OKLAHOMA

MONTHLY SUMMARY

February 1989

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FEBRUARY 1989 OKLAHOMA SUMMARY

Record-breaking cold weather during the first week of the month contributed to the 6th coldest Oklahoma February on record (see Table 1). The extreme cold was directly responsible for at least 2 deaths in the State. This month also ranked as the 11th wettest February in Oklahoma records. All of the State (except Climate Division 2) experienced a second consecutive month of above normal precipitation, although the Panhandle, where soil moisture is at near-critical levels for wheat development, averaged only 1.02 inches.

One of the coldest arctic air masses on record entered the State on February 1. Temperatures fell 15-25 degrees in several hours during the middle of the day. Many stations reported record-breaking low temperatures (Table 2) between the 2nd and 5th of February. Winds in excess of 25 mph combined with the cold air to produce wind chill temperatures 20 to 40 degrees below zero (Table 3). A layer of much warmer air, containing temperatures near 50 degrees, remained just above the shallow cold air layer. As a result, much of the precipitation that occurred fell as rain rather than snow. The rain froze quickly upon striking cold surfaces and resulted in numerous vehicle and pedestrian accidents. Surface air temperatures remained below freezing through the 6th.

OSU Wheat Specialist, Eugene Krenzer, reports that it is still too early to determine the extent of any damage this crop may have incurred as a result of the extreme cold of early February. Winter wheat is normally a resilient plant. This resilience is even greater when the plant has become winter hardened and the growing point is still below the surface. This was the case in northwestern Oklahoma. Unfortunately, in the warmer southeastern portion of the State, much of the crop had already jointed and was killed by the sudden cold temperatures. Although extensive losses are expected in the southeast, this represents a relatively small proportion of the State's overall wheat crop. Northwestern and north central Oklahoma wheat may have escaped extensive winterkill, but critically low soil moisture in these major wheat producing areas have provided a second source of plant stress. The positive agricultural effects of cold winter weather are better known and include:

1) the interruption of the leaf rust life cycle as cold temperatures killed wheat leaves,

2) limited greenbug reproduction, and

3) slowed wheat development, which maintained plant conditions favorable to the survival of a second cold spell later in the month.

Oklahoma received much-needed precipitation during several consecutive days in the middle of the month as a strong, slow-moving, upper-level low pressure area to the west steered Gulf moisture into the State. During a 6-day period (Feb. 13-18), many stations met or exceeded their long-term monthly precipitation totals for the entire month. Near-freezing temperatures on the 14th resulted in sleet, ice pellets, and freezing rain north of a line extending from Hobart to Oklahoma City to Bartlesville. North central and northwestern Oklahoma received approximately .5" from the system. Several stations in the eastern one-third of the State received more than 2".

The State experienced its warmest weather of the month on the 25th and 26th as a high pressure system to the east delivered warm air from the south. Temperatures reached the 70's in each Climate Division. On the 26th and 27th, a surface front produced showers over much of the State, further boosting already above normal precipitation amounts.

- Robert Sladewski

Table 1. The 6 coldest February's in Oklahoma in the last 98 years.

	YEAR	MEAN TEMP
1	1899	27.9
2	1905	28.0
3	1929	29.7
4	1895	31.4
5	1978	31.6
6	1989	33.3

Table 2. Some record low temperatures during the arctic air mass intrusion in early February (records based on the period 1948-1989).

STATION	CD	DATE	TEMP	PREVIOUS RECORD	YEAR
Gage	1	3	-7	6	1972
Ponca City	2	3	-2	5	1972
Tulsa	3	3	1	8	1972
Clinton	4	5	-2	2	1982
Oklahoma City	5	3	0	8	1972
McAlester	6	4	8	14	1985
Hobart	7	3	-1	9	1985
Ada	8	5	4	10	1982
Antlers	9	6	10	12	1982

Table 3. Strong winds and very low temperatures lowered wind chill readings into the "extreme cold" category (-20 degrees and lower) across the State on the morning of February 3, 1989.

STATION	8 A.M. TEMPERATURE	WIND SPEED	WIND CHILL
Hobart	1	24	-42
Gage	-7	15	-40
Oklahoma City	0	26	-45
Enid	-2	23	-44
Ardmore	10	19	-23
Tulsa	2	20	-36
McAlester	8	17	-23

TABLE OF 1988/1989 COMPARISONS

Station	February Temperatures 1988	February Temperatures 1989	February Precipitation 1988	February Precipitation 1989
Arnett	36.9	28.4	.051	.964
Enid	39.7	*	.192	*
Mutual	36.6	29.5	.016	1.151
Tulsa	40.0	32.6	1.031	2.323
Elk City	41.3	32.3	.073	1.141
Oklahoma City	40.5	33.6	.414	2.451
McAlester	42.0	36.7	1.143	5.401
Altus	42.0	36.1	.100	1.250
Durant	42.0	37.5	2.040	3.930
Ada	43.6	34.4	.682	6.932
Antlers	46.8	39.3	1.640	3.840

EXTREMES

Variable	Station	Division	Observation	Date
Minimum temperatures (F)	Buffalo	1	-12	3
Maximum temperatures (F)	Reydon	4	80	25
	Wichita Wl Rf	7	80	1
Maximum 24-hour precipitation	Ada	8	3.25"	15

**** SUBSCRIPTION UPDATE ****

Cards are being sent to you again in this month's summary in order for us to update the monthly summary mail list. If you have already responded, please disregard the card. **If you do not respond at all, your name will be removed from the mail list beginning with the April issue.**

FEBRUARY 1989 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	28.4	28	-9.8	78.	26	-9.	4	1025.5	275.5	.0	.0	.964	28	.29	.46	28
BEAVER	593	1	27.1	28	-11.0	80.	26	-9.	3	1062.0	309.0	.0	.0	1.195	28	.62	.55	18
BOISE CITY 2 E	908	1	30.3	28	-8.0	78.	25	-9.	3	970.5	222.5	.0	.0	.227	28	-.26	.08	19
BUFFALO	1243	1	31.4	28	-9.0	78.	25	-12.	3	941.0	252.0	.0	.0	.700	28	-.22	.30	17
FARGO	3070	1	*****	0	*****	****	0	****	0	******	******	******	******	1.181	28	.33	.35	28
GAGE FAA APT	3407	1	29.4	28	-8.9	78.	25	-7.	3	998.0	250.0	.0	.0	2.035	28	1.22	.92	27
GATE	3489	1	27.6	28	*****	69.	25	-9.	3	1047.0	******	.0	******	1.103	28	*****	.29	19
GOODWELL RES	ST3628	1	27.9	28	-10.7	78.	26	-8.	4	1038.5	299.5	.0	.0	.578	28	.27	.20	18
GUYMON	3835	1	29.0	25	*****	79.	25	-8.	3	899.5	******	.0	******	.943	24	*****	.34	18
HOOKER	4298	1	27.4	28	-11.0	81.	1	-9.	4	1051.5	306.5	.0	.0	.643	28	.18	.37	18
KENTON	4766	1	29.1	28	-9.5	80.	1	-13.	7	1006.0	267.0	.0	.0	.220	28	-.06	.16	6
LAVERNE	5045	1	*****	0	*****	****	0	****	0	******	******	******	******	.651	28	-.23	.17	17
OPTIMA LAKE	6740	1	27.6	27	*****	79.	26	-8.	5	1010.5	******	.0	******	.733	27	*****	.31	18
REGNIER	7534	1	*****	0	*****	****	0	****	0	******	******	******	******	.097	28	-.17	.09	6
TURPIN 4 SSE	9017	1	26.7	28	*****	78.	26	-10.	7	1072.0	******	.0	******	.860	28	*****	.30	18

FEBRUARY 1989 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 1 ENE	194	2	29.7	28	-9.6	76.	25	-6.	4	987.5	267.5	.0	.0	.800	28	-.07	.47	18
VANCE AFB	302	2	*****	0	*****	****	0	****	0	******	******	******	******	.586	27	*****	.27	15
BILLINGS	755	2	29.6	28	*****	67.	1	-3.	3	992.5	******	.0	******	1.053	28	-.17	.40	20
BLACKWELL 2E	818	2	29.4	28	*****	65.	25	-4.	4	998.0	******	.0	******	.393	28	*****	.15	15
CEDARDALE	1620	2	*****	0	*****	****	0	****	0	******	******	******	******	1.126	28	*****	.63	28
CHEROKEE	1724	2	31.6	28	-8.3	69.	26	-5.	3	934.5	231.5	.0	.0	.870	28	-.05	.32	20
FREEDOM	3358	2	29.8	28	*****	75.	25	-7.	4	985.0	******	.0	******	1.171	28	*****	.53	20
GREAT SALT PLNS	3740	2	30.2	28	*****	72.	26	-2.	4	974.5	******	.0	******	.864	21	*****	.46	21
HARDY	3909	2	*****	0	*****	****	0	****	0	******	******	******	******	.611	28	*****	.20	19
HELENA 1 SSE	4019	2	28.8	28	*****	69.	1	-5.	4	1013.5	******	.0	******	.801	28	-.20	.24	20
JEFFERSON	4573	2	30.4	28	-9.2	68.	25	-4.	3	967.5	256.5	.0	.0	.554	28	-.42	.21	20
LAMONT	5013	2	*****	0	*****	****	0	****	0	******	******	******	******	.613	28	*****	.23	14
MEDFORD	5768	2	*****	0	*****	****	0	****	0	******	******	******	******	.571	28	*****	.27	20
MORRISON	6065	2	*****	0	*****	****	0	****	0	******	******	******	******	1.422	28	*****	.61	15
MUTUAL	6139	2	29.6	28	-9.6	77.	1	-8.	6	991.5	269.5	.0	.0	1.151	28	.22	.32	28
NEWKIRK	6278	2	29.9	28	-9.0	65.	25	-5.	3	983.5	252.5	.0	.0	.442	28	-.66	.10	21
ORIENTA	6751	2	*****	0	*****	****	0	****	0	******	******	******	******	.750	28	*****	.21	15
PERRY	7012	2	34.3	28	-7.2	70.	1	0.	4	860.5	202.5	.0	.0	1.650	28	.33	.55	15
PONCA CITY FAA	7201	2	30.6	28	-7.1	65.	25	-2.	3	962.5	198.5	.0	.0	.721	28	-.50	.24	21
RED ROCK 1 NNE	7505	2	*****	0	*****	****	0	****	0	******	******	******	******	1.071	28	-.32	.41	15
RENFROW	7556	2	*****	0	*****	****	0	****	0	******	******	******	******	.571	28	-.44	.22	19
WAYNOKA	9404	2	30.0	28	-10.6	73.	25	-6.	3	980.5	297.5	.0	.0	.822	28	-.16	.20	18
WOODWARD	9760	2	*****	0	*****	****	0	****	0	******	******	******	******	.943	28	*****	.26	18

