OKLAHOMA

MONTHLY SUMMARY

January 1989

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JANUARY 1989 OKLAHOMA SUMMARY

January 1989 ranks as Oklahoma's 10th warmest January on record and the warmest in 36 years (see Table 1). Climate Division (CD) temperatures averaged from 4.8 (CD9) to 7.2 (CD3) degrees above normal. Although total monthly precipitation exceeded long-term average values in every CD, inadequate subsoil moisture conditions were reported in 40% of the State, causing wheat conditions to decline. Nearly 70% of the winter wheat crop was graded in fair or poor condition. Approximately 20% of this crop is grown in CD1 where 5 of 7 stations received less than normal precipitation for the 4th consecutive month. The absence of a snow cover left the crop vulnerable to extremely cold temperatures while the unseasonably warm air encouraged green bug and aphid development.

On January 5th, a strong upper level low produced surface winds in excess of 50 mph which spread grass fires in central Oklahoma. More than 20 fires damaged Oklahoma City area gransslands, with one blaze burning nearly 80 acres. Winds in northern Oklahoma overturned a large truck near Perry and downed several power lines in the Tulsa area.

Cold air behind a front lowered temperatures into the teens in the northwestern one-half of Oklahoma on the mornings of the 9th and 10th. Another frontal passage on the 11th delivered even colder air. While under the influence of this air mass, several northern stations recorded their lowest temperature of the entire month, including single-digit readings in CDs 1 and 2. Limited instability and moisture prevented the fronts from delivering substantial, widespread precipitation. As a result, most stations outside of CDs 6, 8 and 9 recorded zero or only a trace of precipitation through the 12th.

On the 13th a fast-moving cold front forced the lifting of fairly moist air. This resulted in a several-inch snowfall along a band from southwestern to northeastern Oklahoma. Stations in CDs 3 and 7 reported 1 to 3.5" while central Oklahoma stations received up to 8". Above-freezing temperatures melted most of the snow within 1 or 2 days.

The 5-day period between the 16th and 20th featured some very large swings between daily high and low temperatures (see Table 2). Dry soil conditions, clear skies and an air mass with low water content contributed to these diurnal ranges in excess of 45 degrees.

Thunderstorms on the 25th produced the greatest one-day precipitation amounts of the month at many stations. The southern and eastern stations reported the most precipitation, with reports including Kansas 2.00, McAlester 3.25, Hobart 1.83, Coleman 4.55, Madill 3.99, and Spiro 3.60 inches. The Panhandle recorded only light sleet and snow with water equivalent amounts averaging near one-tenth of an inch.

A strong upper level low approached Oklahoma from the Pacific late in the month. On the 28th, an accompanying surface front provided three CD1 stations with their only January rainfall in excess of .10 inch. The system resulted in rain at most stations Statewide, with the greatest amounts, in excess of an inch, falling in eastern and southern Oklahoma.

Temperatures rose sharply during the last two days of the month when sunny skies and strong, warm southerly winds prevailed. The western CDs reached 80 degrees while most of the State experienced highs in the 70's.

- R. J. Sladewski

Table 1. The 10 warmest Oklahoma Januarys for the last 98 years (1892-1989).

Rank	Year	Average Temperature
1	1923	47.5
2	1933	46.7
3	1952	45.5
4	1914	45.0
5	1921	44.3
6	1939	44.2
7	1953	44.0
8	1907	43.2
9	1911	43.2
10	1989	43.0

Table 2. Diurnal Temperature Ranges. Although 35 to 45 degree differences between a day's high and low temperature are not uncommon during frontal passages, other meteorological factors must interact with each other to sustain these diurnal ranges for the longer period shown here in January, 1989. These factors include clear skies, a dry air mass and soil,and light or nonexistent nocturnal winds.

		Day of Month				
CD	Station	16	17	18	19	20
1	Buffalo	49	49	41	39	39
1	Guymon	40	55			
2	Billings		37	37	41	42
3	Pawhuska	35	35	41	42	
4	Erick	40	42	39	40	
5	Norman	35	34	38	36	
5	Seminole		41	37	39	
6	Webbers Falls		34	40	36	
7	Altus Irr.	41	49	39	39	
7	Walters		40	40		
8	Waurika	43	34	35		
9	Antlers		37	45	45	45

EXTREMES

Variable	Station	Division	Observation	Date
Minimum temperature (F)	Buffalo	1	3	9
	Freedom	2	3	9
Maximum temperature (F)	Buffalo	1	83	31
Maximum 24-hour precipitation	Coleman	8	4.45"	26

TABLE OF 1988/1989 COMPARISONS

Station	January Temperatures (F) 1988	1989	January Precipitation (in.) 1988	1989
Arnett	28.6	39.3	1.153	.351
Enid	31.6	*	1.551	*
Mutual	28.6	38.6	.941	.621
Tulsa	35.7	44.4	1.080	3.024
Elk City	32.6	43.3	1.331	1.031
Oklahoma City	34.8	43.5	1.241	1.103
McAlester	37.1	46.2	1.323	5.093
Altus Irr. Sta.	35.7	46.5	1.470	1.570
Durant	38.0	45.0	1.280	2.960
Ada	36.4	44.6	1.660	1.201
Antlers	42.4	46.5	*	2.800

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Monday-Friday

8:00 a.m. to 12 noon
1:00 p.m. to 5:00 p.m.

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JANUARY 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	39.3	31	6.0	73.	24	14.	10	797.5	-185.5	.0	.0	.351	31	-.08	.32	28
BEAVER	593	1	36.5	31	3.7	73.	5	4.	14	883.5	-114.5	.0	.0	.610	31	.23	.30	25
BOISE CITY 2 E	908	1	38.4	31	4.3	79.	31	6.	13	825.0	-133.0	.0	.0	.154	31	-.21	.15	27
BUFFALO	1243	1	40.1	31	5.4	83.	31	3.	9	771.5	-167.5	.0	.0	.510	31	-.02	.41	28
FARGO	3070	1	*****	0	*****	****	0	****	0	******	******	******	******	.280	31	-.18	.24	28
GAGE FAA APT	3407	1	40.7	31	7.4	80.	31	9.	13	754.5	-228.5	.0	.0	.352	31	-.10	.30	28
GATE	3489	1	39.7	31	*****	81.	31	14.	16	784.0	******	.0	******	.380	31	*****	.29	27
GOODWELL RES	ST3628	1	37.1	31	3.6	73.	5	6.	13	864.0	-113.0	.0	.0	.720	31	.47	.43	25
GUYMON	3835	1	40.1	28	*****	80.	31	5.	13	696.5	******	.0	******	1.140	31	*****	.54	28
HOOKER	4298	1	37.5	31	4.3	73.	5	9.	13	853.5	-132.5	.0	.0	.782	31	.37	.48	25
KENTON	4766	1	35.6	31	1.2	70.	31	1.	13	912.5	-36.5	.0	.0	.192	31	-.11	.12	28
LAVERNE	5045	1	*****	0	*****	****	0	****	0	******	******	******	******	.122	31	-.51	.09	26
OPTIMA LAKE	6740	1	36.9	27	*****	74.	5	5.	13	758.5	******	.0	******	.402	29	*****	.25	25
REGNIER	7534	1	*****	0	*****	****	0	****	0	******	******	******	******	.262	31	-.01	.24	27
TURPIN 4 SSE	9017	1	36.2	31	*****	72.	5	4.	14	891.5	******	.0	******	.640	31	*****	.41	25

JANUARY 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	193	2	41.5	31	*****	76.	31	13.	13	728.0	******	.0	******	.770	31	*****	.45	28
VANCE AFB	302	2	*****	0	*****	****	0	****	0	******	******	******	******	1.142	31	*****	.52	25
BILLINGS	755	2	38.8	31	*****	68.	6	11.	13	811.5	******	.0	******	1.430	31	.52	.68	25
BLACKWELL 2E	818	2	39.7	31	*****	68.	5	14.	13	784.5	******	.0	******	.971	31	*****	.48	28
BRAMAN	1075	2	*****	0	*****	****	0	****	0	******	******	******	******	1.252	31	*****	.57	25
CEDARDALE	1620	2	*****	0	*****	****	0	****	0	******	******	******	******	.660	31	*****	.63	28
CHEROKEE	1724	2	41.5	31	7.0	72.	31	11.	9	727.5	-218.5	.0	.0	1.170	31	.48	.65	25
ENID	2912	2	42.0	31	6.6	70.	5	18.	13	712.5	-205.5	.0	.0	1.600	31	.69	.73	28
FREEDOM	3358	2	39.2	31	*****	79.	31	3.	9	799.5	******	.0	******	.830	31	*****	.59	28
GREAT SALT PLNS	3740	2	40.1	31	*****	67.	31	13.	9	770.5	******	.0	******	.920	31	.30	.54	28
HARDY	3909	2	*****	0	*****	****	0	****	0	******	******	******	******	1.244	31	*****	.70	24
HELENA 1 SSE	4019	2	38.9	31	*****	68.	6	11.	13	808.5	******	.0	******	.950	31	.24	.57	28
JEFFERSON	4573	2	40.4	31	6.0	69.	31	10.	9	762.0	-187.0	.0	.0	1.380	31	.68	.77	27
LAMONT	5013	2	*****	0	*****	****	0	****	0	******	******	******	******	1.222	31	*****	.58	25
MEDFORD	5768	2	*****	0	*****	****	0	****	0	******	******	******	******	1.401	31	*****	.70	27
MORRISON	6065	2	*****	0	*****	****	0	****	0	******	******	******	******	1.480	31	*****	.90	25
MUTUAL	6139	2	38.6	31	4.5	69.	24	10.	9	819.0	-139.0	.0	.0	.621	31	.12	.59	28
NEWKIRK	6278	2	41.4	31	8.0	66.	5	17.	8	731.0	-249.0	.0	.0	.551	31	-.31	.35	26
ORIENTA	6751	2	*****	0	*****	****	0	****	0	******	******	******	******	1.280	31	*****	.70	28
PERRY	7012	2	45.6	31	9.3	73.	5	17.	13	601.5	-288.5	.0	.0	1.351	31	.48	.69	25
PONCA CITY FAA	7201	2	42.2	31	9.8	69.	5	16.	9	708.0	-303.0	.0	.0	1.542	31	.63	.96	25
RED ROCK 1 NNE	7505	2	*****	0	*****	****	0	****	0	******	******	******	******	1.111	31	.24	.65	25
RENFROW	7556	2	*****	0	*****	****	0	****	0	******	******	******	******	1.292	31	.58	.82	28
WAYNOKA	9404	2	40.1	31	4.9	77.	31	9.	9	771.0	-153.0	.0	.0	.800	31	.20	.51	28
WOODWARD	9760	2	*****	0	*****	****	0	****	0	******	******	******	******	.490	31	*****	.34	28

