

# OKLAHOMA MONTHLY SUMMARY NOVEMBER 1992

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## NOVEMBER 1992 OKLAHOMA SUMMARY

Heavy snows buried parts of northwestern Oklahoma and heavy rains plagued other areas of the state during November. Most parts of the state reported November total precipitation amounts two to three times greater than normal. Preliminary reports show a statewide-averaged 5.68 inches of precipitation. This was 3.26 inches above normal, ranking the month as the second wettest November on record. The wet November offset a very dry October to bring the autumn (September-November) precipitation total to 10.13 inches, 0.70 inch above normal. The year-to-date stands as the 13th wettest with 37.87 inches.

Cold snaps at the beginning and end of the month drove the average temperature downward, resulting in the 18th coolest November on record. The 46.6 degree statewide-average temperature was 2.7 degrees below normal. Preliminary data show an average temperature of 60.6 degrees for the autumn months, 1.1 degree below normal. The year-to-date stands at 62.0 degrees, 0.2 degree below normal.

Eastern Oklahoma began the month under cloudy skies and heavy rains, as a cold front moved slowly across the state from the west. Several stations reported daily rainfall totals in excess of two inches, including 2.90 inches at Scrapper on the first. Ahead of the front temperatures climbed into the 80s on the 1st, while maximum temperatures generally remained in the 40s and 50s behind the front. Waurika reported the month's highest temperature of 90 degrees on the 1st. The wet pattern slowly moved eastward over the next several days, eventually clearing the state on the 5th. Cooler air settled in from the northwest, keeping maximum temperatures in the 40s in northern Oklahoma and the 60s across southern Oklahoma. Minimum temperatures dropped into the teens in western Oklahoma on the 5th and 6th.

Temperatures rose to the upper 70s and low 80s again in advance of a strong storm system which began affecting Oklahoma on the 10th. Heavy thunderstorms caused flooding in southwest and central Oklahoma during the afternoon and night of the 10th. Hardest hit were Tillman, Cotton, Stephens, Comanche and Cleveland Counties, where numerous roadways were closed by flash flooding. Reported precipitation totals included 9.32 inches at Grandfield, 8.60 inches at Trousdale and 7.68 inches at Marlow. Cox City and Lindsay also reported totals in excess of five inches and reports over three inches were common in the path of the storms. Norman Regional Hospital Emergency Room was forced to close for several hours due to flooding.

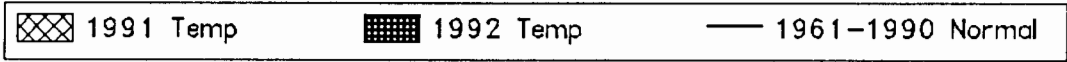
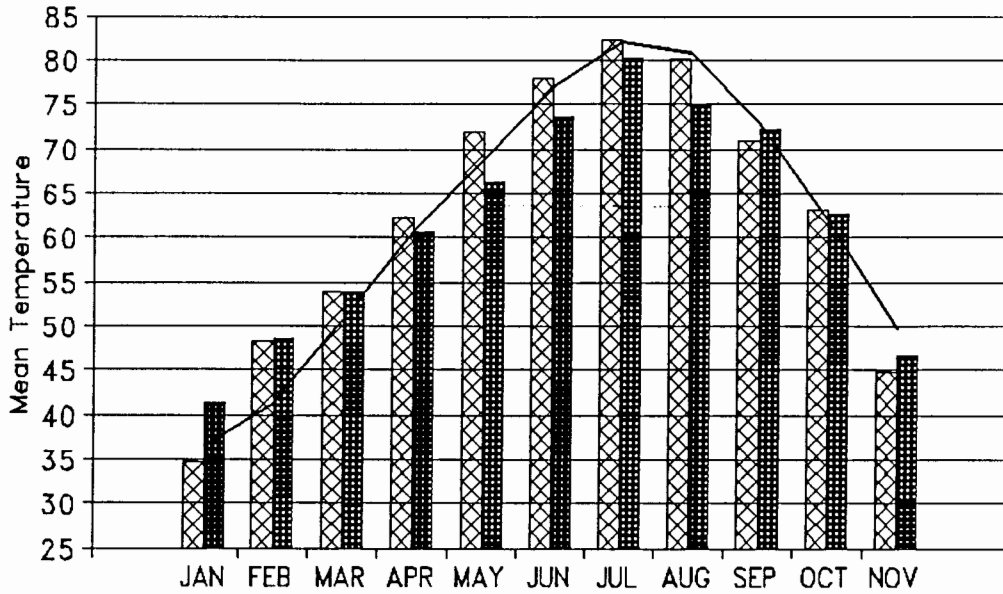
Pleasant autumn conditions prevailed during the days which followed as daytime temperatures reached the 60s and 70s across most parts of the state. No precipitation was reported in the state from the 14th through the 16th. A weak cold front brought over two inches of precipitation to parts of central Oklahoma on the 19th and dropped temperatures to more seasonable levels.

A winter storm moving out of the southern Rocky Mountains and across the Texas Panhandle, hit western Oklahoma with up to six inches of snow on the 21st. Tulsa area residents also awoke to a surprise 6 inch snowfall on the morning of the 22nd. Areas which were spared the snowfall dealt with more heavy rainfall, as daily totals again exceeded two inches in many areas of southern Oklahoma.

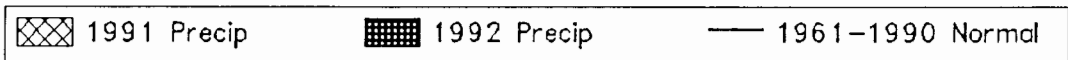
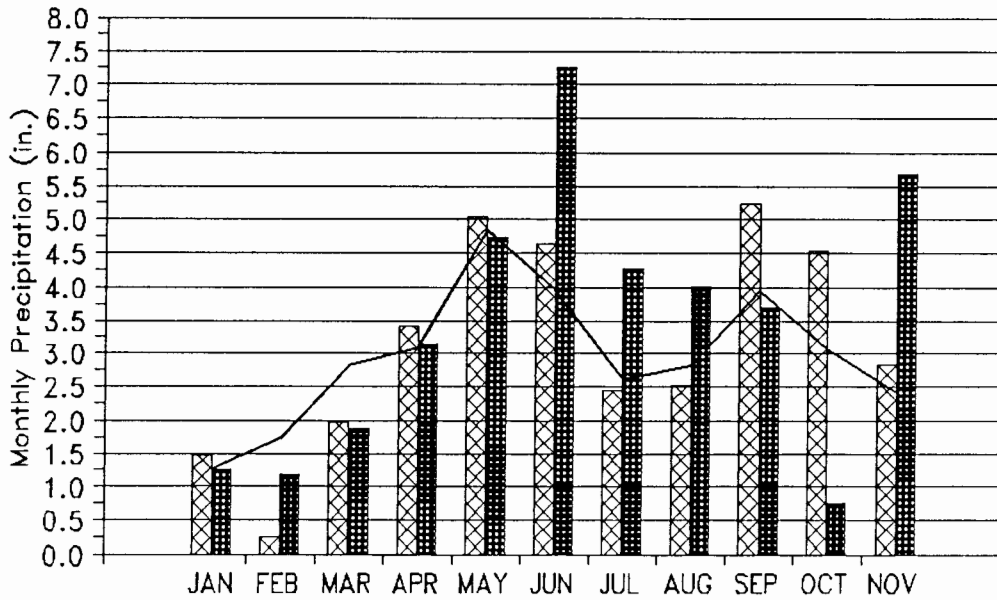
Another strong winter storm hit Oklahoma on the 24th and 25th, following a track nearly identical to the first. Heavy snow driven by strong winds forced the closing of many roads in west central and northwest Oklahoma, including a 200-mile stretch of highway 3 in the Panhandle. Laverne reported the greatest snowfall with a total of 19 inches. Buffalo reported 16 inches, a 13-inch total was reported at Fort Supply and Arnett checked in with 12 inches. Snowfall totals of over three inches extended as far south as Mangum, which reported 3.5 inches. High winds caused drifts as deep as seven feet to accumulate. Drifts nearly to the roofs of buildings were reported at Elmwood in Beaver County.

Cold air followed on the heels of the winter storm. Every part of the state experienced freezing temperatures through the end of the month and much of the snow-packed northwest did not get a chance to thaw in the wake of the storm. Hooker remained below freezing for three days, with minimum temperatures falling as low as 6 degrees on the 26th. During the last few days of the month, daytime temperatures began climbing above freezing across the northwest, although overnight temperatures continued to fall into the single-digits and teens.

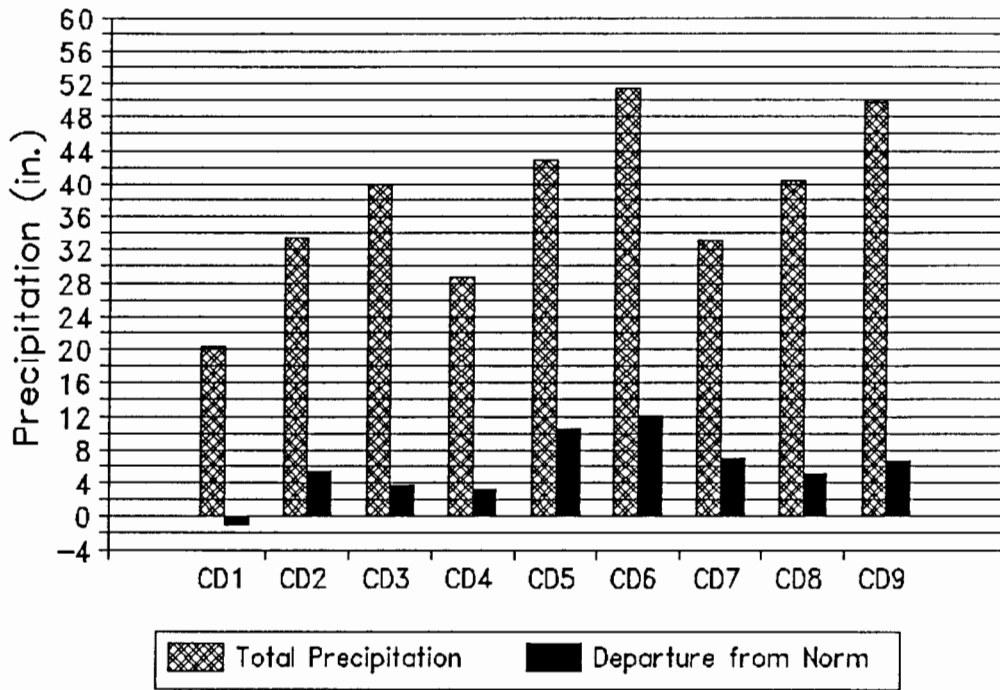
### 1991 and 1992 STATEWIDE TEMPERATURES January Through November Averages