FEBRUARY 1989 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	30.1	28	*****	65.	25	-2.	3	977.5	******	.0	******	1.414	28	-.02	.69	15
BARTLESVILLE ZW	548	3	30.6	28	-9.7	69.	1	-2.	3	963.5	271.5	.0	.0	1.281	28	-.17	.57	15
BIXBY	782	3	31.3	28	-9.4	75.	1	1.	4	944.0	264.0	.0	.0	2.960	28	1.35	1.29	15
BURBANK	1256	3	*****	0	*****	****	0	****	0	******	******	******	******	1.041	28	*****	.28	20
CHELSEA 4 S	1717	3	*****	0	*****	****	0	****	0	******	******	******	******	2.110	28	*****	.78	15
CLAREMORE	1828	3	31.2	28	-8.6	76.	1	2.	4	946.5	240.5	.0	.0	2.562	28	.94	.87	15
CLEVELAND 5 WSW	1902	3	31.0	25	*****	67.	25	-1.	4	850.5	******	.0	******	.831	25	*****	.83	16
FORAKER	3250	3	*****	0	*****	****	0	****	0	******	******	******	******	.541	28	-.68	.32	15
HOMINY	4289	3	*****	0	*****	****	0	****	0	******	******	******	******	1.690	28	.30	.70	15
JAY TOWER	4567	3	34.5	27	*****	74.	1	6.	3	823.0	******	.0	******	4.130	28	*****	1.45	13
KANSAS 1 ESE	4672	3	31.3	28	*****	66.	1	1.	4	944.0	******	.0	******	3.561	28	*****	1.10	15
KEYSTONE DAM	4812	3	27.6	20	*****	75.	1	-1.	6	747.0	******	.0	******	1.561	21	*****	.65	15
LENAPAH	5118	3	*****	0	*****	****	0	****	0	******	******	******	******	1.250	28	*****	.65	14
MANNFORD 6 NW	5522	3	32.4	27	*****	69.	1	0.	4	880.0	******	.0	******	1.831	27	*****	.86	15
MARAMEC	5540	3	*****	0	*****	****	0	****	0	******	******	******	******	1.381	28	-.02	.64	15
MIAMI	5855	3	30.0	28	-9.8	65.	1	0.	4	979.0	273.0	.0	.0	1.790	28	-.09	.76	15
NOWATA	6485	3	29.7	28	-10.3	62.	25	-3.	5	988.0	288.0	.0	.0	1.270	28	-.37	.75	14
ONETA 1 WNW	6713	3	*****	0	*****	****	0	****	0	******	******	******	******	3.241	28	*****	1.15	15
PAWHUSKA	6935	3	30.2	28	-9.8	66.	25	-2.	4	973.5	273.5	.0	.0	1.362	28	.05	.50	20
PAWHUSKA	6937	3	*****	0	*****	****	0	****	0	******	******	******	******	1.222	28	*****	.49	15
PAWNEE	6940	3	*****	0	*****	****	0	****	0	******	******	******	******	1.350	28	.04	.48	15
PRYOR 6 N	7309	3	30.4	28	-9.6	72.	1	2.	5	970.0	270.0	.0	.0	3.313	28	1.53	1.02	13
QUAPAW	7358	3	*****	0	*****	****	0	****	0	******	******	******	******	.853	28	-.97	.75	16
RALSTON	7390	3	32.1	28	*****	68.	25	-1.	3	921.0	******	.0	******	1.422	28	.12	.50	15
RAMONA 4 N	7394	3	*****	0	*****	****	0	****	0	******	******	******	******	1.710	28	*****	.90	15
SKIATOOK	8258	3	*****	0	*****	****	0	****	0	******	******	******	******	1.090	28	-.54	.44	15
SPAVINAW	8380	3	32.4	28	*****	72.	1	1.	3	911.5	******	.0	******	3.301	28	1.51	.93	13
TULSA WSO APT	8992	3	32.6	28	-8.1	61.	25	1.	3	906.0	226.0	.0	.0	2.323	28	.58	.90	15
UPPER SPAVINAW	9101	3	33.7	28	*****	61.	25	2.	4	877.5	******	.0	******	3.611	28	*****	1.02	13
VINITA 2 N	9203	3	30.6	28	-9.2	63.	1	1.	3	964.5	258.5	.0	.0	1.970	28	.16	.78	15
WAGONER	9247	3	33.8	28	-8.4	70.	1	3.	3	873.0	235.0	.0	.0	4.160	28	2.27	1.22	15
WANN	9298	3	*****	0	*****	****	0	****	0	******	******	******	******	1.240	28	*****	.56	15

FEBRUARY 1989 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	28.1	19	*****	70.	27	-5.	6	701.0	******	.0	******	.852	19	*****	.25	21
CHEYENNE	1738	4	*****	0	*****	****	0	****	0	******	******	******	******	.302	28	*****	.13	18
CLINTON	1909	4	34.1	28	-7.3	73.	25	-2.	5	865.0	204.0	.0	.0	1.441	28	.40	.52	15
COLONY	2039	4	*****	0	*****	****	0	****	0	******	******	******	******	1.440	28	*****	.52	15
CORDELL	2125	4	*****	0	*****	****	0	****	0	******	******	******	******	1.221	28	.19	.38	15
ELK CITY 1 E	2849	4	32.3	28	*****	71.	25	-4.	3	916.0	******	.0	******	1.141	28	.19	.41	15
ERICK 4 E	2944	4	32.9	28	-9.1	74.	25	-3.	3	897.5	253.5	.0	.0	.813	28	-.05	.38	15
GEARY	3497	4	29.6	26	*****	58.	24	-3.	3	920.0	******	.0	******	1.301	26	*****	.60	15
HAMMON 1 NNE	3871	4	28.9	28	-12.0	75.	1	-7.	3	1012.0	337.0	.0	.0	.831	28	-.08	.25	17
LEEDEY	5090	4	*****	0	*****	****	0	****	0	******	******	******	******	.601	28	-.30	.50	18
MACKIE 4 NNW	5463	4	*****	0	*****	****	0	****	0	******	******	******	******	.660	28	*****	.20	18
MORAVIA 2 NNE	6035	4	*****	0	*****	****	0	****	0	******	******	******	******	1.181	28	.22	.45	15
OKEENE	6629	4	31.6	28	-10.0	69.	25	-4.	3	936.0	281.0	.0	.0	1.020	28	.08	.35	15
RETROP	7565	4	*****	0	*****	****	0	****	0	******	******	******	******	1.170	28	*****	.42	15
REYDON	7579	4	31.6	28	*****	80.	25	-6.	3	935.5	******	.0	******	.663	28	-.13	.32	17
SAYRE	7952	4	*****	0	*****	****	0	****	0	******	******	******	******	1.030	28	.31	.30	15
SWEETWATER 2 E	8652	4	*****	0	*****	****	0	****	0	******	******	******	******	1.173	28	*****	.35	15
TALOGA	8708	4	30.5	28	-9.6	74.	25	-5.	3	965.0	268.0	.0	.0	1.623	28	.68	.48	28
THOMAS	8815	4	*****	0	*****	****	0	****	0	******	******	******	******	2.190	28	*****	.55	15
VICI	9172	4	*****	0	*****	****	0	****	0	******	******	******	******	1.091	28	*****	.44	18
WATONGA	9364	4	31.6	28	*****	71.	25	-4.	3	936.0	******	.0	******	1.221	28	.17	.41	15
WEATHERFORD	9422	4	31.0	28	-10.7	72.	26	-3.	4	952.0	300.0	.0	.0	1.292	28	.30	.36	15

FEBRUARY 1989 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	******	******	******	******	2.410	28	*****	1.12	15
ARCADIA	288	5	*****	0	*****	****	0	****	0	******	******	******	******	2.021	28	*****	.80	15
TINKER AFB	325	5	*****	0	*****	****	0	****	0	******	******	******	******	2.774	26	*****	1.15	15
BLANCHARD 2 SSW	830	5	33.9	28	*****	68.	26	0.	3	872.0	******	.0	******	2.683	28	*****	1.55	15
BRISTOW	1144	5	33.3	28	-9.1	73.	1	1.	4	886.5	253.5	.0	.0	3.102	28	1.49	1.28	15
CHANDLER	1684	5	33.3	28	-9.1	69.	1	0.	4	887.5	254.5	.0	.0	3.151	28	1.66	1.20	15
CHICKASHA EX ST	1750	5	33.9	28	-9.2	70.	25	0.	3	871.5	258.5	.0	.0	2.550	28	1.34	1.25	15
COX CITY 1 E	2196	5	*****	0	*****	****	0	****	0	******	******	******	******	2.460	28	*****	1.10	16
CRESCENT	2242	5	*****	0	*****	****	0	****	0	******	******	******	******	1.450	28	*****	.64	15
CUSHING	2318	5	30.8	28	-9.2	73.	1	-1.	4	958.5	258.5	.0	.0	1.784	28	.47	.85	15
EL RENO 1 N	2818	5	32.5	28	-8.8	69.	25	-1.	4	910.5	246.5	.0	.0	1.980	28	.89	.41	13
GUTHRIE	3821	5	33.6	28	-7.7	72.	1	-1.	3	879.5	215.5	.0	.0	2.402	28	1.14	.70	20
HENNESSEY 2 SE	4055	5	31.0	28	-9.6	67.	25	-3.	3	951.5	268.5	.0	.0	1.284	28	.12	.40	15
INGALLS	4489	5	*****	0	*****	****	0	****	0	******	******	******	******	1.583	28	*****	.62	15
KINGFISHER 2 SE	4861	5	31.4	28	-9.8	70.	25	-2.	3	941.0	275.0	.0	.0	2.140	28	1.01	.61	13
KONAWA	4915	5	*****	0	*****	****	0	****	0	******	******	******	******	5.311	28	3.66	2.13	15
MARSHALL	5589	5	*****	0	*****	****	0	****	0	******	******	******	******	1.240	28	.08	.50	15
MEEKER 4 W	5779	5	32.9	28	-9.0	68.	25	0.	3	899.5	252.5	.0	.0	2.310	28	.84	1.10	14
MULHALL	6110	5	*****	0	*****	****	0	****	0	******	******	******	******	1.533	28	*****	.60	15
NORMAN 3 S	6386	5	34.1	28	*****	70.	25	1.	4	866.5	******	.0	******	3.031	28	1.70	1.35	15
OILTON 2 SE	6616	5	*****	0	*****	****	0	****	0	******	******	******	******	1.830	28	*****	.85	15
OKEMAH	6638	5	33.8	28	-9.3	64.	1	2.	4	875.0	262.0	.0	.0	3.593	28	2.14	1.57	15
OKLAHOMA CTY WS	6661	5	33.6	28	-7.2	69.	25	0.	3	879.5	201.5	.0	.0	2.451	28	1.16	.94	15
PERKINS	7003	5	*****	0	*****	****	0	****	0	******	******	******	******	1.710	28	.45	.69	15
PIEDMONT	7068	5	*****	0	*****	****	0	****	0	******	******	******	******	2.040	28	*****	.54	15
PRAGUE	7264	5	*****	0	*****	****	0	****	0	******	******	******	******	3.690	28	2.19	1.15	14
PURCELL 5 SW	7327	5	34.2	28	-8.0	75.	1	1.	3	861.5	223.5	.0	.0	4.802	28	3.46	1.65	15
SEMINOLE	8042	5	35.6	28	-8.9	75.	1	3.	3	823.5	249.5	.0	.0	3.721	28	2.17	1.53	15
SHAWNEE	8110	5	*****	0	*****	****	0	****	0	******	******	******	******	4.140	28	2.61	1.62	15
STELLA	8479	5	*****	0	*****	****	0	****	0	******	******	******	******	3.580	28	*****	1.66	15
STILLWATER 2 W	8501	5	30.4	28	-10.1	71.	1	-1.	3	970.0	284.0	.0	.0	1.711	28	.51	.65	15
STROUD 1 N	8563	5	*****	0	*****	****	0	****	0	******	******	******	******	2.741	28	*****	1.12	15
TECUMSEH	8751	5	*****	0	*****	****	0	****	0	******	******	******	******	3.140	28	*****	1.40	15
TROUSDALE	8960	5	*****	0	*****	****	0	****	0	******	******	******	******	3.890	28	*****	1.47	15
UNION CITY 1 SE	9086	5	*****	0	*****	****	0	****	0	******	******	******	******	2.032	28	.62	.54	13
WELTY 1 SSE	9479	5	*****	0	*****	****	0	****	0	******	******	******	******	3.020	28	*****	1.40	15
WEWOKA	9575	5	*****	0	*****	****	0	****	0	******	******	******	******	6.481	28	4.80	1.47	16

