOYNTON	1027	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.380	30	*****	.38	22
CALVIN	1391	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.642	30	-2.05	.64	22
CHECOTAH	1711	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.560	30	-2.28	.54	22
CLAYTON 11 WNW	1858	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.400	30	*****	.40	22
DEWAR 2 NE	2485	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.060	30	-2.63	.06	20
DUSTIN	2690	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.650	30	*****	.65	22
EUFULA	2993	6	54.6	30	*****	82.	10	24.	29	335.5	*****	24.0	*****	1.011	30	-1.95	.75	22
HANNA	3884	6	53.5	30	*****	85.	10	18.	29	362.0	*****	16.5	*****	.550	30	-2.39	.41	22
HARTSHORNE	3946	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.460	30	*****	.32	22
HASKELL	3956	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.150	30	-2.74	.15	22
HOLDENVILLE	4235	6	53.8	30	2.4	83.	10	19.	29	348.5	-64.5	13.5	13.5	.400	30	-2.00	.40	22
LAKE EUFAULA	4975	6	54.1	30	*****	86.	7	24.	23	349.5	*****	23.5	*****	.030	29	*****	.03	24
LYONS 2 N	5437	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.460	30	-2.49	.46	22
MARBLE CITY	5546	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.252	30	*****	.25	22
MCALESTER FAA	5664	6	55.5	30	4.8	84.	6	21.	29	310.5	-122.5	27.0	20.0	.460	30	-2.61	.34	23
MCCURTAIN 1 SE	5693	6	56.6	30	*****	85.	11	19.	17	298.0	*****	46.0	*****	.400	30	-3.18	.30	23
MUSKOGEE	6130	6	54.4	30	4.3	84.	11	19.	29	335.5	-111.5	17.0	17.0	.210	30	-2.77	.21	22
OKMULGEE W W	6670	6	51.6	30	1.0	85.	10	14.	30	409.5	-22.5	7.5	7.5	.100	30	-2.53	.10	22
OKTAHA 2 NE	6678	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.250	30	*****	.25	22
QUINTON	7372	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.491	30	-2.75	.49	23
SALLISAW 2 NE	7862	6	51.7	30	1.0	86.	11	16.	29	408.5	-25.5	10.0	5.0	.870	30	-2.54	.87	23
SCIPIO	7979	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.620	30	*****	.47	22
SCRAPER	7993	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.380	30	*****	.38	22
SHORT	8170	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.630	30	*****	.63	22
STILLWELL 1 NE	8506	6	52.5	30	*****	82.	11	17.	29	391.0	*****	16.0	*****	.681	30	-2.57	.65	22
TAHLEQUAH	8677	6	53.7	30	7.4	84.	11	15.	29	355.0	-121.0	14.5	9.5	.620	30	-2.58	.62	22
WEBBERS FALLS	9445	6	51.3	30	2.0	85.	7	17.	29	416.0	-55.0	6.5	6.5	.600	30	-2.39	.60	22
WESTVILLE	9523	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.430	30	*****	.43	22
WETUMKA 3 NE	9571	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.472	30	-2.30	.47	22

NOVEMBER 1989 SUMMARY FOR SOUTHWEST DIVISION (CD7)

NAME	ID	CD	DEV						HEAT	DEV	COOL	DEV	DEV					
			MEAN	NUM	FROM	MAX	MIN	DAY	DEG	FROM	DEG	FROM	TOT	NUM	FROM	MAX		
			TEMP	OBS	NORM	TEMP	DAY	TEMP	DAY	DAY	NORM	DAY	NORM	PPT	OBS	NORM	24-HR	DAY
ALTUS IRR STA	179	7	53.3	30	2.1	83.	6	17.	29	352.5	-61.5	.5	.5	.000	30	-1.02	.00	30
ALTUS DAM	184	7	51.2	30	*****	83.	12	19.	30	419.5	*****	4.0	*****	.000	30	-1.02	.00	30
ANADARKO	224	7	52.6	21	*****	81.	10	11.	29	267.5	*****	7.5	*****	.000	30	-1.58	.00	30
APACHE	260	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	*****	.00	30
ALTUS AFB	447	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.001	29	*****	.00	23
CARNEGIE 2 ENE	1504	7	51.1	30	1.6	82.	11	15.	29	421.0	-44.0	3.0	3.0	.000	30	-1.32	.00	30
CHATTANOOGA	1706	7	52.8	30	1.9	83.	6	19.	29	369.5	-53.5	3.5	3.5	.130	30	-1.24	.13	22
DUNCAN 12 W	2668	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.001	30	*****	.00	23
FREDERICK	3353	7	51.8	30	-.5	82.	7	26.	27	399.5	10.5	2.0	-3.0	.001	30	-1.41	.00	21
GRANDFIELD 4 NW3709	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	-1.55	.00	30	
HOBART FAA APT	4204	7	51.8	30	3.3	81.	10	19.	29	397.0	-98.0	.0	.0	.000	30	-1.08	.00	30
HOLLIS	4249	7	51.8	30	1.4	85.	14	17.	29	397.5	-40.5	1.0	1.0	.000	30	-.88	.00	30
LAWTON	5063	7	50.9	30	-.0	83.	6	22.	28	423.5	-4.5	.0	.0	.030	30	-1.72	.03	21
FORT SILL	5068	7	53.9	30	*****	83.	6	25.	29	336.0	*****	4.0	*****	.002	30	-1.75	.00	22
LOOKEBA 2 ENE	5329	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	*****	.00	30
MANGUM RES STA	5509	7	52.9	30	2.7	84.	6	16.	29	362.0	-82.0	.0	.0	.000	30	-.91	.00	30
ROOSEVELT	7727	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	-1.24	.00	30
SEDAN	8016	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	*****	.00	30
VINSON 3 WNW	9212	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	-1.02	.00	30
WALTERS	9278	7	54.8	30	3.1	84.	6	20.	29	316.0	-99.0	10.0	4.0	.120	30	-1.71	.12	22
WICHITA MT WLR	9629	7	49.8	30	.3	80.	21	18.	30	457.5	-7.5	.0	.0	.000	30	-1.54	.00	30
WILLOW	9668	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.000	30	*****	.00	30

NOVEMBER 1989 SUMMARY FOR SOUTH CENTRAL DIVISION (CD8)