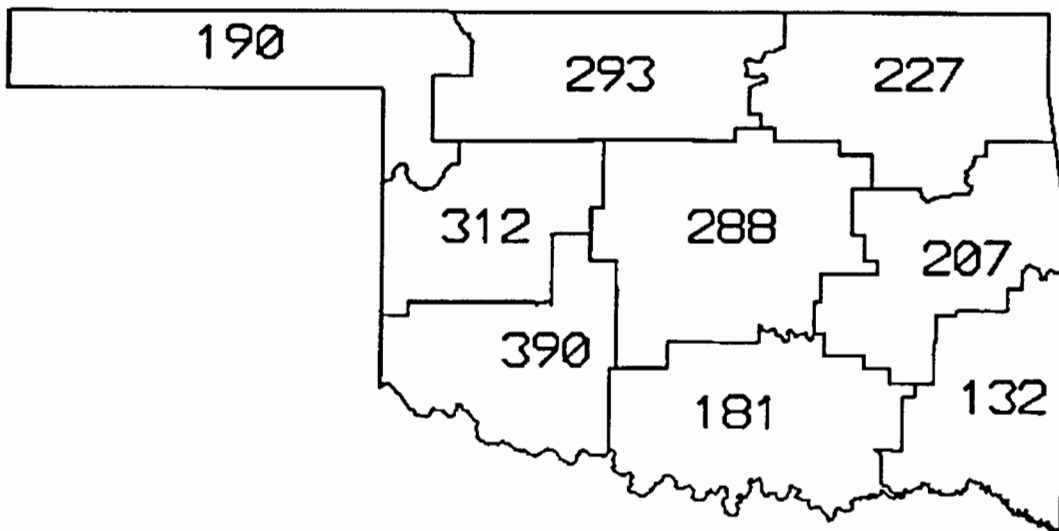
### 1991 and 1992 STATEWIDE PRECIPITATION January Through November Totals



### CD Averaged Precipitation January Through November 1992



### CLIMATE DIVISION PERCENT OF NORMAL PRECIPITATION



NOVEMBER 1992

EXTREME VALUES OF TEMPERATURE AND PRECIPITATION IN EACH CLIMATE DIVISION  
NOVEMBER, 1992

CD	MAX			MIN			24-HOUR			MONTHLY	
	TEMP	DATE	LOCATION	TEMP	DATE	LOCATION	PRECIP	DATE	LOCATION	PRECIP	LOCATION
1	79	9	BUFFALO	6	26	HOOKER	1.48	25	ARNETT	3.42	ARNETT
2	83	1	FREEDOM	8	28	FT SUPPLY	2.51	25	HELENA	7.46	BILLINGS
				8	29	FT SUPPLY					
3	80	1	BIXBY	15	30	HULAH DAM	6.95	12	WYNONA	10.23	WYNONA
4	81	9	ERICK	14	28	HAMMON	2.30	19	TALOGA	6.78	OKEENE
				14	29	HAMMON					
5	82	1	STILLWATER	17	28	PURCELL	8.60	11	TROUSDALE	12.87	TROUSDALE
6	82	1	OKMULGEE	20	28	SALLISAW	3.10	11	BEGGS	9.04	OKMULGEE
7	87	1	LAWTON	16	12	WICHITA MT	9.32	11	GRANDFIELD	13.46	GRANDFIELD
	87	2	LAWTON	16	13	WICHITA MT					
8	90	1	WAURIKA DAM	16	28	MARLOW	7.68	11	MARLOW	10.43	MARLOW
9	77	1	ANTLERS	19	27	POTEAU	2.50	22	SPIRO	8.23	BROKEN BOW
	77	1	HUGO	19	28	TUSKAHOMA					
	77	1	TUSKAHOMA	19	29	TUSKAHOMA					
				19	28	WILBURTON					

TABLE OF 1991/1992 COMPARISONS

Station	November Temperature (F)		November Precipitation (in.)	
	1991	1992	1991	1992
Arnett	38.9	40.7	1.87	3.42
Enid	43.0	44.3	3.15	6.59
Mutual	39.1	41.9	2.43	4.35
Tulsa	46.9	46.7	2.84	4.99
Elk City	44.4	45.5	1.53	5.35
Oklahoma City	45.0	45.9	1.94	4.46
McAlester	48.2	51.0	3.81	5.55
Altus Irr Sta	45.0	49.2	1.18	5.27
Durant	47.6	50.8	2.79	4.35
Ada	46.9	48.3	3.53	3.55
Antlers	47.7	49.7	2.49	5.04

EXTREMES

Variable	Station	Division	Observation	Date
Minimum temperature (F)	Hooker	1	6	26
Maximum temperature (F)	Waurika Dam	8	90	1
Maximum 24-hour precipitation	Grandfield	7	9.32"	11

**NOVEMBER 1992 SUMMARY FOR NORTHWEST DIVISION (CD1)**

NAME	ID	CD	DEV				MIN		HEAT		DEV		COOL		DEV		TOT	NUM	DEV	MAX	24-HR	DAY
			MEAN	NUM	FROM	MAX	DAY	TEMP	DAY	DEG	FROM	DEG	FROM	DEG	FROM	PPT						
ARNETT	332	1	40.7	30	-5.0	78.	1	12.	28	729.0	150.0	.0	.0	3.421	30	1.99	1.48	25				
BEAVER	593	1	38.2	30	-6.0	78.	10	6.	29	803.0	179.0	.0	.0	2.681	29	*****	1.30	25				
BOISE CITY 2 E	908	1	38.1	30	-6.6	73.	16	6.	26	808.0	199.0	.0	.0	.603	30	-.12	.25	2				
BUFFALO	1243	1	42.1	30	-5.0	79.	9	9.	28	687.5	150.5	1.5	1.5	1.750	30	.13	.45	11				
FARGO	3070	1	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.711	30	2.41	1.12	25				
GAGE FAA APT	3407	1	41.3	30	-5.5	76.	9	9.	28	710.0	164.0	.5	.5	2.494	30	1.42	.57	11				
GATE	3489	1	36.3	20	*****	75.	17	11.	28	574.5	*****	.0	*****	4.683	24	*****	2.68	25				
GOODWELL RES ST	3628	1	38.5	30	-5.3	75.	10	7.	26	793.5	157.5	.0	.0	.334	30	-.40	.19	25				
GUYMON	3835	1	38.0	26	*****	76.	9	7.	26	701.0	*****	.0	*****	.583	28	*****	.28	24				
HOOVER	4298	1	38.5	30	-6.1	76.	10	6.	26	794.0	182.0	.0	.0	1.073	30	.29	.77	25				
KENTON	4766	1	37.7	30	-5.6	74.	17	12.	27	820.0	169.0	.0	.0	.480	30	-.13	.30	19				
LAVERNE	5045	1	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.853	30	1.68	1.13	25				
OPTIMA LAKE	6740	1	38.7	30	*****	77.	10	8.	28	790.0	*****	.0	*****	.773	30	*****	.30	25				
REGNIER	7534	1	*****	0	*****	****	0	****	0	*****	*****	*****	*****	.941	30	.38	.28	20				
TURPIN 4 SSE	9017	1	38.1	30	*****	76.	10	7.	26	806.0	*****	.0	*****	1.431	30	*****	.72	25				

**NOVEMBER 1992 SUMMARY FOR NORTH CENTRAL DIVISION (CD2)**

NAME	ID	CD	DEV				MIN		HEAT		DEV		COOL		DEV		TOT	NUM	DEV	MAX	24-HR	DAY
			MEAN	NUM	FROM	MAX	DAY	TEMP	DAY	DEG	FROM	DEG	FROM	DEG	FROM	PPT						
ALVA	193	2	43.5	30	*****	78.	9	17.	28	648.0	*****	2.0	*****	6.590	30	*****	2.54	25				
VANCE AFB	302	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.582	29	*****	1.55	24				
BILLINGS	755	2	43.7	30	-3.8	76.	1	20.	28	640.5	112.5	.0	.0	7.463	30	5.19	1.38	22				
BLACKWELL 2E	818	2	44.6	30	-3.0	73.	10	22.	27	613.0	91.0	.0	.0	6.431	30	4.15	1.35	19				
BRAMAN	1075	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	6.381	29	*****	1.65	19				
CEDARDALE	1620	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.222	30	*****	1.82	19				
CHEROKEE	1724	2	44.5	30	-3.4	77.	9	20.	28	617.0	104.0	2.5	2.5	5.570	29	*****	2.00	25				
ENID	2912	2	44.3	30	-4.3	72.	10	19.	28	620.5	128.5	.0	.0	6.590	30	4.38	1.89	25				
FT SUPPLY DAM	3304	2	40.8	30	-4.7	80.	1	8.	29	726.5	141.5	.0	.0	4.093	30	2.83	1.60	25				
FREEDOM	3358	2	40.8	30	-6.2	83.	1	12.	29	725.0	185.0	.0	.0	3.791	30	2.44	1.64	25				
GREAT SALT PLNS	3740	2	44.1	30	-2.7	74.	10	20.	28	628.0	82.0	1.0	1.0	5.101	30	3.27	2.02	25				
HARDY	3909	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	6.722	30	*****	2.10	11				
HELENA 1 SSE	4019	2	42.7	30	-3.3	75.	10	18.	29	669.5	99.5	1.5	1.5	6.353	30	4.54	2.51	25				
JEFFERSON	4573	2	45.0	30	-3.0	72.	15	19.	5	598.5	88.5	.0	.0	5.781	30	3.60	1.73	24				
LAMONT	5013	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.910	30	*****	1.35	19				
MEDFORD	5768	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	4.970	30	*****	1.67	18				
MORRISON	6065	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.010	30	*****	1.34	12				
MUTUAL	6139	2	41.9	30	-4.3	79.	1	16.	28	694.0	130.0	.5	.5	4.350	30	2.95	2.02	25				
NEWKIRK	6278	2	44.3	29	-3.7	73.	10	19.	28	600.0	90.0	.0	.0	6.690	30	4.28	1.03	25				
ORIENTA	6751	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.410	30	1.69	1.38	19				
PERRY	7012	2	47.2	30	-2.4	79.	1	21.	28	537.5	75.5	4.5	4.5	6.080	29	*****	1.39	22				
PONCA CITY FAA	7201	2	46.4	30	-.9	75.	10	20.	28	561.5	30.5	3.5	3.5	7.251	30	4.99	1.65	11				
RED ROCK 1 NNE	7505	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	6.321	30	4.23	1.48	22				
WAYNOKA	9404	2	43.3	30	-4.7	77.	9	15.	28	653.5	143.5	2.0	2.0	5.280	30	3.75	1.52	25				
WOODWARD	9760	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.391	30	2.02	1.19	25				

NOVEMBER 1992 SUMMARY FOR NORTHEAST DIVISION (CD3)