FEBRUARY 1989 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	******	******	******	******	4.653	28	*****	1.30	15
BEGGS	631	6	*****	0	*****	****	0	****	0	******	******	******	******	3.530	28	*****	1.60	15
BOYNTON	1027	6	*****	0	*****	****	0	****	0	******	******	******	******	4.251	28	*****	1.55	15
CALVIN	1391	6	*****	0	*****	****	0	****	0	******	******	******	******	5.913	28	4.01	3.00	15
CHECOTAH	1711	6	*****	0	*****	****	0	****	0	******	******	******	******	5.274	28	3.40	1.80	14
DEWAR 2 NE	2485	6	*****	0	*****	****	0	****	0	******	******	******	******	4.920	28	3.11	1.75	15
DUSTIN	2690	6	*****	0	*****	****	0	****	0	******	******	******	******	6.100	28	*****	2.09	15
EUFAULA	2993	6	34.7	28	*****	64.	26	6.	4	849.0	******	.0	******	5.390	28	3.32	1.76	15
HANNA	3884	6	34.5	28	*****	67.	1	4.	4	854.0	******	.0	******	5.590	28	3.73	2.06	15
HARTSHORNE	3946	6	*****	0	*****	****	0	****	0	******	******	******	******	4.602	28	*****	1.37	15
HASKELL	3956	6	*****	0	*****	****	0	****	0	******	******	******	******	2.674	28	.75	1.46	15
HOLDENVILLE	4235	6	34.8	28	-9.3	65.	25	4.	4	846.5	253.5	.0	-8.0	5.171	28	3.49	2.01	15
LAKE EUFAULA	4975	6	34.4	28	*****	76.	1	5.	4	857.0	******	.0	******	6.110	28	*****	1.76	15
LYONS 2 N	5437	6	*****	0	*****	****	0	****	0	******	******	******	******	1.091	28	-.86	.72	12
MCALESTER FAA	5664	6	36.7	28	-6.4	65.	26	7.	3	792.5	179.5	.0	.0	5.401	28	3.14	1.14	15
MCCURTAIN 1 SE	5693	6	36.9	28	*****	70.	1	8.	4	786.0	******	.0	******	6.405	28	3.88	1.74	14
MUSKOGEE	6130	6	34.1	28	-8.8	71.	1	4.	4	865.5	246.5	.0	.0	4.440	28	2.33	1.60	14
OKMULGEE W W	6670	6	32.5	27	-10.5	61.	25	2.	4	876.5	260.5	.0	.0	3.903	28	2.11	1.30	14
OKTAHA 2 NE	6678	6	*****	0	*****	****	0	****	0	******	******	******	******	5.810	28	*****	1.84	15
QUINTON	7372	6	*****	0	*****	****	0	****	0	******	******	******	******	5.542	28	3.44	2.17	13
SALLISAW 2 NE	7862	6	35.9	28	-7.5	69.	26	7.	4	816.0	211.0	.0	.0	8.720	28	6.24	2.20	13
SCIPIO	7979	6	*****	0	*****	****	0	****	0	******	******	******	******	4.580	28	*****	1.95	15
SCRAPER	7993	6	*****	0	*****	****	0	****	0	******	******	******	******	4.780	28	*****	1.26	15
SHORT	8170	6	*****	0	*****	****	0	****	0	******	******	******	******	8.733	28	*****	2.22	13
STILWELL 1 NE	8506	6	33.8	28	*****	63.	26	3.	4	874.5	******	.0	******	5.783	28	3.21	1.62	14
TAHLEQUAH	8677	6	33.8	28	-8.3	66.	1	3.	4	874.0	233.0	.0	.0	3.002	28	.58	1.37	15
WEBBERS FALLS	9445	6	34.0	28	-6.8	75.	1	7.	4	868.5	190.5	.0	.0	5.903	28	3.59	1.70	15
WESTVILLE	9523	6	*****	0	*****	****	0	****	0	******	******	******	******	5.002	28	*****	1.20	15
WETUMKA 3 NE	9571	6	*****	0	*****	****	0	****	0	******	******	******	******	6.375	28	4.78	1.97	14

FEBRUARY 1989 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	36.4	28	-8.0	76.	1	3.	3	801.5	224.5	.0	.0	1.250	28	.33	.60	17
ALTUS DAM	184	7	33.6	28	*****	79.	1	1.	3	879.0	******	.0	******	1.131	28	.19	.43	17
APACHE	260	7	*****	0	*****	****	0	****	0	******	******	******	******	1.980	28	*****	.93	15
ALTUS AFB	447	7	*****	0	*****	****	0	****	0	******	******	******	******	1.514	28	*****	.79	17
CARNEGIE 2 ENE	1504	7	33.8	28	-8.8	72.	25	-3.	3	873.5	246.5	.0	.0	1.840	28	.69	.44	18
CHATTANOOGA	1706	7	36.5	28	-7.8	74.	25	4.	4	799.0	219.0	.0	.0	2.350	28	1.22	1.16	14
DUNCAN 12 W	2668	7	*****	0	*****	****	0	****	0	******	******	******	******	2.722	28	*****	1.22	15
FREDERICK	3353	7	35.7	28	-10.0	79.	1	3.	5	819.5	269.5	.0	-10.0	1.810	28	.79	.73	17
GRANDFIELD 4 NW	3709	7	*****	0	*****	****	0	****	0	******	******	******	******	2.240	28	1.06	1.10	15
HOBART FAA APT	4204	7	33.1	28	-8.1	72.	25	-1.	3	892.0	226.0	.0	.0	1.465	28	.56	.55	17
HOLLIS	4249	7	35.1	26	*****	82.	25	2.	4	777.5	******	.0	******	1.462	26	*****	.90	14
LAWTON	5063	7	34.3	28	-9.4	73.	25	2.	3	859.0	263.0	.0	.0	2.421	28	1.25	1.24	14
FORT SILL	5068	7	37.3	28	*****	72.	25	9.	4	775.5	******	.0	******	2.542	28	1.37	1.16	14
LOOKEBA 2 ENE	5329	7	*****	0	*****	****	0	****	0	******	******	******	******	1.461	28	*****	.48	15
MANGUM RES STA	5509	7	35.0	28	-8.9	78.	1	0.	3	841.0	250.0	.0	.0	1.380	28	-.09	.54	19
RANDLETT 9 E	7403	7	*****	0	*****	****	0	****	0	******	******	******	******	1.570	28	*****	1.04	17
ROOSEVELT	7727	7	*****	0	*****	****	0	****	0	******	******	******	******	1.182	28	.22	.50	17
SEDAN	8016	7	*****	0	*****	****	0	****	0	******	******	******	******	1.164	28	*****	.53	15
SNYDER	8299	7	*****	0	*****	****	0	****	0	******	******	******	******	1.150	28	.10	.47	17
VINSON 3 WNW	9212	7	*****	0	*****	****	0	****	0	******	******	******	******	.790	28	.13	.34	17
WALTERS	9278	7	37.0	28	-8.0	74.	25	3.	3	785.0	225.0	.0	.0	3.100	28	1.83	1.15	14
WICHITA MT WLR	9629	7	34.5	28	-8.3	80.	1	3.	3	854.0	232.0	.0	.0	1.491	28	.32	.76	17
WILLOW	9668	7	*****	0	*****	****	0	****	0	******	******	******	******	1.181	28	*****	.44	15

FEBRUARY 1989 SUMMARY FOR SOUTH CENTRAL DIVISION (CD8)

