OKLAHOMA
MONTHLY SUMMARY
NOVEMBER 1993

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MONTHLY SUMMARY FOR NOVEMBER 1993

Monthly average temperatures during November averaged five degrees below normal across Oklahoma. The statewide average temperature for the month was 44.8 degrees Fahrenheit, making this the 6th coolest November in 101 years of weather records. The month brought the autumn 1993 average temperature for the state to 57.8 degrees, 3.8 degrees below the seasonal normal and the state's second lowest autumn average temperature since 1892. The average temperature for the first eleven months of the year is 60.6 degrees, 1.2 degrees below normal, ranking 1993 as the 6th coolest year on record thus far.

Precipitation for the month was below normal over most of the state, although some locally heavy rains in the extreme southeast at mid-month raised that region's average monthly total above the normal amount. The statewide average precipitation of 1.86 inches was .56 inch below normal. Autumn precipitation totaled 9.02 inches (.41 inch below normal). For the year thus far, statewide averaged total precipitation is 36.78 inches, 4.20 above normal.

The first third of the month was cool and, for the most part, dry. Some light snow was reported in the western Panhandle at Kenton on the 1st. A weak cold front moved through the state on the second, triggering some showers in the southeast. Dry air and strong winds fanned some grass fires in central Oklahoma on the 4th. A second cold front passed through the state on the 4th and 5th. Temperatures across the state remained below 40 degrees across the entire state on the 5th and overnight low temperatures reported on the morning of the 6th were all below freezing.

A weak cold front, supported by a strong upper-level disturbance, brought widespread precipitation and some heavy thunderstorms around mid-month. Kenton reported 3 inches of snow on the evening of the 12th. Thunderstorms developed by late morning of the 13th in southwestern Oklahoma. Large hail was reported in Caddo, Comanche and Tillman Counties, including a report of baseball sized hail near Medicine Park. Later in the afternoon, thunderstorms in McCurtain County produced tornadoes which caused slight damage near Valiant and greater damage near Watson and Plunketville and eastward to Mena, AR where substantial damage and several injuries were reported. Oktaha (Muskogee) reported 3.4 inches of precipitation and 3.27 inches were reported at Kansas (Delaware County). Several other locations reported daily precipitation amounts in excess of two inches.

Scattered areas reported traces of sleet or snow from the 14th through the 17th as colder air filtered southward. The main body of cold air was in place by the morning of the 20th, when overnight low temperatures were below 30 degrees statewide. A moderating trend followed with daytime temperatures climbing into the 70s on the 22nd and 23rd.

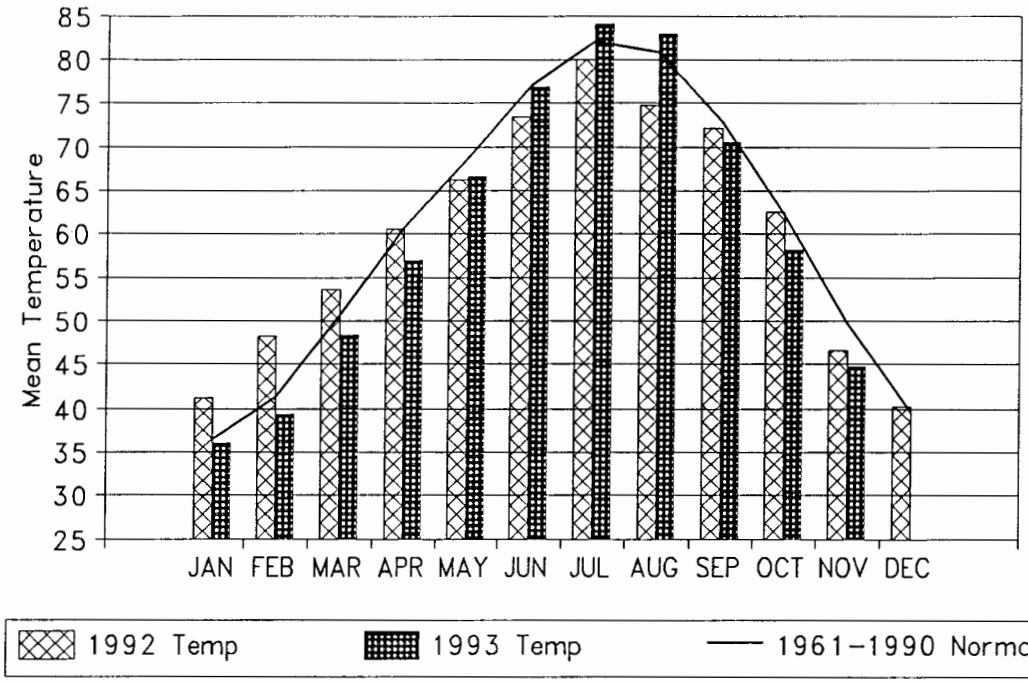
A mass of bitterly cold air moved into northern Oklahoma on the 23rd and spread across the state by evening of the 24th. The low temperature reported from Guymon on Thanksgiving Day was only 2 degrees. Temperatures of 5 degrees or lower were also reported at Kenton, Freedom and Hooker. The highest reported low temperature in the state on Thanksgiving Day was 27 degrees at Hugo and McCurtain.

Thanksgiving Day travel was impeded as an upper-level disturbance moved across the state on the 25th, producing widespread sleet and freezing rain across much of southern and eastern parts of the state. Wilburton reported 2 inches of sleet. Five people were killed in holiday traffic accidents attributable to the hazardous driving conditions.

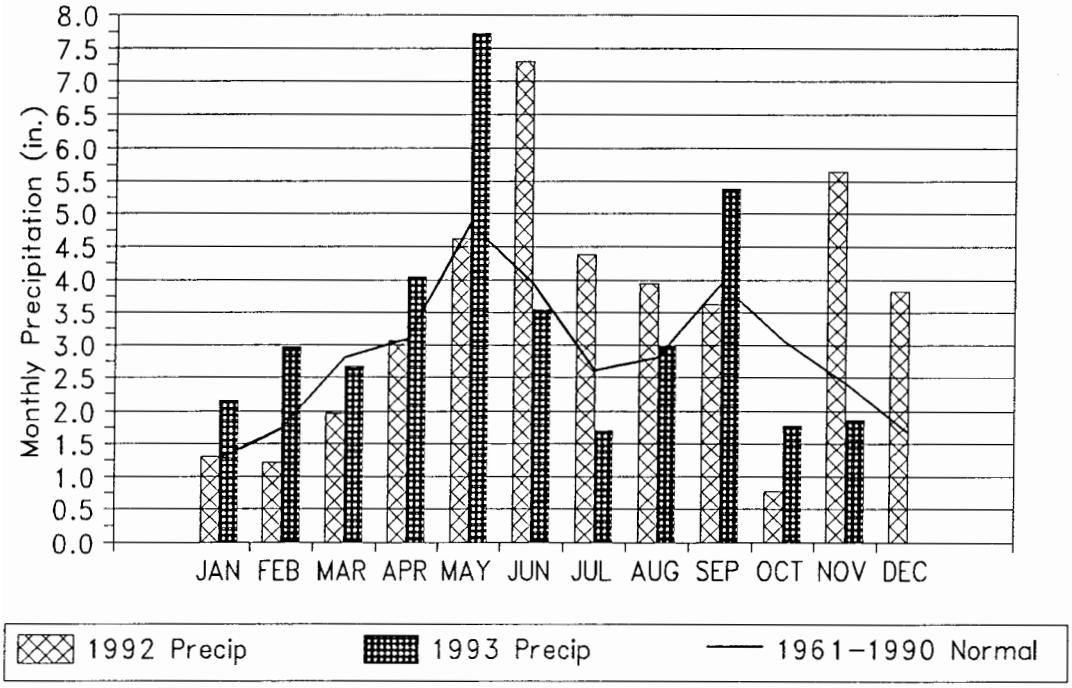
Travelers returning to their homes after the holidays enjoyed moderating temperatures and dry weather. Some light sleet and snow was reported at Tussy (Garvin County) on the afternoon of the 30th, but pleasant weather dominated the state at month's end.

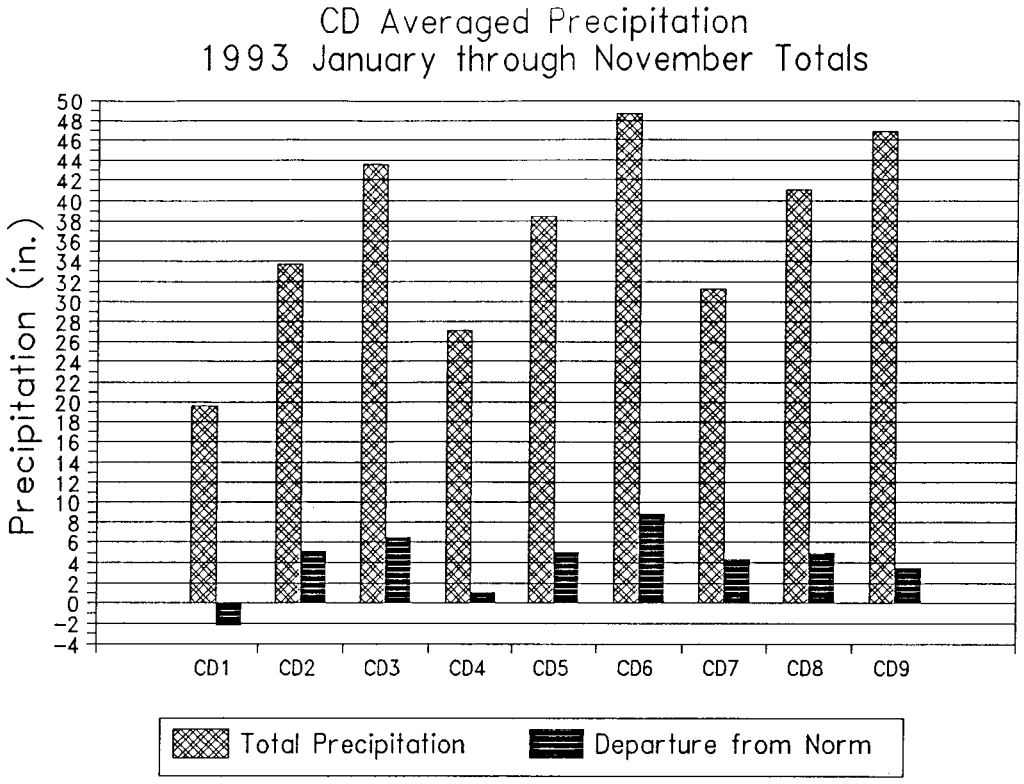
Howard L. Johnson

1992 and 1993 STATEWIDE TEMPERATURES
Monthly Averages

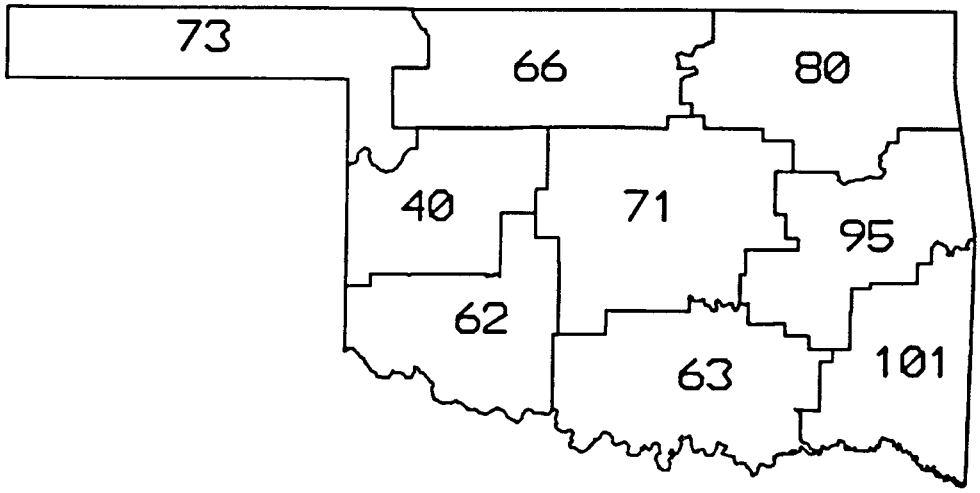


1992 and 1993 STATEWIDE PRECIPITATION
Monthly Totals





CD PERCENT OF NORMAL PRECIPITATION



NOVEMBER 1993

EXTREME VALUES OF TEMPERATURE AND PRECIPITATION IN EACH CLIMATE DIVISION
NOVEMBER, 1993

CD	MAX TEMP	DATE	LOCATION	MIN TEMP	DATE	LOCATION	24-HOUR PRECIP	DATE	LOCATION	MONTHLY PRECIP	LOCATION
1	77	3	BUFFALO	2	25	GUYMON	.70	12	KENTON	1.15	BUFFALO
2	77	12	ENID	3	26	FREEDOM	1.30 1.30	14 17	BILLINGS NEWKIRK	2.82	RED ROCK
3	76 76	5 4	BIXBY MANNFORD	10 10 10	26 26 26	BARNSDALL HULAH DAM MANNFORD	3.27	14	KANSAS	5.00	KANSAS
4	79	5	WEATHERFORD	6	26	HAMMON	.60	14	GEARY	.95	CANTON DAM
5	80	4	NORMAN	11 11	26 26	HENNESSEY PURCELL	2.53	14	CRESCENT	4.43	CRESCENT
6	77 77 77 77	4 4 4 4	HANNA HOLDENVILLE MCALESTER MCCURTAIN	11	4	OKMULGEE	4.00	14	SCRAPER	5.27	SALLISAW
7	79 79 79	4 4 4	CARNEGIE CHATTANOOGA FORT SILL	6	26	ALTUS DAM	1.43	13	WICHITA MT W	2.60	ANADARKO
8	79 79	5 4	DURANT MARLOW	11	26	MARLOW	2.10	14	DURANT	4.06	DURANT
9	79 79 79	5 5 14	BROKEN BOW DA IDABEL IDABEL	13 13	27 28	SMITHVILLE SMITHVILLE	2.97	14	SPIRO	6.42	SPIRO