JANUARY 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	41.3	30	*****	73.	31	15.	13	712.0	******	.0	******	1.233	31	.03	.50	29
BARTLESVILLE 2W	548	3	41.8	31	7.2	74.	31	14.	13	719.5	-222.5	.0	.0	1.220	31	.06	.36	29
BIXBY	782	3	40.7	31	5.3	69.	6	20.	21	754.0	-164.0	.0	.0	2.030	31	.58	1.00	25
BURBANK	1256	3	*****	0	*****	****	0	****	0	******	******	******	******	1.601	31	*****	.86	25
CHELSEA 4 S	1717	3	*****	0	*****	****	0	****	0	******	******	******	******	2.140	31	*****	.84	29
CLAREMORE	1828	3	40.5	31	6.0	71.	6	18.	14	758.0	-188.0	.0	.0	1.922	31	.54	.85	26
CLEVELAND 5 WSW	1902	3	43.3	28	*****	74.	31	16.	13	608.0	******	.0	******	1.420	31	*****	.53	29
FORAKER	3250	3	*****	0	*****	****	0	****	0	******	******	******	******	.690	31	-.33	.66	25
HOLLOW	4258	3	*****	0	*****	****	0	****	0	******	******	******	******	1.060	31	-.29	.73	28
HOMINY	4289	3	*****	0	*****	****	0	****	0	******	******	******	******	1.461	31	.39	.33	29
HULAH DAM	4393	3	41.1	20	*****	69.	6	13.	13	478.0	******	.0	******	1.150	21	*****	.65	25
JAY TOWER	4567	3	44.8	29	*****	74.	31	22.	16	584.5	******	.0	******	3.550	31	*****	1.50	28
KANSAS 1 ESE	4672	3	43.1	31	*****	74.	31	19.	16	678.5	******	.0	******	4.173	31	*****	2.00	26
KEYSTONE DAM	4812	3	41.7	20	*****	69.	6	17.	17	466.0	******	.0	******	1.952	26	*****	1.03	25
LENAPAH	5118	3	*****	0	*****	****	0	****	0	******	******	******	******	1.610	31	*****	.67	29
MANNFORD 6 NW	5522	3	44.1	29	*****	76.	31	18.	15	605.0	******	.0	******	2.281	31	*****	.75	29
MARAMEC	5540	3	*****	0	*****	****	0	****	0	******	******	******	******	1.291	31	.24	.52	29
MIAMI	5855	3	41.5	31	6.8	71.	31	18.	14	729.0	-210.0	.0	.0	2.010	31	.48	1.42	26
NOWATA	6485	3	41.8	31	7.1	74.	31	19.	15	719.5	-219.5	.0	.0	1.570	31	.29	.70	28
ONETA 1 WNW	6713	3	*****	0	*****	****	0	****	0	******	******	******	******	2.841	31	*****	.97	26
PAWHUSKA	6935	3	41.6	31	7.1	73.	31	14.	13	726.5	-219.5	.0	.0	1.140	31	.03	.60	25
PAWHUSKA	6937	3	*****	0	*****	****	0	****	0	******	******	******	******	1.051	31	*****	.57	25
PAWNEE	6940	3	*****	0	*****	****	0	****	0	******	******	******	******	1.060	31	.05	.62	25
PRYOR 6 N	7309	3	40.3	31	5.4	68.	6	19.	21	766.5	-166.5	.0	.0	3.053	31	1.53	1.78	26
QUAPAW	7358	3	*****	0	*****	****	0	****	0	******	******	******	******	2.521	31	.97	1.21	26
RALSTON	7390	3	42.3	31	*****	72.	31	14.	9	703.0	******	.0	******	1.393	31	.39	.60	25
RAMONA 4 N	7394	3	*****	0	*****	****	0	****	0	******	******	******	******	1.880	31	*****	.69	29
SKIATOOK	8258	3	*****	0	*****	****	0	****	0	******	******	******	******	1.250	31	.06	.88	25
SPAVINAW	8380	3	44.4	31	*****	72.	31	23.	21	639.0	******	.0	******	2.990	31	1.46	1.92	26
TULSA WSO APT	8992	3	44.4	31	9.2	76.	31	23.	16	638.5	-285.5	.0	.0	3.024	31	1.67	1.89	25
UPPER SPAVINAW	9101	3	44.0	31	*****	68.	7	19.	8	651.5	******	.0	******	2.953	31	*****	1.26	29
VINITA 2 N	9203	3	42.0	31	7.5	70.	31	17.	16	712.5	-233.5	.0	.0	2.840	31	1.31	1.16	26
WAGONER	9247	3	44.7	31	7.8	74.	31	19.	13	629.0	-242.0	.0	.0	3.451	31	1.73	1.73	26
WANN	9298	3	*****	0	*****	****	0	****	0	******	******	******	******	1.221	31	*****	.57	29

JANUARY 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	41.7	20	*****	69.	6	12.	9	467.0	******	.0	******	1.072	20	*****	.63	30
CHEYENNE	1738	4	*****	0	*****	****	0	****	0	******	******	******	******	.002	31	*****	.00	25
CLINTON	1909	4	44.5	31	8.1	75.	31	17.	8	634.5	-252.5	.0	.0	1.621	31	.91	.72	28
COLONY	2039	4	*****	0	*****	****	0	****	0	******	******	******	******	1.660	31	*****	.88	25
CORDELL	2125	4	*****	0	*****	****	0	****	0	******	******	******	******	1.421	31	.72	.68	25
ELK CITY 1 E	2849	4	43.0	31	*****	74.	31	16.	9	683.0	******	.0	******	1.031	31	.48	.75	28
ERICK 4 E	2944	4	42.5	31	5.5	78.	31	10.	9	696.5	-171.5	.0	.0	.571	31	.09	.57	28
GEARY	3497	4	42.0	31	5.7	70.	31	17.	9	712.5	-177.5	.0	.0	1.200	31	.54	.70	28
HAMMON 1 NNE	3871	4	38.2	31	2.5	70.	31	10.	10	829.5	-78.5	.0	.0	1.000	31	.49	.70	28
LEEDEY	5090	4	*****	0	*****	****	0	****	0	******	******	******	******	.960	31	.50	.78	29
MACKIE 4 NNW	5463	4	*****	0	*****	****	0	****	0	******	******	******	******	.590	31	*****	.59	28
MORAVIA 2 NNE	6035	4	*****	0	*****	****	0	****	0	******	******	******	******	1.010	31	.51	.82	28
OKEENE	6629	4	41.5	31	5.1	71.	5	14.	9	727.0	-160.0	.0	.0	1.420	31	.83	.71	28
RETROP	7565	4	*****	0	*****	****	0	****	0	******	******	******	******	1.310	31	*****	.96	28
REYDON	7579	4	42.5	26	*****	80.	31	13.	13	585.0	******	.0	******	.750	26	*****	.58	28
SAYRE	7952	4	*****	0	*****	****	0	****	0	******	******	******	******	.550	31	.13	.55	28
SWEETWATER 2 E	8652	4	*****	0	*****	****	0	****	0	******	******	******	******	.751	31	*****	.65	28
TALOGA	8708	4	40.8	31	5.7	73.	31	8.	10	751.0	-176.0	.0	.0	.841	31	.29	.68	28
THOMAS	8815	4	*****	0	*****	****	0	****	0	******	******	******	******	1.590	31	*****	.80	28
VICI	9172	4	*****	0	*****	****	0	****	0	******	******	******	******	.730	31	*****	.68	27
WATONGA	9364	4	42.2	31	*****	71.	31	14.	9	707.5	******	.0	******	1.343	31	.57	.70	28
WEATHERFORD	9422	4	41.9	31	5.3	72.	6	18.	9	717.0	-163.0	.0	.0	1.531	31	.89	.76	28

JANUARY 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	******	******	******	******	1.500	31	*****	.66	28
ARCADIA	288	5	*****	0	*****	****	0	****	0	******	******	******	******	1.731	31	*****	.70	28
TINKER AFB	325	5	*****	0	*****	****	0	****	0	******	******	******	******	1.482	31	*****	.52	29
BLANCHARD 2 SSW	830	5	43.9	31	*****	73.	31	21.	15	654.5	******	.0	******	1.353	31	*****	.50	28
BRISTOW	1144	5	44.0	30	7.3	75.	31	19.	21	629.0	-248.0	.0	.0	1.891	31	.74	.55	29
CHANDLER	1684	5	43.4	30	6.0	74.	31	20.	9	647.0	-209.0	.0	.0	1.450	30	*****	.60	28
CHICKASHA EX ST	1750	5	43.5	31	5.7	74.	31	15.	15	665.5	-177.5	.0	.0	1.550	31	.65	.60	28
COX CITY 1 E	2196	5	*****	0	*****	****	0	****	0	******	******	******	******	1.600	31	*****	.70	27
CRESCENT	2242	5	*****	0	*****	****	0	****	0	******	******	******	******	1.580	31	*****	1.07	25
CUSHING	2318	5	41.1	31	6.3	70.	7	21.	15	739.5	-196.5	.0	.0	1.120	31	.08	.57	14
EL RENO 1 N	2818	5	42.8	23	*****	76.	31	20.	21	509.5	******	.0	******	1.180	31	.35	.48	28
GUTHRIE	3821	5	43.9	31	7.7	73.	31	18.	9	653.5	-239.5	.0	.0	2.170	31	1.26	1.10	25
HENNESSEY 2 SE	4055	5	41.0	31	5.5	71.	5	14.	13	743.5	-171.5	.0	.0	1.200	31	.49	.65	28
INGALLS	4489	5	*****	0	*****	****	0	****	0	******	******	******	******	1.290	31	*****	.58	28
KINGFISHER 2 SE	4861	5	41.9	31	5.9	72.	5	15.	9	717.5	-181.5	.0	.0	1.600	31	.77	.95	25
KONAWA	4915	5	*****	0	*****	****	0	****	0	******	******	******	******	1.413	31	.08	.52	29
MARSHALL	5589	5	*****	0	*****	****	0	****	0	******	******	******	******	1.080	31	.32	.63	25
MEEKER 4 W	5779	5	43.0	31	6.5	73.	31	17.	15	681.0	-203.0	.0	.0	1.670	31	.60	.50	26
MULHALL	6110	5	*****	0	*****	****	0	****	0	******	******	******	******	1.412	31	*****	.82	25
NORMAN 3 S	6386	5	44.0	31	*****	76.	31	16.	16	652.0	******	.0	******	1.441	31	.31	.55	28
OILTON 2 SE	6616	5	*****	0	*****	****	0	****	0	******	******	******	******	2.320	31	*****	.78	14
OKEMAH	6638	5	44.9	31	7.0	76.	31	23.	21	624.0	-216.0	.0	.0	1.990	31	.61	.55	29
OKLAHOMA CTY WS	6661	5	43.5	31	7.6	73.	31	20.	15	668.0	-234.0	.0	.0	1.103	31	.14	.38	28
PERKINS	7003	5	*****	0	*****	****	0	****	0	******	******	******	******	1.300	31	.18	.57	28
PIEDMONT	7068	5	*****	0	*****	****	0	****	0	******	******	******	******	1.460	31	*****	.73	25
PRAGUE	7264	5	*****	0	*****	****	0	****	0	******	******	******	******	3.431	31	2.19	1.26	25
PURCELL 5 SW	7327	5	43.8	31	6.9	75.	31	18.	21	656.0	-215.0	.0	.0	3.310	31	2.24	1.20	26
SEMINOLE	8042	5	45.5	31	6.4	77.	31	21.	21	606.0	-197.0	.0	.0	1.511	31	.21	.60	29
SHAWNEE	8110	5	*****	0	*****	****	0	****	0	******	******	******	******	2.540	31	1.32	.59	26
STELLA	8479	5	*****	0	*****	****	0	****	0	******	******	******	******	2.340	31	*****	.86	25
STILLWATER 2 W	8501	5	38.9	31	3.6	70.	6	14.	9	808.0	-113.0	.0	.0	1.660	31	.76	.72	28
STROUD 1 N	8563	5	*****	0	*****	****	0	****	0	******	******	******	******	2.303	29	*****	1.24	25
TECUMSEH	8751	5	*****	0	*****	****	0	****	0	******	******	******	******	2.490	31	*****	.77	25
TROUSDALE	8960	5	*****	0	*****	****	0	****	0	******	******	******	******	1.350	31	*****	.64	28
UNION CITY 1 SE	9086	5	*****	0	*****	****	0	****	0	******	******	******	******	1.610	31	.52	.48	28
WELTY 1 SSE	9479	5	*****	0	*****	****	0	****	0	******	******	******	******	2.700	31	*****	1.05	26
WEWOKA	9575	5	*****	0	*****	****	0	****	0	******	******	******	******	1.320	31	-.10	.38	29