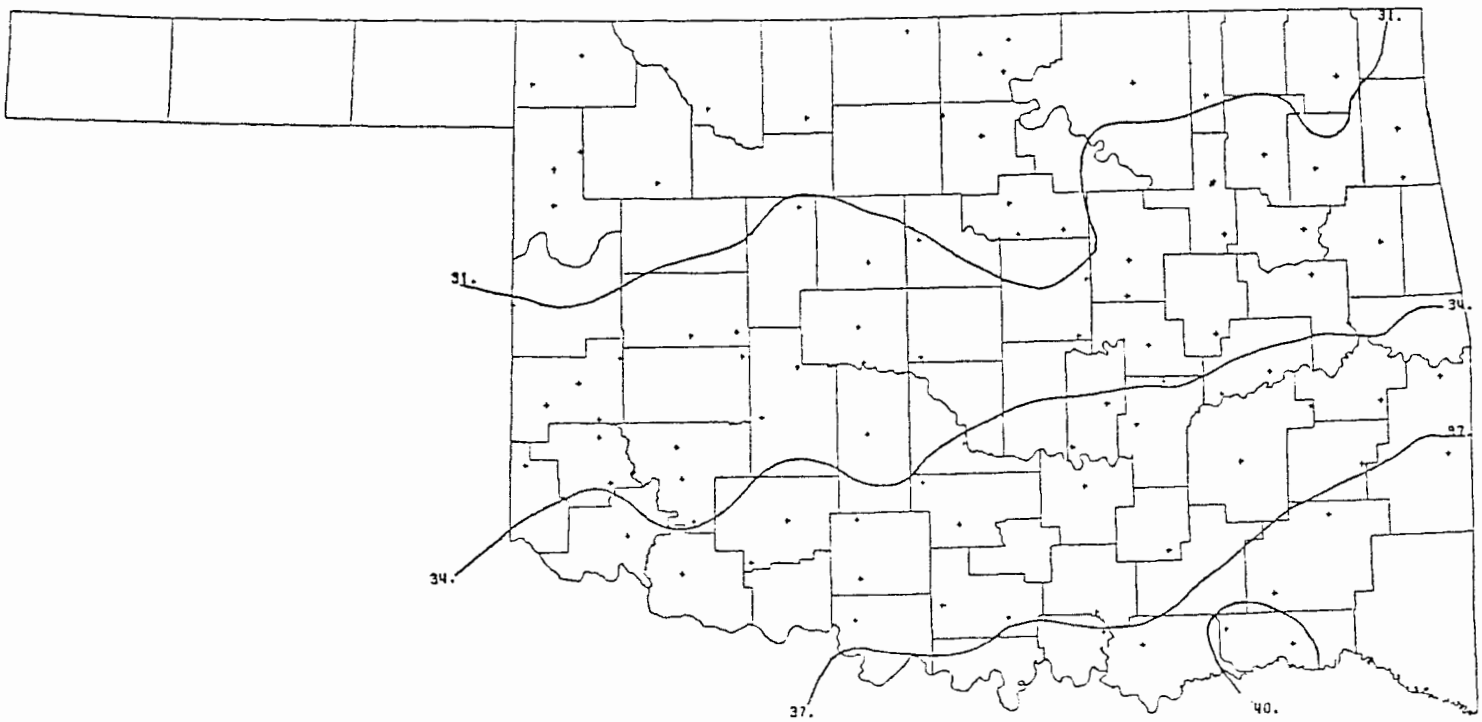
NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
ADA	17	8	34.7	28	-10.0	66.	25	4.	5	848.0	280.0	.0	.0	6.932	28	5.05	3.25	15
ALLEN	147	8	*****	0	*****	****	0	****	0	******	******	******	******	6.520	28	*****	2.75	13
ARDMORE	292	8	37.7	28	-9.7	70.	26	5.	4	765.0	264.0	.0	-9.0	3.392	28	1.73	1.26	17
ATOKA DAM	394	8	36.5	28	*****	76.	1	7.	4	799.0	******	.0	******	3.231	28	*****	1.36	15
BOKCHITO	917	8	*****	0	*****	****	0	****	0	******	******	******	******	4.940	28	*****	1.95	1
CANEY	1437	8	37.2	28	*****	65.	25	10.	5	778.5	******	.0	******	3.890	28	*****	1.02	15
CENTRAHOMA	1648	8	*****	0	*****	****	0	****	0	******	******	******	******	1.700	28	*****	1.05	15
CHICKASAW NRA	1745	8	35.3	28	*****	78.	1	4.	4	831.0	******	.0	******	4.210	28	*****	1.90	15
COLEMAN	2011	8	*****	0	*****	****	0	****	0	******	******	******	******	4.310	28	*****	1.55	15
COMANCHE	2054	8	*****	0	*****	****	0	****	0	******	******	******	******	3.594	28	*****	1.75	15
DAISY 4 ENE	2354	8	*****	0	*****	****	0	****	0	******	******	******	******	4.437	28	1.75	1.31	15
DUNCAN	2660	8	35.1	28	-9.8	76.	1	3.	4	836.5	266.5	.0	-8.0	3.562	28	2.35	1.29	15
DURANT USDA	2678	8	37.6	28	*****	73.	1	9.	3	767.0	******	.0	******	3.930	28	1.68	1.10	3
ELMORE CITY	2872	8	*****	0	*****	****	0	****	0	******	******	******	******	7.301	28	*****	2.70	15
FARRIS 3 WNW	3083	8	*****	0	*****	****	0	****	0	******	******	******	******	3.910	28	*****	1.48	15
GRADY	3688	8	*****	0	*****	****	0	****	0	******	******	******	******	2.960	28	*****	1.14	15
HEALDTON	4001	8	37.0	28	*****	73.	25	5.	3	784.0	******	.0	******	3.502	28	2.15	1.31	15
HENNEPIN	4052	8	*****	0	*****	****	0	****	0	******	******	******	******	4.041	28	*****	1.85	14
KETCHUM RANCH	4780	8	*****	0	*****	****	0	****	0	******	******	******	******	3.390	28	*****	1.12	14
KINGSTON	4865	8	*****	0	*****	****	0	****	0	******	******	******	******	2.580	28	.32	1.02	17
LEHIGH	5108	8	*****	0	*****	****	0	****	0	******	******	******	******	3.575	28	*****	1.27	15
LINDSAY 2 W	5216	8	34.9	28	*****	70.	25	2.	3	842.0	******	.0	******	3.403	28	1.98	1.23	14
LOCO 6 SE	5247	8	*****	0	*****	****	0	****	0	******	******	******	******	5.160	28	*****	3.02	15
MADILL	5468	8	37.6	27	-8.3	70.	25	8.	5	740.5	200.5	.0	-5.0	3.670	28	1.55	1.17	15
MARIETTA	5563	8	38.7	28	-7.4	71.	25	7.	4	737.0	201.0	.0	-6.0	2.891	28	1.12	1.00	17
MARLOW 1 WSW	5581	8	35.8	28	*****	71.	26	1.	4	817.0	******	.0	******	3.011	28	1.81	1.48	15
MCGEE CREEK DAM	5713	8	37.5	28	*****	75.	1	9.	5	769.0	******	.0	******	5.120	28	*****	1.73	15
OSWALT	6787	8	*****	0	*****	****	0	****	0	******	******	******	******	2.890	28	*****	1.60	15
PAULS VALLEY	6926	8	36.2	28	-8.3	71.	25	3.	3	807.5	233.5	.0	.0	4.242	28	2.75	2.25	15
PONTOTOC	7214	8	*****	0	*****	****	0	****	0	******	******	******	******	2.300	28	.37	1.15	17
TISHOMINGO NWLR	8884	8	37.5	28	*****	72.	1	7.	5	771.0	******	.0	******	3.772	28	1.72	1.27	15
TUSSY	9032	8	*****	0	*****	****	0	****	0	******	******	******	******	4.770	28	*****	2.50	15
WAURIKA	9395	8	37.7	28	-8.5	75.	25	5.	4	764.5	232.5	.0	-5.0	3.890	28	2.59	2.16	15

FEBRUARY 1989 SUMMARY FOR SOUTHEAST DIVISION (CD9)

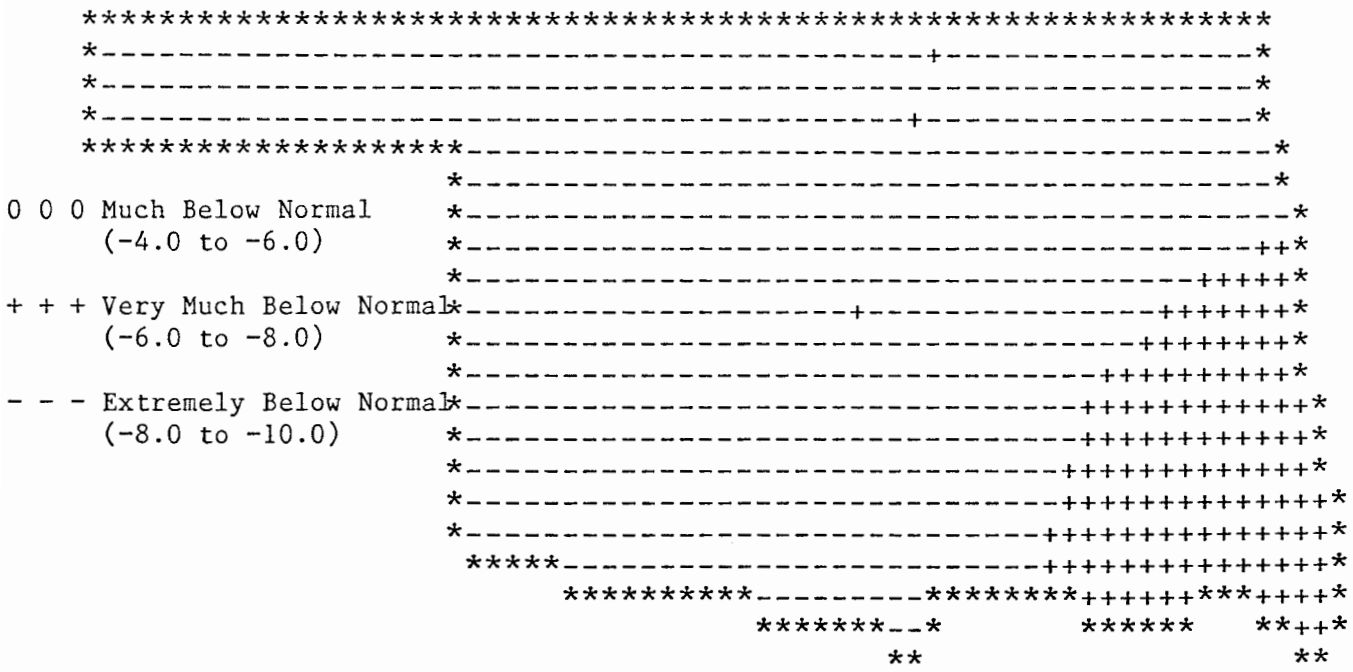
NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
ANTLERS	256	9	39.3	28	-5.7	75.	1	10.	6	721.0	158.0	.0	.0	3.840	28	1.09	2.11	15
BEAR MT TWR	584	9	40.5	27	*****	79.	1	7.	6	663.0	******	1.5	******	4.970	27	*****	1.01	16
BENGAL	670	9	*****	0	*****	****	0	****	0	******	******	******	******	5.862	28	*****	2.20	15
BOSWELL 4 NNW	980	9	39.9	28	*****	71.	1	9.	5	702.0	******	.0	******	3.993	28	1.21	1.07	15
BROKEN BOW 1 N	1162	9	*****	0	*****	****	0	****	0	******	******	******	******	5.720	28	2.43	1.17	15
BROKEN BOW DAM	1168	9	39.3	28	*****	81.	2	14.	7	719.5	******	.0	******	5.370	28	*****	1.10	3
CARNASAW TWR	1499	9	*****	0	*****	****	0	****	0	******	******	******	******	5.540	28	2.21	1.23	3
CARTER TWR	1544	9	*****	0	*****	****	0	****	0	******	******	******	******	5.210	28	1.91	1.39	3
FANSHAWE	3065	9	*****	0	*****	****	0	****	0	******	******	******	******	6.780	28	3.99	2.41	15
HEAVENER 1 SE	4008	9	*****	0	*****	****	0	****	0	******	******	******	******	6.043	28	3.32	1.98	15
HEE MT TWR	4017	9	*****	0	*****	****	0	****	0	******	******	******	******	5.490	28	*****	1.13	3
HUGO	4384	9	40.2	28	-6.7	78.	1	10.	5	693.5	180.5	.0	-6.0	5.120	28	2.35	1.30	15
JADIE TOWER	4560	9	*****	0	*****	****	0	****	0	******	******	******	******	6.410	28	*****	1.81	6
POTEAU W W	7254	9	36.0	28	*****	74.	1	11.	6	812.5	******	.0	******	6.194	28	*****	2.39	14
SMITHVILLE 1 W	8285	9	37.8	28	*****	79.	1	9.	4	760.5	******	.0	******	3.220	28	*****	.79	15
SPIRO	8416	9	*****	0	*****	****	0	****	0	******	******	******	******	5.973	28	3.27	1.53	15
TUSKAHOMA	9023	9	39.0	28	*****	77.	1	9.	5	729.0	******	.0	******	4.864	28	*****	1.24	3
VALLIANT 3 W	9118	9	*****	0	*****	****	0	****	0	******	******	******	******	4.920	28	1.65	1.18	18