TABLE OF 1992/1993 COMPARISONS

Station	November Temperature (°F) 1992	1993	November Precipitation (in.) 1992	1993
Arnett	40.7	39.8	3.42	0.72
Enid	44.3	44.7	6.59	1.26
Mutual	41.9	40.8	4.35	0.23
Tulsa	46.7	45.0	4.99	1.63
Elk City	45.5	45.2	5.35	0.56
Oklahoma City	45.9	44.2	4.46	1.34
McAlester	51.0	47.9	5.55	3.34
Altus Irr Sta	49.2	47.5	5.27	1.02
Durant	50.8	45.8	4.35	4.06
Ada	48.3	45.8	3.55	2.19
Antlers	49.7	45.8	5.04	3.10

EXTREMES

Variable	Station	Division	Observation	Date
Minimum temperature (°F)	Guymon	1	2	25
Maximum temperature (°F)	Norman	5	80	4
Maximum 24-hour precipitation	Scraper	6	4.00"	14

NOVEMBER 1993 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	39.8	29	-5.9	70.	4	8.	25	732.0	153.0	.0	.0	.720	30	-.71	.47	14
BEAVER	593	1	39.0	30	-5.2	73.	23	4.	27	780.0	156.0	.0	.0	.841	30	-.18	.42	16
BOISE CITY 2 E	908	1	41.3	30	-3.5	74.	3	3.	25	712.5	103.5	.0	.0	.473	30	-.25	.28	13
BUFFALO	1243	1	43.8	30	-3.3	77.	3	10.	25	636.0	99.0	.5	.5	1.150	30	-.47	.45	16
FARGO	3070	1	*****	0	*****	****	0	****	0	******	******	******	******	.881	30	-.42	.56	14
GAGE FAA APT	3407	1	42.8	29	-4.0	74.	3	6.	26	642.5	96.5	.0	.0	.804	30	-.27	.49	14
GATE	3489	1	42.0	30	-3.5	75.	4	7.	25	690.0	105.0	.0	.0	.581	30	-.52	.24	16
GOODWELL RES ST	3628	1	38.5	23	*****	73.	23	4.	25	609.5	******	.0	******	.750	27	*****	.44	15
GUYMON	3835	1	40.4	23	*****	72.	3	2.	25	565.0	******	.0	******	.460	24	*****	.25	12
HOOKER	4298	1	39.6	30	-5.0	71.	23	4.	25	762.5	150.5	.0	.0	.740	30	-.04	.59	14
KENTON	4766	1	41.0	28	*****	73.	3	4.	24	671.5	******	.0	******	.801	28	*****	.70	12
LAVERNE	5045	1	*****	0	*****	****	0	****	0	******	******	******	******	.701	30	-.47	.30	14
OPTIMA LAKE	6740	1	38.5	23	*****	73.	23	4.	25	609.5	******	.0	******	.750	27	*****	.44	15
REGNIER	7534	1	*****	0	*****	****	0	****	0	******	******	******	******	.703	31	.14	.50	14
TURPIN 4 SSE	9017	1	38.9	30	*****	71.	23	5.	26	784.0	******	.0	******	.790	30	*****	.46	14

NOVEMBER 1993 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	43.8	28	*****	75.	12	11.	26	595.0	******	1.0	******	.400	30	*****	.23	16
VANCE AFB	302	2	*****	0	*****	****	0	****	0	******	******	******	******	.573	28	*****	.42	12
BILLINGS	755	2	41.1	30	-6.3	72.	13	11.	26	716.5	188.5	.0	.0	2.061	30	-.21	1.30	14
BLACKWELL 2E	818	2	43.2	30	-4.4	71.	4	12.	26	654.0	132.0	.0	.0	1.574	30	-.71	.64	14
BRAMAN	1075	2	*****	0	*****	****	0	****	0	******	******	******	******	1.630	30	*****	.57	13
CEDARDALE	1620	2	*****	0	*****	****	0	****	0	******	******	******	******	.340	30	*****	.16	16
CHEROKEE	1724	2	43.4	30	-4.5	75.	12	11.	26	650.0	137.0	1.0	1.0	.730	30	-.79	.26	12
ENID	2912	2	44.7	30	-3.9	77.	12	13.	26	609.5	117.5	1.5	1.5	1.260	30	-.95	.53	14
FT SUPPLY DAM	3304	2	40.2	29	-5.3	74.	4	8.	27	718.5	133.5	.0	.0	.921	30	-.34	.55	14
FREEDOM	3358	2	38.7	30	-8.3	76.	4	3.	26	789.5	249.5	.0	.0	.970	30	-.38	.69	14
GREAT SALT PLNS	3740	2	42.1	30	-4.7	76.	13	12.	26	687.0	141.0	.0	.0	.601	30	-1.23	.26	14
HARDY	3909	2	*****	0	*****	****	0	****	0	******	******	******	******	2.632	30	*****	1.10	13
HELENA 1 SSE	4019	2	40.6	30	-5.4	74.	13	8.	26	733.0	163.0	.0	.0	.662	30	-1.15	.32	14
JEFFERSON	4573	2	44.1	30	-3.9	74.	12	6.	26	627.0	117.0	1.0	1.0	.581	30	-1.60	.27	13
LAMONT	5013	2	*****	0	*****	****	0	****	0	******	******	******	******	1.340	30	*****	.74	14
MEDFORD	5768	2	*****	0	*****	****	0	****	0	******	******	******	******	.561	30	*****	.40	13
MUTUAL	6139	2	40.8	30	-5.4	73.	13	8.	27	725.5	161.5	.0	.0	.230	30	-1.17	.12	16
NEWKIRK	6278	2	43.9	29	-4.1	71.	4	11.	26	613.0	103.0	.0	.0	2.471	29	*****	1.30	17
ORIENTA	6751	2	*****	0	*****	****	0	****	0	******	******	******	******	.580	30	-1.14	.30	17
PERRY	7012	2	45.8	30	-3.8	73.	4	13.	26	576.0	114.0	.0	.0	2.430	30	.31	.83	13
PONCA CITY FAA	7201	2	44.9	30	-2.4	73.	4	13.	26	602.0	71.0	.0	.0	2.343	30	.08	1.04	17
RED ROCK 1 NNE	7505	2	*****	0	*****	****	0	****	0	******	******	******	******	2.820	30	.73	1.04	13
WAYNOKA	9404	2	42.7	30	-5.3	74.	12	5.	26	669.0	159.0	.0	.0	.350	30	-1.18	.18	16
WOODWARD	9760	2	*****	0	*****	****	0	****	0	******	******	******	******	.871	30	-.50	.67	14

NOVEMBER 1993 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	43.5	29	-5.6	73.	4	10.	26	623.5	146.5	.0	.0	2.491	30	-.49	1.00	17
BARTLESVILLE 2W	548	3	44.4	30	-4.8	75.	4	11.	26	617.0	143.0	.0	.0	2.601	30	-.12	.93	14
BIXBY	782	3	42.4	30	-6.0	76.	5	15.	27	679.0	181.0	.0	.0	2.050	30	-1.09	1.52	14
BURBANK	1256	3	*****	0	*****	****	0	****	0	******	******	******	******	2.171	30	-.37	1.05	16
CHELSEA 4 S	1717	3	*****	0	*****	****	0	****	0	******	******	******	******	3.960	31	*****	2.18	14
CLAREMORE	1828	3	41.9	30	-6.6	73.	5	13.	27	694.0	199.0	.0	.0	2.990	30	-.24	2.03	14
CLEVELAND 5 WSW	1902	3	47.7	26	*****	74.	4	21.	6	450.0	******	.0	******	2.332	30	*****	.90	17
FORAKER	3250	3	*****	0	*****	****	0	****	0	******	******	******	******	1.190	30	-1.39	.81	17
HOLLOW	4258	3	*****	0	*****	****	0	****	0	******	******	******	******	2.711	30	-.79	1.79	14
HOMINY	4289	3	*****	0	*****	****	0	****	0	******	******	******	******	2.341	30	-.29	1.05	17
HULAH DAM	4393	3	42.7	20	*****	72.	5	10.	26	446.0	******	.0	******	2.160	30	-.51	.78	17
JAY TOWER	4567	3	42.3	30	*****	72.	5	14.	26	680.0	******	.0	******	3.080	30	*****	1.20	14
KANSAS 1 ESE	4672	3	44.0	30	-5.8	69.	4	13.	26	631.5	175.5	.0	.0	5.003	30	1.15	3.27	14
KEYSTONE DAM	4812	3	42.8	28	*****	75.	5	14.	26	622.0	******	.0	******	1.964	26	*****	1.03	14
LENAPAH	5118	3	*****	0	*****	****	0	****	0	******	******	******	******	2.580	30	*****	1.20	14
MANNFORD 6 NW	5522	3	45.8	29	-4.1	76.	4	10.	26	557.0	104.0	.0	.0	2.360	29	*****	1.02	14
MARAMEC	5540	3	*****	0	*****	****	0	****	0	******	******	******	******	2.232	30	-.40	1.14	14
MIAMI	5855	3	41.4	24	*****	69.	12	11.	26	565.5	******	.0	******	1.831	28	*****	.90	17
NOWATA	6485	3	42.8	29	-6.5	73.	4	11.	26	642.5	171.5	.0	.0	2.210	29	*****	.81	13
ONETA 1 WNW	6713	3	*****	0	*****	****	0	****	0	******	******	******	******	2.130	30	*****	1.19	14
PAWHUSKA	6935	3	44.4	30	-4.2	73.	4	12.	26	618.5	126.5	.0	.0	2.712	30	-.11	1.05	17
PAWNEE	6940	3	*****	0	*****	****	0	****	0	******	******	******	******	1.670	30	-.86	.87	13
PRYOR 6 N	7309	3	41.8	29	-6.1	72.	5	13.	27	671.5	158.5	.0	.0	2.124	30	-1.50	.91	17
RALSTON	7390	3	44.9	30	-4.2	74.	4	12.	26	604.0	127.0	.0	.0	1.171	30	-1.37	.78	12
RAMONA 4 N	7394	3	*****	0	*****	****	0	****	0	******	******	******	******	.660	30	*****	.66	16
SKIATOOK	8258	3	*****	0	*****	****	0	****	0	******	******	******	******	2.350	30	-.69	1.22	14
SPAVINAW	8380	3	46.4	30	-4.9	72.	4	14.	26	558.5	143.5	.0	.0	2.304	30	-1.44	1.04	14
TULSA WSO APT	8992	3	45.0	30	-4.9	74.	4	14.	26	600.5	147.5	.0	.0	1.634	30	-1.50	1.06	14
UPPER SPAVINAW	9101	3	45.2	22	*****	68.	23	17.	25	435.5	******	.5	******	3.102	30	*****	1.60	14
VINITA 2 N	9203	3	43.9	30	-4.6	70.	4	11.	26	634.0	139.0	.0	.0	2.161	30	-1.67	1.27	13
WAGONER	9247	3	46.5	30	-4.5	72.	4	15.	26	556.5	131.5	1.0	1.0	2.482	30	-1.10	.96	17
WANN	9298	3	*****	0	*****	****	0	****	0	******	******	******	******	2.560	30	*****	.97	14
WYNONA	9792	3	*****	0	*****	****	0	****	0	******	******	******	******	2.280	30	*****	1.03	15