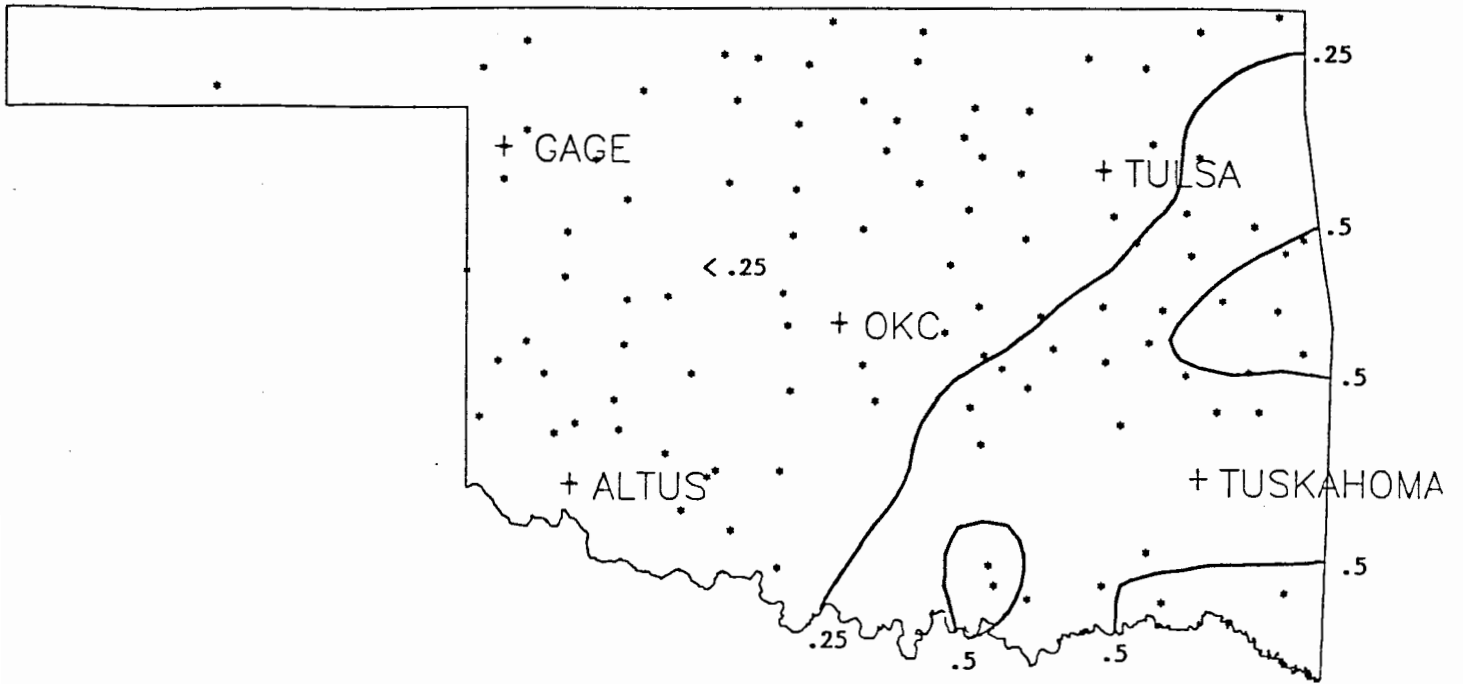
NAME	ID	CD	DEV					HEAT		DEV		COOL		DEV		TOT	DEV		
			MEAN	NUM	FROM	MAX	MIN	DEG	FROM	DEG	FROM	DEG	FROM	DEG	FROM		NUM	FROM	MAX
			TEMP	OBS	NORM	TEMP	DAY	TEMP	DAY	DAY	NORM	DAY	NORM	PPT	OBS	NORM	24-HR	DAY	
ADA	17	8	54.3	30	2.5	82.	10	21.	29	324.0	-80.0	3.5	-4.5	.310	30	-2.24	.31	22	
ALLEN	147	8	****	0	****	****	0	****	0	****	****	****	****	.000	30	****	.00	30	
ATOKA DAM	394	8	53.7	30	****	85.	7	17.	17	358.0	****	19.5	****	.300	30	****	.30	22	
BOKCHITO	917	8	****	0	****	****	0	****	0	****	****	****	****	.490	30	****	.49	24	
CANEY	1437	8	55.5	30	****	85.	6	28.	29	305.5	****	21.5	****	.350	30	****	.35	22	
CENIRAHOMA	1648	8	****	0	****	****	0	****	0	****	****	****	****	.750	30	****	.75	22	
CHICKASAW NRA	1745	8	52.0	30	****	84.	7	19.	29	401.5	****	12.5	****	.270	30	****	.25	22	
COMANCHE	2054	8	****	0	****	****	0	****	0	****	****	****	****	.002	30	****	.00	23	
DAISY 4 ENE	2354	8	****	0	****	****	0	****	0	****	****	****	****	.440	30	-2.92	.24	23	
DUNCAN	2660	8	51.8	30	-.2	82.	7	22.	29	400.5	3.5	3.5	-3.5	.110	30	-1.79	.09	22	
DURANT USDA	2678	8	53.6	30	****	85.	7	23.	17	356.0	****	14.0	****	.150	30	-2.65	.15	22	
ELMORE CITY	2872	8	****	0	****	****	0	****	0	****	****	****	****	.250	30	****	.15	2	
FARRIS 3 WNW	3083	8	****	0	****	****	0	****	0	****	****	****	****	.100	30	****	.09	22	
GRADY	3688	8	****	0	****	****	0	****	0	****	****	****	****	.360	30	****	.20	23	
HEALDTON	4001	8	54.1	25	****	86.	6	22.	29	285.0	****	11.5	****	.000	25	****	.00	30	
HENNEPIN	4052	8	****	0	****	****	0	****	0	****	****	****	****	.190	30	****	.19	22	
KETCHUM RANCH	4780	8	****	0	****	****	0	****	0	****	****	****	****	.050	30	****	.05	22	
KINGSTON	4865	8	****	0	****	****	0	****	0	****	****	****	****	.570	30	-1.96	.48	22	
LEHIGH	5108	8	****	0	****	****	0	****	0	****	****	****	****	.500	30	****	.50	22	
LINDSAY 2 W	5216	8	51.9	29	****	79.	10	17.	29	384.0	****	5.5	****	.070	29	****	.07	22	
LOCO 6 SE	5247	8	****	0	****	****	0	****	0	****	****	****	****	.110	30	****	.08	22	
MADILL	5468	8	55.9	30	2.9	85.	6	19.	3	303.0	-63.0	31.0	25.0	1.020	30	-1.44	1.02	22	
MARIETTA	5563	8	56.2	30	3.3	87.	6	26.	23	291.0	-80.0	27.0	19.0	.520	30	-1.94	.34	22	
MARLOW 1 WSW	5581	8	54.2	30	****	85.	21	18.	29	330.5	****	6.5	****	.050	30	-1.90	.02	23	
MCGEE CREEK DAM	5713	8	54.5	30	****	86.	7	25.	17	338.0	****	23.5	****	.230	30	****	.13	22	
OSWALT	6787	8	****	0	****	****	0	****	0	****	****	****	****	1.100	30	****	1.10	23	
PAULS VALLEY	6926	8	53.5	30	2.1	83.	10	17.	29	354.0	-59.0	10.0	10.0	.130	30	-2.04	.07	23	
PONTOTOC	7214	8	****	0	****	****	0	****	0	****	****	****	****	1.800	30	-1.09	1.80	22	
TISHOMINGO NWLR	8884	8	54.6	28	****	85.	5	24.	29	314.5	****	23.5	****	.610	30	-1.88	.61	22	
TUSSY	9032	8	****	0	****	****	0	****	0	****	****	****	****	.050	30	****	.05	22	
WAURIKA	9395	8	55.0	30	2.4	87.	7	23.	18	312.0	-67.0	12.0	5.0	.240	30	-1.69	.24	23	
WAURIKA DAM	9399	8	53.7	27	****	85.	7	29.	29	310.0	****	6.0	****	.010	27	****	.01	22	