FEBRUARY 1989 CLIMATE DIVISION SUMMARY

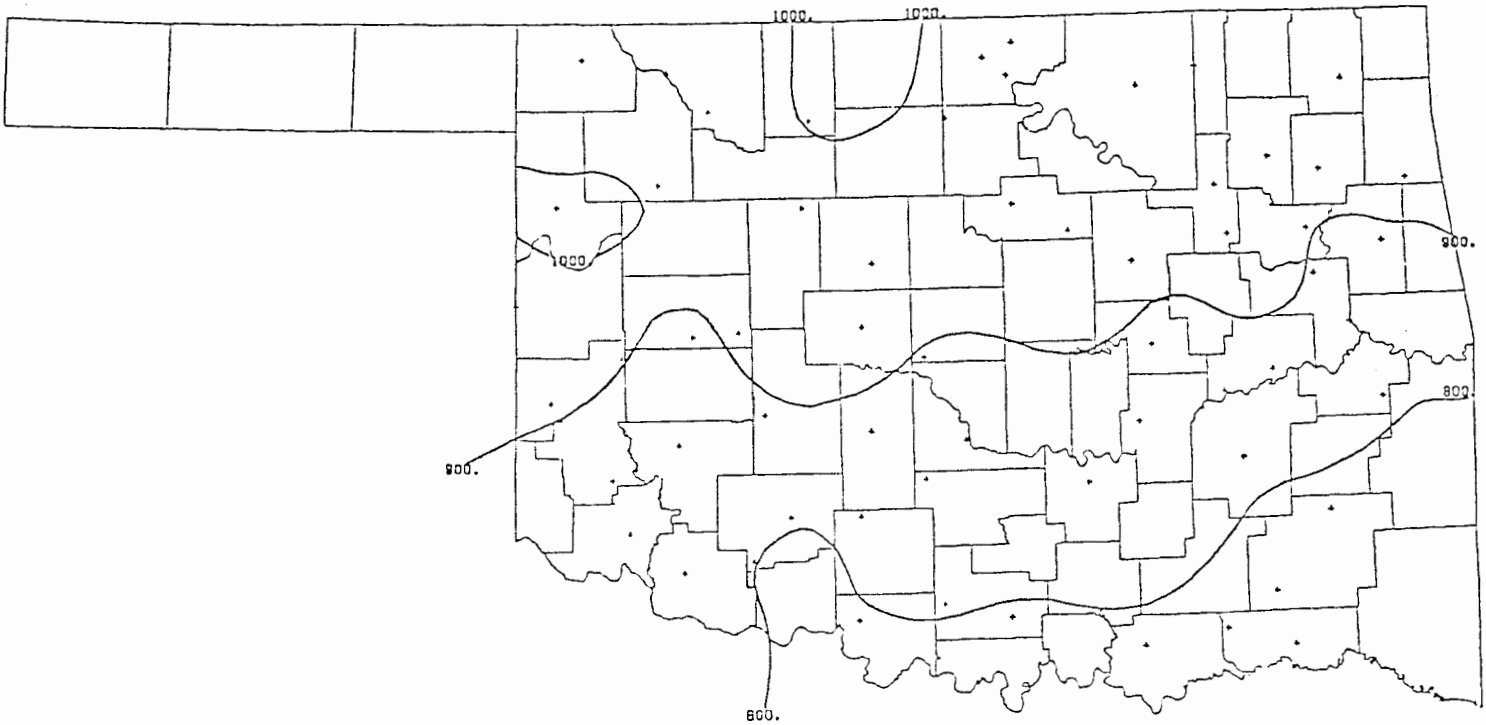
CLIMATE DIV	MEAN TEMP	NUM STA	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEGREE DAYS	DEV FROM NORM	COOL DEGREE DAYS	DEV FROM NORM	TOT PPT	NUM STA	DEV FROM NORM	MAX 24-HR	DAY
1	28.4	11	-10.2	81.0	1	-13.0	7	1020.2	281.4	.0	.0	.80	13	.21	.92	27
2	30.3	13	-9.3	77.0	1	-8.0	6	971.7	260.2	.0	.0	.86	21	-.20	.63	28
3	31.6	17	-8.7	76.0	1	-3.0	5	931.9	241.1	.0	.0	2.04	29	.46	1.45	13
4	31.6	9	-9.6	80.0	25	-7.0	3	935.0	269.0	.0	.0	1.11	20	.16	.60	15
5	33.0	16	-8.8	75.0	1	-3.0	3	895.9	246.4	.0	.0	2.75	36	1.38	2.13	15
6	34.7	12	-8.1	76.0	1	2.0	4	846.7	223.1	.0	-1.1	5.16	29	3.09	3.00	15
7	35.2	11	-8.6	82.0	25	-3.0	3	834.5	239.6	.0	-1.0	1.72	22	.66	1.24	14
8	36.7	16	-9.0	78.0	1	1.0	4	791.1	245.2	.0	-4.7	3.97	33	2.20	3.25	15
9	39.0	8	-6.9	81.0	2	7.0	6	725.1	187.1	.2	-2.8	5.33	17	2.32	2.41	15



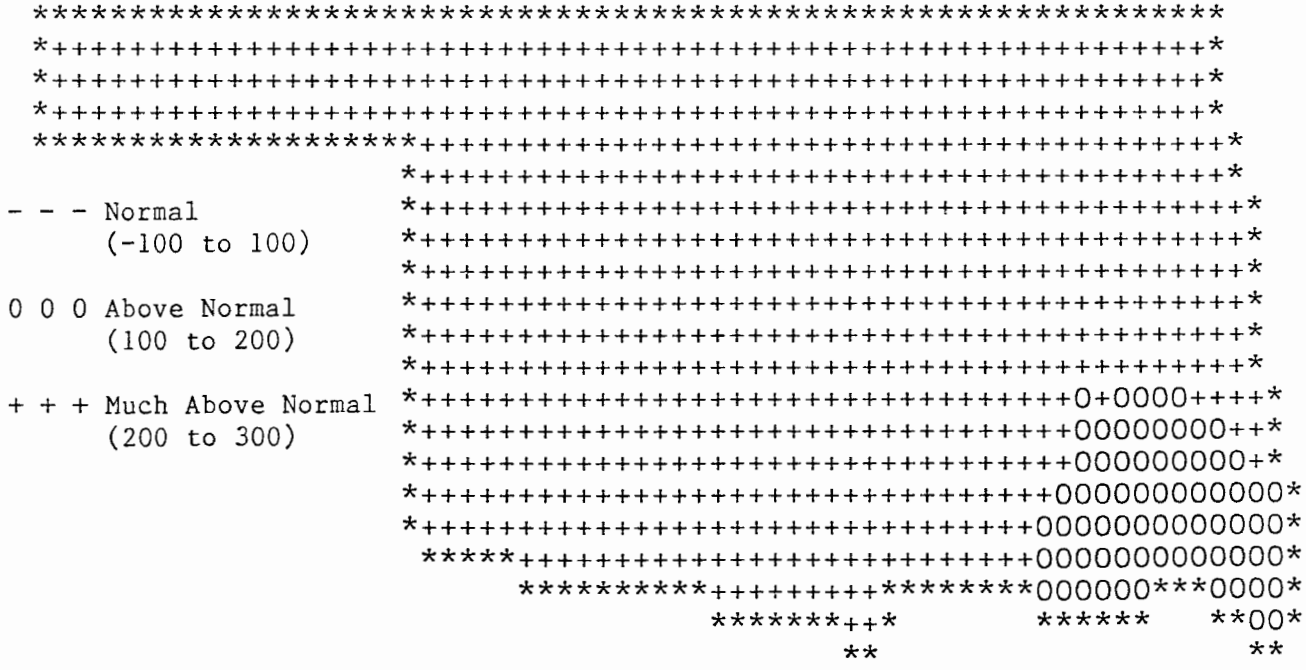
FEBRUARY 1989 AVERAGE MONTHLY TEMPERATURE
(Degrees F)