NOVEMBER 1993 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	29	-5.3	72.	13	11.	26	675.5	135.5	.0	.0	.951	28	*****	.48	14
CHEYENNE	1738	4	*****	0	*****	****	0	****	0	******	******	******	******	.450	30	-.99	.25	17
CLINTON	1909	4	45.1	30	-4.4	76.	4	10.	26	597.0	132.0	.0	.0	.770	30	-1.05	.31	14
COLONY	2039	4	*****	0	*****	****	0	****	0	******	******	******	******	.911	30	*****	.57	14
CORDELL	2125	4	*****	0	*****	****	0	****	0	******	******	******	******	.810	30	-.94	.31	14
ELK CITY 1 E	2849	4	45.2	30	-3.4	77.	4	11.	26	594.5	102.5	.0	.0	.560	30	-1.09	.19	16
ERICK 4 E	2944	4	44.3	30	-4.7	77.	4	8.	26	622.5	139.5	.0	.0	.250	30	-1.08	.15	14
GEARY	3497	4	45.5	30	-3.0	75.	4	15.	26	583.5	88.5	.0	.0	.920	30	-.76	.60	14
HAMMON 1 NNE	3871	4	41.1	30	-5.3	75.	5	6.	26	716.5	158.5	.0	.0	.400	30	-1.22	.23	14
LEEDEY	5090	4	*****	0	*****	****	0	****	0	******	******	******	******	.220	30	-1.33	.11	17
MACKIE 4 NNW	5463	4	*****	0	*****	****	0	****	0	******	******	******	******	.590	30	*****	.43	14
MORAVIA 2 NNE	6035	4	*****	0	*****	****	0	****	0	******	******	******	******	.720	30	-.66	.34	16
OKEENE	6629	4	44.2	30	-5.1	74.	4	12.	26	625.0	154.0	.0	.0	.860	30	-1.09	.33	14
RETROP	7565	4	*****	0	*****	****	0	****	0	******	******	******	******	.800	30	*****	.45	16
REYDON	7579	4	47.9	18	*****	75.	4	15.	6	307.5	******	.0	******	.540	18	*****	.23	14
SAYRE	7952	4	*****	0	*****	****	0	****	0	******	******	******	******	.430	30	-.92	.17	16
SWEETWATER 2 E	8652	4	*****	0	*****	****	0	****	0	******	******	******	******	.550	30	*****	.40	13
TALOGA	8708	4	43.3	30	-4.1	74.	4	9.	25	651.5	123.5	1.0	1.0	.510	30	-1.29	.30	16
THOMAS	8815	4	*****	0	*****	****	0	****	0	******	******	******	******	.800	30	*****	.33	12
VICI	9172	4	*****	0	*****	****	0	****	0	******	******	******	******	.460	31	-1.13	.26	14
WATONGA	9364	4	44.3	30	-4.1	75.	4	11.	26	621.0	123.0	1.5	1.5	.730	30	-1.08	.45	13
WEATHERFORD	9422	4	46.3	16	*****	79.	5	19.	6	299.5	******	.0	******	.740	30	-.96	.32	12

NOVEMBER 1993 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	******	******	******	******	1.380	30	*****	.95	14
ARCADIA	288	5	*****	0	*****	****	0	****	0	******	******	******	******	1.990	30	*****	1.05	15
TINKER AFB	325	5	*****	0	*****	****	0	****	0	******	******	******	******	1.305	30	*****	.35	17
BLANCHARD 2 SSW	830	5	47.2	30	-4.0	79.	4	12.	26	533.0	119.0	.0	.0	.730	30	-1.37	.36	17
BRISTOW	1144	5	46.0	30	-4.5	76.	4	13.	26	571.5	131.5	.0	-5.0	1.654	30	-1.24	1.10	14
CHANDLER	1684	5	46.5	30	-4.4	77.	4	14.	26	553.5	130.5	.0	.0	1.480	30	-1.00	.88	14
CHICKASHA EX ST	1750	5	46.5	30	-4.3	78.	4	13.	26	556.5	130.5	.0	.0	1.600	30	-.35	.74	14
COX CITY 1 E	2196	5	*****	0	*****	****	0	****	0	******	******	******	******	.870	30	*****	.29	17
CRESCENT	2242	5	*****	0	*****	****	0	****	0	******	******	******	******	4.430	30	*****	2.53	14
CUSHING	2318	5	42.7	30	-6.6	74.	5	14.	27	669.0	198.0	.0	.0	1.770	30	-.81	.70	14
EL RENO 1 N	2818	5	45.6	30	-3.3	74.	4	13.	26	582.0	99.0	.0	.0	2.260	30	.51	1.70	14
GUTHRIE	3821	5	46.7	30	-3.6	75.	4	12.	26	548.5	107.5	.0	.0	2.251	30	-.04	.90	14
HENNESSEY 4 ESE	4055	5	43.7	30	-5.0	75.	4	11.	26	639.5	150.5	.0	.0	1.420	30	-.52	.90	14
INGALLS	4489	5	*****	0	*****	****	0	****	0	******	******	******	******	1.162	30	*****	.50	13
KINGFISHER 2 SE	4861	5	44.9	30	-4.7	75.	4	12.	26	602.5	140.5	.0	.0	2.180	30	.27	1.10	14
KONAWA	4915	5	*****	0	*****	****	0	****	0	******	******	******	******	2.082	30	-.65	.89	14
MARSHALL	5589	5	*****	0	*****	****	0	****	0	******	******	******	******	2.390	30	.48	1.31	14
MEEKER 4 W	5779	5	45.8	30	-4.6	76.	4	13.	26	575.0	137.0	.0	.0	1.360	30	-1.20	.61	16
MULHALL	6110	5	*****	0	*****	****	0	****	0	******	******	******	******	2.280	30	*****	.92	14
NORMAN 3 S	6386	5	45.2	30	-5.9	80.	4	12.	26	595.5	178.5	.0	.0	1.230	30	-1.25	.41	14
OILTON 2 SE	6616	5	*****	0	*****	****	0	****	0	******	******	******	******	1.920	30	*****	.83	16
OKEMAH	6638	5	46.1	30	-5.1	77.	4	15.	26	566.5	152.5	.0	.0	.711	27	*****	.60	17
OKLAHOMA CTY WS	6661	5	44.2	30	-5.4	76.	4	13.	26	625.5	163.5	.0	.0	1.340	30	-.64	.54	12
PERKINS	7003	5	*****	0	*****	****	0	****	0	******	******	******	******	1.820	30	-.62	.92	14
PIEDMONT	7068	5	*****	0	*****	****	0	****	0	******	******	******	******	2.000	30	*****	1.04	14
PRAGUE	7264	5	*****	0	*****	****	0	****	0	******	******	******	******	1.160	30	-1.51	.58	17
PURCELL 5 SW	7327	5	46.2	30	-4.7	79.	4	11.	26	565.0	142.0	.0	.0	1.651	30	-.85	.85	17
SEMINOLE	8042	5	47.2	30	-5.1	78.	4	16.	27	534.5	149.5	.0	.0	1.282	30	-1.64	.78	14
SHAWNEE	8110	5	*****	0	*****	****	0	****	0	******	******	******	******	1.342	30	-1.55	.66	17
STELLA	8479	5	*****	0	*****	****	0	****	0	******	******	******	******	1.460	30	*****	.42	14
STILLWATER 2 W	8501	5	43.4	30	-5.1	76.	5	13.	26	648.5	153.5	.0	.0	2.181	30	-.07	.83	14
STROUD 1 N	8563	5	*****	0	*****	****	0	****	0	******	******	******	******	1.871	30	*****	.73	14
TECUMSEH	8751	5	*****	0	*****	****	0	****	0	******	******	******	******	1.200	30	*****	.62	17
TROUSDALE	8960	5	*****	0	*****	****	0	****	0	******	******	******	******	1.210	30	*****	.70	2
UNION CITY 1 SE	9086	5	*****	0	*****	****	0	****	0	******	******	******	******	1.531	30	-.77	.82	14
WELTY 1 SSE	9479	5	*****	0	*****	****	0	****	0	******	******	******	******	1.602	30	*****	.95	14
WEWOKA	9575	5	*****	0	*****	****	0	****	0	******	******	******	******	1.360	30	-1.43	.53	17

NOVEMBER 1993 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	******	******	******	******	2.062	30	*****	.95	17
BEGGS	631	6	*****	0	*****	****	0	****	0	******	******	******	******	1.900	30	*****	1.17	14
BOYNTON	1027	6	*****	0	*****	****	0	****	0	******	******	******	******	2.962	30	*****	1.10	14
CALVIN	1391	6	*****	0	*****	****	0	****	0	******	******	******	******	2.770	30	-.20	2.77	16
CHECOTAH	1711	6	*****	0	*****	****	0	****	0	******	******	******	******	3.512	30	.20	2.32	14
CLAYTON 14 WNW	1858	6	*****	0	*****	****	0	****	0	******	******	******	******	4.011	30	*****	1.75	17
DEWAR 2 NE	2485	6	*****	0	*****	****	0	****	0	******	******	******	******	2.660	30	-.44	1.48	14
DUSTIN	2690	6	*****	0	*****	****	0	****	0	******	******	******	******	2.980	30	*****	1.87	14
EUFAULA	2993	6	47.7	30	-5.0	75.	4	20.	27	519.5	145.5	.0	-5.0	3.971	30	.53	2.27	14
HANNA	3884	6	45.0	30	-6.8	77.	4	15.	27	601.5	202.5	.0	.0	3.714	30	.25	2.36	14
HARTSHORNE	3946	6	*****	0	*****	****	0	****	0	******	******	******	******	3.290	30	*****	1.39	14
HASKELL	3956	6	*****	0	*****	****	0	****	0	******	******	******	******	1.992	30	-1.50	.84	17
HOLDENVILLE	4235	6	46.4	30	-5.5	77.	4	16.	26	558.5	161.5	.0	.0	2.160	30	-.82	1.03	14
LAKE EUFAULA	4975	6	45.7	29	*****	76.	5	17.	26	561.0	******	.0	******	4.114	29	*****	2.02	13
LYONS 2 N	5437	6	*****	0	*****	****	0	****	0	******	******	******	******	4.592	30	.82	2.23	13
MARBLE CITY	5546	6	*****	0	*****	****	0	****	0	******	******	******	******	4.261	30	*****	2.00	14
MCALESTER FAA	5664	6	47.9	29	-3.9	77.	4	20.	26	503.0	100.0	8.0	1.0	3.344	30	-.17	2.09	14
MCCURTAIN 1 SE	5693	6	47.7	30	-5.0	77.	4	21.	27	518.0	143.0	.0	-6.0	4.605	30	.24	1.65	17
MUSKOGEE	6130	6	45.5	30	-5.4	72.	5	17.	27	585.0	158.0	.0	.0	3.860	30	.31	2.00	14
OKMULGEE W W	6670	6	41.6	29	-7.9	76.	5	11.	4	679.0	214.0	.0	.0	1.892	30	-1.27	.70	14
OKTAHA 2 NE	6678	6	*****	0	*****	****	0	****	0	******	******	******	******	4.100	30	*****	3.40	14
QUINTON	7372	6	*****	0	*****	****	0	****	0	******	******	******	******	3.323	30	-.42	1.40	14
SALLISAW 2 NE	7862	6	44.0	26	*****	69.	23	16.	27	546.0	******	.0	******	5.272	26	*****	2.80	14
SCIPIO	7979	6	*****	0	*****	****	0	****	0	******	******	******	******	3.170	30	*****	1.83	14
SCRAPER	7993	6	*****	0	*****	****	0	****	0	******	******	******	******	4.780	30	*****	4.00	14
SHORT	8170	6	*****	0	*****	****	0	****	0	******	******	******	******	3.810	30	*****	1.51	17
TAHLEQUAH	8677	6	45.3	30	-4.9	71.	5	16.	26	590.0	141.0	.0	-5.0	4.590	30	1.01	3.63	14
WEBBERS FALLS	9445	6	43.3	28	*****	74.	5	18.	27	609.0	******	.0	******	3.922	28	*****	2.07	14
WESTVILLE	9523	6	*****	0	*****	****	0	****	0	******	******	******	******	3.911	30	*****	2.56	14
WETUMKA 3 NE	9571	6	*****	0	*****	****	0	****	0	******	******	******	******	2.600	29	*****	1.42	14