NOVEMBER 1989 SUMMARY FOR SOUTHEAST DIVISION (CD9)

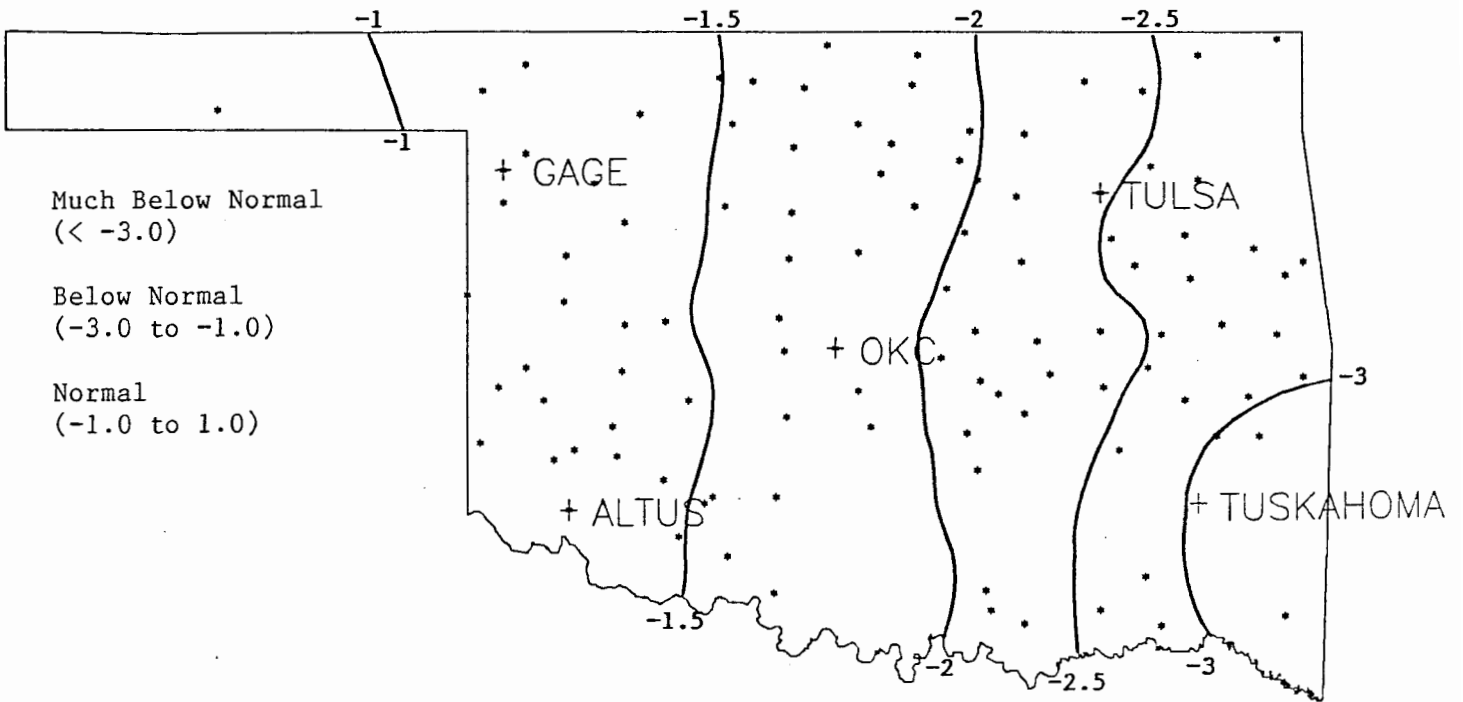
NAME	ID	CD	DEV					HEAT		DEV		COOL		DEV		TOT	DEV		
			MEAN	NUM	FROM	MAX	MIN	DEG	FROM	DEG	FROM	DEG	FROM	DEG	FROM		NUM	FROM	MAX
			TEMP	OBS	NORM	TEMP	DAY	TEMP	DAY	DAY	NORM	DAY	NORM	PPT	OBS	NORM	24-HR	DAY	
ANTLERS	256	9	54.9	30	3.1	86.	6	21.	17	329.5	-70.5	26.5	26.5	.000	30	-3.18	.00	30	
BATTLEST 1 SSW	567	9	54.2	30	****	84.	6	19.	17	350.5	****	25.5	****	.421	30	****	.42	22	
BEAR MT TWR	584	9	55.9	26	****	89.	5	21.	17	267.0	****	31.5	****	.530	27	****	.26	23	
BENGAL	670	9	****	0	****	****	0	****	0	****	****	****	****	.310	30	****	.28	23	
BOSWELL 4 NNW	980	9	58.9	30	****	86.	6	26.	17	237.0	****	53.0	****	.302	30	-2.72	.25	22	
BROKEN BOW 1 N	1162	9	****	0	****	****	0	****	0	****	****	****	****	.620	30	-3.40	.59	22	
BROKEN BOW DAM	1168	9	52.5	29	****	87.	6	23.	17	382.0	****	18.5	****	.730	30	****	.56	22	
CARNASAW TWR	1499	9	****	0	****	****	0	****	0	****	****	****	****	.560	30	-3.72	.37	23	
CANTER TWR	1544	9	****	0	****	****	0	****	0	****	****	****	****	.490	30	-3.33	.32	23	
FARSHAW	3065	9	****	0	****	****	0	****	0	****	****	****	****	.400	30	-3.55	.30	21	
FLAGPOLE TWR	3169	9	****	0	****	****	0	****	0	****	****	****	****	.060	30	****	.06	22	
HEAVENER 1 SE	4008	9	****	0	****	****	0	****	0	****	****	****	****	.400	30	-3.29	.40	16	
HEE MT TWR	4017	9	****	0	****	****	0	****	0	****	****	****	****	.640	30	****	.49	23	
HUGO	4384	9	56.7	30	3.3	85.	6	28.	17	291.0	-66.0	43.0	34.0	.531	30	-2.73	.30	21	
IDABEL	4451	9	54.9	30	2.3	85.	7	26.	24	338.0	-42.0	34.5	26.5	.560	30	-3.27	.44	23	
JADIE TOWER	4560	9	****	0	****	****	0	****	0	****	****	****	****	.920	30	****	.61	22	
POTEAU W W	7254	9	54.6	17	****	86.	6	17.	28	194.0	****	18.0	****	.830	30	****	.72	21	
SMITHVILLE 1 W	8285	9	50.6	30	****	84.	6	14.	17	448.0	****	16.5	****	.202	30	****	.20	22	
SOBAL TOWER	8305	9	****	0	****	****	0	****	0	****	****	****	****	.530	30	-2.88	.34	23	
SPIRO	8416	9	****	0	****	****	0	****	0	****	****	****	****	.611	30	-3.24	.38	23	
TUSKAHOMA	9023	9	55.0	30	****	86.	6	17.	17	330.5	****	29.0	****	.280	30	****	.23	23	
VALLIANT 3 W	9113	9	****	0	****	****	0	****	0	****	****	****	****	.470	30	-3.13	.32	23	
WILBURTON 9 ENE	9634	9	53.2	30	2.3	84.	10	17.	17	372.0	-56.0	18.0	18.0	.000	30	-3.58	.00	30	