NAME	ID	CD	DEV				HEAT		DEV		COOL		DEV		TOT	NUM	DEV	
			MEAN	NUM	FROM	MAX	MIN	DAY	DEG	FROM	DEG	FROM	DEG	FROM			FROM	MAX
BARNSDALL	535	3	45.7	30	-3.4	76.	1	18.	28	578.0	101.0	.0	.0	4.921	30	1.94	1.56	12
BARTLESVILLE 2W	548	3	46.3	30	-3.0	73.	15	18.	28	562.5	88.5	.0	.0	5.393	30	2.67	1.81	12
BIXBY	782	3	46.7	30	-1.7	80.	1	22.	28	550.5	52.5	1.5	1.5	6.121	30	2.98	1.74	12
BURBANK	1256	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	6.350	30	3.81	2.33	11
CHELSEA 4 S	1717	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	7.280	30	*****	1.77	12
CLAREMORE	1828	3	46.4	30	-2.1	77.	1	23.	29	557.5	62.5	.5	.5	7.340	30	4.11	1.70	12
CLEVELAND 5 WSW	1902	3	47.6	28	*****	73.	15	21.	28	488.0	*****	1.0	*****	5.830	29	*****	1.59	22
FORAKER	3250	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.700	29	*****	2.05	11
HOLLOW	4258	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	10.201	30	6.70	2.31	1
HOMINY	4289	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.341	30	2.71	1.42	12
HULAH DAM	4393	3	46.8	20	*****	72.	16	15.	30	364.5	*****	.0	*****	6.460	28	*****	2.57	12
JAY TOWER	4567	3	46.2	30	*****	74.	1	24.	29	564.5	*****	1.0	*****	8.540	30	*****	2.00	21
KANSAS 1 ESE	4672	3	46.7	30	-3.1	68.	1	22.	28	549.5	93.5	.0	.0	8.752	30	4.90	2.75	1
KEYSTONE DAM	4812	3	46.7	29	-2.7	79.	1	20.	29	533.0	65.0	1.0	1.0	7.930	29	*****	2.25	12
LENAPAH	5118	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	6.710	30	*****	1.80	22
MANNFORD 6 NW	5522	3	47.4	28	*****	73.	15	20.	27	491.5	*****	.0	*****	5.800	30	2.96	1.63	12
MARAMEC	5540	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	6.750	30	4.12	1.71	22
MIAMI	5855	3	47.0	30	-.8	75.	1	22.	28	543.0	27.0	1.5	1.5	7.090	28	*****	1.76	11
NOWATA	6485	3	46.3	30	-3.0	72.	1	25.	6	559.5	88.5	.0	.0	5.021	30	1.78	1.70	12
ONETA 1 WNW	6713	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	6.420	30	*****	1.45	22
PAWHUSKA	6935	3	46.1	30	-2.5	73.	1	18.	28	568.0	76.0	.0	.0	6.392	30	3.57	1.06	12
PAWNEE	6940	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	6.330	30	3.80	1.74	22
PRYOR 6 N	7309	3	45.8	30	-2.1	76.	1	21.	29	577.0	64.0	.0	.0	7.997	30	4.38	1.93	12
RALSTON	7390	3	45.8	30	-3.3	77.	10	19.	28	578.5	101.5	2.0	2.0	4.940	30	2.40	1.17	20
RAMONA 4 N	7394	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	4.850	29	*****	1.68	12
SKIATOOK	8258	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	4.660	30	1.62	1.35	23
SPAVINAW	8380	3	48.9	30	-2.4	73.	1	25.	28	482.5	67.5	.0	.0	9.103	30	5.36	2.14	12
TULSA WSO APT	8992	3	46.7	30	-3.2	71.	15	24.	28	550.0	97.0	.0	.0	4.993	29	*****	1.79	1
UPPER SPAVINAW	9101	3	49.8	28	*****	68.	16	22.	29	426.0	*****	.0	*****	7.953	29	*****	1.90	22
VINITA 2 N	9203	3	46.9	30	-1.6	72.	1	21.	29	542.5	47.5	.0	.0	7.530	30	3.70	1.69	12
WAGONER	9247	3	48.6	30	-2.4	74.	1	25.	29	491.5	66.5	.0	.0	8.501	30	4.92	2.42	11
WANN	9298	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	6.560	30	*****	1.36	12
WYNONA	9792	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	10.232	30	*****	6.95	12

NOVEMBER 1992 SUMMARY FOR WEST CENTRAL DIVISION (CD4)

NAME	ID	CD	DEV				HEAT		DEV		COOL		DEV		TOT	NUM	DEV	
			MEAN	NUM	FROM	MAX	MIN	DAY	DEG	FROM	DEG	FROM	DEG	FROM			FROM	MAX
CANTON DAM	1445	4	44.9	26	*****	77.	10	17.	30	527.0	*****	3.5	*****	4.691	26	*****	1.75	25
CHEYENNE	1738	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.080	30	1.64	1.25	19
CLINTON	1909	4	46.4	30	-3.1	80.	9	19.	27	566.5	101.5	8.5	8.5	5.322	30	3.50	2.02	19
COLONY	2039	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.752	30	*****	1.55	19
CORDELL	2125	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.812	30	4.06	2.05	19
ELK CITY 1 E	2849	4	45.5	30	-3.1	78.	9	18.	28	588.5	96.5	2.0	2.0	5.350	30	3.70	2.22	25
ERICK 4 E	2944	4	45.3	30	-3.6	81.	9	19.	28	594.5	111.5	3.5	3.5	4.142	30	2.81	1.37	19
GEARY	3497	4	46.8	28	*****	78.	10	21.	28	511.0	*****	1.0	*****	5.631	28	*****	1.88	19
HAMMON 1 NNE	3871	4	38.1	15	*****	79.	1	14.	29	403.5	*****	.0	*****	4.490	15	*****	1.46	25
MACKIE 4 NNW	5463	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.180	30	*****	1.06	25
MORAVIA 2 NNE	6035	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	4.722	30	3.34	1.32	22
OKEENE	6629	4	45.0	30	-4.3	74.	9	19.	28	600.0	129.0	.0	.0	6.780	30	4.83	2.28	19
RETROP	7565	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.520	30	*****	1.65	19
REYDON	7579	4	45.2	30	-2.4	77.	9	20.	26	594.5	72.5	.0	.0	1.891	22	*****	.90	19
SAYRE	7952	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.170	30	1.82	.96	19
SWEETWATER 2 E	8652	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.160	30	*****	.97	19
TALOGA	8708	4	43.5	30	-3.9	78.	9	16.	28	646.5	118.5	2.5	2.5	5.843	30	4.04	2.30	19
THOMAS	8815	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	4.340	30	*****	1.62	25
VICI	9172	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.621	30	2.03	1.04	22
WATONGA	9364	4	45.0	30	-3.5	76.	9	19.	28	602.5	104.5	1.0	1.0	6.142	30	4.33	2.19	25
WEATHERFORD	9422	4	46.6	29	-1.1	79.	10	19.	28	537.0	18.0	4.0	4.0	5.102	30	3.40	1.45	19

NOVEMBER 1992 SUMMARY FOR CENTRAL DIVISION (CD5)

NAME	ID	CD	DEV				HEAT		DEV		COOL		DEV		TOT	DEV		
			MEAN	NUM	FROM	MAX	MIN	DAY	DEG	FROM	DEG	FROM	DEG	FROM		NUM	FROM	MAX
			TEMP	OBS	NORM	TEMP	DAY	TEMP	DAY	DAY	NORM	DAY	NORM	PPT	OBS	NORM	24-HR	DAY
AMBER	200	5	****	0	****	****	0	****	0	****	****	****	****	5.990	30	****	1.95	11
ARCADIA	288	5	****	0	****	****	0	****	0	****	****	****	****	5.490	30	****	1.53	12
TINKER AFB	325	5	****	0	****	****	0	****	0	****	****	****	****	4.545	29	****	.85	20
BLANCHARD 2 SSW	830	5	48.7	30	-2.5	77.	1	20.	28	492.5	78.5	3.5	3.5	5.644	30	3.54	1.29	22
BRISTOW	1144	5	47.4	30	-3.1	78.	1	19.	28	529.0	89.0	.0	-5.0	5.593	30	2.70	1.67	22
CHANDLER	1684	5	46.7	26	****	77.	1	19.	28	476.5	****	.0	****	7.161	30	4.68	1.90	22
CHICKASHA EX ST	1750	5	47.3	30	-3.5	78.	1	20.	28	537.0	111.0	5.0	5.0	5.310	30	3.36	1.47	19
COX CITY 1 E	2196	5	****	0	****	****	0	****	0	****	****	****	****	9.320	30	****	5.62	11
CRESCENT	2242	5	****	0	****	****	0	****	0	****	****	****	****	6.560	30	****	1.61	19
CUSHING	2318	5	45.8	29	-3.5	81.	1	21.	27	557.5	86.5	.0	.0	6.890	29	****	1.75	22
EL RENO 1 N	2818	5	47.2	30	-1.8	78.	11	20.	28	538.0	55.0	2.5	2.5	7.760	30	6.01	2.75	19
GUTHRIE	3821	5	47.8	30	-2.5	78.	10	20.	28	519.0	78.0	4.0	4.0	9.281	30	6.99	2.50	12
HENNESSEY 2 SE	4055	5	48.1	23	****	76.	10	27.	29	389.0	****	.5	****	5.680	30	3.74	1.93	19
INGALLS	4489	5	****	0	****	****	0	****	0	****	****	****	****	6.731	29	****	1.95	12
KINGFISHER 2 SE	4861	5	46.5	30	-3.1	79.	10	20.	28	561.0	99.0	5.0	5.0	6.731	30	4.82	2.19	19
KONAWA	4915	5	****	0	****	****	0	****	0	****	****	****	****	6.031	30	3.30	3.44	12
MARSHALL	5589	5	****	0	****	****	0	****	0	****	****	****	****	5.640	30	3.73	1.56	19
MEEKER 4 W	5779	5	46.1	28	****	76.	1	20.	28	529.0	****	.0	****	5.330	28	****	1.43	21
MULHALL	6110	5	****	0	****	****	0	****	0	****	****	****	****	6.160	30	****	1.88	12
NORMAN 3 S	6386	5	47.3	30	-3.8	71.	15	19.	28	531.0	114.0	.0	.0	5.922	30	3.44	1.94	11
OILTON 2 SE	6616	5	****	0	****	****	0	****	0	****	****	****	****	6.070	30	****	2.00	22
OKEMAH	6638	5	48.1	30	-3.1	76.	1	23.	28	507.0	93.0	.0	.0	8.660	30	5.72	2.87	11
OKLAHOMA CTY WS	6661	5	45.9	30	-3.7	76.	10	20.	28	572.0	110.0	.0	.0	4.463	30	2.48	1.00	19
PERKINS	7003	5	****	0	****	****	0	****	0	****	****	****	****	6.380	30	3.94	2.02	12
PIEDMONT	7068	5	****	0	****	****	0	****	0	****	****	****	****	6.790	30	****	2.00	19
PRAGUE	7264	5	****	0	****	****	0	****	0	****	****	****	****	4.251	30	1.58	1.60	22
PURCELL 5 SW	7327	5	47.8	30	-3.1	78.	1	17.	28	515.0	92.0	.0	.0	7.471	30	4.97	3.10	11
SEMINOLE	8042	5	48.5	30	-3.8	73.	1	22.	28	495.5	110.5	.0	.0	8.510	30	5.59	4.42	11
SHAWNEE	8110	5	****	0	****	****	0	****	0	****	****	****	****	7.632	30	4.74	2.77	11
STELLA	8479	5	****	0	****	****	0	****	0	****	****	****	****	7.520	30	****	2.98	11
STILLWATER 2 W	8501	5	48.2	30	-.3	82.	1	22.	5	507.0	12.0	3.0	3.0	6.652	30	4.40	1.83	12
STROUD 1 N	8563	5	****	0	****	****	0	****	0	****	****	****	****	6.871	30	****	1.81	22
TECUMSEH	8751	5	****	0	****	****	0	****	0	****	****	****	****	5.430	29	****	1.88	12
TROUSDALE	8960	5	****	0	****	****	0	****	0	****	****	****	****	12.870	30	****	8.60	11
UNION CITY 1 SE	9086	5	****	0	****	****	0	****	0	****	****	****	****	5.390	30	3.09	2.43	19
WELY 1 SSE	9479	5	****	0	****	****	0	****	0	****	****	****	****	7.846	30	****	2.63	11
WEWOKA	9575	5	****	0	****	****	0	****	0	****	****	****	****	9.691	30	6.90	5.18	11