NOVEMBER 1993 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	47.5	30	-4.5	78.	4	12.	26	525.5	138.5	2.0	2.0	1.020	30	-.29	.58	14
ALTUS DAM	184	7	41.9	30	-7.7	77.	5	6.	26	692.0	230.0	.0	.0	.820	30	-.54	.38	14
ANADARKO	224	7	44.9	29	-5.0	77.	4	12.	26	584.0	131.0	.0	.0	2.600	29	*****	1.16	14
APACHE	260	7	*****	0	*****	****	0	****	0	******	******	******	******	1.370	30	-.44	.96	14
ALTUS AFB	447	7	*****	0	*****	****	0	****	0	******	******	******	******	.664	30	*****	.40	14
CARNEGIE 2 ENE	1504	7	46.3	30	-3.8	79.	4	10.	26	562.0	115.0	.0	.0	1.250	30	-.35	.64	14
CHATTANOOGA	1706	7	46.9	30	-4.7	79.	4	12.	26	542.5	140.5	.5	.5	.710	30	-.83	.30	13
DUNCAN 11 W	2668	7	*****	0	*****	****	0	****	0	******	******	******	******	.842	30	*****	.28	13
FREDERICK	3353	7	44.6	29	-6.1	75.	5	13.	26	591.0	162.0	.0	.0	.580	29	*****	.50	16
GRANDFIELD 4 NW	3709	7	*****	0	*****	****	0	****	0	******	******	******	******	.470	30	-1.15	.28	14
HEADRICK	3998	7	*****	0	*****	****	0	****	0	******	******	******	******	.920	30	*****	.59	14
HOBART FAA APT	4204	7	45.3	30	-4.8	75.	4	12.	26	592.0	145.0	.0	.0	.921	30	-.49	.62	14
HOLLIS	4249	7	45.5	30	-5.1	78.	4	10.	26	585.5	153.5	.0	.0	.580	30	-.53	.24	14
LAWTON	5063	7	44.7	30	-5.9	78.	5	18.	25	608.0	176.0	.0	.0	.720	30	-1.08	.33	13
FORT SILL	5068	7	47.0	30	*****	79.	4	19.	25	540.5	******	.0	******	1.485	30	*****	.70	18
LOOKEBA 2 ENE	5329	7	*****	0	*****	****	0	****	0	******	******	******	******	1.381	30	-.41	.86	14
MANGUM RES STA	5509	7	47.0	30	-3.8	76.	4	9.	26	539.5	113.5	.0	.0	.750	30	-.51	.47	14
RANDLETT 9 E	7403	7	*****	0	*****	****	0	****	0	******	******	******	******	.812	30	*****	.40	14
ROOSEVELT	7727	7	*****	0	*****	****	0	****	0	******	******	******	******	1.050	30	-.43	.71	14
SEDAN	8016	7	*****	0	*****	****	0	****	0	******	******	******	******	1.190	30	*****	.56	14
SNYDER	8299	7	*****	0	*****	****	0	****	0	******	******	******	******	1.021	30	-.52	.43	13
VINSON 3 WNW	9212	7	*****	0	*****	****	0	****	0	******	******	******	******	.460	30	-.76	.18	16
WALTERS	9278	7	47.4	30	-5.0	76.	4	15.	26	530.0	147.0	1.5	1.5	.950	30	-1.14	.27	14
WICHITA MT WLR	9629	7	42.2	29	-6.7	77.	5	16.	27	662.5	179.5	.0	.0	1.830	29	*****	1.43	13
WILLOW	9668	7	*****	0	*****	****	0	****	0	******	******	******	******	.740	30	*****	.37	16

NOVEMBER 1993 SUMMARY FOR SOUTH CENTRAL DIVISION (CD8)

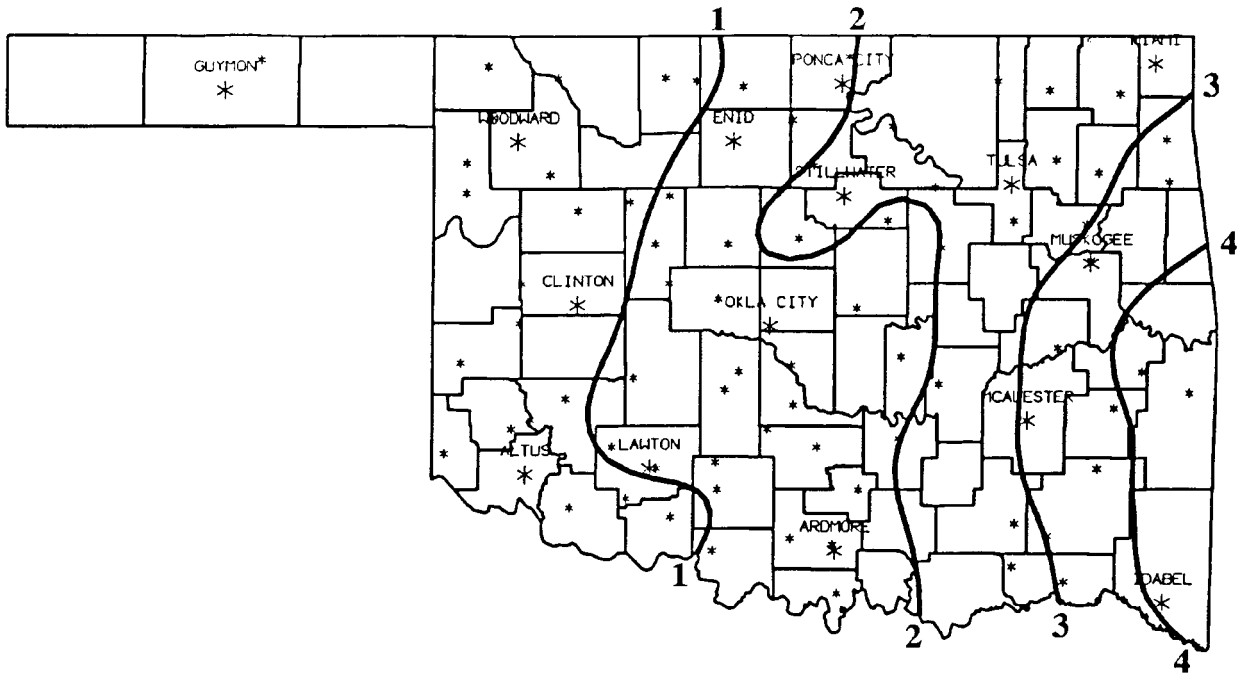
NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
ADA	17	8	45.8	30	-6.3	75.	4	15.	26	576.5	183.5	.0	-6.0	2.190	30	-.61	.97	14
ALLEN	147	8	*****	0	*****	****	0	****	0	******	******	******	******	2.270	30	*****	1.05	14
ARDMORE	292	8	48.7	30	-5.8	76.	4	19.	26	490.5	168.5	1.5	-5.5	2.050	30	-.38	.86	13
ATOKA DAM	394	8	48.8	19	*****	76.	15	24.	8	307.5	******	.0	******	3.272	19	*****	1.62	15
BOKCHITO	917	8	*****	0	*****	****	0	****	0	******	******	******	******	1.830	30	*****	.81	16
CANEY	1437	8	43.7	16	*****	65.	28	18.	26	341.0	******	.0	******	2.850	16	*****	1.35	17
CENTRAHOMA	1648	8	*****	0	*****	****	0	****	0	******	******	******	******	2.550	30	*****	1.40	14
CHICKASAW NRA	1745	8	45.0	30	-5.6	76.	5	15.	26	602.0	170.0	3.0	3.0	2.000	30	-.67	.85	14
COLEMAN	2011	8	*****	0	*****	****	0	****	0	******	******	******	******	1.570	30	*****	.85	17
COMANCHE	2054	8	*****	0	*****	****	0	****	0	******	******	******	******	.810	30	-1.27	.31	16
DAISY 4 ENE	2354	8	*****	0	*****	****	0	****	0	******	******	******	******	2.861	30	-1.14	1.28	17
DUNCAN	2660	8	45.3	30	-6.1	76.	5	14.	26	590.5	178.5	.0	.0	1.140	30	-1.01	.51	14
DURANT USDA	2678	8	45.8	30	-6.2	79.	5	19.	26	577.0	180.0	2.5	-4.5	4.060	30	.92	2.10	14
FARRIS 3 WNW	3083	8	*****	0	*****	****	0	****	0	******	******	******	******	2.530	30	-1.08	1.03	16
GRADY	3688	8	*****	0	*****	****	0	****	0	******	******	******	******	1.430	30	*****	.80	14
HEALDTON	4001	8	47.5	30	-4.8	78.	12	17.	26	526.5	140.5	3.0	3.0	.891	30	-1.37	.32	17
HENNEPIN	4052	8	*****	0	*****	****	0	****	0	******	******	******	******	1.491	30	*****	.71	14
KETCHUM RANCH	4780	8	*****	0	*****	****	0	****	0	******	******	******	******	1.180	30	*****	.65	16
KINGSTON	4865	8	*****	0	*****	****	0	****	0	******	******	******	******	2.720	29	*****	1.05	16
LEHIGH	5108	8	*****	0	*****	****	0	****	0	******	******	******	******	1.655	30	*****	.85	17
LINDSAY 2 W	5216	8	46.8	30	-4.5	77.	4	13.	26	546.5	135.5	.0	.0	.941	30	-1.28	.29	17
LOCO 6 SE	5247	8	*****	0	*****	****	0	****	0	******	******	******	******	.770	30	*****	.31	16
MADILL	5468	8	49.6	29	-4.2	78.	4	18.	26	449.0	107.0	1.0	-5.0	2.380	30	-.42	.83	15
MARIETTA	5563	8	48.8	30	-4.8	78.	12	15.	26	489.0	140.0	3.0	-4.0	1.460	30	-1.14	.60	16
MARLOW 1 WSW	5581	8	47.9	30	-3.6	79.	4	11.	26	512.5	107.5	.0	.0	.572	30	-1.57	.28	14
MCGEE CREEK DAM	5713	8	46.7	30	*****	76.	5	18.	27	549.5	******	.0	******	2.731	30	*****	1.07	17
PAULS VALLEY	6926	8	46.8	30	-5.3	78.	4	14.	27	545.5	153.5	.5	.5	1.622	30	-.91	.58	14
PONTOTOC	7214	8	*****	0	*****	****	0	****	0	******	******	******	******	2.440	30	-.52	.77	16
TISHOMINGO NWLR	8884	8	48.8	22	*****	78.	4	12.	26	358.0	******	2.5	******	2.670	22	*****	1.04	15
TUSSY	9032	8	*****	0	*****	****	0	****	0	******	******	******	******	.530	30	*****	.34	13
WAURIKA	9395	8	47.0	30	-6.1	76.	4	16.	26	539.5	176.5	.0	-6.0	.000	30	-1.82	.00	30
WAURIKA DAM	9399	8	47.2	19	*****	76.	15	20.	1	338.0	******	.0	******	.830	21	*****	.36	16

NOVEMBER 1993 SUMMARY FOR SOUTHEAST DIVISION (CD9)