JANUARY 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	******	******	******	******	3.710	31	*****	1.60	26
BEGGS	631	6	*****	0	*****	****	0	****	0	******	******	******	******	2.720	31	*****	1.61	24
BOYNTON	1027	6	*****	0	*****	****	0	****	0	******	******	******	******	1.771	29	*****	1.10	29
CALVIN	1391	6	*****	0	*****	****	0	****	0	******	******	******	******	1.891	31	.49	1.07	28
CHECOTAH	1711	6	*****	0	*****	****	0	****	0	******	******	******	******	1.975	31	.48	1.03	29
DEWAR 2 NE	2485	6	*****	0	*****	****	0	****	0	******	******	******	******	1.611	31	.20	.97	29
DUSTIN	2690	6	*****	0	*****	****	0	****	0	******	******	******	******	1.340	31	*****	1.00	28
EUFAULA	2993	6	45.2	31	*****	74.	31	23.	21	613.0	******	.0	******	2.823	31	1.29	1.03	29
HANNA	3884	6	44.4	31	*****	74.	31	18.	21	638.5	******	.0	******	2.911	31	1.45	1.53	29
HARTSHORNE	3946	6	*****	0	*****	****	0	****	0	******	******	******	******	3.433	31	*****	2.11	26
HASKELL	3956	6	*****	0	*****	****	0	****	0	******	******	******	******	2.690	31	1.06	1.62	26
HOLDENVILLE	4235	6	44.3	31	5.5	78.	31	18.	21	641.0	-171.0	.0	.0	1.331	31	-.01	.51	29
LAKE EUFAULA	4975	6	43.5	31	*****	70.	7	24.	21	667.5	******	.0	******	2.830	31	*****	1.57	26
LYONS 2 N	5437	6	*****	0	*****	****	0	****	0	******	******	******	******	2.160	31	.44	.95	28
MCALESTER FAA	5664	6	46.2	31	8.1	74.	31	21.	21	582.0	-252.0	.0	.0	5.093	31	3.47	3.25	25
MCCURTAIN 1 SE	5693	6	46.1	31	*****	76.	31	21.	21	586.5	******	.0	******	4.590	31	2.71	2.25	26
MUSKOGEE	6130	6	44.7	31	7.0	74.	31	21.	21	630.5	-215.5	.0	.0	2.160	31	.53	.97	28
OKMULGEE W W	6670	6	42.6	31	5.5	77.	31	18.	21	695.5	-160.5	.0	.0	2.521	31	.89	1.30	25
OKTAHA 2 NE	6678	6	*****	0	*****	****	0	****	0	******	******	******	******	2.472	31	*****	.99	29
QUINTON	7372	6	*****	0	*****	****	0	****	0	******	******	******	******	4.761	31	3.14	3.27	25
SALLISAW 2 NE	7862	6	43.2	31	4.8	76.	31	18.	21	674.5	-150.5	.0	.0	2.971	31	1.19	2.30	26
SCIPIO	7979	6	*****	0	*****	****	0	****	0	******	******	******	******	2.850	31	*****	.91	29
SCRAPER	7993	6	*****	0	*****	****	0	****	0	******	******	******	******	3.770	31	*****	2.12	26
SHORT	8170	6	*****	0	*****	****	0	****	0	******	******	******	******	4.541	31	*****	2.30	26
STILWELL 1 NE	8506	6	43.2	31	*****	74.	31	16.	16	674.5	******	.0	******	2.563	31	.60	1.21	26
TAHLEQUAH	8677	6	43.9	30	6.9	76.	31	19.	13	634.0	-234.0	.0	.0	2.460	31	.68	1.00	29
WEBBERS FALLS	9445	6	41.9	31	6.0	70.	8	19.	21	715.5	-186.5	.0	.0	2.560	31	.93	1.15	26
WESTVILLE	9523	6	*****	0	*****	****	0	****	0	******	******	******	******	2.290	31	*****	1.05	29
WETUMKA 3 NE	9571	6	*****	0	*****	****	0	****	0	******	******	******	******	1.925	31	.50	.98	29

JANUARY 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	46.7	31	7.4	80.	31	15.	9	566.5	-230.5	.0	.0	1.570	31	.79	.75	28
ALTUS DAM	184	7	43.9	31	*****	75.	24	17.	9	654.0	******	.0	******	1.740	31	1.12	.87	25
ANADARKO	224	7	43.6	26	*****	76.	31	11.	9	557.5	******	.0	******	1.170	31	.23	.54	28
APACHE	260	7	*****	0	*****	****	0	****	0	******	******	******	******	1.170	31	*****	.60	28
ALTUS AFB	447	7	*****	0	*****	****	0	****	0	******	******	******	******	1.663	31	*****	.94	25
CARNEGIE 2 ENE	1504	7	43.5	30	6.2	77.	31	12.	9	645.5	-213.5	.0	.0	1.720	31	.94	.80	25
CHATTANOOGA	1706	7	44.0	31	5.0	76.	31	18.	21	650.0	-156.0	.0	.0	1.201	31	.29	.84	28
DUNCAN 12 W	2668	7	*****	0	*****	****	0	****	0	******	******	******	******	1.781	31	*****	.84	28
FREDERICK	3353	7	45.0	31	4.4	72.	6	21.	16	621.5	-134.5	.0	.0	1.410	31	.56	1.01	28
GRANDFIELD 4 NW	3709	7	*****	0	*****	****	0	****	0	******	******	******	******	1.190	31	.11	.92	28
HOBART FAA APT	4204	7	43.2	31	7.0	76.	31	16.	16	675.0	-218.0	.0	.0	2.451	31	1.84	1.83	25
HOLLIS	4249	7	44.2	31	5.3	80.	31	12.	9	645.5	-163.5	.0	.0	.600	31	.07	.57	28
LAWTON	5063	7	43.6	31	4.8	77.	31	20.	15	662.0	-150.0	.0	.0	1.232	31	.16	.90	27
FORT SILL	5068	7	46.8	31	*****	77.	31	26.	16	564.0	******	.0	******	1.423	31	.35	.46	27
LOOKEBA 2 ENE	5329	7	*****	0	*****	****	0	****	0	******	******	******	******	1.560	31	*****	.83	25
MANGUM RES STA	5509	7	45.8	31	7.2	84.	31	17.	13	596.5	-221.5	.0	.0	1.760	31	.64	.88	25
RANDLETT 9 E	7403	7	*****	0	*****	****	0	****	0	******	******	******	******	1.550	31	*****	1.32	28
ROOSEVELT	7727	7	*****	0	*****	****	0	****	0	******	******	******	******	1.560	31	.88	.76	25
SEDAN	8016	7	*****	0	*****	****	0	****	0	******	******	******	******	1.390	31	*****	.74	28
SNYDER	8299	7	*****	0	*****	****	0	****	0	******	******	******	******	.982	31	.14	.82	28
VINSON 3 WNW	9212	7	*****	0	*****	****	0	****	0	******	******	******	******	.511	31	.04	.49	28
WALTERS	9278	7	45.9	31	6.0	76.	31	21.	16	592.5	-185.5	.0	.0	1.430	31	.23	.83	28
WILLOW	9668	7	*****	0	*****	****	0	****	0	******	******	******	******	1.441	31	*****	.93	28

JANUARY 1989 SUMMARY FOR SOUTH CENTRAL DIVISION (CD8)

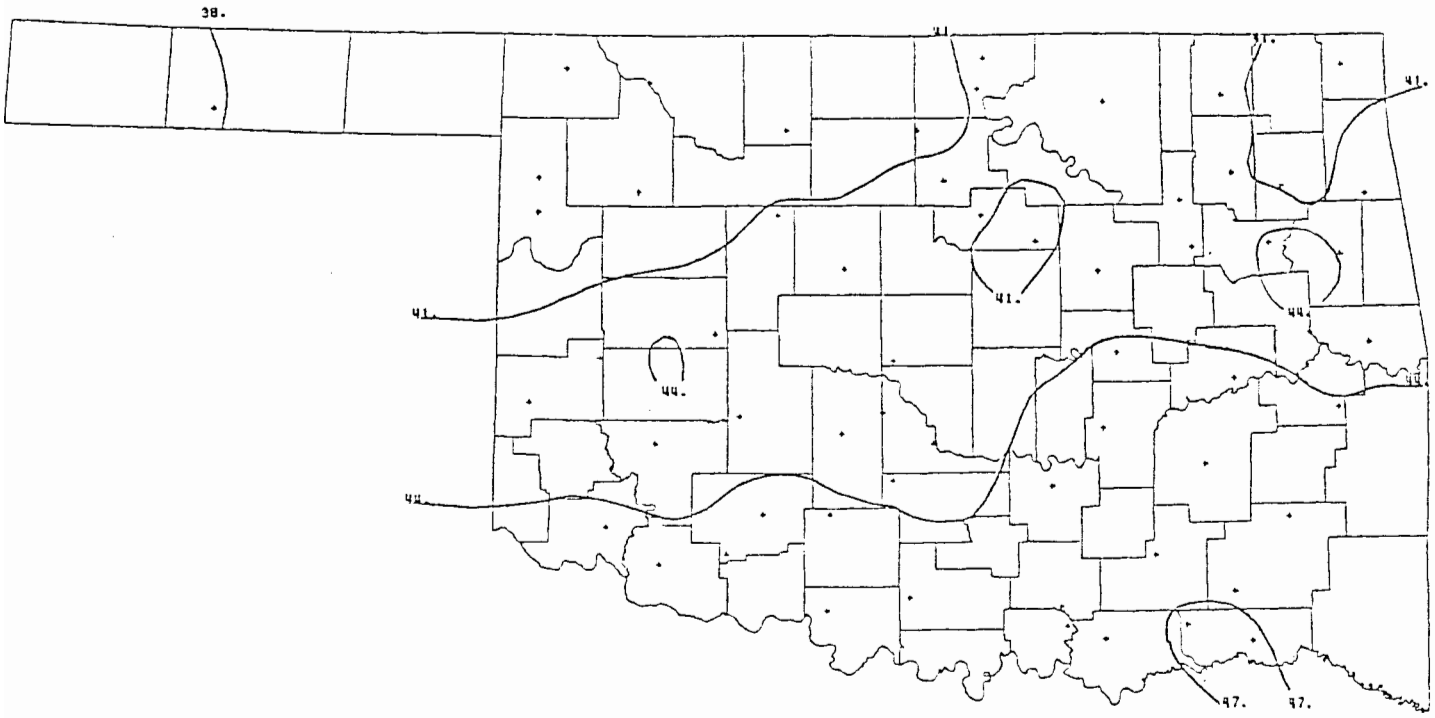
NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	MAX DAY	MIN TEMP	MIN DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	MAX DAY
ADA	17	8	44.4	31	4.8	76.	31	20.	21	640.0	-147.0	.0	.0	1.201	31	-.16	.67	28
ALLEN	147	8	*****	0	*****	****	0	****	0	******	******	******	******	1.650	31	*****	.60	27
ARDMORE	292	8	47.4	31	5.4	78.	31	24.	16	545.5	-152.5	.0	.0	1.360	31	.01	.66	28
ATOKA DAM	394	8	45.0	31	*****	76.	7	23.	21	621.5	******	.0	******	4.200	31	*****	2.45	26
BOKCHITO	917	8	*****	0	*****	****	0	****	0	******	******	******	******	3.170	31	*****	1.10	29
CANEY	1437	8	45.2	31	*****	70.	31	29.	21	615.0	******	.0	******	3.360	31	*****	1.55	26
CENTRAHOMA	1648	8	*****	0	*****	****	0	****	0	******	******	******	******	3.400	31	*****	2.00	25
CHICKASAW NRA	1745	8	43.6	31	*****	72.	6	18.	21	663.5	******	.0	******	1.330	31	*****	.61	28
COLEMAN	2011	8	*****	0	*****	****	0	****	0	******	******	******	******	6.860	31	*****	4.45	26
COMANCHE	2054	8	*****	0	*****	****	0	****	0	******	******	******	******	1.421	31	*****	.85	28
DAISY 4 ENE	2354	8	*****	0	*****	****	0	****	0	******	******	******	******	3.581	31	1.63	1.51	26
DUNCAN	2660	8	44.1	31	4.2	72.	12	21.	16	647.5	-130.5	.0	.0	1.570	31	.59	.98	29
DURANT USDA	2678	8	44.3	31	*****	72.	7	24.	22	642.5	******	.0	******	2.960	31	1.22	1.25	26
ELMORE CITY	2872	8	*****	0	*****	****	0	****	0	******	******	******	******	1.271	31	*****	.90	29
FARRIS 3 WNW	3083	8	*****	0	*****	****	0	****	0	******	******	******	******	3.990	31	*****	1.86	26
GRADY	3688	8	*****	0	*****	****	0	****	0	******	******	******	******	1.300	31	*****	.48	29
HEALDTON	4001	8	45.7	31	*****	79.	31	18.	21	598.5	******	.0	******	1.410	31	.07	.77	28
HENNEPIN	4052	8	*****	0	*****	****	0	****	0	******	******	******	******	1.480	31	*****	.75	27
KETCHUM RANCH	4780	8	*****	0	*****	****	0	****	0	******	******	******	******	1.240	31	*****	.82	28
KINGSTON	4865	8	*****	0	*****	****	0	****	0	******	******	******	******	4.590	31	2.88	1.95	26
LEHIGH	5108	8	*****	0	*****	****	0	****	0	******	******	******	******	4.525	31	*****	2.80	26
LINDSAY 2 W	5216	8	44.0	31	*****	75.	31	17.	16	651.0	******	.0	******	1.960	31	.83	.85	28
LOCO 6 SE	5247	8	*****	0	*****	****	0	****	0	******	******	******	******	1.210	31	*****	.63	28
MADILL	5468	8	46.5	31	5.5	76.	31	21.	21	575.0	-169.0	.0	.0	5.920	31	4.23	3.99	26
MARIETTA	5563	8	47.2	31	6.0	78.	31	22.	21	553.0	-185.0	.0	.0	1.741	31	.26	.95	28
MARLOW 1 WSW	5581	8	45.0	31	*****	75.	31	18.	16	621.5	******	.0	******	1.810	31	.91	.73	28
MCGEE CREEK DAM	5713	8	44.0	31	*****	70.	7	24.	22	652.0	******	.0	******	4.970	31	*****	2.78	26
OSWALT	6787	8	*****	0	*****	****	0	****	0	******	******	******	******	1.050	31	*****	.60	26
PAULS VALLEY	6926	8	44.2	25	*****	77.	31	18.	16	519.0	******	.0	******	.800	25	*****	.50	28
PONTOTOC	7214	8	*****	0	*****	****	0	****	0	******	******	******	******	1.900	31	.57	1.20	29
TISHOMINGO NWLR	8884	8	46.5	30	*****	75.	5	17.	21	555.0	******	.0	******	4.850	31	3.32	2.90	26
TUSSY	9032	8	*****	0	*****	****	0	****	0	******	******	******	******	1.180	31	*****	.51	28
WAURIKA	9395	8	47.5	31	6.5	79.	31	20.	21	542.5	-201.5	.0	.0	1.010	31	-.12	.95	28
WAURIKA DAM	9399	8	47.0	20	*****	75.	12	18.	17	361.0	******	.0	******	1.421	31	*****	.96	28