NOVEMBER 1989 CLIMATE DIVISION SUMMARY

CLIMATE	MEAN	NUM	DEV			HEAT			DEV			DEV				
			FROM	MAX	MIN	DEGREE	FROM	DEGREE	FROM	TOT	NUM	FROM	MAX			
DIV	TEMP	STA	NORM	TEMP	DAY	TEMP	DAY	DAYS	NORM	DAYS	NORM	PPT	STA	NORM	24-HR	DAY
1	46.6	10	1.7	85.0	11	11.0	16	549.0	-55.5	.3	.3	.00	14	-.84	.00	2
2	48.3	14	.6	87.0	12	12.0	29	502.9	-15.8	2.5	2.5	.01	23	-1.64	.06	2
3	51.8	13	3.2	88.0	11	12.0	29	406.6	-86.0	12.2	12.2	.11	30	-2.42	.52	23
4	50.1	8	1.8	88.0	11	10.0	29	449.5	-50.8	1.8	1.8	.00	19	-1.32	.00	2
5	52.4	16	2.9	84.0	11	14.0	29	384.5	-81.5	7.0	6.3	.08	36	-1.91	.49	3
6	53.6	12	3.7	86.0	11	14.0	30	360.0	-83.8	18.5	16.1	.47	30	-2.50	.87	23
7	52.2	12	1.7	85.0	14	11.0	29	387.6	-51.9	2.3	1.3	.01	21	-1.32	.13	22
8	54.0	13	1.7	87.0	7	17.0	29	342.9	-45.4	14.6	8.6	.38	29	-2.02	1.80	22
9	54.5	9	2.4	89.0	5	14.0	17	342.1	-49.2	29.4	25.1	.45	22	-3.21	.72	21



NOVEMBER 1989 TOTAL PRECIPITATION
(Inches)

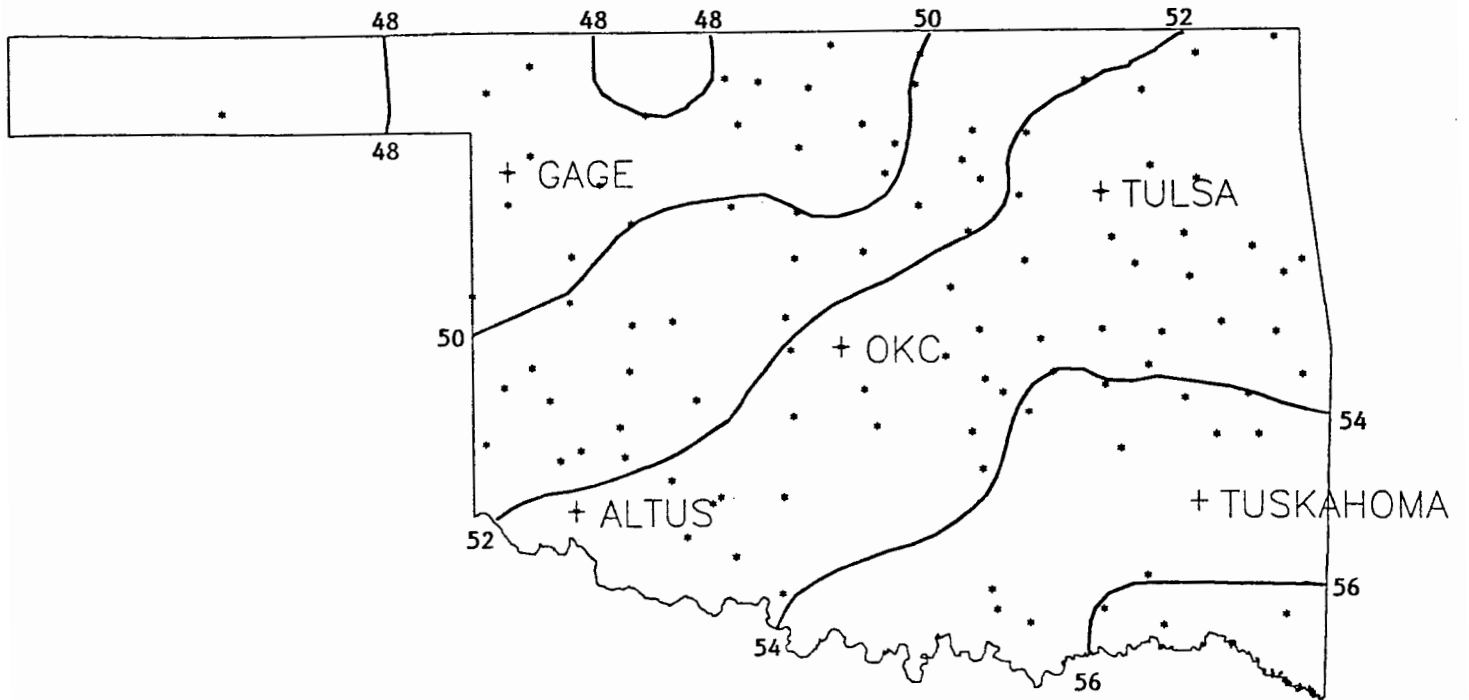


Much Below Normal
(< -3.0)