NOVEMBER 1992 SUMMARY FOR EAST CENTRAL DIVISION (CD6)

NAME	ID	CD	DEV				HEAT		DEV		COOL		DEV		TOT	DEV		
			MEAN	NUM	FROM	MAX	MIN	DAY	DEG	FROM	DEG	FROM	DEG	FROM		NUM	FROM	MAX
			TEMP	OBS	NORM	TEMP	DAY	TEMP	DAY	DAY	NORM	DAY	NORM	PPT	OBS	NORM	24-HR	DAY
ASHLAND	364	6	****	0	****	****	0	****	0	****	****	****	****	6.251	30	****	2.31	22
BEGGS	631	6	****	0	****	****	0	****	0	****	****	****	****	8.990	30	****	3.10	11
BOYNTON	1027	6	****	0	****	****	0	****	0	****	****	****	****	7.663	30	****	2.50	11
CALVIN	1391	6	****	0	****	****	0	****	0	****	****	****	****	6.402	30	3.43	2.72	11
CHECOTAH	1711	6	****	0	****	****	0	****	0	****	****	****	****	7.123	30	3.81	2.89	11
CLAYTON 15 WNW	1858	6	****	0	****	****	0	****	0	****	****	****	****	8.591	30	****	3.03	22
DEWAR 2 NE	2485	6	****	0	****	****	0	****	0	****	****	****	****	8.040	30	4.94	3.05	11
DUSTIN	2690	6	****	0	****	****	0	****	0	****	****	****	****	5.730	30	****	2.95	11
EUFULA	2993	6	50.6	29	-2.1	74.	15	27.	28	419.0	45.0	.0	-5.0	6.225	30	2.78	2.47	11
HANNA	3884	6	48.5	30	-3.2	76.	1	21.	28	493.5	94.5	.0	.0	6.502	30	3.04	2.26	11
HARTSHORNE	3946	6	****	0	****	****	0	****	0	****	****	****	****	5.940	30	****	2.39	22
HASKELL	3956	6	****	0	****	****	0	****	0	****	****	****	****	10.192	30	6.70	2.80	11
HOLDENVILLE	4235	6	48.4	30	-3.5	77.	1	24.	28	497.5	100.5	.0	.0	7.610	30	4.63	2.75	11
LAKE EUFAULA	4975	6	49.0	30	****	81.	1	24.	28	481.5	****	2.0	****	5.731	30	****	1.72	22
LYONS 2 N	5437	6	****	0	****	****	0	****	0	****	****	****	****	8.493	30	4.72	2.30	11
MARBLE CITY	5546	6	****	0	****	****	0	****	0	****	****	****	****	7.845	30	****	2.83	22
MCALESTER FAA	5664	6	51.0	30	-.8	76.	1	24.	28	424.0	21.0	3.5	-3.5	5.552	30	2.04	1.56	22
MCCURTAIN 1 SE	5693	6	50.6	30	-2.1	76.	1	23.	28	431.5	56.5	.5	-5.5	6.400	30	2.04	2.78	22
MUSKOGEE	6130	6	48.6	30	-2.3	74.	1	23.	28	492.5	65.5	.0	.0	7.590	30	4.04	2.01	10
OKMULGEE W W	6670	6	47.1	30	-2.4	82.	1	24.	28	536.5	71.5	.0	.0	9.040	30	5.88	2.80	12
OKTAHA 2 NE	6678	6	****	0	****	****	0	****	0	****	****	****	****	7.030	30	****	2.61	11
QUINTON	7372	6	****	0	****	****	0	****	0	****	****	****	****	5.715	30	1.97	2.12	24
SALLISAW 2 NE	7862	6	48.7	29	-2.9	70.	18	20.	28	471.5	69.5	.0	.0	6.701	30	2.59	2.30	22
SCPIO	7979	6	****	0	****	****	0	****	0	****	****	****	****	5.640	30	****	2.13	22
SCRAPER	7993	6	****	0	****	****	0	****	0	****	****	****	****	8.700	30	****	2.90	1
SHORT	8170	6	****	0	****	****	0	****	0	****	****	****	****	6.940	30	****	2.35	22
STILWELL 1 NE	8506	6	47.3	30	-2.7	70.	1	20.	28	531.5	81.5	.0	.0	8.103	30	4.32	2.51	22
TAHLEQUAH	8677	6	47.1	30	-3.1	69.	18	21.	28	537.0	88.0	.0	-5.0	7.630	30	4.05	1.94	22
WEBBERS FALLS	9445	6	47.3	30	-2.9	78.	1	22.	29	532.0	88.0	.0	.0	7.270	30	3.90	2.35	11
WESTVILLE	9523	6	****	0	****	****	0	****	0	****	****	****	****	8.024	30	****	2.13	11
WETUMKA 3 NE	9571	6	****	0	****	****	0	****	0	****	****	****	****	8.800	29	****	3.00	11



NOVEMBER 1992 SUMMARY FOR SOUTHWEST DIVISION (CD7)

Table with columns: NAME, ID, CD, MEAN TEMP, NUM OBS, DEV FROM NORM, MAX TEMP, MIN TEMP, DAY, HEAT DEG, DEV FROM NORM, COOL DEG, DEV FROM NORM, TOT PPT, NUM OBS, DEV FROM NORM, MAX 24-HR, DAY. Lists data for various stations like ALTUS IRR STA, ALTUS DAM, ANADARKO, etc.

NOVEMBER 1992 SUMMARY FOR SOUTH CENTRAL DIVISION (CD8)

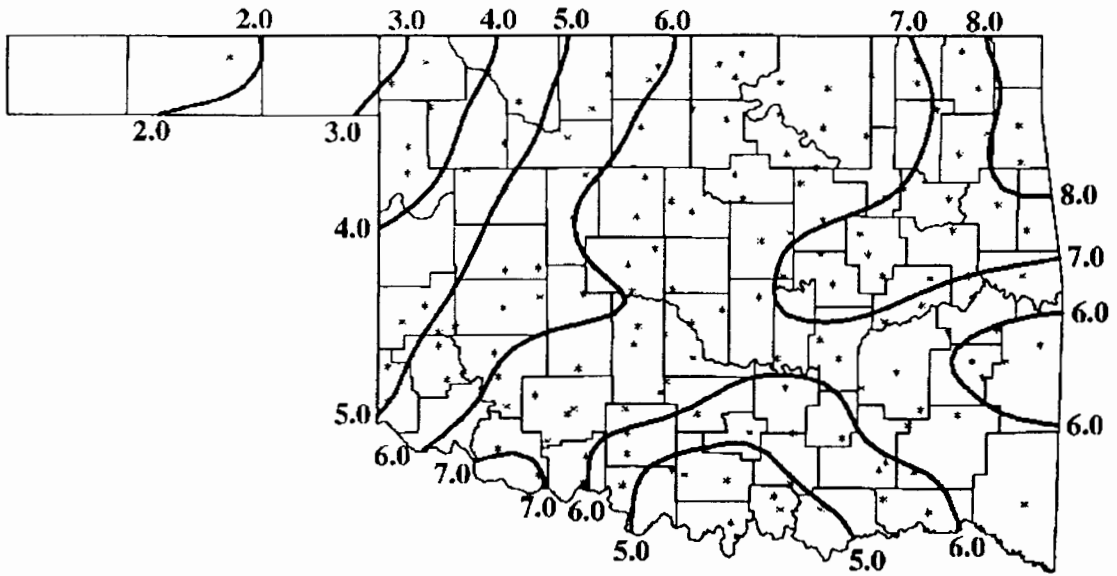
Table with columns: NAME, ID, CD, MEAN TEMP, NUM OBS, DEV FROM NORM, MAX TEMP, MIN TEMP, DAY, HEAT DEG, DEV FROM NORM, COOL DEG, DEV FROM NORM, TOT PPT, NUM OBS, DEV FROM NORM, MAX 24-HR, DAY. Lists data for various stations like ADA, ARDMORE, ATOKA DAM, BOKCHITO, etc.

**NOVEMBER 1992 SUMMARY FOR SOUTHEAST DIVISION (CD9)**

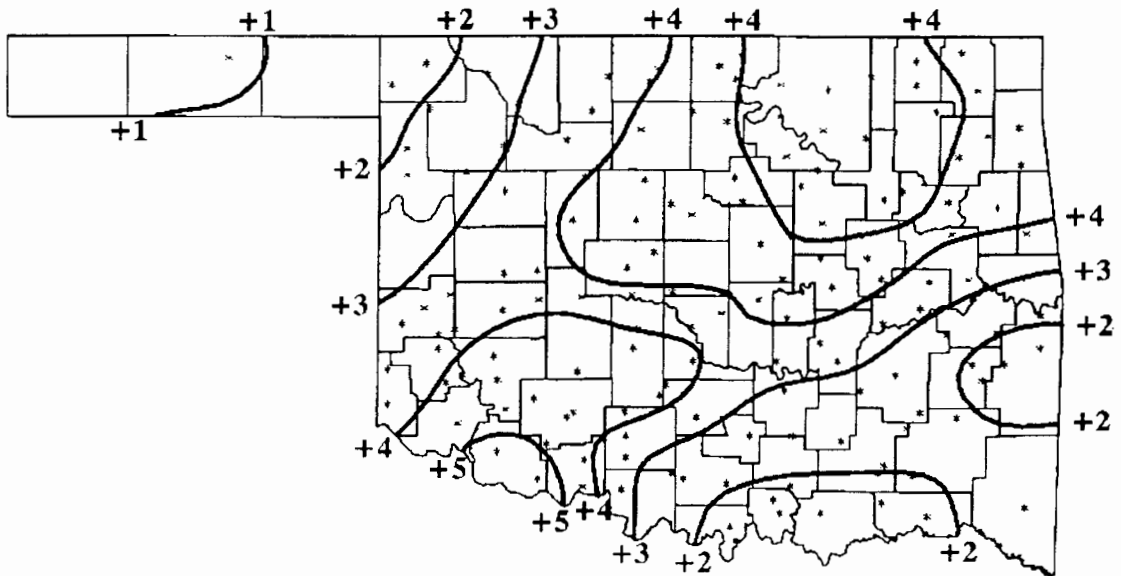
NAME	ID	CD	DEV					HEAT		DEV		COOL		DEV		TOT	NUM	FROM	MAX	DAY
			MEAN	NUM	FROM	MAX	MIN	DEG	FROM	DEG	FROM	DEG	FROM	DEG	FROM					
ANTLERS	256	9	49.7	30	-3.3	77.	1	21.	28	461.5	95.5	2.0	-4.0	5.040	30	1.31	.96	21		
BATTIEST 1 SSW	567	9	45.8	30	*****	70.	2	17.	28	576.0	*****	.0	*****	7.080	30	*****	2.25	22		
BEAR MT TWR	584	9	49.6	30	-4.0	78.	3	21.	28	462.5	112.5	.0	-8.0	6.600	28	*****	2.00	22		
BENGAL	670	9	*****	0	*****	*****	0	****	0	*****	*****	*****	*****	4.680	30	*****	2.04	22		
BOSWELL 4 NNW	980	9	50.3	30	-3.0	77.	1	21.	28	442.5	83.5	2.5	-5.5	4.734	30	1.08	1.31	22		
BROKEN BOW 1 N	1162	9	*****	0	*****	*****	0	****	0	*****	*****	*****	*****	8.230	30	3.99	2.08	21		
BROKEN BOW DAM	1168	9	49.7	30	-2.6	76.	3	23.	28	458.5	77.5	.0	.0	8.001	30	3.53	2.54	20		
CARNASAW TWR	1499	9	*****	0	*****	*****	0	****	0	*****	*****	*****	*****	7.580	30	3.10	2.46	20		
CARTER TWR	1544	9	*****	0	*****	*****	0	****	0	*****	*****	*****	*****	6.420	30	2.14	1.79	19		
FANSHAWE	3065	9	*****	0	*****	*****	0	****	0	*****	*****	*****	*****	5.060	30	.55	2.30	22		
HEAVENER 1 SE	4008	9	*****	0	*****	*****	0	****	0	*****	*****	*****	*****	5.752	30	1.46	1.95	22		
HEE MT TWR	4017	9	*****	0	*****	*****	0	****	0	*****	*****	*****	*****	8.240	30	3.88	2.86	20		
HUGO	4384	9	50.2	29	-4.1	77.	1	23.	28	433.0	103.0	2.5	-6.5	4.640	30	.69	1.00	20		
POTEAU W W	7254	9	48.8	30	*****	74.	19	19.	28	485.0	*****	.0	*****	5.043	30	*****	2.00	22		
SMITHVILLE 1 W	8285	9	47.1	30	-3.7	72.	1	17.	29	536.5	110.5	.0	.0	7.504	30	3.12	2.45	20		
SPIRO	8416	9	*****	0	*****	*****	0	****	0	*****	*****	*****	*****	5.390	30	.97	2.50	22		
TUSKAHOMA	9023	9	49.8	30	-3.1	77.	1	19.	29	457.5	88.5	1.5	-4.5	6.160	30	2.03	2.30	22		
VALLIANT 3 W	9118	9	*****	0	*****	*****	0	****	0	*****	*****	*****	*****	6.291	30	2.13	2.39	22		
WILBURTON 9	ENE9634	9	48.6	30	-2.7	72.	15	19.	28	491.5	76.5	.0	.0	5.491	30	1.20	2.30	21		