JANUARY 1989 SUMMARY FOR SOUTHEAST DIVISION (CD9)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	MAX DAY	MIN TEMP	MIN DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	MAX DAY
ANTLERS	256	9	46.3	30	6.0	76.	31	19.	22	562.5	-206.5	.0	.0	2.800	31	.60	2.14	25
BATTIEST 1 SSW	567	9	43.0	28	*****	74.	31	18.	22	617.0	******	.0	******	4.851	28	*****	1.65	27
BEAR MT TWR	584	9	45.6	25	*****	73.	31	26.	16	485.5	******	.0	******	3.971	27	*****	1.53	26
BENGAL	670	9	*****	0	*****	****	0	****	0	******	******	******	******	4.511	31	*****	2.49	26
BOSWELL 4 NNW	980	9	47.1	31	*****	75.	31	20.	21	556.0	******	.0	******	3.241	31	1.14	1.30	26
BROKEN BOW 1 N	1162	9	*****	0	*****	****	0	****	0	******	******	******	******	3.730	31	.70	1.07	26
BROKEN BOW DAM	1168	9	43.9	31	*****	71.	7	20.	23	653.0	******	.0	******	3.970	31	*****	1.55	26
CARNASAW TWR	1499	9	*****	0	*****	****	0	****	0	******	******	******	******	3.590	31	.42	1.28	26
CARTER TWR	1544	9	*****	0	*****	****	0	****	0	******	******	******	******	4.270	31	1.58	1.11	29
FANSHAWE	3065	9	*****	0	*****	****	0	****	0	******	******	******	******	5.050	31	3.17	3.13	26
HEAVENER 1 SE	4008	9	*****	0	*****	****	0	****	0	******	******	******	******	2.780	31	.53	1.45	26
HEE MT TWR	4017	9	*****	0	*****	****	0	****	0	******	******	******	******	4.531	31	*****	1.65	26
HUGO	4384	9	47.0	31	4.7	74.	31	25.	22	557.0	-147.0	.0	.0	4.702	31	2.48	2.00	26
IDABEL	4451	9	45.7	31	3.7	72.	7	24.	22	600.5	-112.5	1.5	1.5	3.833	31	.79	1.10	26
JADIE TOWER	4560	9	*****	0	*****	****	0	****	0	******	******	******	******	4.420	31	*****	1.56	26
POTEAU W W	7254	9	43.8	31	*****	76.	31	19.	21	656.5	******	.0	******	3.922	31	*****	2.00	25
SMITHVILLE 1 W	8285	9	42.8	31	*****	76.	31	13.	22	687.0	******	.0	******	4.625	31	*****	1.76	25
SOBAL TOWER	8305	9	42.1	31	*****	69.	31	25.	15	709.5	******	.0	******	4.134	31	1.79	1.86	25
SPIRO	8416	9	*****	0	*****	****	0	****	0	******	******	******	******	5.180	31	3.36	3.68	26
TUSKAHOMA	9023	9	46.6	31	*****	76.	31	17.	21	570.0	******	.0	******	4.191	31	*****	1.70	26
VALLIANT 3 W	9118	9	*****	0	*****	****	0	****	0	******	******	******	******	3.472	31	.95	1.24	26

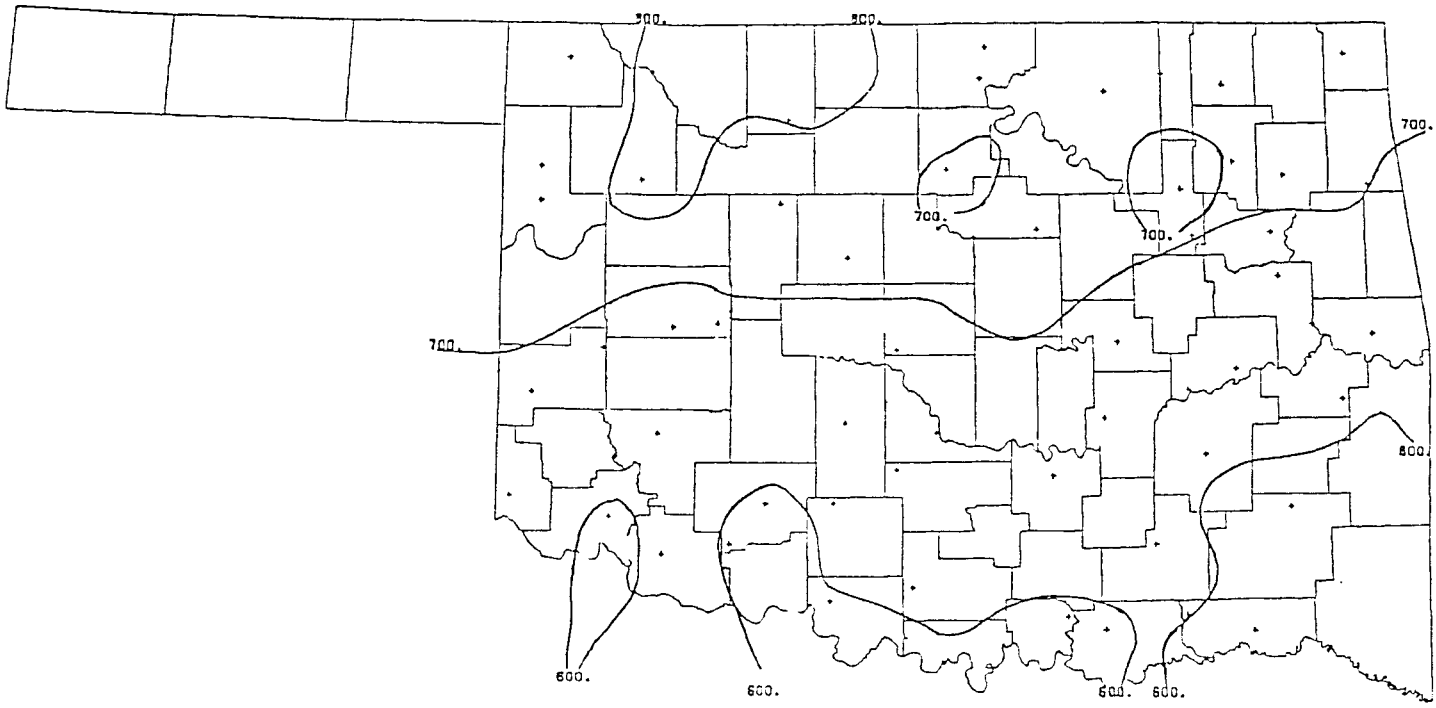
JANUARY 1989 CLIMATE DIVISION SUMMARY

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	38.1	10	4.4	83.0	31	1.0	13	833.8	-137.9	.0	.0	.46	14	.06	.54	28
2	40.7	14	6.3	79.0	31	3.0	9	752.5	-194.5	.0	.0	1.10	25	.34	.96	25
3	42.3	15	7.5	76.0	31	13.0	13	702.5	-235.3	.0	.0	2.00	32	.71	2.00	26
4	41.9	9	5.7	80.0	31	8.0	10	717.6	-177.1	.0	.0	1.06	20	.49	.96	28
5	43.1	15	6.5	77.0	31	14.0	9	676.3	-204.6	.0	.0	1.73	35	.67	1.26	25
6	44.1	12	6.5	78.0	31	16.0	16	646.1	-202.9	.0	.0	2.82	28	1.21	3.27	25
7	44.8	11	6.2	84.0	31	11.0	9	624.8	-193.6	.0	.0	1.41	23	.57	1.83	25
8	45.3	15	4.8	79.0	31	17.0	21	608.3	-147.3	.0	.0	2.57	33	1.18	4.45	26
9	45.0	9	3.5	76.0	31	13.0	22	616.9	-111.8	.2	.2	4.05	19	1.59	3.68	26