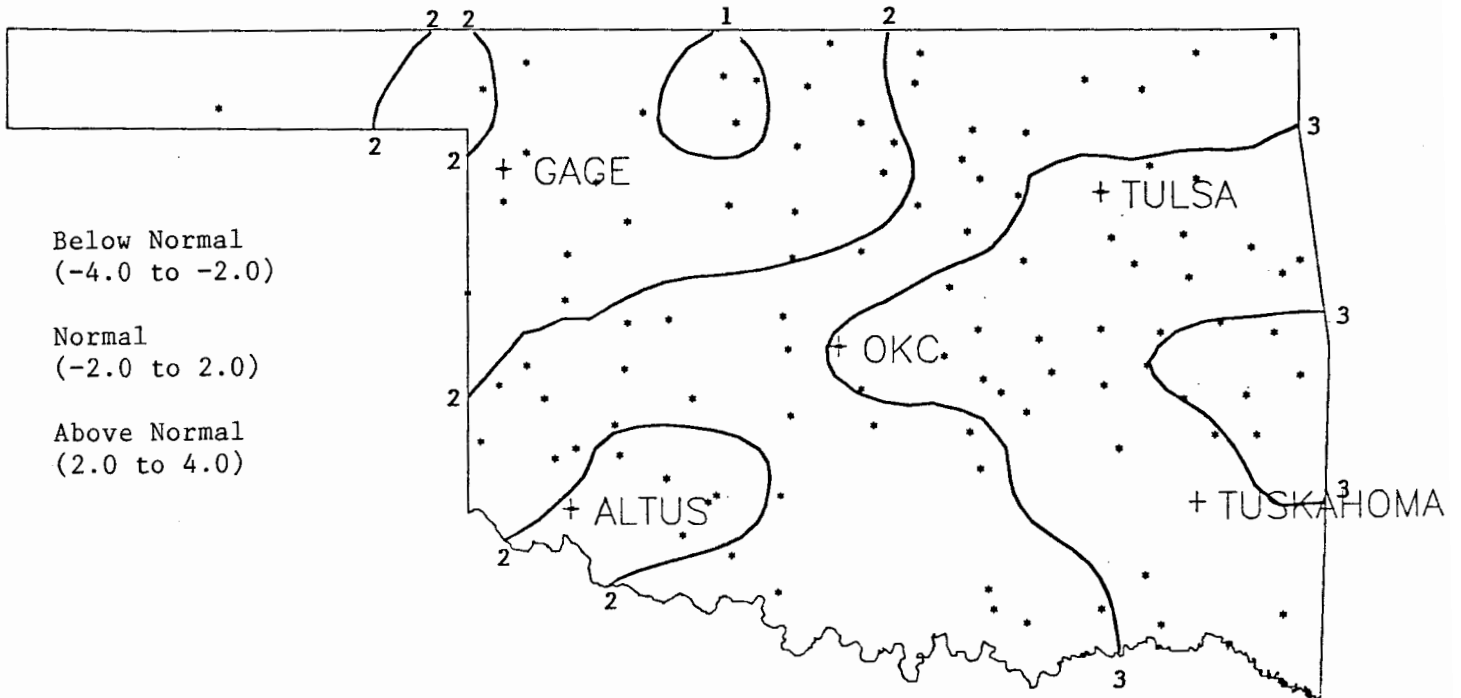
Below Normal
(-3.0 to -1.0)

Normal
(-1.0 to 1.0)

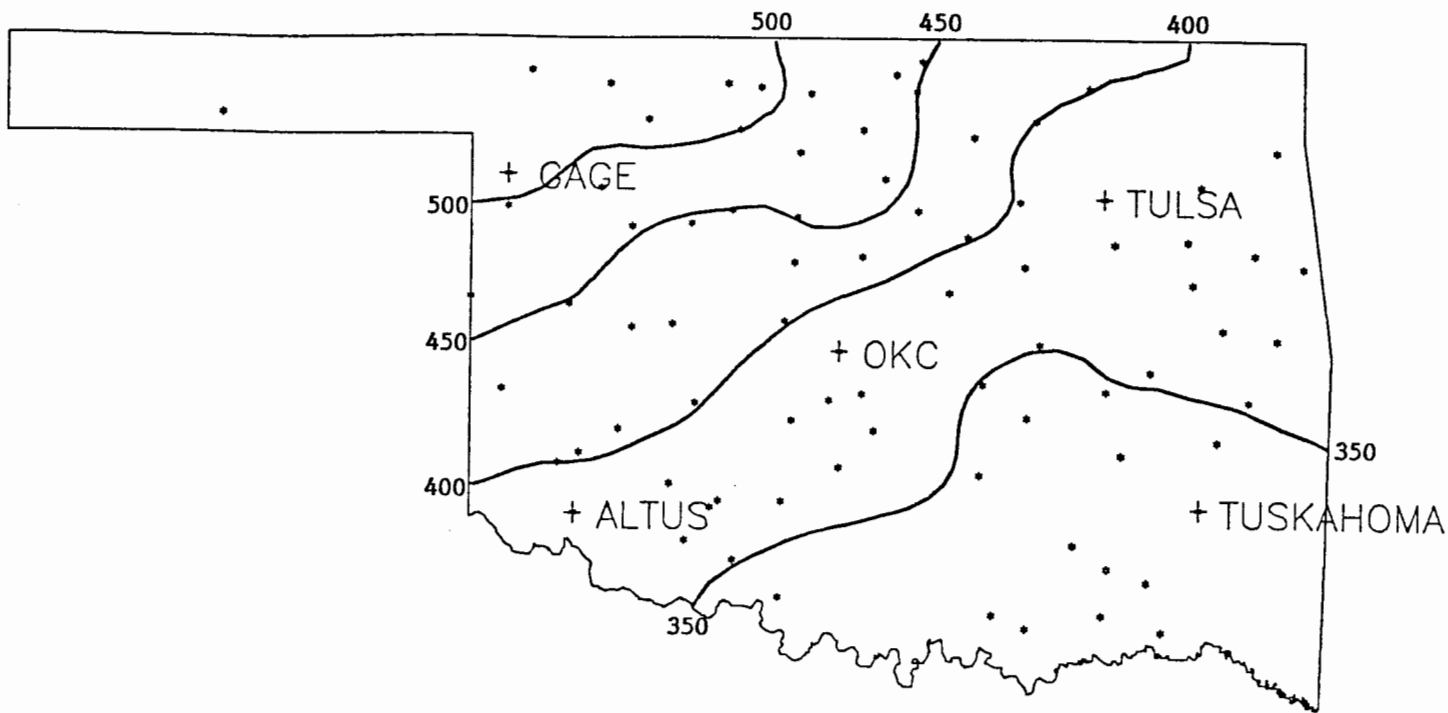
NOVEMBER 1989 DEVIATION FROM NORMAL PRECIPITATION
(Inches)