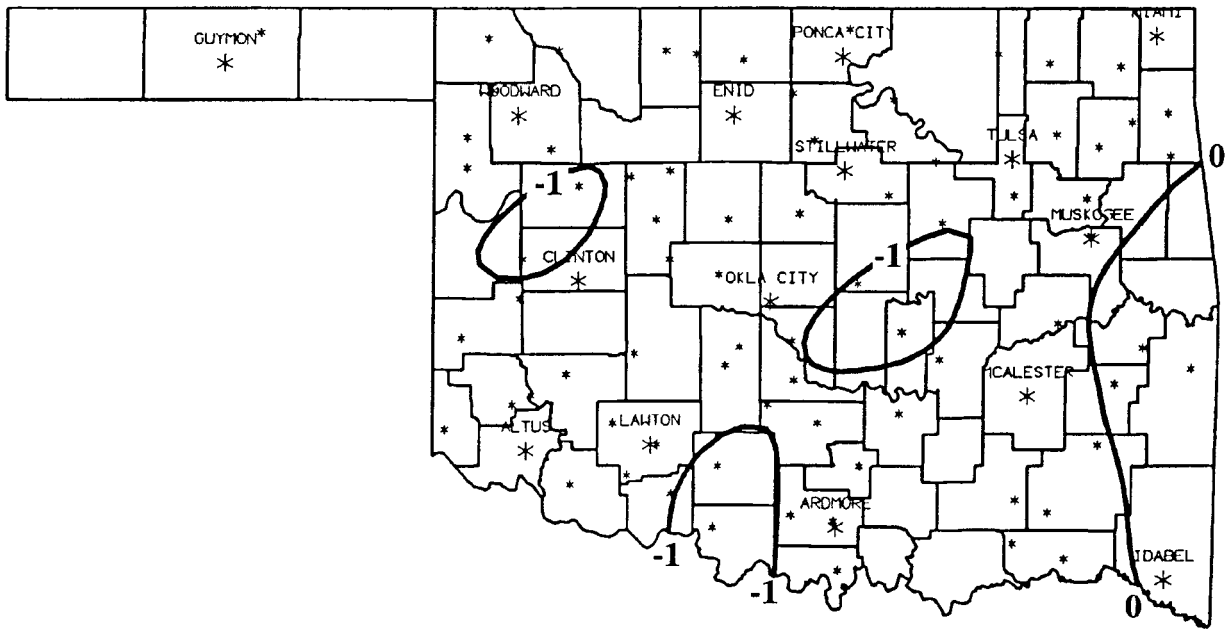
NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
ANTLERS	256	9	45.8	29	-7.2	77.	4	15.	27	556.5	190.5	.5	-5.5	3.100	30	-.63	1.70	17
BATTIEST 1 SSW	567	9	44.9	29	*****	74.	13	14.	27	587.0	******	4.0	******	3.571	29	*****	1.70	17
BEAR MT TWR	584	9	46.5	10	*****	71.	15	22.	8	185.5	******	.0	******	5.270	25	*****	2.02	14
BENGAL	670	9	*****	0	*****	****	0	****	0	******	******	******	******	3.761	30	*****	1.29	14
BOSWELL 4 NNW	980	9	47.5	29	-5.8	77.	4	18.	27	512.0	153.0	5.5	-2.5	2.322	30	-1.33	1.16	17
BROKEN BOW 1 N	1162	9	*****	0	*****	****	0	****	0	******	******	******	******	5.160	30	.92	1.66	14
BROKEN BOW DAM	1168	9	48.1	30	-4.2	79.	5	19.	27	514.5	133.5	6.5	6.5	4.951	30	.48	1.43	14
CARTER TWR	1544	9	*****	0	*****	****	0	****	0	******	******	******	******	4.170	30	-.11	1.62	17
FANSHAWE	3065	9	*****	0	*****	****	0	****	0	******	******	******	******	3.870	30	-.64	1.43	16
HEAVENER 1 SE	4008	9	*****	0	*****	****	0	****	0	******	******	******	******	3.962	30	-.33	1.50	17
HEE MT TWR	4017	9	*****	0	*****	****	0	****	0	******	******	******	******	5.560	30	1.20	1.83	14
HUGO	4384	9	48.6	30	-5.7	77.	13	19.	27	492.5	162.5	1.0	-8.0	3.141	30	-.81	.87	17
IDABEL	4451	9	49.5	30	-3.0	79.	14	19.	27	469.5	89.5	6.0	1.0	4.243	30	.14	1.29	14
POTEAU W W	7254	9	46.2	30	*****	77.	13	17.	6	566.5	******	3.5	******	3.671	30	*****	1.55	16
SMITHVILLE 1 W	8285	9	45.1	30	-5.7	74.	13	13.	28	602.5	176.5	5.0	5.0	5.204	30	.82	1.85	14
SPIRO	8416	9	*****	0	*****	****	0	****	0	******	******	******	******	6.420	30	2.00	2.97	14
TUSKAHOMA	9023	9	47.0	30	-5.9	77.	13	17.	26	541.5	172.5	1.0	-5.0	4.362	30	.23	1.63	14
VALLIANT 3 W	9118	9	*****	0	*****	****	0	****	0	******	******	******	******	4.850	30	.69	2.45	17
WILBURTON 9 ENE	9634	9	46.1	30	-5.2	75.	13	17.	27	567.5	152.5	.0	.0	5.061	30	.77	2.25	13

NOVEMBER 1993 CLIMATE DIVISION SUMMARY

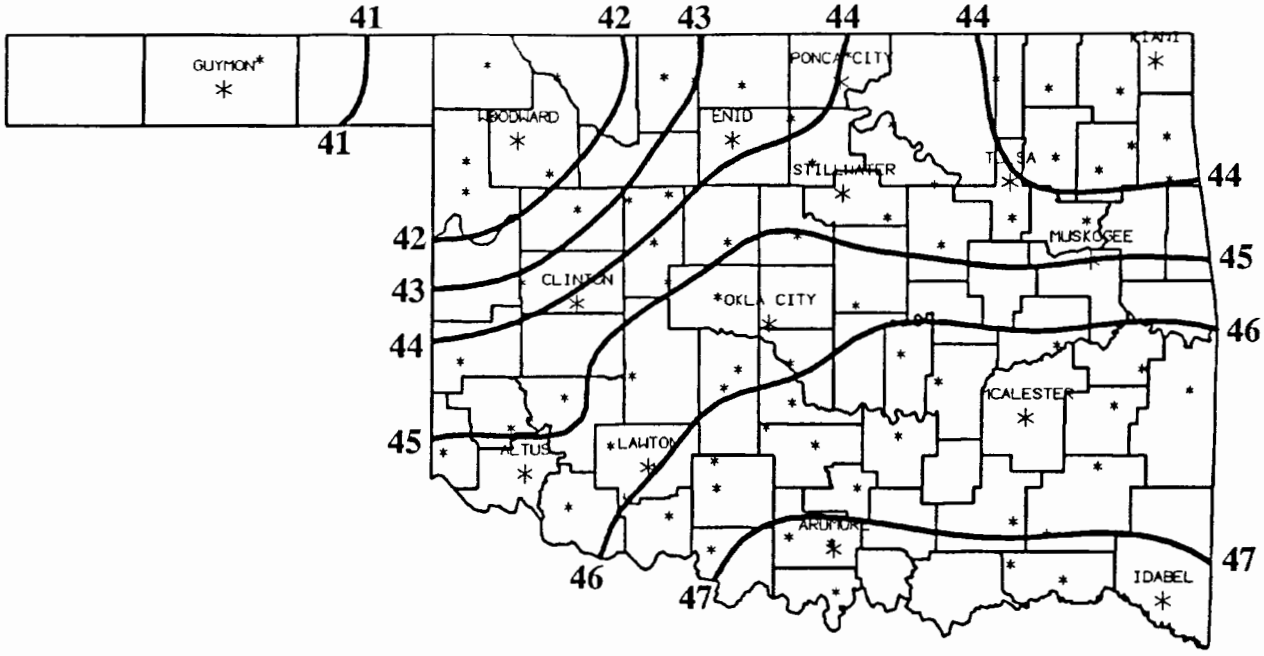
CLIMATE DIV	MEAN TEMP	NUM STA	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEGREE DAYS	DEV FROM NORM	COOL DEGREE DAYS	DEV FROM NORM	TOT PPT	NUM STA	DEV FROM NORM	MAX 24-HR	DAY
1	40.9	8	-4.2	77.0	3	2.0	25	717.4	119.8	.1	.1	.76	11	-.25	.70	12
2	42.6	14	-4.8	77.0	12	3.0	26	669.3	142.3	.3	.3	1.18	22	-.68	1.30	17
3	44.0	15	-5.1	76.0	4	10.0	26	624.5	147.5	.1	.1	2.39	29	-.69	3.27	14
4	43.9	9	-4.4	79.0	5	6.0	26	631.9	129.3	.3	.3	.62	20	-.98	.60	14
5	45.5	16	-4.9	80.0	4	11.0	26	585.4	145.7	.0	-.3	1.69	36	-.71	2.53	14
6	45.9	9	-5.5	77.0	4	11.0	4	568.4	154.9	.9	-1.4	3.39	26	-.08	4.00	14
7	45.5	13	-5.2	79.0	4	6.0	26	581.2	150.4	.3	.3	.91	22	-.65	1.43	13
8	47.1	13	-5.4	79.0	4	11.0	26	538.0	155.8	1.1	-2.2	1.70	27	-1.00	2.10	14
9	46.9	10	-5.8	79.0	14	13.0	28	541.0	165.9	3.3	-1.4	4.34	17	.14	2.97	14



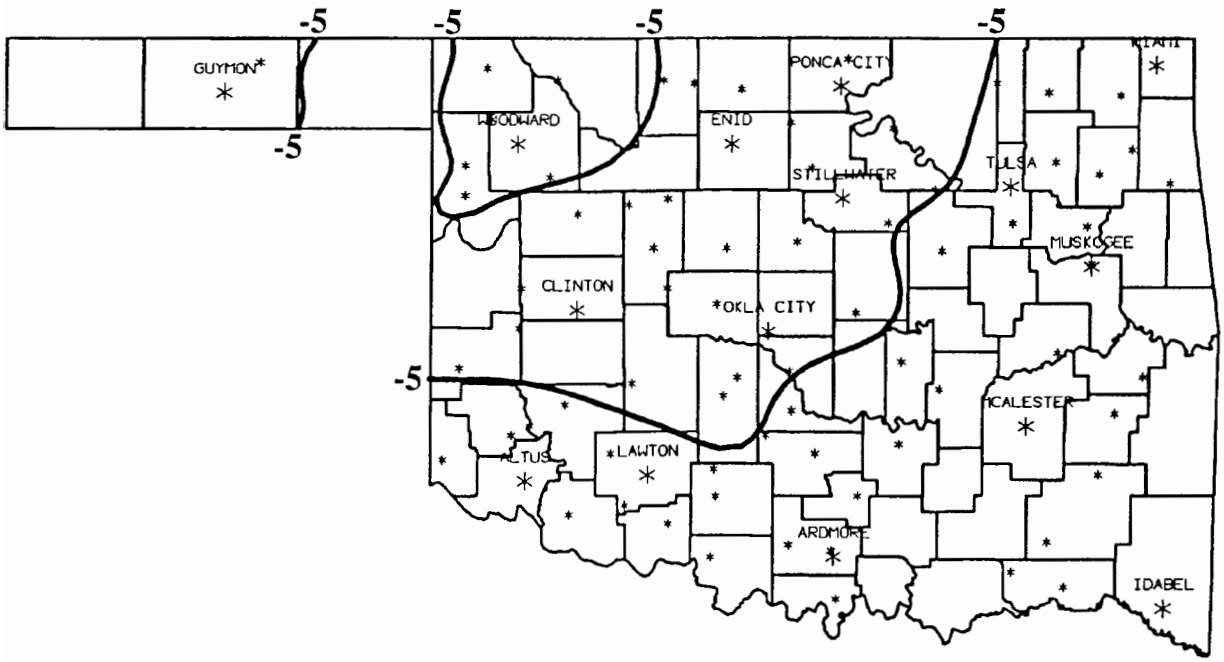
NOVEMBER 1993 TOTAL PRECIPITATION
(Inches)