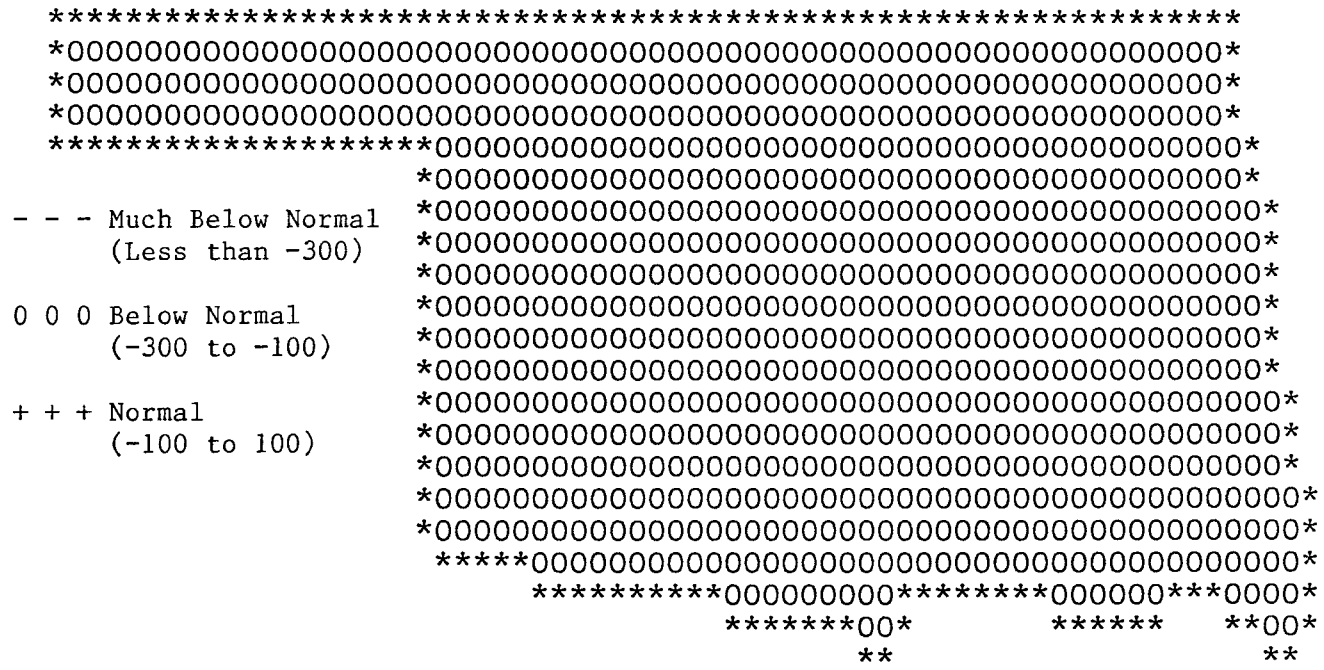


JANUARY 1989 AVERAGE MONTHLY TEMPERATURE
(Degrees F)

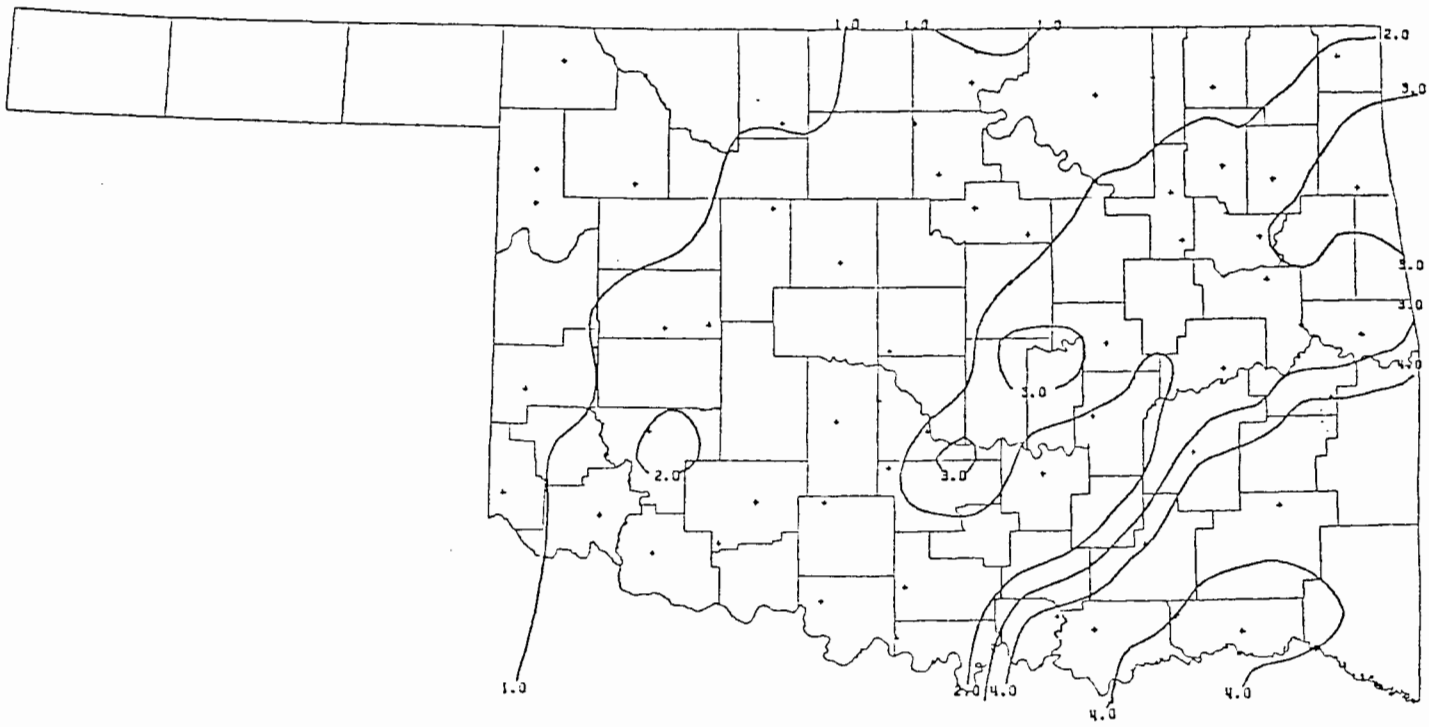
JANUARY 1989 DEVIATION FROM NORMAL TEMPERATURES
(Degrees F)



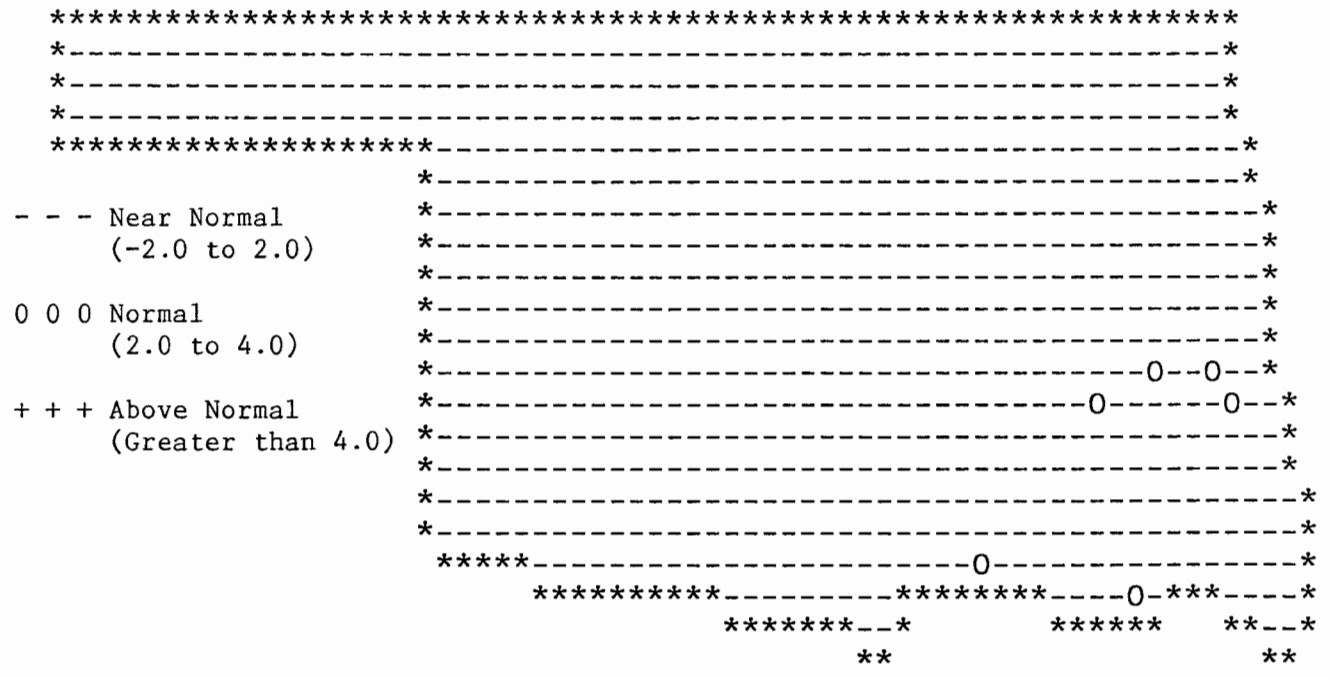
JANUARY 1989 TOTAL HEATING DEGREE DAYS



JANUARY 1989 DEVIATION FROM NORMAL HEATING DEGREE DAYS



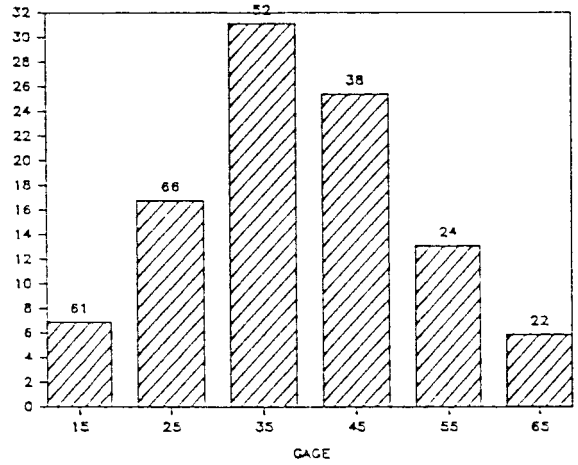
JANUARY 1989 TOTAL PRECIPITATION
(Inches)

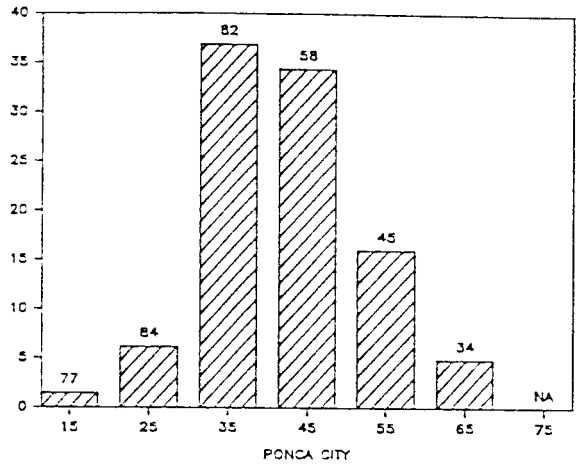


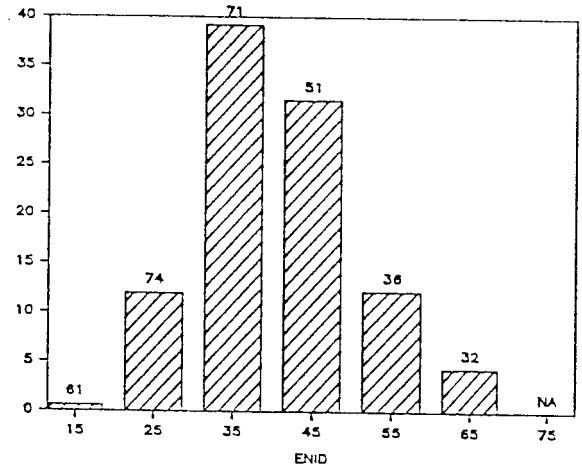
JANUARY 1989 DEVIATION FROM NORMAL PRECIPITATION
(Inches)