**NOVEMBER 1992 CLIMATE DIVISION SUMMARY**

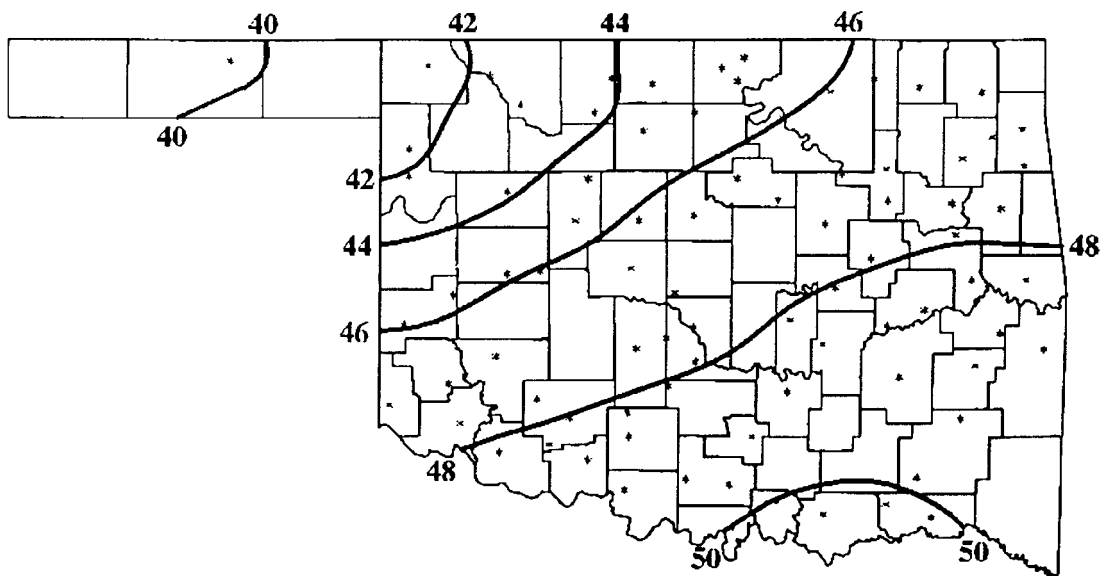
CLIMATE	MEAN	NUM	DEV			HEAT		DEV		COOL		DEV		TOT	NUM	FROM	MAX	DAY
			FROM	MAX	MIN	DEGREE	FROM	DEGREE	FROM	DEGREE	FROM	DEGREE						
1	39.2	10	-5.9	79.0	9	6.0	26	774.1	176.4	.2	.2	1.66	12	.65	2.68	25		
2	43.8	15	-3.6	83.0	1	8.0	29	635.5	108.5	1.2	1.2	5.56	21	3.70	2.54	25		
3	46.7	16	-2.4	80.0	1	15.0	30	549.3	72.3	.5	.5	6.93	25	3.85	6.95	12		
4	45.3	8	-2.9	81.0	9	14.0	29	591.3	88.6	2.7	2.7	4.77	17	3.15	2.30	19		
5	47.4	13	-2.9	82.0	1	17.0	28	527.8	88.1	1.8	1.5	6.92	32	4.51	8.60	11		
6	48.7	12	-2.5	82.0	1	20.0	28	487.3	70.5	.5	-1.6	7.26	30	3.76	3.10	11		
7	47.9	13	-2.7	87.0	2	16.0	13	520.0	89.2	8.9	8.9	5.91	24	4.35	9.32	11		
8	49.4	13	-3.0	90.0	1	16.0	28	473.3	91.1	4.3	1.1	4.90	30	2.20	7.68	11		
9	49.0	10	-3.7	78.0	3	17.0	29	480.5	106.0	.9	-3.8	6.19	18	1.96	2.86	20		



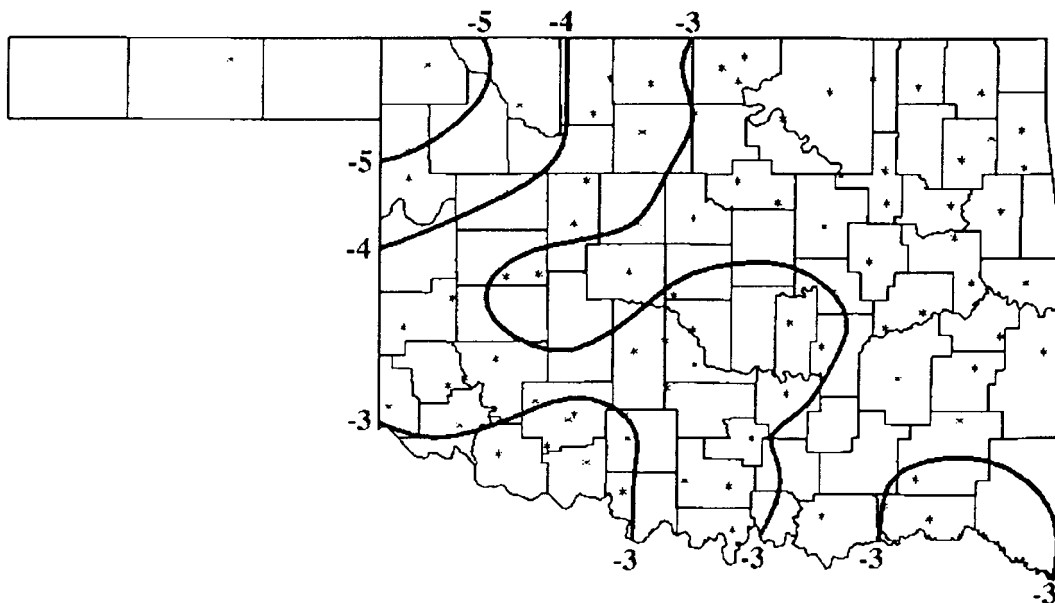
NOVEMBER 1992 TOTAL PRECIPITATION  
(Inches)



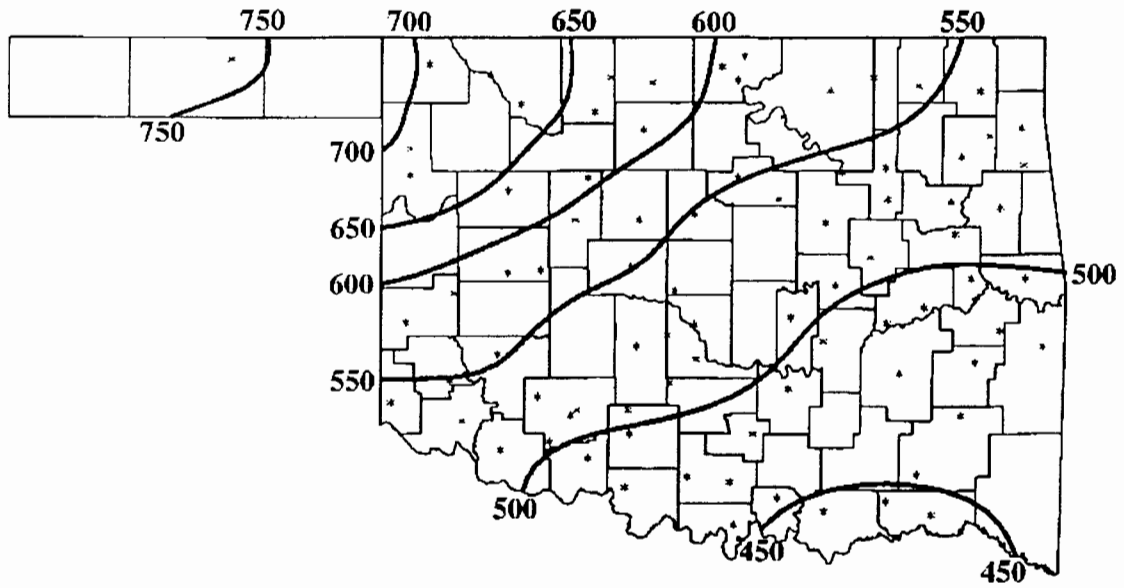
NOVEMBER 1992 DEVIATION FROM NORMAL PRECIPITATION  
(Inches)