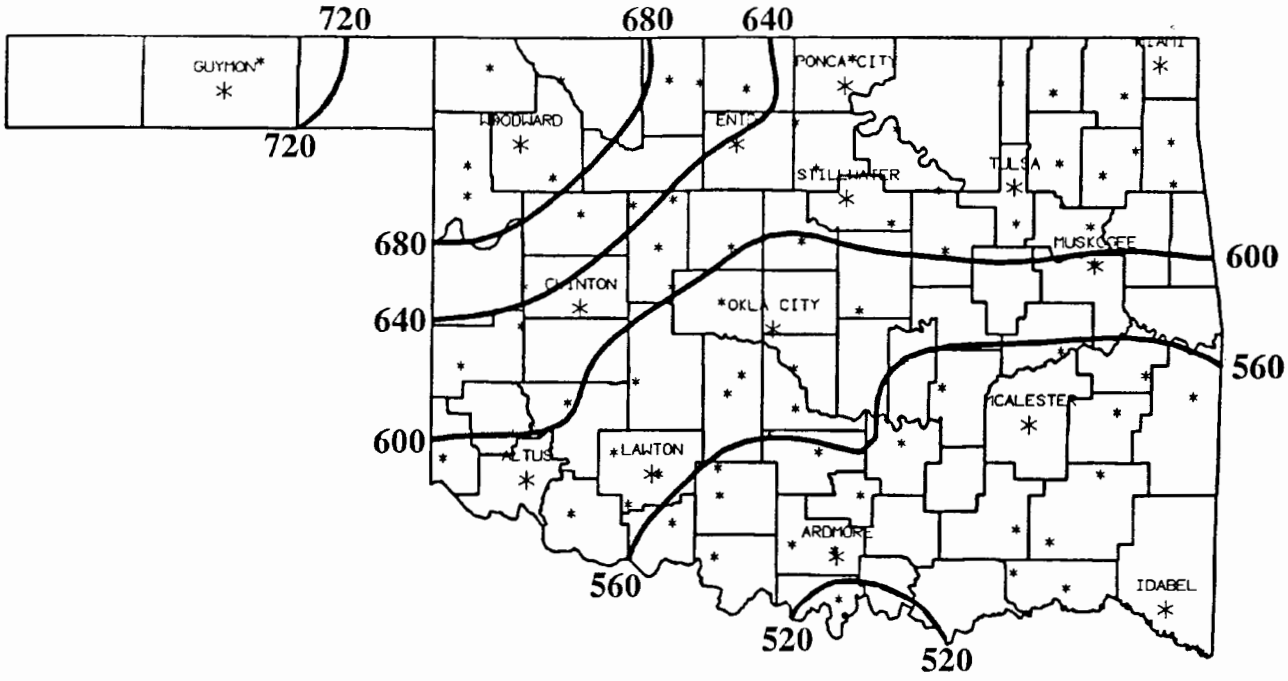
NOVEMBER 1993 DEVIATION FROM NORMAL PRECIPITATION
(Inches)



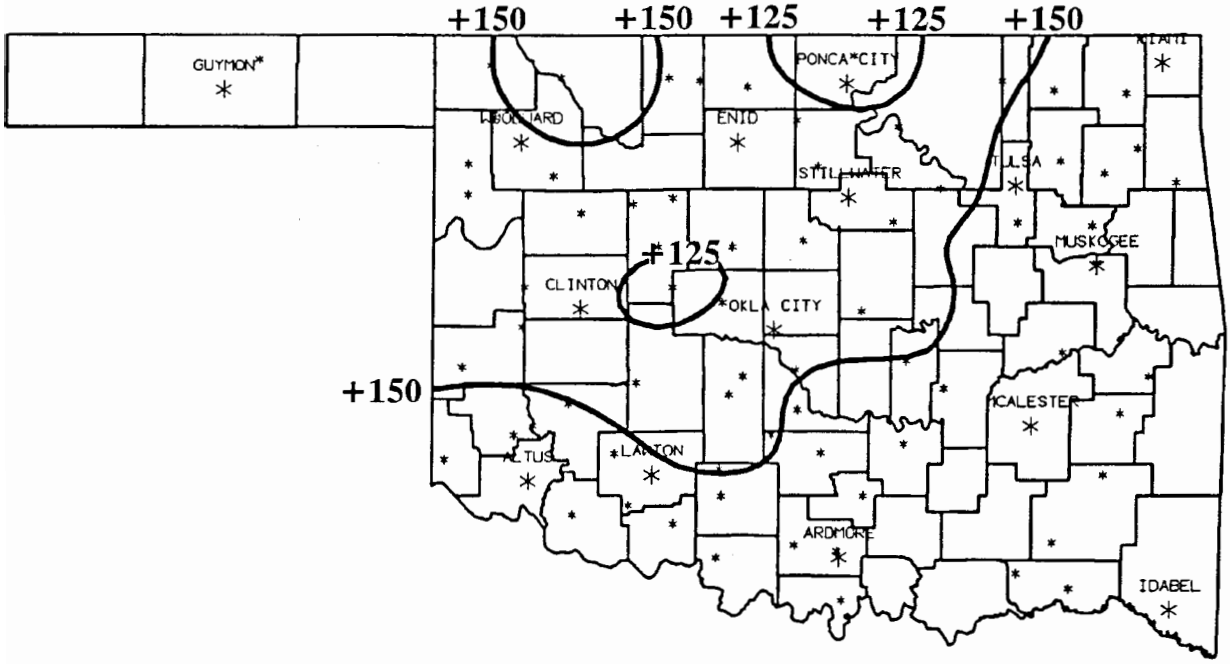
NOVEMBER 1993 AVERAGE MONTHLY TEMPERATURES
(Degrees F)



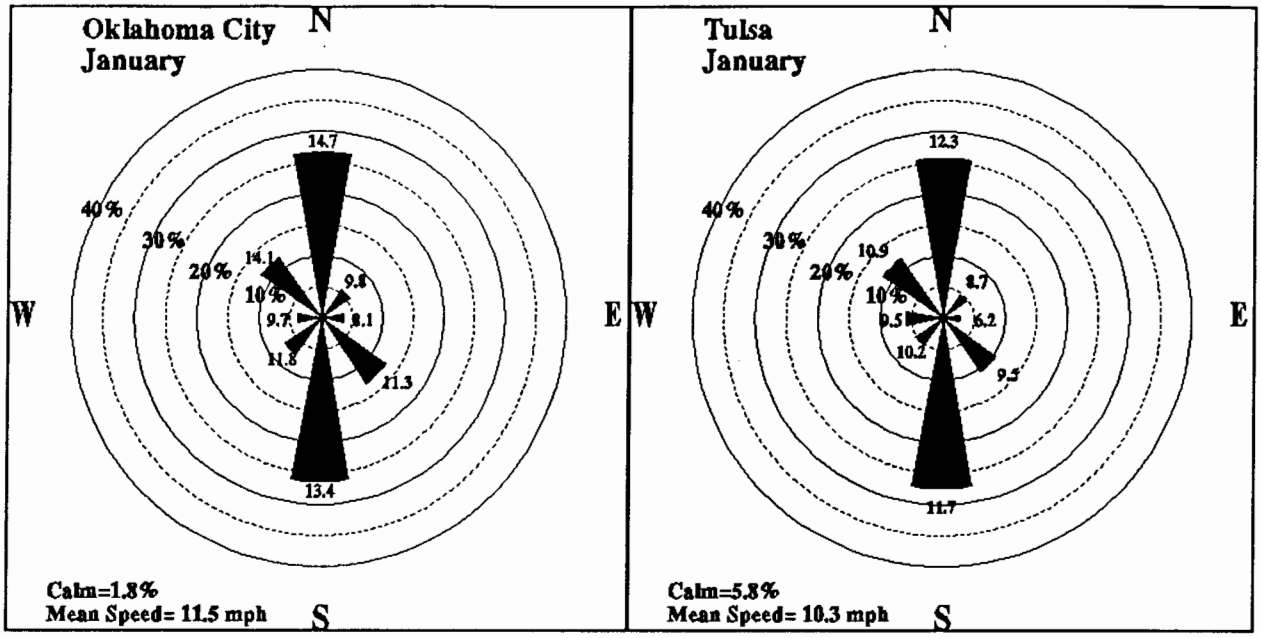
NOVEMBER 1993 DEVIATION FROM NORMAL TEMPERATURES
(Degrees F)



NOVEMBER 1993 HEATING DEGREE DAYS



NOVEMBER 1993 DEVIATION FROM NORMAL HEATING DEGREE DAYS



January Wind Roses for Oklahoma City and Tulsa. Percents represent the frequency of winds from each direction. The numbers at the ends of the bars indicate the average wind speed (miles per hour) from that direction.

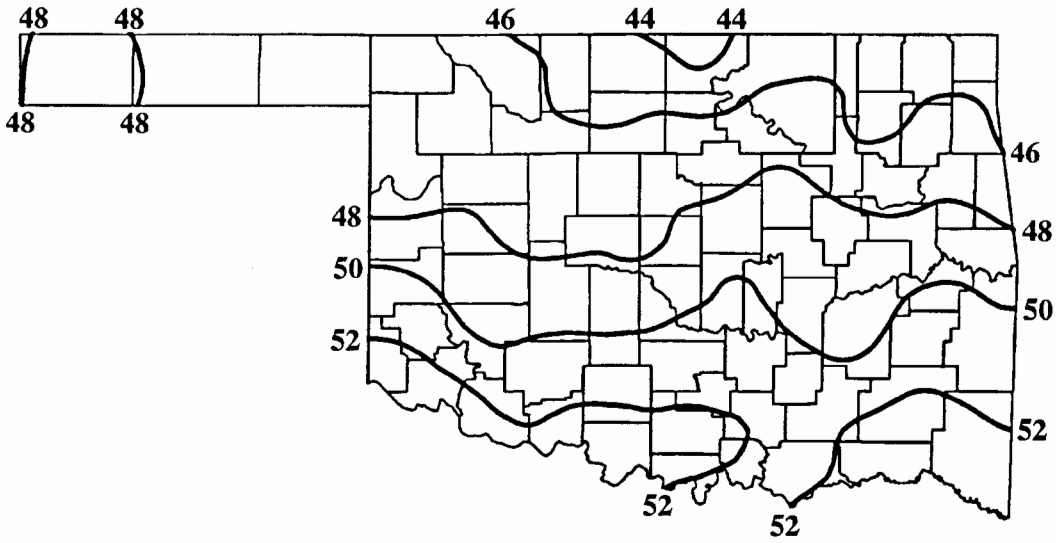
JANUARY 1994 SUNRISE AND SUNSET

OKLAHOMA CITY

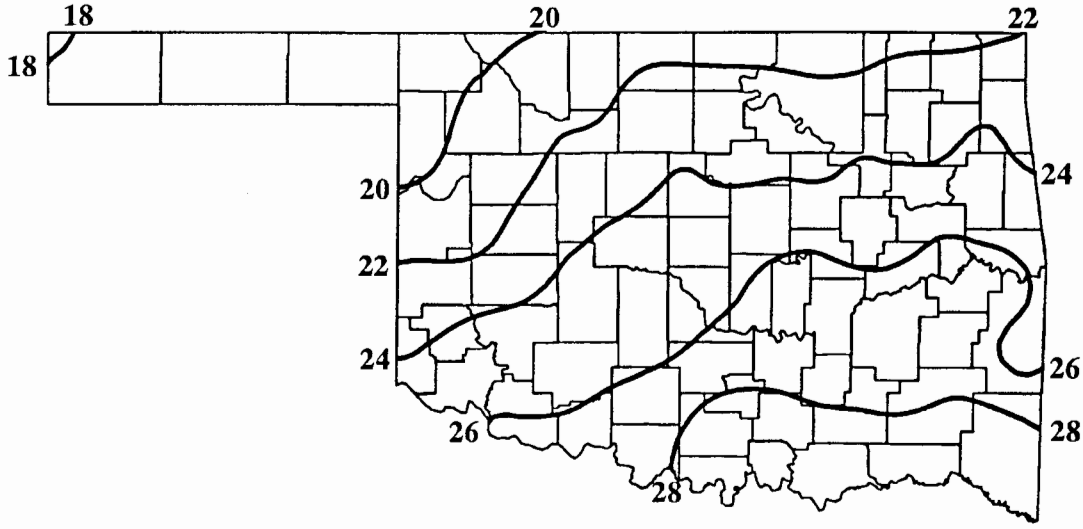
DATE	SUNRISE	SUNSET	DAYLIGHT
94 1 1	7:38AM	5:30PM cst	9 hrs 53 mins
94 1 2	7:38AM	5:31PM cst	9 hrs 53 mins
94 1 3	7:38AM	5:31PM cst	9 hrs 54 mins
94 1 4	7:38AM	5:32PM cst	9 hrs 54 mins
94 1 5	7:38AM	5:33PM cst	9 hrs 55 mins
94 1 6	7:38AM	5:34PM cst	9 hrs 56 mins
94 1 7	7:38AM	5:35PM cst	9 hrs 56 mins
94 1 8	7:38AM	5:35PM cst	9 hrs 57 mins
94 1 9	7:38AM	5:36PM cst	9 hrs 58 mins
94 110	7:38AM	5:37PM cst	9 hrs 59 mins
94 111	7:38AM	5:38PM cst	10 hrs 0 mins
94 112	7:38AM	5:39PM cst	10 hrs 1 mins
94 113	7:38AM	5:40PM cst	10 hrs 2 mins
94 114	7:38AM	5:40PM cst	10 hrs 3 mins
94 115	7:38AM	5:41PM cst	10 hrs 4 mins
94 116	7:37AM	5:42PM cst	10 hrs 5 mins
94 117	7:37AM	5:43PM cst	10 hrs 6 mins
94 118	7:37AM	5:44PM cst	10 hrs 7 mins
94 119	7:37AM	5:45PM cst	10 hrs 8 mins
94 120	7:36AM	5:46PM cst	10 hrs 10 mins
94 121	7:36AM	5:47PM cst	10 hrs 11 mins
94 122	7:35AM	5:48PM cst	10 hrs 12 mins
94 123	7:35AM	5:49PM cst	10 hrs 14 mins
94 124	7:35AM	5:50PM cst	10 hrs 15 mins
94 125	7:34AM	5:51PM cst	10 hrs 17 mins
94 126	7:34AM	5:52PM cst	10 hrs 18 mins
94 127	7:33AM	5:53PM cst	10 hrs 20 mins
94 128	7:32AM	5:54PM cst	10 hrs 21 mins
94 129	7:32AM	5:55PM cst	10 hrs 23 mins
94 130	7:31AM	5:56PM cst	10 hrs 24 mins
94 131	7:31AM	5:57PM cst	10 hrs 26 mins