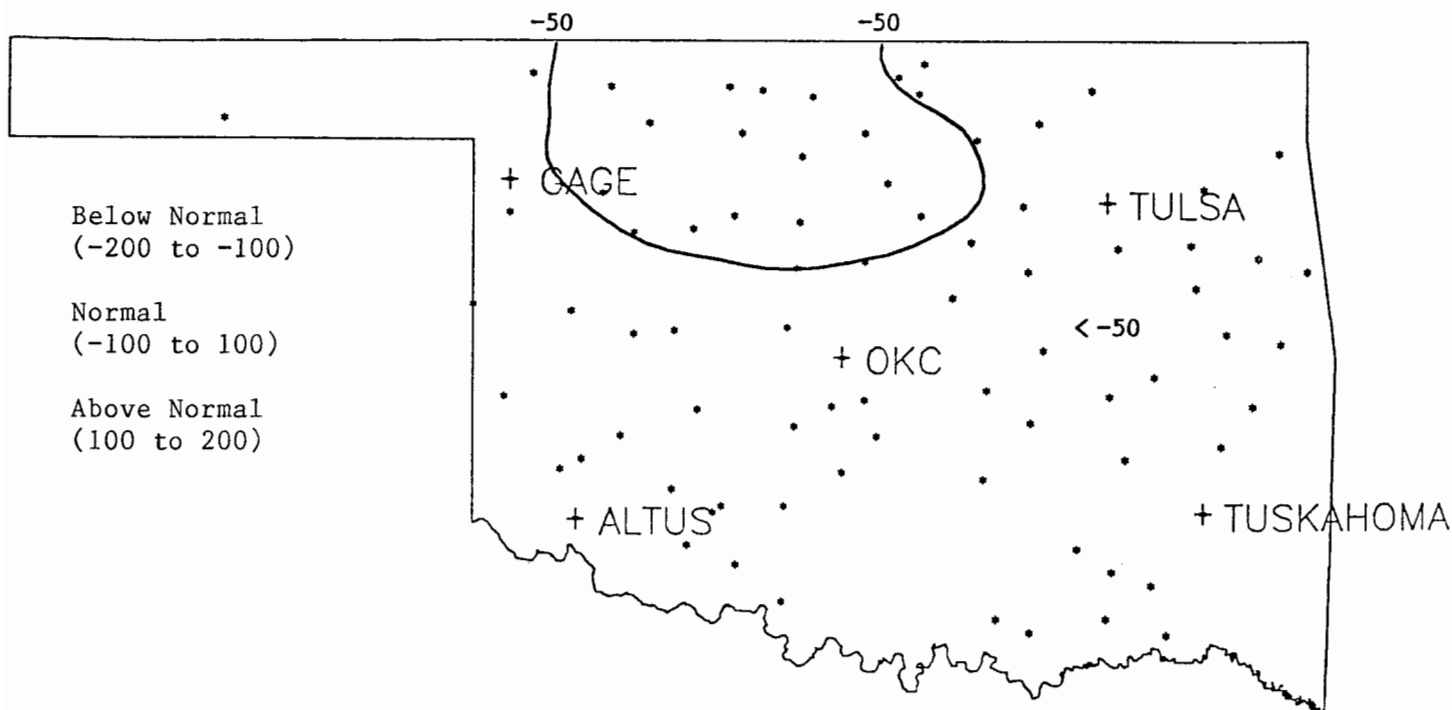
NOVEMBER 1989 AVERAGE MONTHLY TEMPERATURES
(Degrees F)



NOVEMBER 1989 DEVIATION FROM NORMAL TEMPERATURES
(Degrees F)

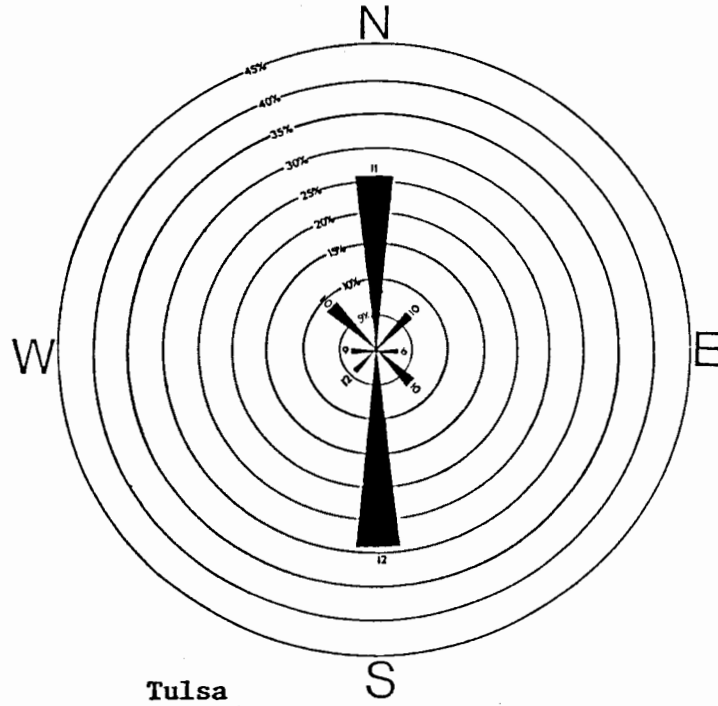
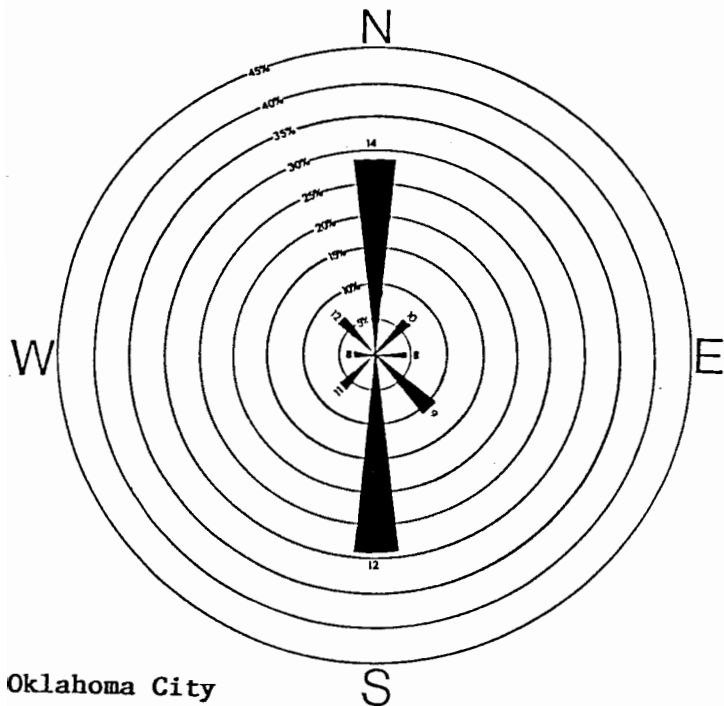


NOVEMBER 1989 HEATING DEGREE DAYS



NOVEMBER 1989 DEVIATION FROM NORMAL HEATING DEGREE DAYS

January 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.