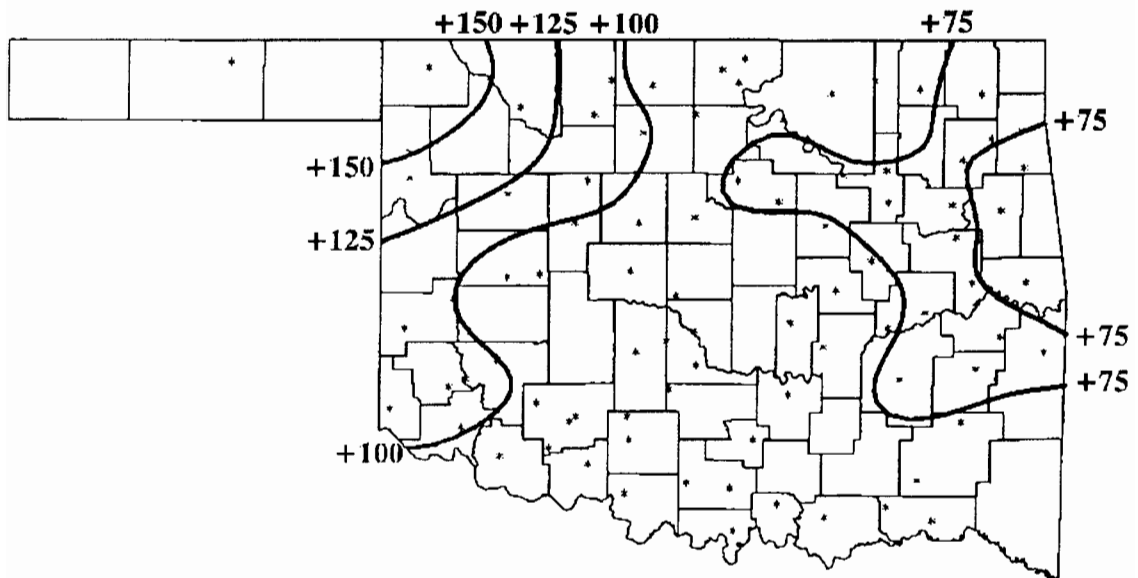
NOVEMBER 1992 AVERAGE MONTHLY TEMPERATURES  
(Degrees F)



NOVEMBER 1992 DEVIATION FROM NORMAL TEMPERATURES  
(Degrees F)

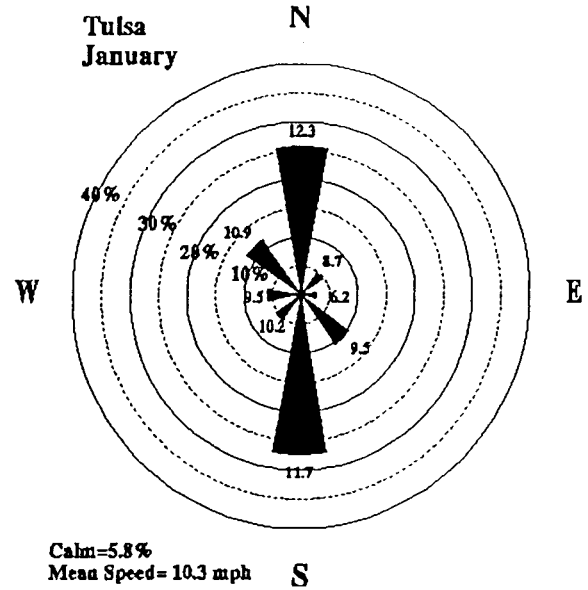
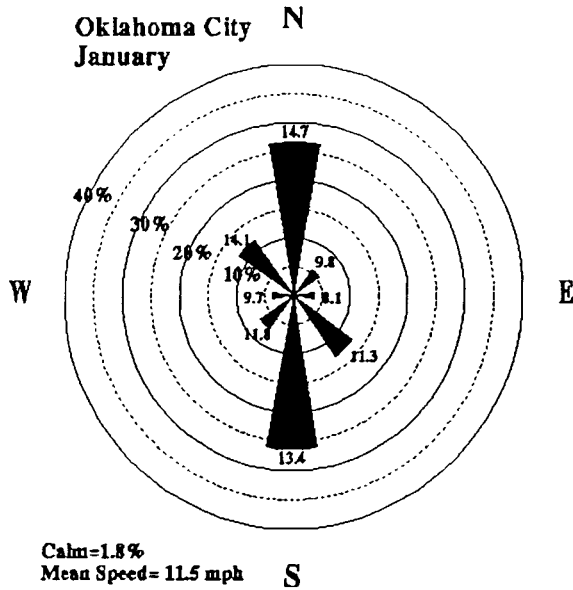


NOVEMBER 1992 HEATING DEGREE DAYS



NOVEMBER 1992 DEVIATION FROM NORMAL HEATING DEGREE DAYS

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



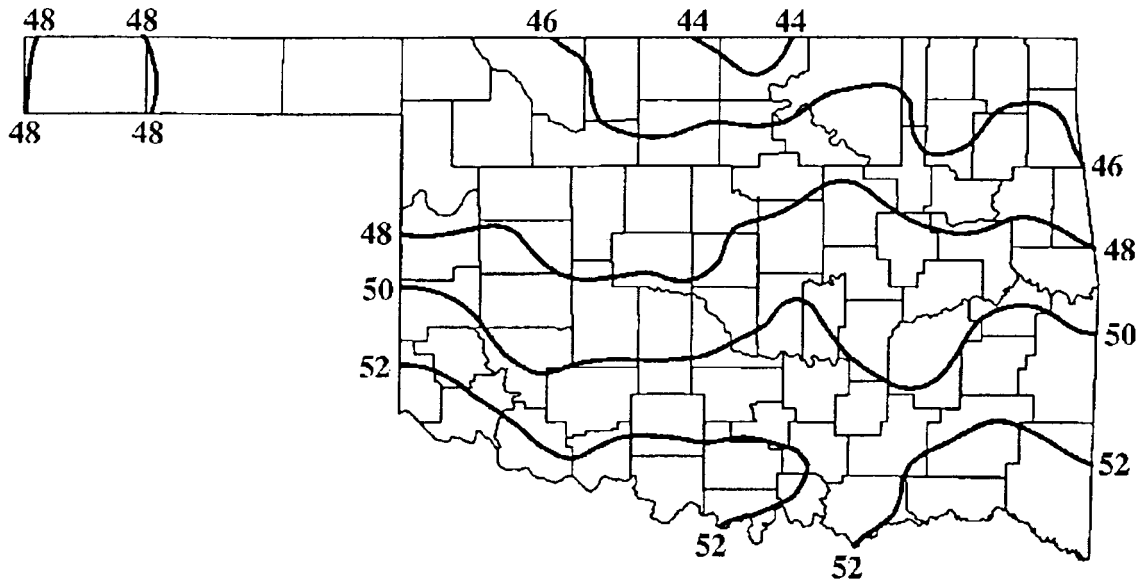
JANUARY 1993 SUNRISE AND SUNSET

OKLAHOMA CITY

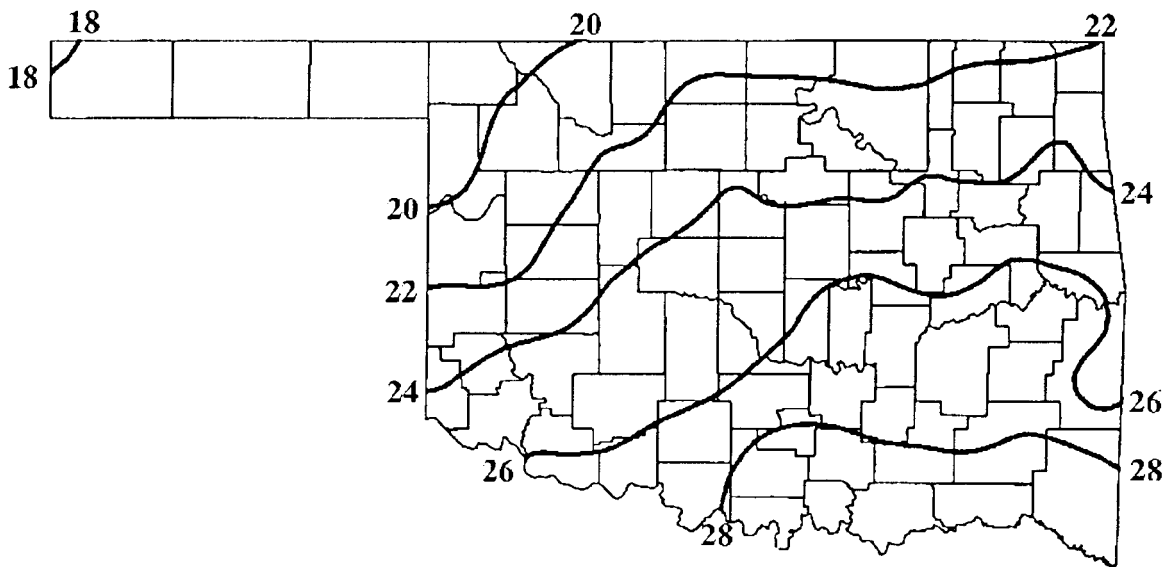
DATE	SUNRISE	SUNSET	DAYLIGHT
93 1 1	7:38AM	5:30PM CST	9 hrs 53 mins
93 1 2	7:38AM	5:31PM CST	9 hrs 53 mins
93 1 3	7:38AM	5:31PM CST	9 hrs 54 mins
93 1 4	7:38AM	5:32PM CST	9 hrs 54 mins
93 1 5	7:38AM	5:33PM CST	9 hrs 55 mins
93 1 6	7:38AM	5:34PM CST	9 hrs 56 mins
93 1 7	7:38AM	5:35PM CST	9 hrs 56 mins
93 1 8	7:38AM	5:35PM CST	9 hrs 57 mins
93 1 9	7:38AM	5:36PM CST	9 hrs 58 mins
93 1 10	7:38AM	5:37PM CST	9 hrs 59 mins
93 1 11	7:38AM	5:38PM CST	10 hrs 0 mins
93 1 12	7:38AM	5:39PM CST	10 hrs 1 mins
93 1 13	7:38AM	5:40PM CST	10 hrs 2 mins
93 1 14	7:38AM	5:40PM CST	10 hrs 3 mins
93 1 15	7:38AM	5:41PM CST	10 hrs 4 mins
93 1 16	7:37AM	5:42PM CST	10 hrs 5 mins
93 1 17	7:37AM	5:43PM CST	10 hrs 6 mins
93 1 18	7:37AM	5:44PM CST	10 hrs 7 mins
93 1 19	7:37AM	5:45PM CST	10 hrs 8 mins
93 1 20	7:36AM	5:46PM CST	10 hrs 10 mins
93 1 21	7:36AM	5:47PM CST	10 hrs 11 mins
93 1 22	7:35AM	5:48PM CST	10 hrs 12 mins
93 1 23	7:35AM	5:49PM CST	10 hrs 14 mins
93 1 24	7:35AM	5:50PM CST	10 hrs 15 mins
93 1 25	7:34AM	5:51PM CST	10 hrs 17 mins
93 1 26	7:34AM	5:52PM CST	10 hrs 18 mins
93 1 27	7:33AM	5:53PM CST	10 hrs 20 mins
93 1 28	7:32AM	5:54PM CST	10 hrs 21 mins
93 1 29	7:32AM	5:55PM CST	10 hrs 23 mins
93 1 30	7:31AM	5:56PM CST	10 hrs 24 mins
93 1 31	7:31AM	5:57PM CST	10 hrs 26 mins