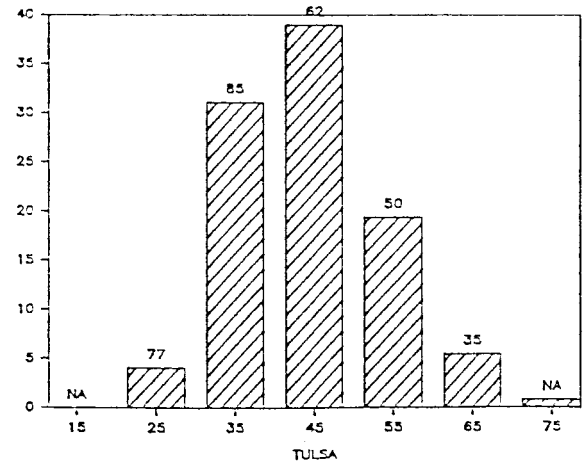
The following graphs present January 1989 hourly temperature and corresponding relative humidity information for 10 Oklahoma stations. The height of each bar represents the percentage of the hours in the month when the temperature was observed within the category given below the axis (45 = 40 to 49,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

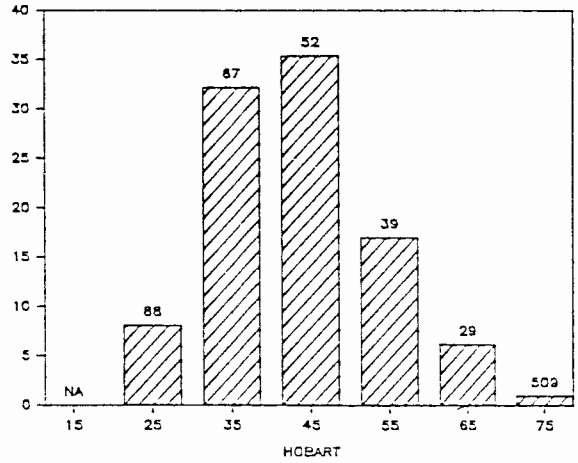
Example: Approximately 6% of Oklahoma City's hourly temperature values ranged from 60 to 69 degrees. The median relative humidity associated with this temperature class was 38%.

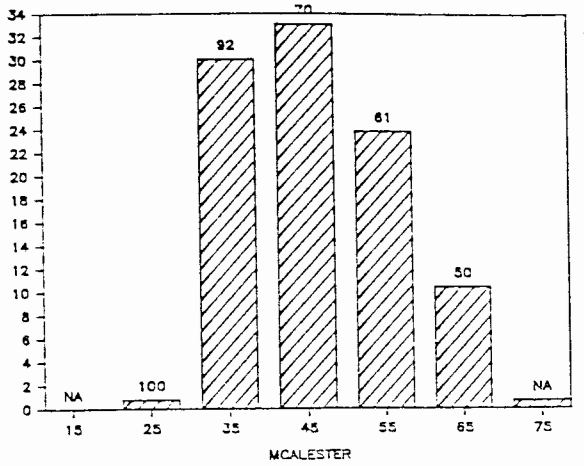


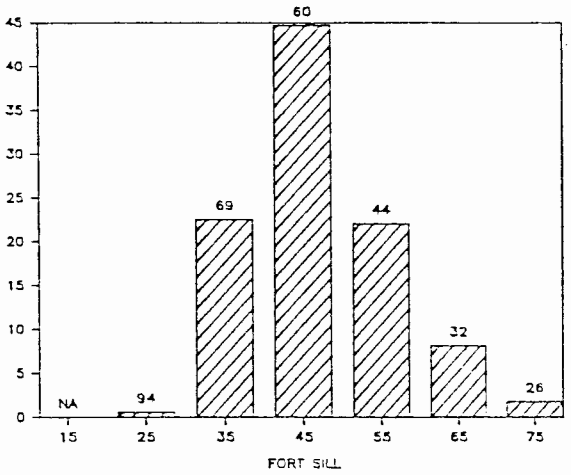


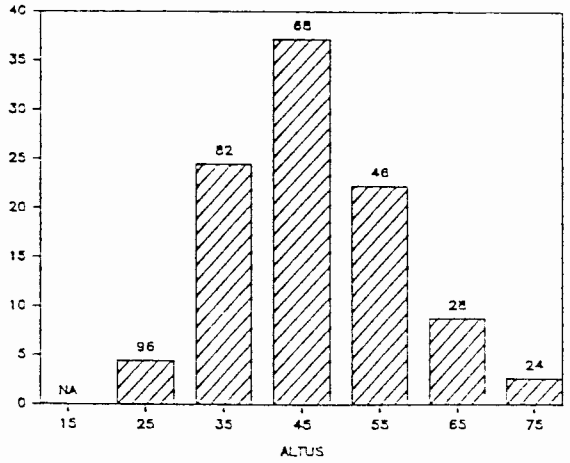


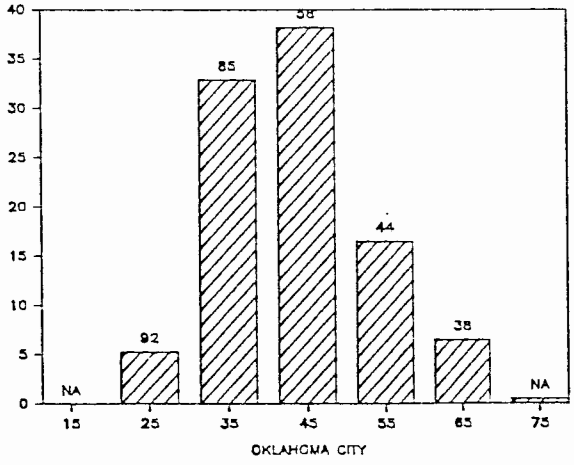


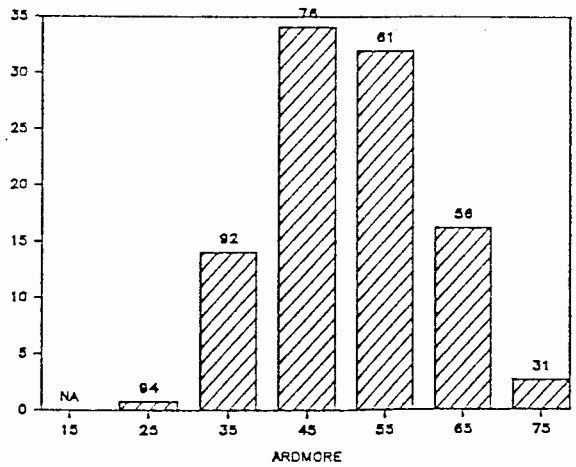

40
35
30
25
20
15
10
5
0
NA
88
87
52
39
29
509
15
25
35
45
55
65
75
HOBART


34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
NA
100
92
70
61
30
NA
15
25
35
45
55
65
75
MCALESTER

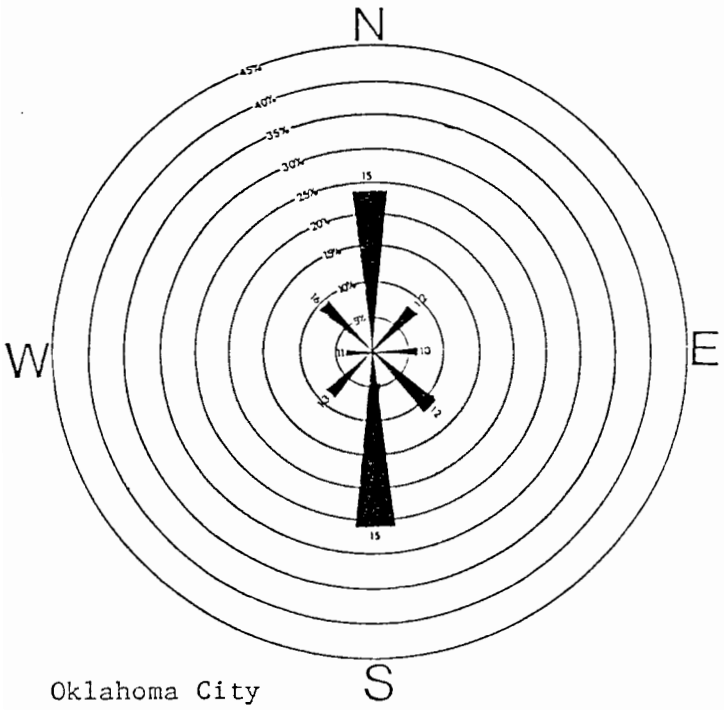

45
40
35
30
25
20
15
10
5
0
NA
94
69
60
44
32
26
15
25
35
45
55
65
75
FORT SILL


40
35
30
25
20
15
10
5
0
NA
96
82
68
46
28
24
15
25
35
45
55
65
75
ALTUS

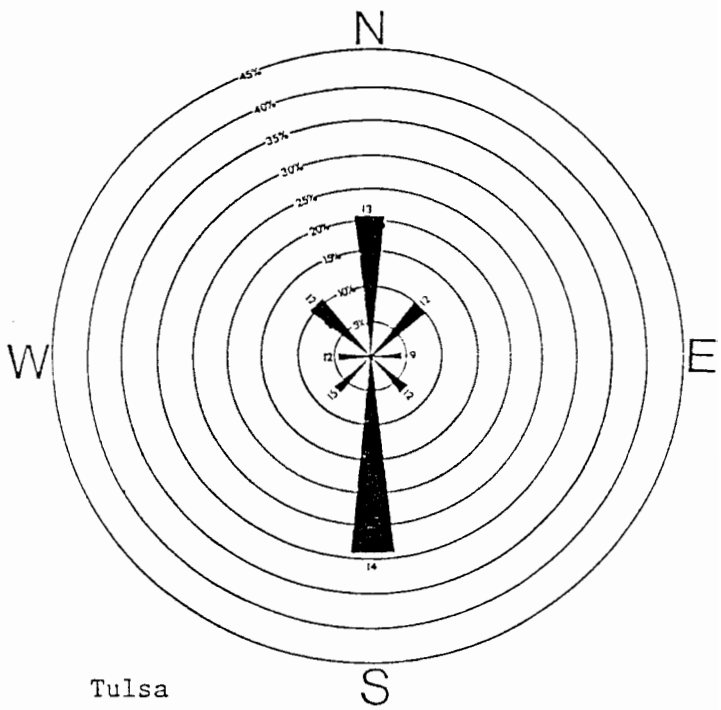

40
35
30
25
20
15
10
5
0
NA
92
85
58
44
38
NA
15
25
35
45
55
65
75
OKLAHOMA CITY


35
30
25
20
15
10
5
0
NA
94
92
76
61
56
31
15
25
35
45
55
65
75
ARDMORE

March 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.