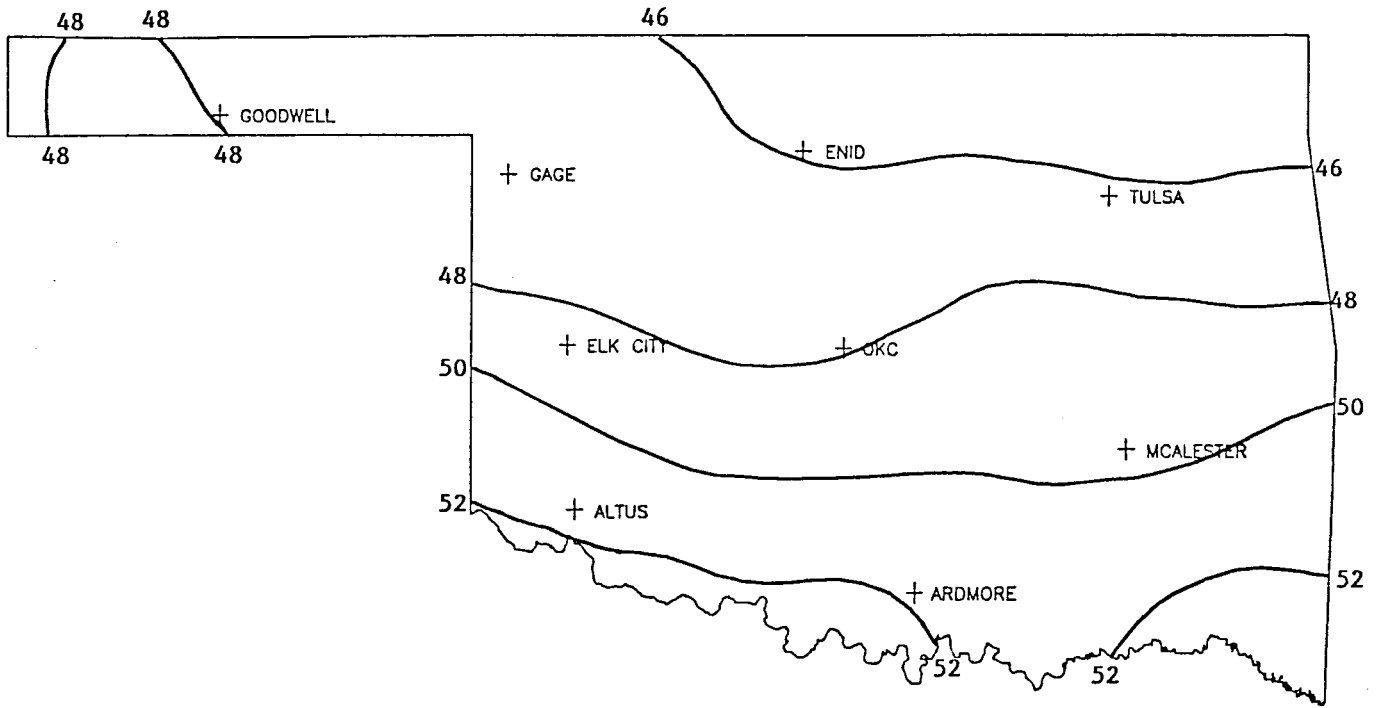
JANUARY 1990 SUNRISE AND SUNSET

Oklahoma City

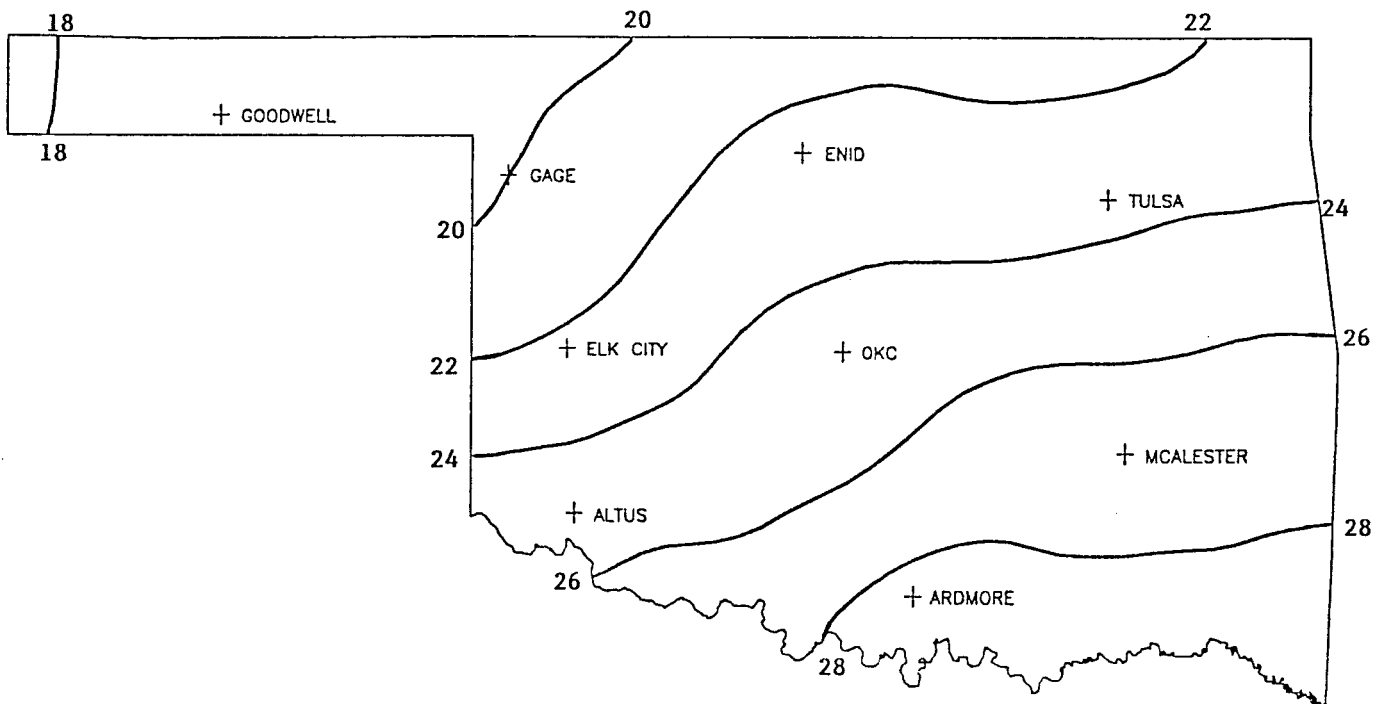
DATE	SUNRISE	SUNSET	DAYLIGHT
900101	7:38AM	5:30PM LT	9:53
900102	7:38AM	5:31PM LT	9:53
900103	7:38AM	5:31PM LT	9:54
900104	7:38AM	5:32PM LT	9:54
900105	7:38AM	5:33PM LT	9:55
900106	7:38AM	5:34PM LT	9:56
900107	7:38AM	5:35PM LT	9:56
900108	7:38AM	5:35PM LT	9:57
900109	7:38AM	5:36PM LT	9:58
900110	7:38AM	5:37PM LT	9:59
900111	7:38AM	5:38PM LT	9:60
900112	7:38AM	5:39PM LT	10: 1
900113	7:38AM	5:40PM LT	10: 2
900114	7:38AM	5:40PM LT	10: 3
900115	7:38AM	5:41PM LT	10: 4
900116	7:37AM	5:42PM LT	10: 5
900117	7:37AM	5:43PM LT	10: 6
900118	7:37AM	5:44PM LT	10: 7
900119	7:37AM	5:45PM LT	10: 8
900120	7:36AM	5:46PM LT	10:10
900121	7:36AM	5:47PM LT	10:11
900122	7:35AM	5:48PM LT	10:12
900123	7:35AM	5:49PM LT	10:14
900124	7:35AM	5:50PM LT	10:15
900125	7:34AM	5:51PM LT	10:17
900126	7:34AM	5:52PM LT	10:18
900127	7:33AM	5:53PM LT	10:20
900128	7:32AM	5:54PM LT	10:21
900129	7:32AM	5:55PM LT	10:23
900130	7:31AM	5:56PM LT	10:24
900131	7:31AM	5:57PM LT	10:25