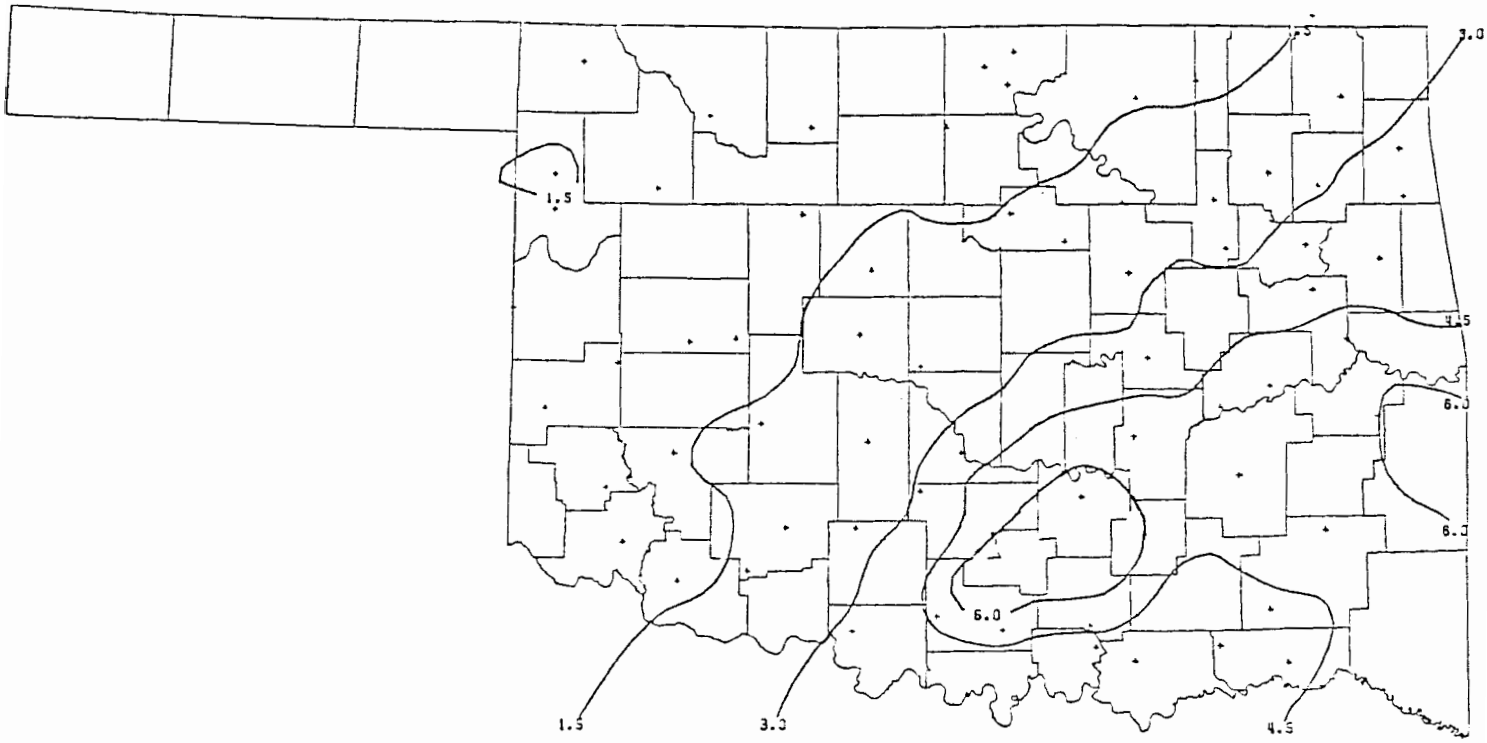
FEBRUARY 1989 DEVIATION FROM NORMAL TEMPERATURES
(Degrees F)



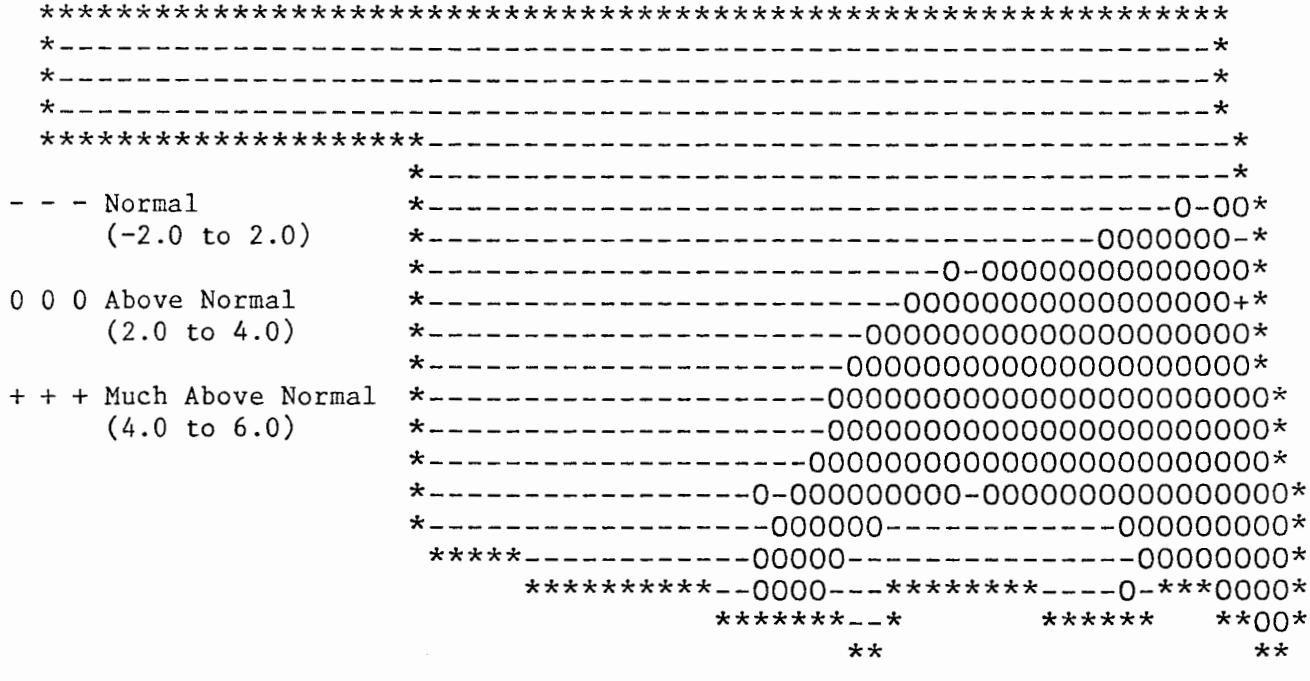
FEBRUARY 1989 TOTAL HEATING DEGREE DAYS



FEBRUARY 1989 DEVIATION FROM NORMAL HEATING DEGREE DAYS



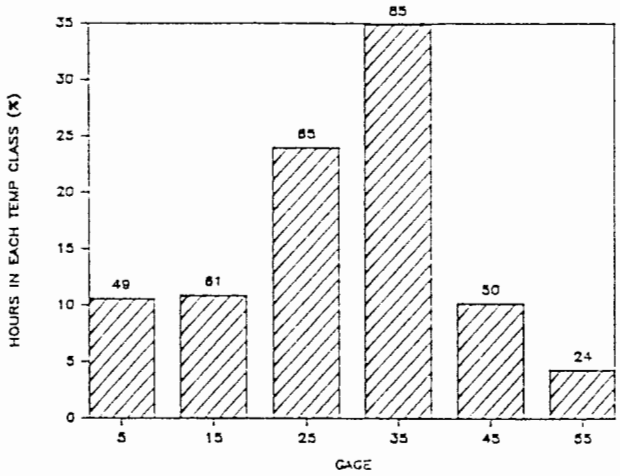
FEBRUARY 1989 TOTAL PRECIPITATION
(Inches)

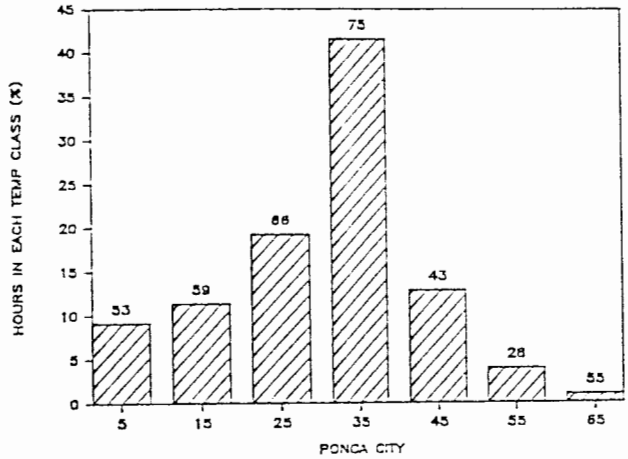


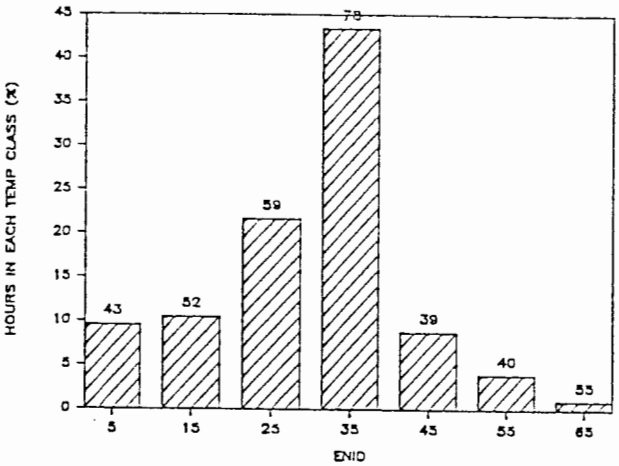
FEBRUARY 1989 DEVIATION FROM NORMAL PRECIPITATION
(Inches)

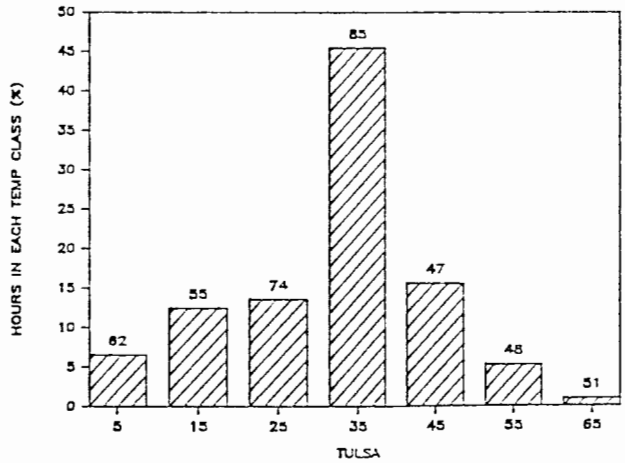
The following graphs present February 1989 hourly temperature and corresponding relative humidity information for 10 Oklahoma stations. The height of each bar represents the percentage of the hours in the month when the temperature was observed within the category given below the axis (45 = 40 to 49, 55 = 50 to 59, etc.). The number above each bar is the median relative humidity associated with the temperature category below it.