TULSA

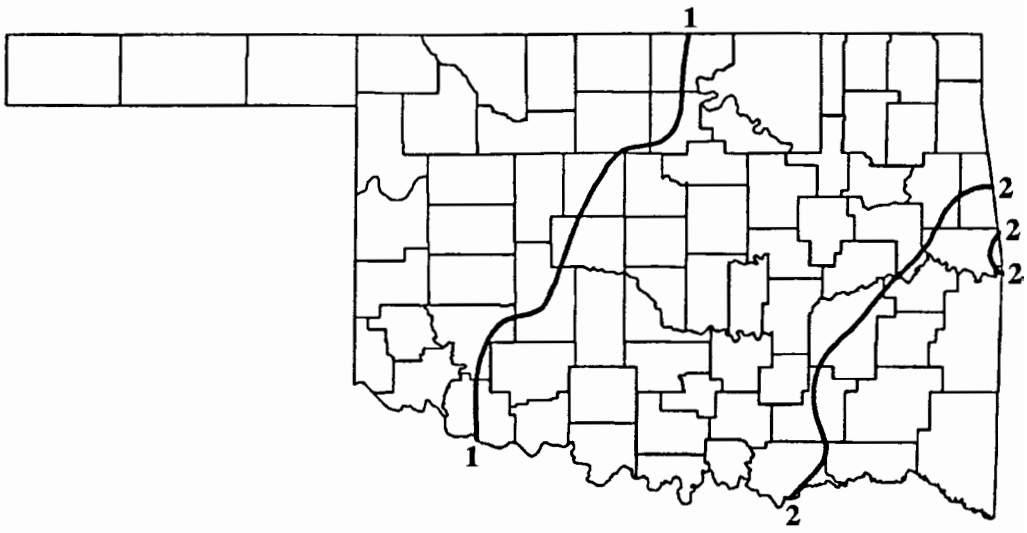
DATE	SUNRISE	SUNSET	DAYLIGHT
94 1 1	7:33AM	5:21PM cst	9 hrs 49 mins
94 1 2	7:33AM	5:22PM cst	9 hrs 49 mins
94 1 3	7:33AM	5:23PM cst	9 hrs 50 mins
94 1 4	7:33AM	5:23PM cst	9 hrs 50 mins
94 1 5	7:33AM	5:24PM cst	9 hrs 51 mins
94 1 6	7:33AM	5:25PM cst	9 hrs 52 mins
94 1 7	7:33AM	5:26PM cst	9 hrs 52 mins
94 1 8	7:33AM	5:27PM cst	9 hrs 53 mins
94 1 9	7:33AM	5:27PM cst	9 hrs 54 mins
94 110	7:33AM	5:28PM cst	9 hrs 55 mins
94 111	7:33AM	5:29PM cst	9 hrs 56 mins
94 112	7:33AM	5:30PM cst	9 hrs 57 mins
94 113	7:33AM	5:31PM cst	9 hrs 58 mins
94 114	7:33AM	5:32PM cst	9 hrs 59 mins
94 115	7:33AM	5:33PM cst	10 hrs 0 mins
94 116	7:32AM	5:34PM cst	10 hrs 1 mins
94 117	7:32AM	5:35PM cst	10 hrs 2 mins
94 118	7:32AM	5:35PM cst	10 hrs 4 mins
94 119	7:31AM	5:36PM cst	10 hrs 5 mins
94 120	7:31AM	5:37PM cst	10 hrs 6 mins
94 121	7:31AM	5:38PM cst	10 hrs 8 mins
94 122	7:30AM	5:39PM cst	10 hrs 9 mins
94 123	7:30AM	5:40PM cst	10 hrs 10 mins
94 124	7:29AM	5:41PM cst	10 hrs 12 mins
94 125	7:29AM	5:42PM cst	10 hrs 13 mins
94 126	7:28AM	5:43PM cst	10 hrs 15 mins
94 127	7:28AM	5:44PM cst	10 hrs 17 mins
94 128	7:27AM	5:45PM cst	10 hrs 18 mins
94 129	7:27AM	5:46PM cst	10 hrs 20 mins
94 130	7:26AM	5:47PM cst	10 hrs 21 mins
94 131	7:25AM	5:48PM cst	10 hrs 23 mins



January Normal Daily Maximum Temperatures (°F)



January Normal Daily Minimum Temperatures (°F)



January Normal Monthly Precipitation (inches)

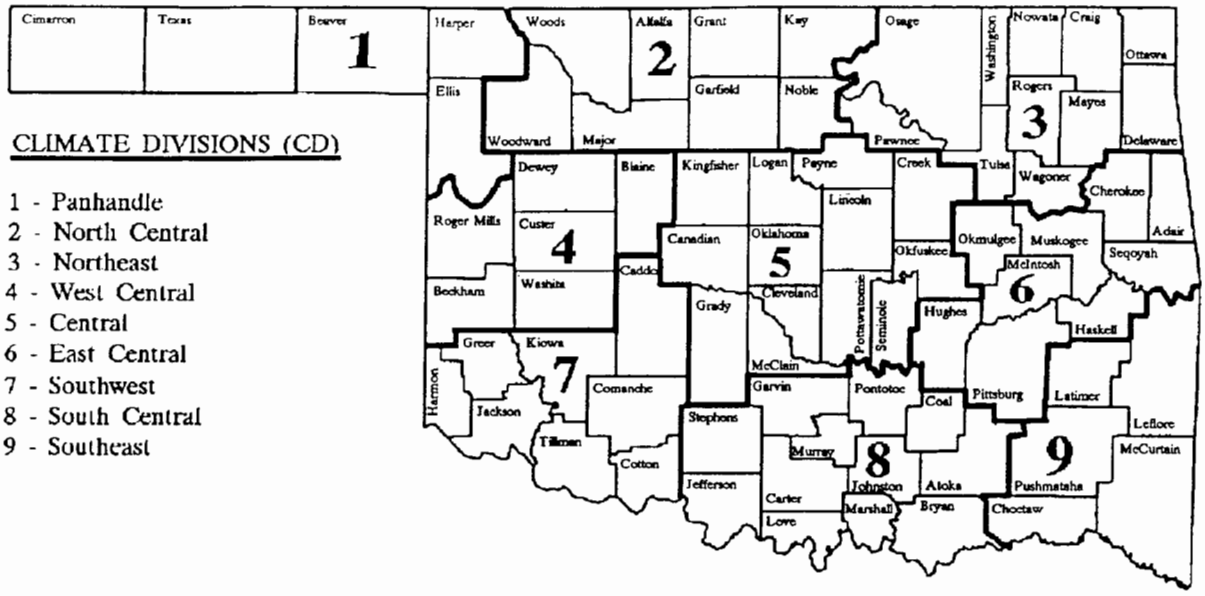
90-DAY NATIONAL WEATHER SERVICE OUTLOOK

(DECEMBER 1993 - FEBRUARY 1994)

Precipitation - Greater Than Normal Statewide

Temperature - Near Normal Statewide

OKLAHOMA



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 the average temperature for the day exceeds 65 degrees. Daily values are summed to arrive at a monthly total. 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 the average temperature for the day is less than 65 degrees. Daily values are summed to give a monthly total. 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 that normal cooling requirements for the month as a whole. A negative value indicates lower than normal cooling requirements for the month as a whole. Normal cooling degree days may be found by subtracting the deviation from the observed cooling degree days.

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

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

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

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

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

OKLAHOMA CITY CLIMATE CALENDAR

The data on this calendar are for Oklahoma City. Normal values are calculated for the period 1961-1990. Extremes are found for the period of record (1891-present).

January 1994

Normal 1	Actual	Normal 2	Actual	Normal 3	Actual	Normal 4	Actual	Normal 5	Actual	Normal 6	Actual	Normal 7	Actual
46.5 max		47.1 max		45.6 max		43.8 max		46.8 max		47.8 max		44.9 max	
26.5 min		27.4 min		25.0 min		25.2 min		26.5 min		25.1 min		24.2 min	
.02 ppt		.07 ppt		.06 ppt		.02 ppt		.05 ppt		.02 ppt		.01 ppt	
29 hdd		28 hdd		30 hdd		31 hdd		28 hdd		29 hdd		30 hdd	
0 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd	
Highest Max 74-1910		Highest Max 70-1964		Highest Max 71-1939		Highest Max 72-1927		Highest Max 71-1927		Highest Max 68-1921		Highest Max 73-1965	
Lowest Max 13-1979		Lowest Max 13-1911		Lowest Max 10-1919		Lowest Max 11-1959		Lowest Max 18-1924		Lowest Max 14-1909		Lowest Max 15-1913	
Lowest Min 2-1928		Lowest Min -2-1911		Lowest Min -9-1911		Lowest Min -7-1947		Lowest Min -2-1959		Lowest Min -2-1912		Lowest Min 3-1912	
Highest Min 51-1966		Highest Min 56-1950		Highest Min 52-1922		Highest Min 60-1955		Highest Min 48-1946		Highest Min 52-1907		Highest Min 61-1907	
Greatest ppt .63-1892		Greatest ppt 1.01-1951		Greatest ppt 1.03-1908		Greatest ppt 1.81-1932		Greatest ppt 1.00-1962		Greatest ppt 1.02-1934		Greatest ppt .93-1944	

Normal 8	Actual	Normal 9	Actual	Normal 10	Actual	Normal 11	Actual	Normal 12	Actual	Normal 13	Actual	Normal 14	Actual
46.9 max		44.8 max		42.6 max		44.1 max		46.5 max		47.0 max		48.3 max	
23.5 min		23.5 min		22.7 min		22.6 min		25.1 min		25.3 min		26.3 min	
.03 ppt		.02 ppt		.02 ppt		.01 ppt		.03 ppt		.01 ppt		.02 ppt	
30 hdd		31 hdd		32 hdd		32 hdd		30 hdd		29 hdd		28 hdd	
0 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd	
Highest Max 71-1923		Highest Max 70-1902		Highest Max 75-1990		Highest Max 77-1911		Highest Max 73-1935		Highest Max 73-1928		Highest Max 76-1928	
Lowest Max 11-1937		Lowest Max 9-1977		Lowest Max 13-1962		Lowest Max 2-1918		Lowest Max 6-1912		Lowest Max 11-1905		Lowest Max 12-1905	
Lowest Min -4-1988		Lowest Min -2-1977		Lowest Min -3-1977		Lowest Min -7-1918		Lowest Min -7-1912		Lowest Min -4-1916		Lowest Min -1-1905	
Highest Min 49-1949		Highest Min 45-1966		Highest Min 47-1928		Highest Min 50-1898		Highest Min 51-1960		Highest Min 51-1952		Highest Min 50-1928	
Greatest ppt 1.45-1935		Greatest ppt .57-1907		Greatest ppt .66-1905		Greatest ppt 1.10-1916		Greatest ppt .78-1927		Greatest ppt .79-1992		Greatest ppt .46-1898	