Tulsa

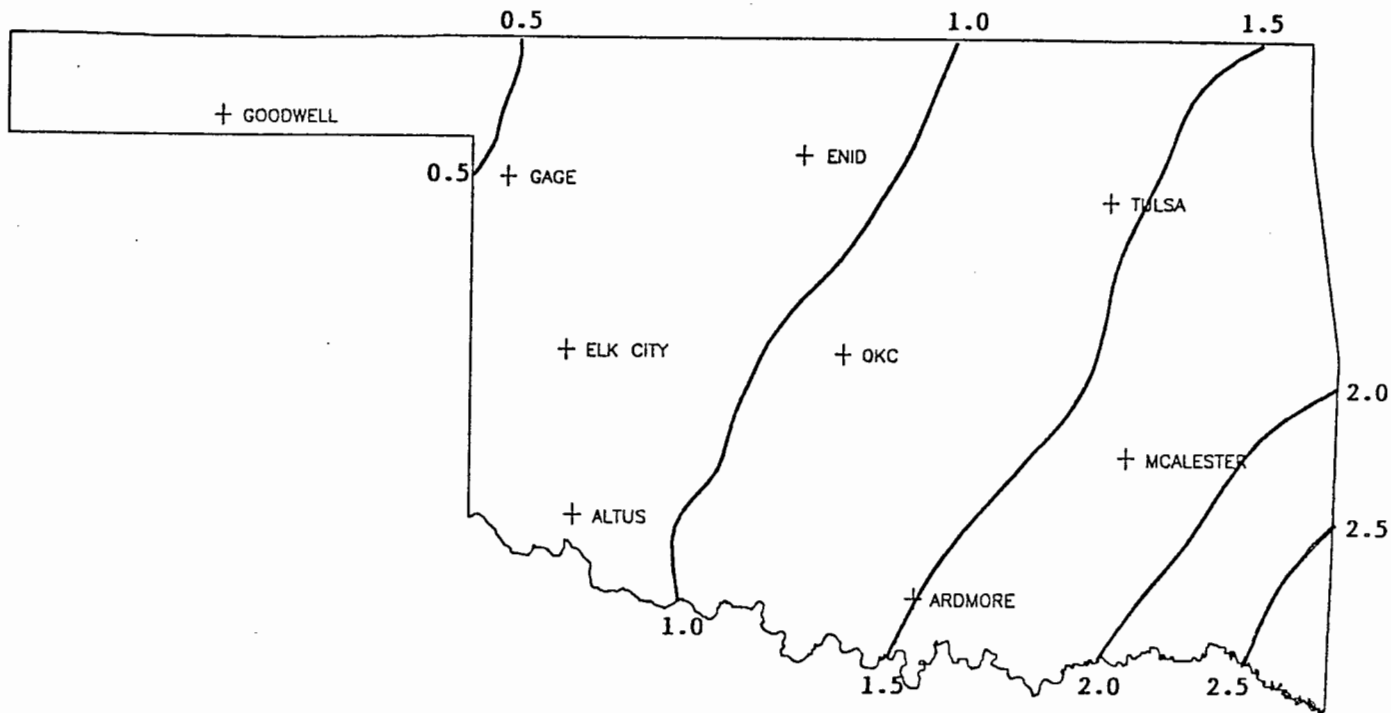
DATE	SUNRISE	SUNSET	DAYLIGHT
900101	7:33AM	5:21PM LT	9:49
900102	7:33AM	5:22PM LT	9:49
900103	7:33AM	5:23PM LT	9:50
900104	7:33AM	5:23PM LT	9:50
900105	7:33AM	5:24PM LT	9:51
900106	7:33AM	5:25PM LT	9:52
900107	7:33AM	5:26PM LT	9:52
900108	7:33AM	5:27PM LT	9:53
900109	7:33AM	5:27PM LT	9:54
900110	7:33AM	5:28PM LT	9:55
900111	7:33AM	5:29PM LT	9:56
900112	7:33AM	5:30PM LT	9:57
900113	7:33AM	5:31PM LT	9:58
900114	7:33AM	5:32PM LT	9:59
900115	7:33AM	5:33PM LT	10: 0
900116	7:32AM	5:34PM LT	10: 1
900117	7:32AM	5:35PM LT	10: 2
900118	7:32AM	5:35PM LT	10: 4
900119	7:31AM	5:36PM LT	10: 5
900120	7:31AM	5:37PM LT	10: 6
900121	7:31AM	5:38PM LT	10: 8
900122	7:30AM	5:39PM LT	10: 9
900123	7:30AM	5:40PM LT	10:10
900124	7:29AM	5:41PM LT	10:12
900125	7:29AM	5:42PM LT	10:13
900126	7:28AM	5:43PM LT	10:15
900127	7:28AM	5:44PM LT	10:17
900128	7:27AM	5:45PM LT	10:18
900129	7:27AM	5:46PM LT	10:20
900130	7:26AM	5:47PM LT	10:21
900131	7:25AM	5:48PM LT	10:22



30-YEAR MEAN JANUARY DAILY MAXIMUM TEMPERATURE



30-YEAR MEAN JANUARY DAILY MINIMUM TEMPERATURE



30-YEAR MEAN JANUARY PRECIPITATION

30- and 90-DAY NATIONAL WEATHER SERVICE OUTLOOK

30-DAY OUTLOOK (DECEMBER)

Precipitation - Below Normal Statewide
Temperature - Near Normal Statewide

90-DAY OUTLOOK (DECEMBER-FEBRUARY)

Precipitation - Below Normal Near OK & TX Panhandles
Near Normal Elsewhere
Temperature - Near Normal Statewide

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

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

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

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

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

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

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

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

EXPLANATION OF MAPS

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