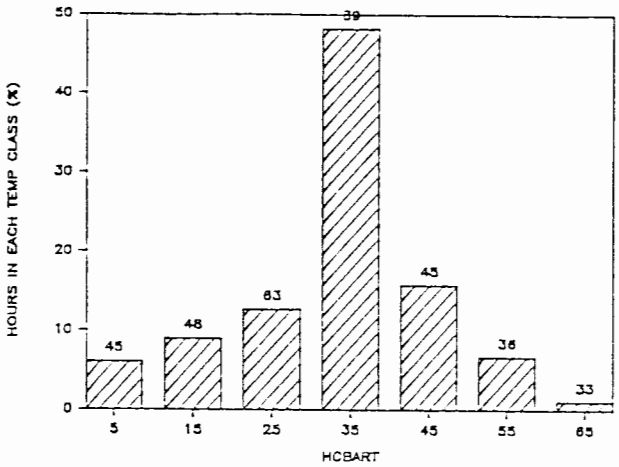
Example: Approximately 11% of Oklahoma City's hourly temperature values ranged from 10 to 19 degrees. The median relative humidity associated with this temperature class was 50%.

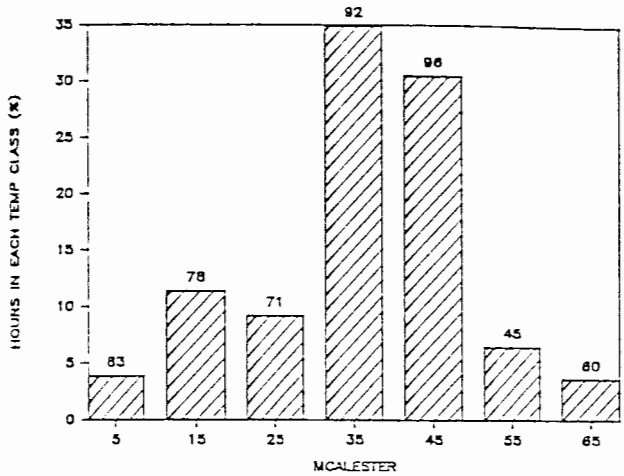


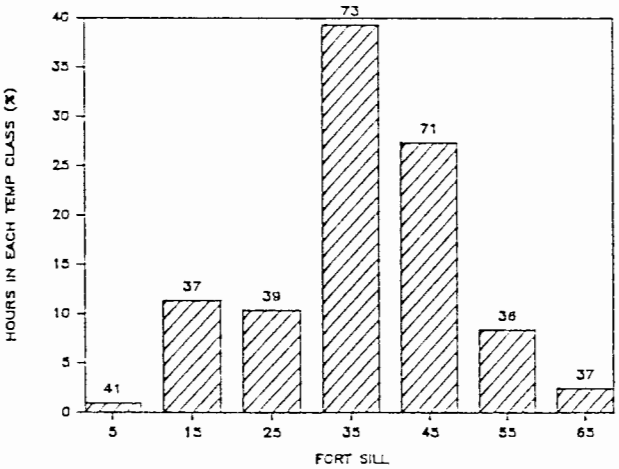


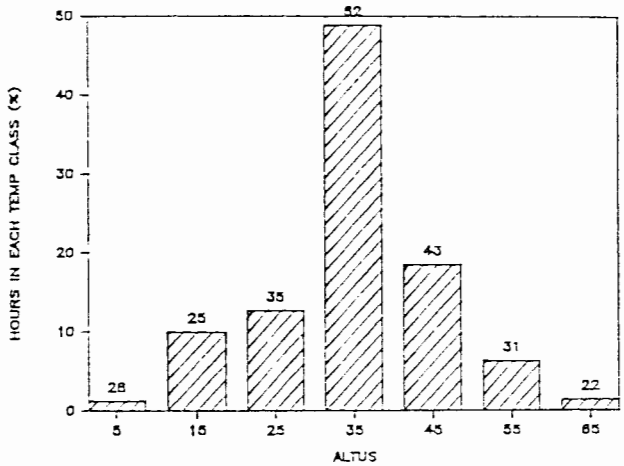


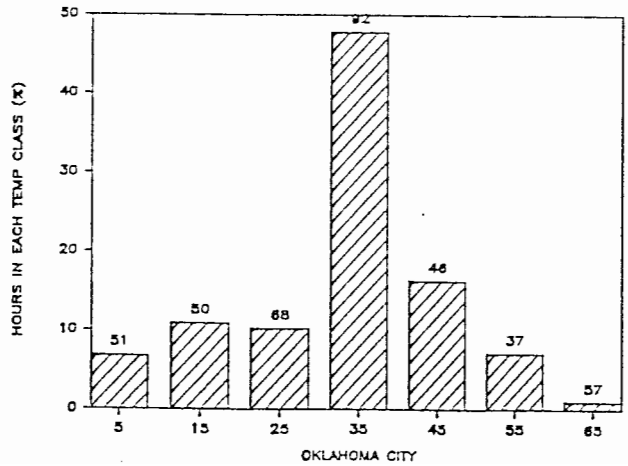


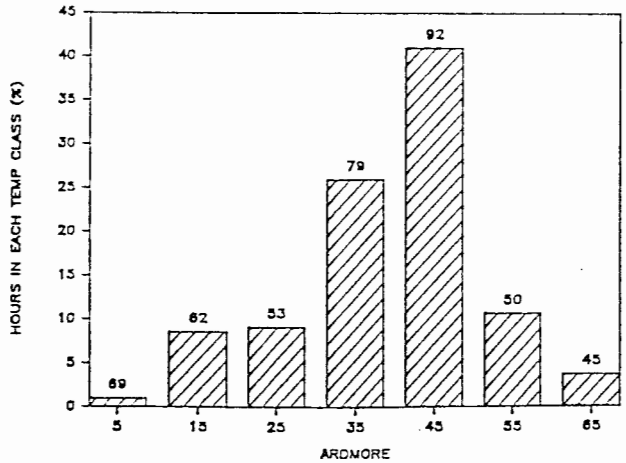

HOURS IN EACH TEMP CLASS (%)
45
48
63
39
45
36
33
5
15
25
35
45
55
65
HOBART


HOURS IN EACH TEMP CLASS (%)
63
78
71
92
96
45
60
5
15
25
35
45
55
65
MCALESTER

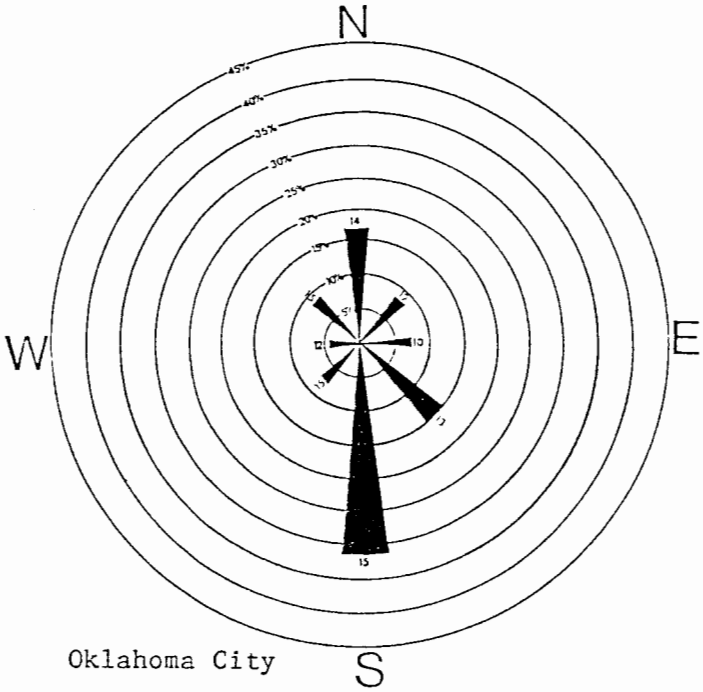

HOURS IN EACH TEMP CLASS (%)
41
37
39
73
71
36
37
5
15
25
35
45
55
65
FORT SILL

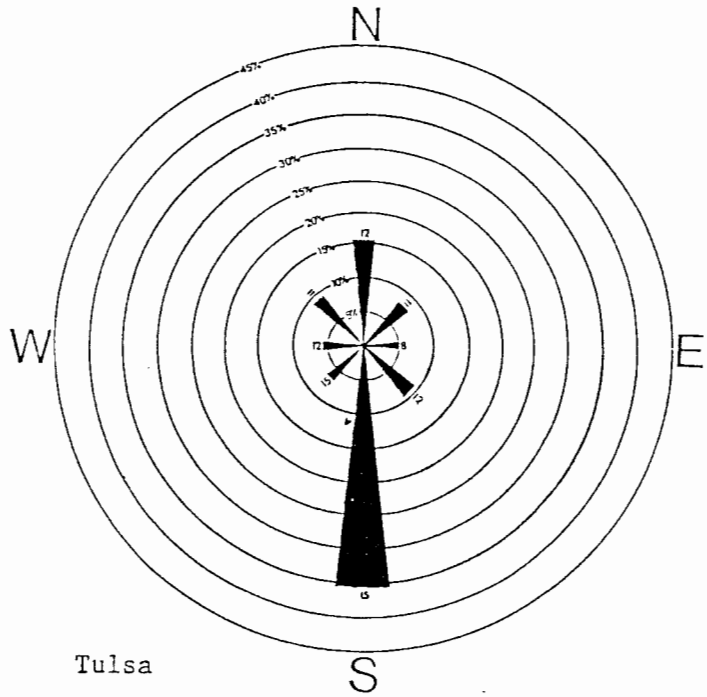

HOURS IN EACH TEMP CLASS (%)
28
25
35
52
43
31
22
5
15
25
35
45
55
65
ALTUS


HOURS IN EACH TEMP CLASS (%)
51
50
68
92
46
37
57
5
15
25
35
45
55
65
OKLAHOMA CITY


HOURS IN EACH TEMP CLASS (%)
69
62
53
79
92
50
45
5
15
25
35
45
55
65
ARDMORE

April 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.