TULSA

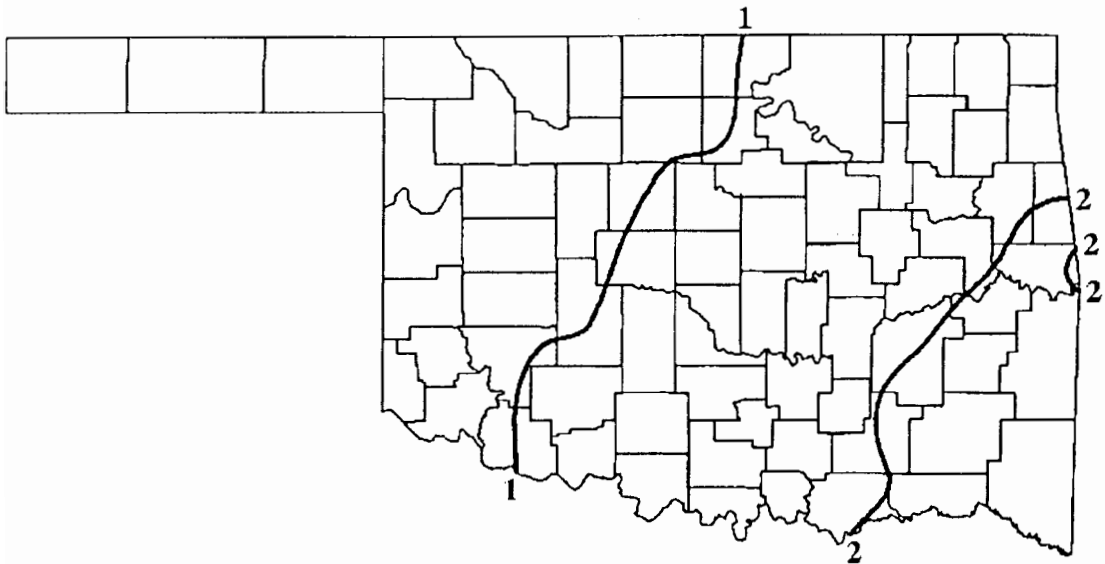
DATE	SUNRISE	SUNSET	DAYLIGHT
93 1 1	7:33AM	5:21PM CST	9 hrs 49 mins
93 1 2	7:33AM	5:22PM CST	9 hrs 49 mins
93 1 3	7:33AM	5:23PM CST	9 hrs 50 mins
93 1 4	7:33AM	5:23PM CST	9 hrs 50 mins
93 1 5	7:33AM	5:24PM CST	9 hrs 51 mins
93 1 6	7:33AM	5:25PM CST	9 hrs 52 mins
93 1 7	7:33AM	5:26PM CST	9 hrs 52 mins
93 1 8	7:33AM	5:27PM CST	9 hrs 53 mins
93 1 9	7:33AM	5:27PM CST	9 hrs 54 mins
93 1 10	7:33AM	5:28PM CST	9 hrs 55 mins
93 1 11	7:33AM	5:29PM CST	9 hrs 56 mins
93 1 12	7:33AM	5:30PM CST	9 hrs 57 mins
93 1 13	7:33AM	5:31PM CST	9 hrs 58 mins
93 1 14	7:33AM	5:32PM CST	9 hrs 59 mins
93 1 15	7:33AM	5:33PM CST	10 hrs 0 mins
93 1 16	7:32AM	5:34PM CST	10 hrs 1 mins
93 1 17	7:32AM	5:35PM CST	10 hrs 2 mins
93 1 18	7:32AM	5:35PM CST	10 hrs 4 mins
93 1 19	7:31AM	5:36PM CST	10 hrs 5 mins
93 1 20	7:31AM	5:37PM CST	10 hrs 6 mins
93 1 21	7:31AM	5:38PM CST	10 hrs 8 mins
93 1 22	7:30AM	5:39PM CST	10 hrs 9 mins
93 1 23	7:30AM	5:40PM CST	10 hrs 10 mins
93 1 24	7:29AM	5:41PM CST	10 hrs 12 mins
93 1 25	7:29AM	5:42PM CST	10 hrs 13 mins
93 1 26	7:28AM	5:43PM CST	10 hrs 15 mins
93 1 27	7:28AM	5:44PM CST	10 hrs 17 mins
93 1 28	7:27AM	5:45PM CST	10 hrs 18 mins
93 1 29	7:27AM	5:46PM CST	10 hrs 20 mins
93 1 30	7:26AM	5:47PM CST	10 hrs 21 mins
93 1 31	7:25AM	5:48PM CST	10 hrs 23 mins



JANUARY MEAN DAILY MAXIMUM TEMPERATURE (°F)



JANUARY MEAN DAILY MINIMUM TEMPERATURE (°F)



**JANUARY MEAN MONTHLY PRECIPITATION (INCHES)**

**90-DAY NATIONAL WEATHER SERVICE OUTLOOK**

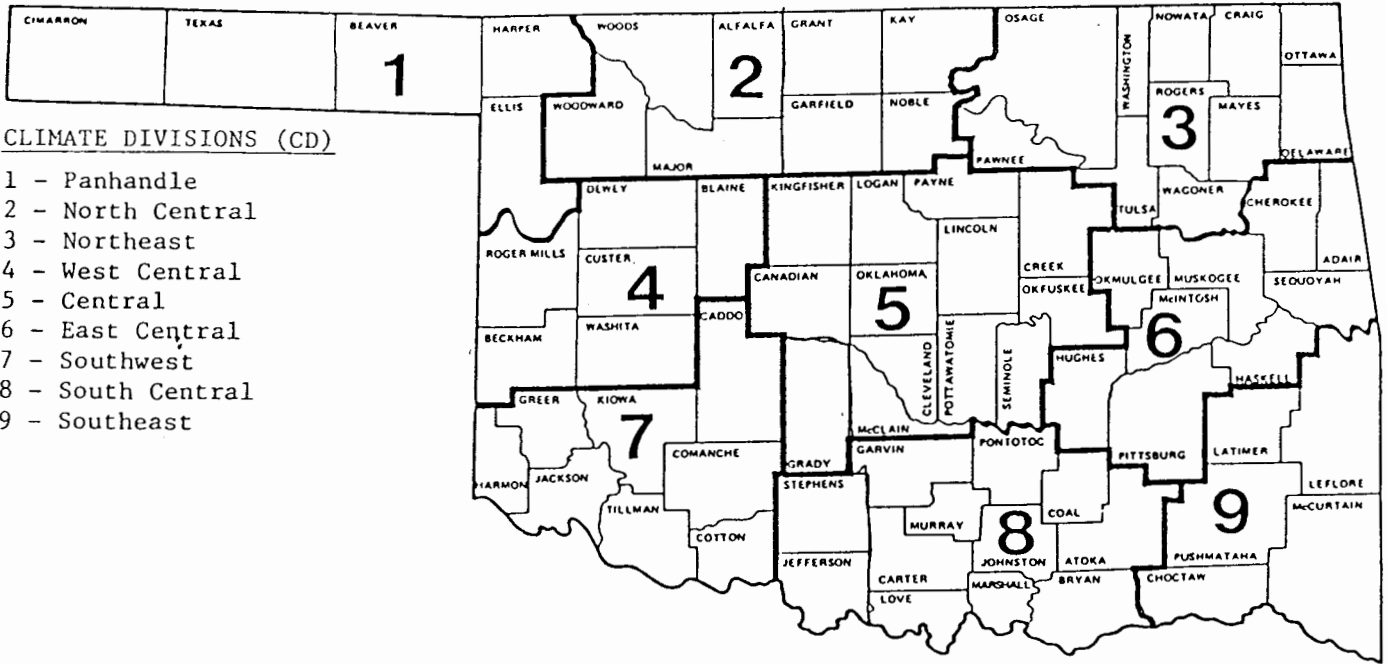
**(December 1992 - February 1993)**

**Precipitation - Near Normal Statewide**

**Temperature - Much Below Normal Extreme West  
Below Normal Elsewhere**



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:

$$29 \sum_{i=1} 65 - ((TMAX_i + TMIN_i) / 2)$$

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.

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).