Normal 15	Actual	Normal 16	Actual	Normal 17	Actual	Normal 18	Actual	Normal 19	Actual	Normal 20	Actual	Normal 21	Actual
49.2 max		46.5 max		47.6 max		46.4 max		44.1 max		45.9 max		45.6 max	
25.5 min		25.5 min		26.1 min		25.7 min		25.1 min		25.0 min		26.0 min	
.02 ppt		.04 ppt		.04 ppt		.10 ppt		.09 ppt		.02 ppt		.08 ppt	
28 hdd		29 hdd		28 hdd		29 hdd		30 hdd		30 hdd		29 hdd	
0 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd	
Highest Max 77-1914		Highest Max 76-1894		Highest Max 73-1894		Highest Max 74-1951		Highest Max 75-1914		Highest Max 80-1986		Highest Max 71-1967	
Lowest Max 14-1930		Lowest Max 11-1930		Lowest Max 8-1930		Lowest Max 8-1892		Lowest Max 12-1962		Lowest Max 18-1984		Lowest Max 12-1954	
Lowest Min -2-1905		Lowest Min 0-1930		Lowest Min -9-1930		Lowest Min -9-1930		Lowest Min -11-1892		Lowest Min 1-1985		Lowest Min -3-1930	
Highest Min 53-1969		Highest Min 57-1990		Highest Min 52-1894		Highest Min 48-1895		Highest Min 54-1904		Highest Min 53-1921		Highest Min 56-1921	
Greatest ppt 1.07-1932		Greatest ppt .70-1990		Greatest ppt 1.16-1926		Greatest ppt 1.07-1968		Greatest ppt 2.76-1894		Greatest ppt 1.29-1904		Greatest ppt 1.40-1932	

Normal 22	Actual	Normal 23	Actual	Normal 24	Actual	Normal 25	Actual	Normal 26	Actual	Normal 27	Actual	Normal 28	Actual
47.3 max		46.8 max		50.1 max		49.2 max		46.4 max		45.8 max		47.1 max	
25.5 min		25.1 min		27.2 min		27.9 min		26.5 min		25.3 min		26.0 min	
.03 ppt		.02 ppt		.02 ppt		.08 ppt		.03 ppt		.03 ppt		.02 ppt	
29 hdd		29 hdd		26 hdd		26 hdd		29 hdd		29 hdd		28 hdd	
0 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd	
Highest Max 79-1967		Highest Max 75-1909		Highest Max 81-1950		Highest Max 77-1952		Highest Max 72-1953		Highest Max 72-1914		Highest Max 78-1893	
Lowest Max 16-1962		Lowest Max 13-1963		Lowest Max 8-1894		Lowest Max 15-1905		Lowest Max 12-1897		Lowest Max 17-1961		Lowest Max 21-1948	
Lowest Min -8-1930		Lowest Min -1-1963		Lowest Min -8-1894		Lowest Min -3-1894		Lowest Min 0-1902		Lowest Min 3-1963		Lowest Min 5-1948	
Highest Min 50-1921		Highest Min 51-1967		Highest Min 51-1944		Highest Min 58-1944		Highest Min 54-1911		Highest Min 56-1914		Highest Min 60-1968	
Greatest ppt .39-1920		Greatest ppt 1.16-1921		Greatest ppt .37-1949		Greatest ppt 1.26-1949		Greatest ppt 1.25-1916		Greatest ppt .62-1985		Greatest ppt .44-1989	

Normal 29	Actual	Normal 30	Actual	Normal 31	Actual
48.1 max		46.9 max		48.4 max	
26.2 min		26.2 min		27.8 min	
.06 ppt		.07 ppt		.06 ppt	
28 hdd		28 hdd		27 hdd	
0 cdd		0 cdd		0 cdd	
Highest Max 76-1911		Highest Max 74-1917		Highest Max 83-1911	
Lowest Max 13-1966		Lowest Max 17-1949		Lowest Max 6-1918	
Lowest Min -1-1895		Lowest Min -1-1895		Lowest Min -1-1979	
Highest Min 51-1982		Highest Min 55-1988		Highest Min 52-1911	
Greatest ppt 1.84-1982		Greatest ppt 1.34-1982		Greatest ppt 1.98-1923	

JANUARY AVERAGES

TEMPERATURE	:	36.1°F
PRECIPITATION	:	1.20"
HEATING DEGREE DAYS	:	899
COOLING DEGREE DAYS	:	0

TULSA CLIMATE CALENDAR

January 1994

The data on this calendar are for Tulsa. Normal values are calculated for the period 1948-1991. Temperature extremes are for the period 1905-1992; precipitation extremes are for the period 1948-1992.

Normal 1	Actual	Normal 2	Actual	Normal 3	Actual	Normal 4	Actual	Normal 5	Actual	Normal 6	Actual	Normal 7	Actual
46.0 max		47.0 max		46.0 max		44.0 max		46.0 max		46.0 max		44.0 max	
26.0 min		27.0 min		24.0 min		25.0 min		25.0 min		25.0 min		24.0 min	
.03 ppt		.06 ppt		.11 ppt		.03 ppt		.02 ppt		.01 ppt		.01 ppt	
28 hdd		28 hdd		30 hdd		30 hdd		29 hdd		29 hdd		31 hdd	
0 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd	
Highest Max 73-1910		Highest Max 72-1950		Highest Max 71-1955		Highest Max 70-1956		Highest Max 73-1984		Highest Max 69-1907		Highest Max 77-1955	
Lowest Max 13-1974		Lowest Max 25-1979		Lowest Max 14-1959		Lowest Max 12-1959		Lowest Max 19-1987		Lowest Max 20-1979		Lowest Max 15-1968	
Lowest Min 0-1928		Lowest Min 2-1911		Lowest Min -2-1919		Lowest Min -8-1947		Lowest Min -7-1947		Lowest Min 0-1912		Lowest Min -5-1912	
Highest Min 53-1966		Highest Min 55-1950		Highest Min 52-1955		Highest Min 63-1955		Highest Min 48-1992		Highest Min 47-1965		Highest Min 49-1955	
Greatest ppt .50-1965		Greatest ppt .90-1951		Greatest ppt 1.12-1971		Greatest ppt .82-1963		Greatest ppt .50-1962		Greatest ppt .61-1988		Greatest ppt .17-1973	

Normal 8	Actual	Normal 9	Actual	Normal 10	Actual	Normal 11	Actual	Normal 12	Actual	Normal 13	Actual	Normal 14	Actual
47.0 max		44.0 max		42.0 max		44.0 max		45.0 max		47.0 max		48.0 max	
24.0 min		24.0 min		22.0 min		22.0 min		25.0 min		25.0 min		27.0 min	
.03 ppt		.06 ppt		.02 ppt		.01 ppt		.02 ppt		.02 ppt		.05 ppt	
29 hdd		31 hdd		33 hdd		32 hdd		30 hdd		29 hdd		27 hdd	
0 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd	
Highest Max 71-1923		Highest Max 69-1909		Highest Max 76-1990		Highest Max 80-1911		Highest Max 73-1960		Highest Max 75-1907		Highest Max 75-1952	
Lowest Max 17-1970		Lowest Max 10-1977		Lowest Max 13-1962		Lowest Max 21-1973		Lowest Max 11-1963		Lowest Max 23-1982		Lowest Max 13-1979	
Lowest Min -5-1988		Lowest Min 0-1977		Lowest Min -5-1977		Lowest Min -6-1977		Lowest Min -13-1918		Lowest Min -12-191		Lowest Min -4-1916	
Highest Min 46-1954		Highest Min 45-1990		Highest Min 45-1960		Highest Min 43-1960		Highest Min 57-1960		Highest Min 51-1959		Highest Min 51-1953	
Greatest ppt .78-1987		Greatest ppt .57-1977		Greatest ppt .30-1949		Greatest ppt .17-1949		Greatest ppt .42-1960		Greatest ppt .41-1951		Greatest ppt .64-1961	

Normal 15	Actual	Normal 16	Actual	Normal 17	Actual	Normal 18	Actual	Normal 19	Actual	Normal 20	Actual	Normal 21	Actual
48.0 max		44.0 max		44.0 max		44.0 max		43.0 max		44.0 max		45.0 max	
25.0 min		24.0 min		25.0 min		25.0 min		25.0 min		25.0 min		26.0 min	
.03 ppt		.03 ppt		.04 ppt		.10 ppt		.08 ppt		.04 ppt		.07 ppt	
28 hdd		31 hdd		30 hdd		30 hdd		31 hdd		30 hdd		29 hdd	
0 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd	
Highest Max 69-1990		Highest Max 78-1938		Highest Max 73-1952		Highest Max 72-1951		Highest Max 75-1951		Highest Max 77-1986		Highest Max 75-1957	
Lowest Max 18-1972		Lowest Max 16-1977		Lowest Max 11-1978		Lowest Max 13-1970		Lowest Max 14-1970		Lowest Max 15-1984		Lowest Max 16-1970	
Lowest Min 0-1905		Lowest Min 1-1930		Lowest Min -3-1930		Lowest Min -14-1930		Lowest Min -5-1943		Lowest Min -3-1985		Lowest Min -1-1918	
Highest Min 53-1980		Highest Min 58-1990		Highest Min 55-1973		Highest Min 48-1972		Highest Min 48-1954		Highest Min 45-1973		Highest Min 57-1957	
Greatest ppt .76-1949		Greatest ppt .66-1990		Greatest ppt .45-1984		Greatest ppt .88-1968		Greatest ppt 1.85-1990		Greatest ppt .61-1958		Greatest ppt .55-1973	

Normal 22	Actual	Normal 23	Actual	Normal 24	Actual	Normal 25	Actual	Normal 26	Actual	Normal 27	Actual	Normal 28	Actual
46.0 max		45.0 max		50.0 max		50.0 max		46.0 max		43.0 max		47.0 max	
26.0 min		25.0 min		26.0 min		28.0 min		26.0 min		25.0 min		24.0 min	
.07 ppt		.08 ppt		.02 ppt		.10 ppt		.06 ppt		.07 ppt		.01 ppt	
28 hdd		30 hdd		27 hdd		26 hdd		28 hdd		31 hdd		29 hdd	
0 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd		0 cdd	
Highest Max 78-1909		Highest Max 78-1909		Highest Max 79-1950		Highest Max 74-1952		Highest Max 71-1911		Highest Max 74-1914		Highest Max 82-1909	
Lowest Max 16-1962		Lowest Max 12-1963		Lowest Max 20-1948		Lowest Max 19-1949		Lowest Max 20-1957		Lowest Max 21-1948		Lowest Max 21-1972	
Lowest Min -15-1930		Lowest Min -8-1930		Lowest Min -4-1906		Lowest Min 2-1940		Lowest Min 7-1963		Lowest Min 1-1963		Lowest Min 3-1948	
Highest Min 53-1965		Highest Min 54-1967		Highest Min 45-1950		Highest Min 49-1981		Highest Min 44-1952		Highest Min 52-1968		Highest Min 59-1968	
Greatest ppt .53-1956		Greatest ppt 1.42-1953		Greatest ppt .21-1949		Greatest ppt 1.89-1989		Greatest ppt .62-1967		Greatest ppt .85-1968		Greatest ppt .69-1989	

Normal 29	Actual	Normal 30	Actual	Normal 31	Actual
47.0 max		45.0 max		46.0 max	
25.0 min		25.0 min		25.0 min	
.08 ppt		.10 ppt		.11 ppt	
29 hdd		30 hdd		29 hdd	
0 cdd		0 cdd		0 cdd	
Highest Max 76-1947		Highest Max 74-1931		Highest Max 76-1989	
Lowest Max 14-1966		Lowest Max 15-1949		Lowest Max 12-1985	
Lowest Min -2-1949		Lowest Min -6-1949		Lowest Min -5-1979	
Highest Min 50-1982		Highest Min 58-1987		Highest Min 43-1973	
Greatest ppt .99-1969		Greatest ppt 1.73-1975		Greatest ppt 2.13-1983	

JANUARY AVERAGES

TEMPERATURE	:	35.3°F
PRECIPITATION	:	1.57"
HEATING DEGREE DAYS	:	912
COOLING DEGREE DAYS	:	0