APRIL 1989 SUNRISE AND SUNSET*

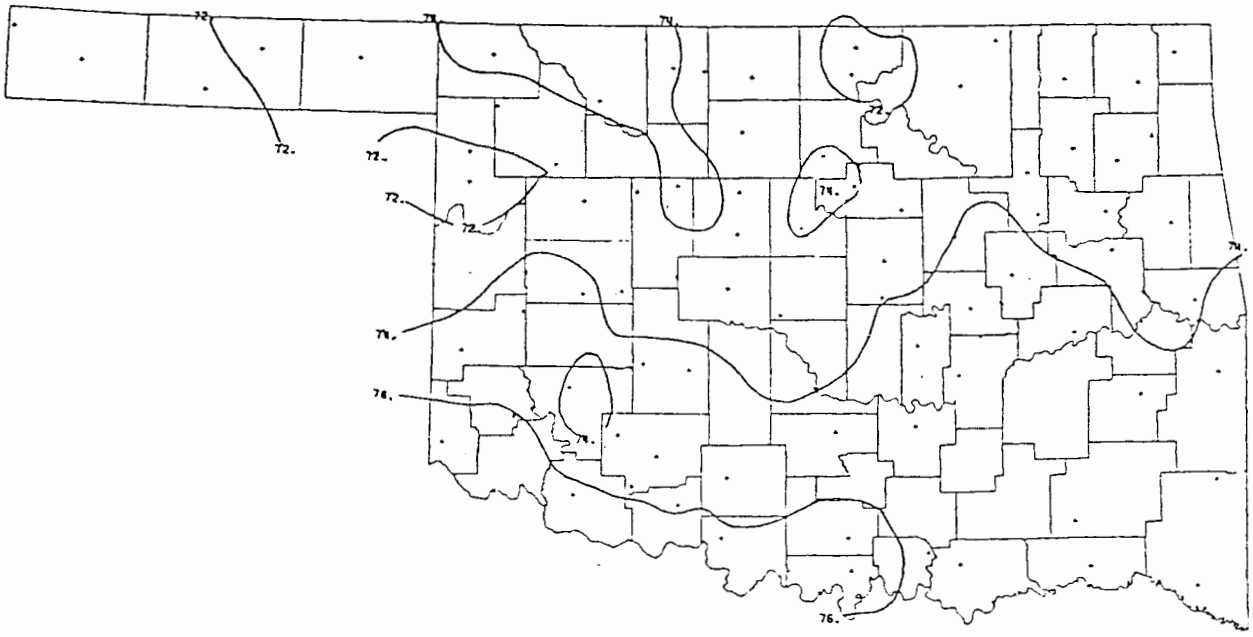
Oklahoma City

DATE	SUNRISE	SUNSET	DAYLIGHT
890401	7:19AM	7:51PM LT	12:32
890402	7:17AM	7:51PM LT	12:34
890403	7:16AM	7:52PM LT	12:36
890404	7:14AM	7:53PM LT	12:39
890405	7:13AM	7:54PM LT	12:41
890406	7:12AM	7:55PM LT	12:43
890407	7:10AM	7:55PM LT	12:45
890408	7: 9AM	7:56PM LT	12:47
890409	7: 7AM	7:57PM LT	12:50
890410	7: 6AM	7:58PM LT	12:52
890411	7: 5AM	7:58PM LT	12:54
890412	7: 3AM	7:59PM LT	12:56
890413	7: 2AM	8: 0PM LT	12:58
890414	7: 1AM	8: 1PM LT	13: 0
890415	6:59AM	8: 2PM LT	13: 2
890416	6:58AM	8: 2PM LT	13: 4
890417	6:57AM	8: 3PM LT	13: 7
890418	6:55AM	8: 4PM LT	13: 9
890419	6:54AM	8: 5PM LT	13:11
890420	6:53AM	8: 6PM LT	13:13
890421	6:52AM	8: 6PM LT	13:15
890422	6:50AM	8: 7PM LT	13:17
890423	6:49AM	8: 8PM LT	13:19
890424	6:48AM	8: 9PM LT	13:21
890425	6:47AM	8:10PM LT	13:23
890426	6:46AM	8:10PM LT	13:25
890427	6:45AM	8:11PM LT	13:27
890428	6:44AM	8:12PM LT	13:28
890429	6:42AM	8:13PM LT	13:30
890430	6:41AM	8:14PM LT	13:32

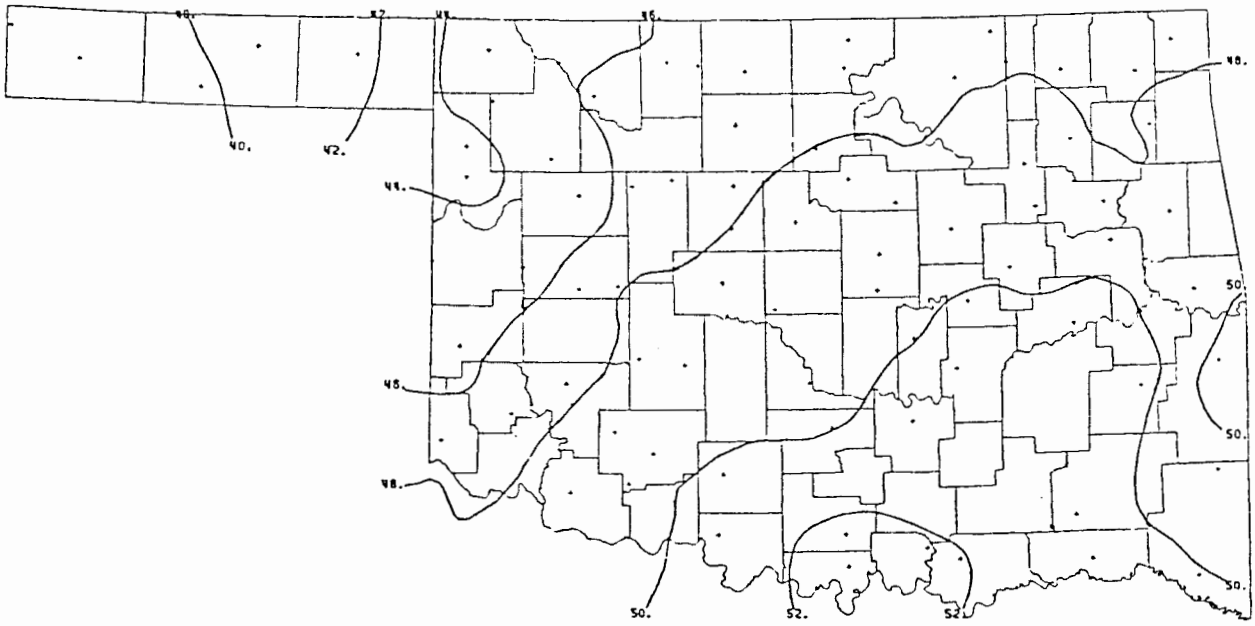
Tulsa

DATE	SUNRISE	SUNSET	DAYLIGHT
890401	7:11AM	7:44PM LT	12:33
890402	7:10AM	7:45PM LT	12:35
890403	7: 8AM	7:46PM LT	12:37
890404	7: 7AM	7:47PM LT	12:40
890405	7: 6AM	7:47PM LT	12:42
890406	7: 4AM	7:48PM LT	12:44
890407	7: 3AM	7:49PM LT	12:46
890408	7: 1AM	7:50PM LT	12:49
890409	7: 0AM	7:51PM LT	12:51
890410	6:59AM	7:52PM LT	12:53
890411	6:57AM	7:52PM LT	12:55
890412	6:56AM	7:53PM LT	12:57
890413	6:54AM	7:54PM LT	12:60
890414	6:53AM	7:55PM LT	13: 2
890415	6:52AM	7:56PM LT	13: 4
890416	6:50AM	7:57PM LT	13: 6
890417	6:49AM	7:57PM LT	13: 8
890418	6:48AM	7:58PM LT	13:10
890419	6:46AM	7:59PM LT	13:13
890420	6:45AM	8: 0PM LT	13:15
890421	6:44AM	8: 1PM LT	13:17
890422	6:43AM	8: 1PM LT	13:19
890423	6:41AM	8: 2PM LT	13:21
890424	6:40AM	8: 3PM LT	13:23
890425	6:39AM	8: 4PM LT	13:25
890426	6:38AM	8: 5PM LT	13:27
890427	6:37AM	8: 6PM LT	13:29
890428	6:35AM	8: 6PM LT	13:31
890429	6:34AM	8: 7PM LT	13:33
890430	6:33AM	8: 8PM LT	13:35

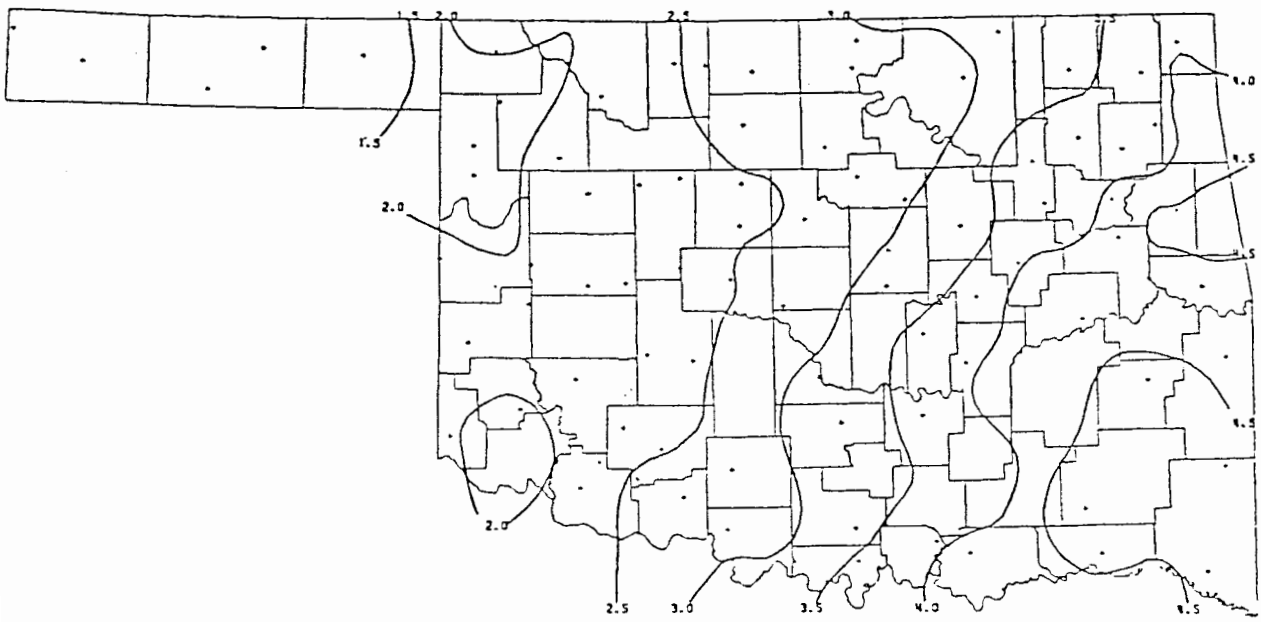
*Daylight Savings Time



30-YEAR MEAN APRIL DAILY MAXIMUM TEMPERATURE



30-YEAR MEAN APRIL DAILY MINIMUM TEMPERATURE



30-YEAR MEAN APRIL PRECIPITATION

30- AND 90-DAY NATIONAL WEATHER SERVICE OUTLOOK

30-DAY OUTLOOK (MARCH)

Precipitation - Slightly Below Normal Statewide.
Temperature - Above Normal Statewide.

90-DAY OUTLOOK (MARCH-MAY)

Precipitation - Near Normal Statewide.
Temperature - Slightly Below Normal Statewide.