Oklahoma City



Tulsa

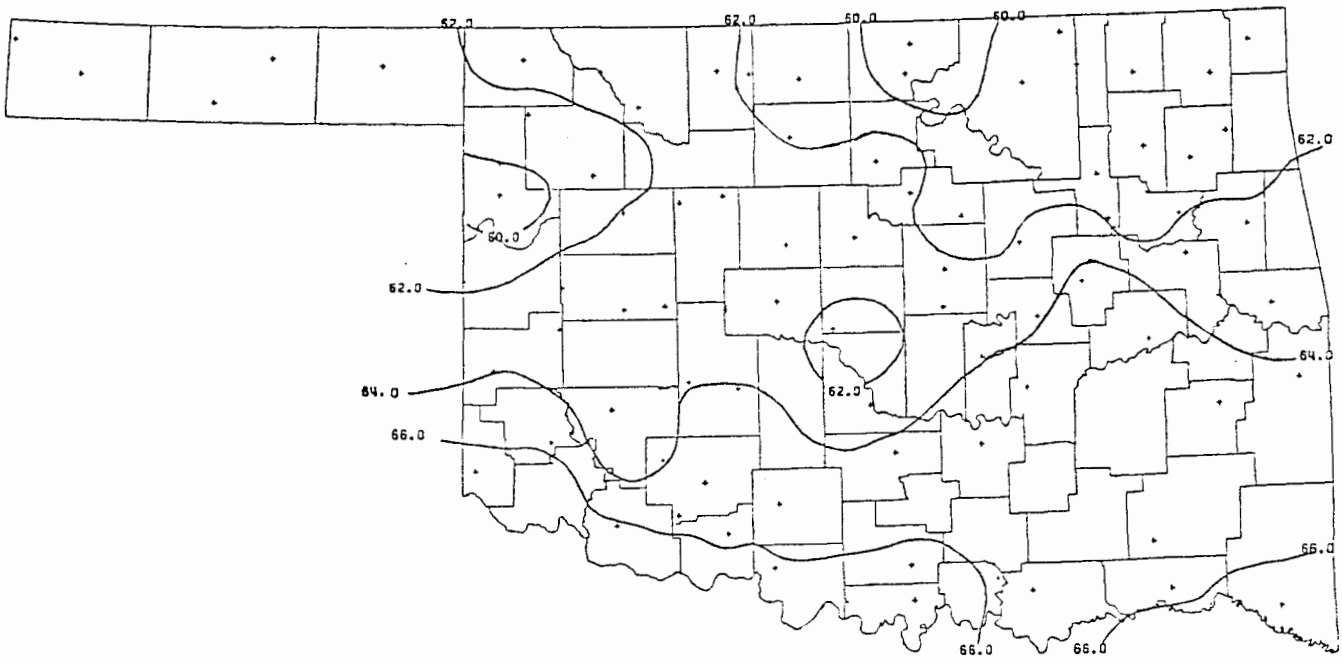
MARCH 1989 SUNRISE AND SUNSET

Oklahoma City

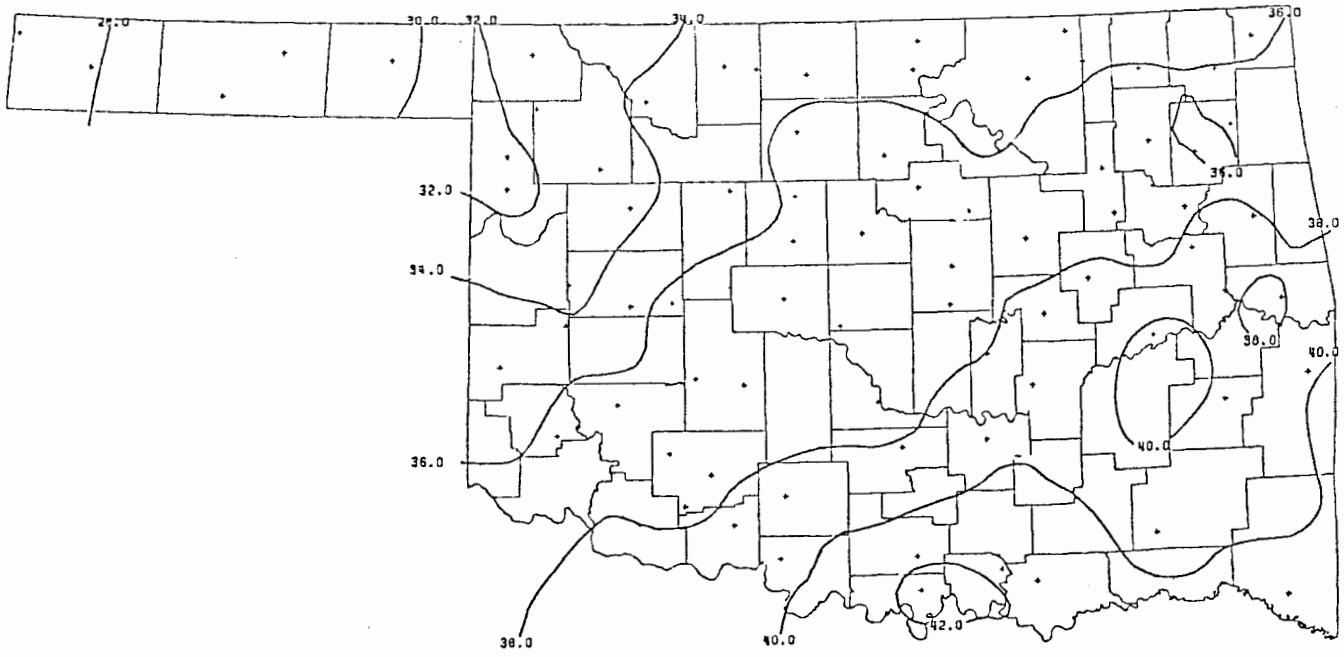
DATE	SUNRISE	SUNSET	DAYLIGHT
890301	7: 2AM	6:25PM LT	11:23
890302	7: 0AM	6:26PM LT	11:25
890303	6:59AM	6:26PM LT	11:27
890304	6:58AM	6:27PM LT	11:29
890305	6:57AM	6:28PM LT	11:32
890306	6:55AM	6:29PM LT	11:34
890307	6:54AM	6:30PM LT	11:36
890308	6:53AM	6:31PM LT	11:38
890309	6:51AM	6:32PM LT	11:41
890310	6:50AM	6:33PM LT	11:43
890311	6:48AM	6:33PM LT	11:45
890312	6:47AM	6:34PM LT	11:47
890313	6:46AM	6:35PM LT	11:49
890314	6:44AM	6:36PM LT	11:52
890315	6:43AM	6:37PM LT	11:54
890316	6:41AM	6:38PM LT	11:56
890317	6:40AM	6:38PM LT	11:58
890318	6:39AM	6:39PM LT	12: 1
890319	6:37AM	6:40PM LT	12: 3
890320	6:36AM	6:41PM LT	12: 5
890321	6:34AM	6:42PM LT	12: 7
890322	6:33AM	6:43PM LT	12:10
890323	6:31AM	6:43PM LT	12:12
890324	6:30AM	6:44PM LT	12:14
890325	6:29AM	6:45PM LT	12:16
890326	6:27AM	6:46PM LT	12:19
890327	6:26AM	6:47PM LT	12:21
890328	6:24AM	6:47PM LT	12:23
890329	6:23AM	6:46PM LT	12:25
890330	6:21AM	6:49PM LT	12:28
890331	6:20AM	6:50PM LT	12:30

Tulsa

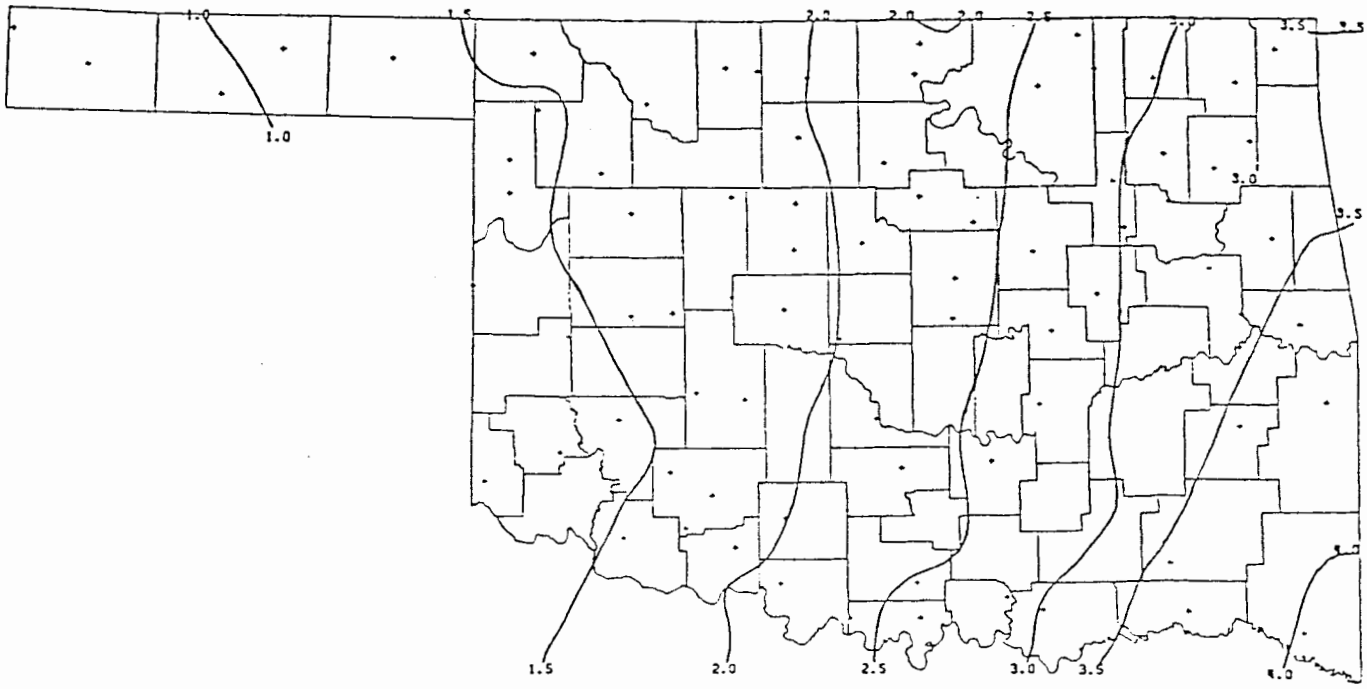
DATE	SUNRISE	SUNSET	DAYLIGHT
890301	6:56AM	6:17PM LT	11:22
890302	6:54AM	6:18PM LT	11:24
890303	6:53AM	6:19PM LT	11:26
890304	6:52AM	6:20PM LT	11:28
890305	6:50AM	6:21PM LT	11:31
890306	6:49AM	6:22PM LT	11:33
890307	6:48AM	6:23PM LT	11:35
890308	6:46AM	6:24PM LT	11:38
890309	6:45AM	6:25PM LT	11:40
890310	6:43AM	6:25PM LT	11:42
890311	6:42AM	6:26PM LT	11:44
890312	6:41AM	6:27PM LT	11:47
890313	6:39AM	6:28PM LT	11:49
890314	6:38AM	6:29PM LT	11:51
890315	6:36AM	6:30PM LT	11:54
890316	6:35AM	6:31PM LT	11:56
890317	6:33AM	6:32PM LT	11:58
890318	6:32AM	6:32PM LT	12: 1
890319	6:30AM	6:33PM LT	12: 3
890320	6:29AM	6:34PM LT	12: 5
890321	6:28AM	6:35PM LT	12: 7
890322	6:26AM	6:36PM LT	12:10
890323	6:25AM	6:37PM LT	12:12
890324	6:23AM	6:38PM LT	12:14
890325	6:22AM	6:38PM LT	12:17
890326	6:20AM	6:39PM LT	12:19
890327	6:19AM	6:40PM LT	12:21
890328	6:17AM	6:41PM LT	12:24
890329	6:16AM	6:42PM LT	12:26
890330	6:14AM	6:43PM LT	12:28
890331	6:13AM	6:43PM LT	12:31



30-YEAR MEAN MARCH DAILY MAXIMUM TEMPERATURE



30-YEAR MEAN MARCH DAILY MINIMUM TEMPERATURE



30-YEAR MEAN MARCH PRECIPITATION

30- AND 90-DAY NATIONAL WEATHER SERVICE OUTLOOK

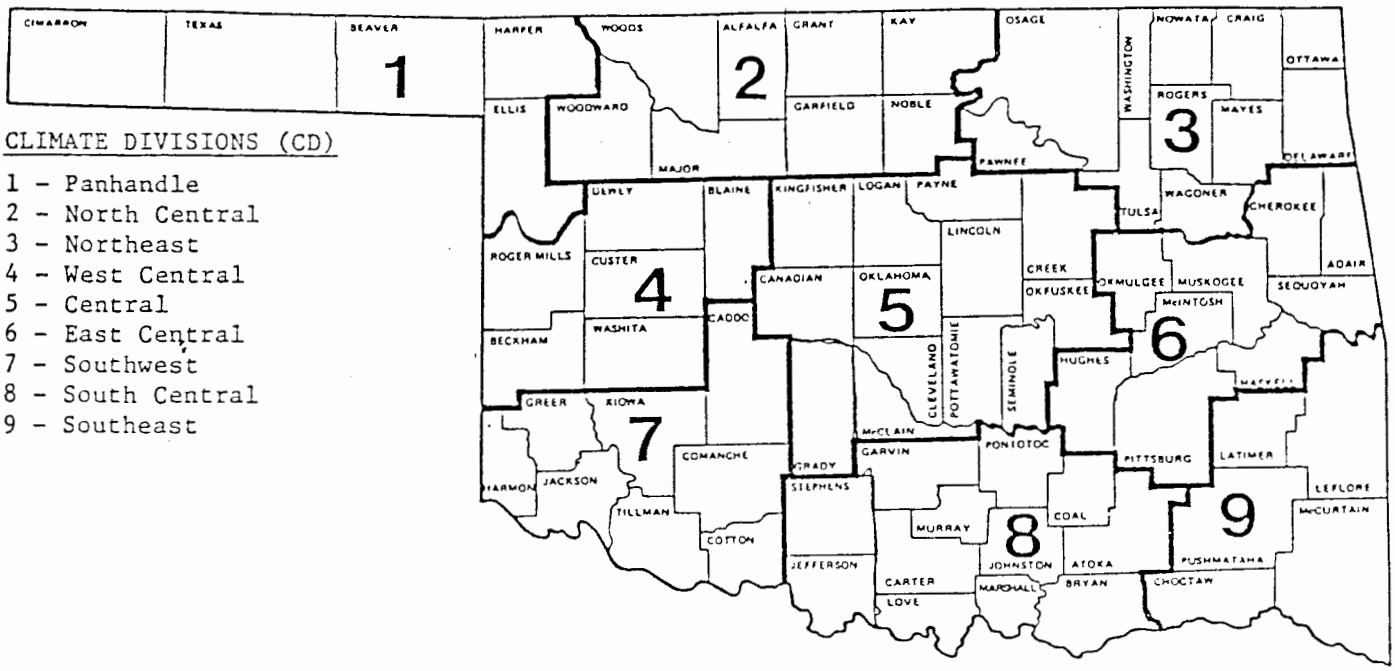
30-DAY OUTLOOK (FEBRUARY)

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

90-DAY OUTLOOK (FEBRUARY - APRIL)

Precipitation - Near Normal Statewide.
Temperature - Near Normal Statewide.

O K L A H O M A



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.

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.

MARCH 1989

CLIMATE CALENDAR

The data on this calendar are for Oklahoma City. Normal values are calculated for the period 1950-1979. Extremes are found for the period of record (1924-present).

Normal	1	Actual
59.6	max	
33.2	min	
.036	pcpn	
18	HDD	
0	CDD	
Highest Max		85-1976
Lowest Max		20-1980
Lowest Min		9-1980
Highest Min		56-1940
Greatest pcpn		1.71-1948

Normal	2	Actual
59.0	max	
36.6	min	
.084	pcpn	
17	HDD	
0	CDD	
Highest Max		85-1976
Lowest Max		27-1960
Lowest Min		8-1980
Highest Min		62-1976
Greatest pcpn		2.04-1988

Normal	3	Actual
56.2	max	
33.2	min	
.081	pcpn	
20	HDD	
0	CDD	
Highest Max		84-1955
Lowest Max		18-1960
Lowest Min		3-1960
Highest Min		59-1955
Greatest pcpn		1.46-1985

Normal	4	Actual
54.1	max	
30.4	min	
.029	pcpn	
22	HDD	
0	CDD	
Highest Max		84-1938
Lowest Max		18-1960
Lowest Min		8-1960
Highest Min		60-1938
Greatest pcpn		1.00-1982

Normal	5	Actual
56.4	max	
32.1	min	
.014	pcpn	
21	HDD	
0	CDD	
Highest Max		87-1956
Lowest Max		25-1960
Lowest Min		10-1960
Highest Min		56-1956
Greatest pcpn		1.71-1933

Normal	6	Actual
58.8	max	
34.4	min	
.078	pcpn	
18	HDD	
0	CDD	
Highest Max		83-1929
Lowest Max		21-1943
Lowest Min		8-1943
Highest Min		48-1974
Greatest pcpn		1.45-1973

Normal	7	Actual
56.3	max	
33.4	min	
.040	pcpn	
20	HDD	
0	CDD	
Highest Max		79-1974
Lowest Max		22-1932
Lowest Min		9-1943
Highest Min		61-1974
Greatest pcpn		.61-1976

Normal	8	Actual
56.6	max	
34.1	min	
.154	pcpn	
19	HDD	
0	CDD	
Highest Max		77-1977
Lowest Max		26-1932
Lowest Min		9-1967
Highest Min		57-1974
Greatest pcpn		1.38-1974

Normal	9	Actual
59.5	max	
36.0	min	
.068	pcpn	
17	HDD	
0	CDD	
Highest Max		81-1986
Lowest Max		29-1932
Lowest Min		11-1932
Highest Min		61-1986
Greatest pcpn		.70-1952

Normal	10	Actual
61.9	max	
38.9	min	
.135	pcpn	
15	HDD	
0	CDD	
Highest Max		89-1955
Lowest Max		26-1932
Lowest Min		4-1948
Highest Min		56-1967
Greatest pcpn		1.48-1974

Normal	11	Actual
59.7	max	
38.6	min	
.095	pcpn	
16	HDD	
1	CDD	
Highest Max		93-1967
Lowest Max		16-1948
Lowest Min		1-1948
Highest Min		56-1972
Greatest pcpn		1.48-1945

Normal	12	Actual
58.8	max	
36.3	min	
.050	pcpn	
18	HDD	
0	CDD	
Highest Max		90-1967
Lowest Max		27-1950
Lowest Min		4-1948
Highest Min		59-1972
Greatest pcpn		.78-1966

Normal	13	Actual
59.6	max	
35.7	min	
.020	pcpn	
17	HDD	
0	CDD	
Highest Max		90-1967
Lowest Max		36-1956
Lowest Min		14-1950
Highest Min		56-1933
Greatest pcpn		.43-1953

Normal	14	Actual
60.6	max	
35.5	min	
.016	pcpn	
17	HDD	
0	CDD	
Highest Max		83-1955
Lowest Max		32-1937
Lowest Min		17-1954
Highest Min		56-1955
Greatest pcpn		.87-1982

Normal	15	Actual
57.5	max	
36.8	min	
.012	pcpn	
18	HDD	
0	CDD	
Highest Max		84-1943
Lowest Max		37-1937
Lowest Min		21-1937
Highest Min		56-1935
Greatest pcpn		2.34-1944

Normal	16	Actual
60.6	max	
36.4	min	
.054	pcpn	
16	HDD	
0	CDD	
Highest Max		79-1966
Lowest Max		37-1960
Lowest Min		22-1934
Highest Min		56-1930
Greatest pcpn		1.25-1987

Normal	17	Actual
63.6	max	
37.8	min	
.064	pcpn	
14	HDD	
0	CDD	
Highest Max		82-1972
Lowest Max		34-1970
Lowest Min		20-1934
Highest Min		56-1977
Greatest pcpn		.69-1953

Normal	18	Actual
63.0	max	
39.9	min	
.050	pcpn	
13	HDD	
0	CDD	
Highest Max		86-1963
Lowest Max		30-1965
Lowest Min		19-1965
Highest Min		59-1968
Greatest pcpn		.48-1968

Normal	19	Actual
62.1	max	
39.0	min	
.072	pcpn	
15	HDD	
0	CDD	
Highest Max		88-1976
Lowest Max		26-1965
Lowest Min		16-1965
Highest Min		61-1982
Greatest pcpn		.90-1944

Normal	20	Actual
61.1	max	
37.5	min	
.160	pcpn	
16	HDD	
0	CDD	
Highest Max		85-1938
Lowest Max		35-1964
Lowest Min		12-1965
Highest Min		64-1935
Greatest pcpn		2.18-1985

Normal	21	Actual
59.4	max	
35.6	min	
.035	pcpn	
18	HDD	
0	CDD	
Highest Max		84-1938
Lowest Max		29-1955
Lowest Min		17-1974
Highest Min		62-1935
Greatest pcpn		.54-1926

Normal	22	Actual
64.7	max	
36.8	min	
.088	pcpn	
14	HDD	
0	CDD	
Highest Max		85-1929
Lowest Max		38-1952
Lowest Min		13-1955
Highest Min		59-1935
Greatest pcpn		1.37-1979

Normal	23	Actual
63.3	max	
38.4	min	
.129	pcpn	
14	HDD	
0	CDD	
Highest Max		88-1929
Lowest Max		36-1974
Lowest Min		17-1983
Highest Min		60-1947
Greatest pcpn		2.35-1984

Normal	24	Actual
61.0	max	
39.1	min	
.066	pcpn	
15	HDD	
0	CDD	
Highest Max		91-1929
Lowest Max		36-1965
Lowest Min		23-1965
Highest Min		59-1928
Greatest pcpn		1.24-1973

Normal	25	Actual
60.0	max	
38.7	min	
.060	pcpn	
16	HDD	
0	CDD	
Highest Max		88-1976
Lowest Max		33-1964
Lowest Min		18-1955
Highest Min		60-1976
Greatest pcpn		.81-1948

Normal	26	Actual
63.0	max	
38.9	min	
.032	pcpn	
14	HDD	
0	CDD	
Highest Max		85-1972
Lowest Max		33-1937
Lowest Min		13-1955
Highest Min		60-1956
Greatest pcpn		2.02-1938

Normal	27	Actual
66.7	max	
40.3	min	
.036	pcpn	
11	HDD	
0	CDD	
Highest Max		84-1945
Lowest Max		36-1931
Lowest Min		18-1955
Highest Min		60-1985
Greatest pcpn		1.79-1929

Normal	28	Actual
66.8	max	
43.2	min	
.058	pcpn	
10	HDD	
1	CDD	
Highest Max		88-1928
Lowest Max		36-1931
Lowest Min		16-1931
Highest Min		62-1985
Greatest pcpn		2.84-1988

Normal	29	Actual
64.5	max	
41.5	min	
.039	pcpn	
13	HDD	
1	CDD	
Highest Max		86-1967
Lowest Max		34-1987
Lowest Min		21-1944
Highest Min		65-1963
Greatest pcpn		.59-1981

Normal	30	Actual
64.0	max	
41.5	min	
.146	pcpn	
12	HDD	
0	CDD	
Highest Max		85-1946
Lowest Max		28-1926
Lowest Min		22-1987
Highest Min		64-1967
Greatest pcpn		1.82-1963

Normal	31	Actual
70.0	max	
45.1	min	
.027	pcpn	
8	HDD	
1	CDD	
Highest Max		94-1940
Lowest Max		41-1926
Lowest Min		20-1926
Highest Min		62-1967
Greatest pcpn		1.29-1988