**OKLAHOMA CITY CLIMATE CALENDAR**  
**January 1993**

Normal 1	Actual	Normal 2	Actual	Normal 3	Actual	Normal 4	Actual	Normal 5	Actual	Normal 6	Actual	Normal 7	Actual
46.5 max 26.5 min .02 ppt 29 hdd 0 cdd	74-1910 Highest Max 13-1979 Lowest Max 2-1928 Lowest Min 51-1966 Highest Min .63-1892 Greatest ppt	47.1 max 27.4 min .07 ppt 28 hdd 0 cdd	70-1964 Highest Max 13-1911 Lowest Max -2-1911 Lowest Min 56-1950 Highest Min 1.01-1951 Greatest ppt	45.6 max 25.0 min .06 ppt 30 hdd 0 cdd	71-1939 Highest Max 10-1919 Lowest Max -9-1911 Lowest Min 52-1922 Highest Min 1.03-1908 Greatest ppt	43.8 max 25.2 min .02 ppt 31 hdd 0 cdd	72-1927 Highest Max 11-1959 Lowest Max -7-1947 Lowest Min 60-1955 Highest Min 1.81-1932 Greatest ppt	46.8 max 26.5 min .05 ppt 28 hdd 0 cdd	71-1927 Highest Max 18-1924 Lowest Max -2-1959 Lowest Min 48-1946 Highest Min 1.00-1962 Greatest ppt	47.8 max 25.1 min .02 ppt 29 hdd 0 cdd	68-1921 Highest Max 14-1903 Lowest Max -2-1912 Lowest Min 52-1907 Highest Min 1.02-1934 Greatest ppt	44.9 max 24.2 min .01 ppt 30 hdd 0 cdd	73-1965 Highest Max 15-1913 Lowest Max -3-1912 Lowest Min 61-1907 Highest Min .93-1944 Greatest ppt
Normal 8	Actual	Normal 9	Actual	Normal 10	Actual	Normal 11	Actual	Normal 12	Actual	Normal 13	Actual	Normal 14	Actual
45.9 max 23.5 min .03 ppt 30 hdd 0 cdd	71-1923 Highest Max 11-1937 Lowest Max -4-1988 Lowest Min 49-1949 Highest Min 1.45-1935 Greatest ppt	44.8 max 23.5 min .02 ppt 31 hdd 0 cdd	70-1902 Highest Max 9-1977 Lowest Max -2-1977 Lowest Min 45-1966 Highest Min .57-1907 Greatest ppt	42.5 max 22.7 min .02 ppt 32 hdd 0 cdd	75-1930 Highest Max 13-1982 Lowest Max -3-1977 Lowest Min 47-1928 Highest Min .66-1905 Greatest ppt	44.1 max 22.6 min .01 ppt 32 hdd 0 cdd	77-1911 Highest Max -2-1918 Lowest Max -7-1918 Lowest Min 50-1988 Highest Min 1.10-1916 Greatest ppt	46.5 max 25.1 min .03 ppt 30 hdd 0 cdd	73-1935 Highest Max 6-1912 Lowest Max -7-1912 Lowest Min 51-1960 Highest Min .78-1927 Greatest ppt	47.0 max 25.3 min .01 ppt 29 hdd 0 cdd	73-1928 Highest Max 11-1905 Lowest Max -4-1916 Lowest Min 51-1952 Highest Min .78-1992 Greatest ppt	48.3 max 26.3 min .02 ppt 28 hdd 0 cdd	75-1928 Highest Max 12-1905 Lowest Max -1-1905 Lowest Min 50-1928 Highest Min .46-1898 Greatest ppt
Normal 15	Actual	Normal 16	Actual	Normal 17	Actual	Normal 18	Actual	Normal 19	Actual	Normal 20	Actual	Normal 21	Actual
49.2 max 25.5 min .02 ppt 28 hdd 0 cdd	77-1914 Highest Max 14-1930 Lowest Max -2-1905 Lowest Min 53-1969 Highest Min 1.07-1932 Greatest ppt	46.5 max 25.5 min .04 ppt 29 hdd 0 cdd	76-1894 Highest Max 11-1930 Lowest Max 0-1930 Lowest Min 57-1990 Highest Min .70-1990 Greatest ppt	47.6 max 26.1 min .04 ppt 28 hdd 0 cdd	73-1894 Highest Max 9-1930 Lowest Max -9-1930 Lowest Min 52-1894 Highest Min 1.16-1926 Greatest ppt	46.4 max 25.7 min .10 ppt 29 hdd 0 cdd	74-1951 Highest Max 8-1892 Lowest Max -9-1930 Lowest Min 48-1895 Highest Min 1.07-1968 Greatest ppt	44.1 max 25.1 min .09 ppt 30 hdd 0 cdd	75-1914 Highest Max 12-1962 Lowest Max -11-1892 Lowest Min 54-1904 Highest Min 2.76-1894 Greatest ppt	45.9 max 25.0 min .02 ppt 30 hdd 0 cdd	80-1986 Highest Max 18-1984 Lowest Max 1-1985 Lowest Min 53-1921 Highest Min 1.29-1904 Greatest ppt	45.6 max 26.0 min .08 ppt 29 hdd 0 cdd	71-1967 Highest Max 12-1954 Lowest Max -3-1930 Lowest Min 56-1921 Highest Min 1.40-1932 Greatest ppt
Normal 22	Actual	Normal 23	Actual	Normal 24	Actual	Normal 25	Actual	Normal 26	Actual	Normal 27	Actual	Normal 28	Actual
47.3 max 25.5 min .03 ppt 29 hdd 0 cdd	79-1967 Highest Max 16-1962 Lowest Max -8-1930 Lowest Min 50-1921 Highest Min .39-1920 Greatest ppt	46.8 max 25.1 min .02 ppt 29 hdd 0 cdd	75-1909 Highest Max 13-1963 Lowest Max -1-1963 Lowest Min 51-1967 Highest Min 1.16-1921 Greatest ppt	50.1 max 27.9 min .02 ppt 26 hdd 0 cdd	81-1950 Highest Max 8-1894 Lowest Max -8-1894 Lowest Min 51-1944 Highest Min .37-1949 Greatest ppt	49.2 max 27.9 min .08 ppt 26 hdd 0 cdd	77-1932 Highest Max 15-1905 Lowest Max -3-1894 Lowest Min 58-1944 Highest Min 1.26-1949 Greatest ppt	46.4 max 26.5 min .03 ppt 29 hdd 0 cdd	72-1953 Highest Max 12-1897 Lowest Max 0-1902 Lowest Min 54-1911 Highest Min 1.25-1916 Greatest ppt	45.8 max 25.3 min .03 ppt 29 hdd 0 cdd	72-1914 Highest Max 17-1961 Lowest Max 3-1863 Lowest Min 56-1914 Highest Min .62-1985 Greatest ppt	47.1 max 26.0 min .02 ppt 28 hdd 0 cdd	78-1893 Highest Max 21-1948 Lowest Max 5-1948 Lowest Min 60-1968 Highest Min .44-1989 Greatest ppt
Normal 29	Actual	Normal 30	Actual	Normal 31	Actual								
48.1 max 26.2 min .06 ppt 28 hdd 0 cdd	76-1911 Highest Max 13-1966 Lowest Max -1-1995 Lowest Min 51-1982 Highest Min 1.84-1982 Greatest ppt	46.9 max 26.2 min .07 ppt 28 hdd 0 cdd	74-1917 Highest Max 17-1949 Lowest Max -1-1895 Lowest Min 55-1988 Highest Min 1.34-1982 Greatest ppt	48.4 max 27.8 min .06 ppt 27 hdd 0 cdd	83-1911 Highest Max 6-1918 Lowest Max -1-1979 Lowest Min 52-1911 Highest Min 1.98-1923 Greatest ppt								

**JANUARY AVERAGES**

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

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

TULSA CLIMATE CALENDAR

January 1993

Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual			
46.0 max 26.0 min .03 ppt 28 hdd 0 cdd	79-1910	47.0 max 27.0 min .06 ppt 28 hdd 0 cdd	72-1950	46.0 max 24.0 min .11 ppt 30 hdd 0 cdd	71-1955	44.0 max 25.0 min .03 ppt 30 hdd 0 cdd	70-1956	46.0 max 25.0 min .02 ppt 29 hdd 0 cdd	73-1984	46.0 max 25.0 min .01 ppt 29 hdd 0 cdd	69-1907	44.0 max 24.0 min .01 ppt 31 hdd 0 cdd	44.0 max 24.0 min .01 ppt 31 hdd 0 cdd	77-1965	46.0 max 25.0 min .02 ppt 29 hdd 0 cdd	69-1907	46.0 max 25.0 min .02 ppt 29 hdd 0 cdd	69-1907	46.0 max 25.0 min .02 ppt 29 hdd 0 cdd	69-1907	46.0 max 25.0 min .02 ppt 29 hdd 0 cdd	69-1907	46.0 max 25.0 min .02 ppt 29 hdd 0 cdd	
Lowest Max	13-1974	Lowest Max	25-1979	Highest Max	71-1955	Highest Max	70-1956	Highest Max	73-1984	Highest Max	69-1907	Highest Max	77-1965	Highest Max	69-1907	Highest Max	69-1907	Highest Max	69-1907	Highest Max	69-1907	Highest Max	77-1965	
Lowest Min	0-1928	Lowest Min	2-1911	Lowest Min	14-1959	Lowest Min	12-1959	Lowest Min	19-1987	Lowest Min	19-1987	Lowest Min	15-1968	Lowest Min	20-1979	Lowest Min	20-1979	Lowest Min	0-1912	Lowest Min	0-1912	Lowest Min	15-1968	
Highest Min	59-1966	Highest Min	55-1950	Highest Min	52-1955	Highest Min	69-1955	Highest Min	48-1992	Highest Min	48-1992	Highest Min	5-1912	Highest Min	47-1965	Highest Min	47-1965	Highest Min	47-1965	Highest Min	47-1965	Highest Min	49-1965	
Greatest ppt	.50-1985	Greatest ppt	.90-1951	Greatest ppt	1.12-1971	Greatest ppt	.82-1963	Greatest ppt	.50-1962	Greatest ppt	.50-1962	Greatest ppt	.61-1988	Greatest ppt	.61-1988	Greatest ppt	.61-1988	Greatest ppt	.61-1988	Greatest ppt	.61-1988	Greatest ppt	.17-1973	
Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	
47.0 max 24.0 min .03 ppt 29 hdd 0 cdd	71-1923	44.0 max 24.0 min .06 ppt 31 hdd 0 cdd	69-1909	42.0 max 22.0 min .02 ppt 33 hdd 0 cdd	76-1990	44.0 max 22.0 min .01 ppt 32 hdd 0 cdd	80-1911	45.0 max 25.0 min .02 ppt 30 hdd 0 cdd	73-1960	47.0 max 25.0 min .02 ppt 29 hdd 0 cdd	75-1907	47.0 max 25.0 min .02 ppt 29 hdd 0 cdd	48.0 max 27.0 min .05 ppt 27 hdd 0 cdd	75-1952	47.0 max 25.0 min .02 ppt 29 hdd 0 cdd	75-1907	47.0 max 25.0 min .02 ppt 29 hdd 0 cdd	23-1982	47.0 max 25.0 min .02 ppt 29 hdd 0 cdd	11-1918	47.0 max 25.0 min .02 ppt 29 hdd 0 cdd	51-1959	47.0 max 25.0 min .02 ppt 29 hdd 0 cdd	64-1961
Lowest Max	17-1970	Lowest Max	10-1977	Lowest Max	13-1962	Lowest Max	21-1973	Lowest Max	11-1963	Lowest Max	11-1963	Lowest Max	13-1979	Lowest Max	23-1982	Lowest Max	23-1982	Lowest Max	-1-1916	Lowest Max	-1-1916	Lowest Max	51-1953	
Lowest Min	5-1988	Lowest Min	0-1977	Lowest Min	5-1977	Lowest Min	6-1977	Lowest Min	57-1960	Lowest Min	57-1960	Lowest Min	4-1916	Lowest Min	51-1959	Lowest Min	51-1959	Lowest Min	51-1959	Lowest Min	51-1959	Lowest Min	51-1953	
Highest Min	46-1954	Highest Min	45-1990	Highest Min	45-1960	Highest Min	43-1960	Highest Min	42-1960	Highest Min	42-1960	Highest Min	5-1953	Highest Min	41-1951	Highest Min	41-1951	Highest Min	41-1951	Highest Min	41-1951	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	.42-1960	Greatest ppt	.64-1961	Greatest ppt	.41-1951	Greatest ppt	.41-1951	Greatest ppt	.41-1951	Greatest ppt	.41-1951	Greatest ppt	.64-1961	
Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	
48.0 max 25.0 min .03 ppt 28 hdd 0 cdd	69-1990	44.0 max 24.0 min .03 ppt 31 hdd 0 cdd	78-1938	44.0 max 25.0 min .04 ppt 30 hdd 0 cdd	73-1952	44.0 max 25.0 min .10 ppt 30 hdd 0 cdd	72-1951	43.0 max 25.0 min .08 ppt 31 hdd 0 cdd	75-1951	44.0 max 25.0 min .04 ppt 30 hdd 0 cdd	75-1951	45.0 max 26.0 min .07 ppt 29 hdd 0 cdd	45.0 max 26.0 min .07 ppt 29 hdd 0 cdd	75-1957	44.0 max 25.0 min .04 ppt 30 hdd 0 cdd	44.0 max 25.0 min .04 ppt 30 hdd 0 cdd	15-1984	44.0 max 25.0 min .04 ppt 30 hdd 0 cdd	3-1985	44.0 max 25.0 min .04 ppt 30 hdd 0 cdd	45-1973	44.0 max 25.0 min .04 ppt 30 hdd 0 cdd	55-1973	45.0 max 26.0 min .07 ppt 29 hdd 0 cdd
Highest Max	18-1972	Highest Max	16-1977	Highest Max	11-1978	Highest Max	13-1970	Highest Max	14-1970	Highest Max	14-1970	Highest Max	16-1970	Highest Max	15-1984	Highest Max	15-1984	Highest Max	15-1984	Highest Max	15-1984	Highest Max	75-1957	
Lowest Min	0-1905	Lowest Min	1-1930	Lowest Min	3-1930	Lowest Min	14-1930	Lowest Min	5-1943	Lowest Min	5-1943	Lowest Min	1-1918	Lowest Min	3-1985	Lowest Min	3-1985	Lowest Min	3-1985	Lowest Min	3-1985	Lowest Min	16-1970	
Highest Min	53-1980	Highest Min	58-1990	Highest Min	55-1973	Highest Min	48-1972	Highest Min	48-1972	Highest Min	48-1972	Highest Min	1-1918	Highest Min	45-1973	Highest Min	45-1973	Highest Min	45-1973	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	.88-1968	Greatest ppt	.88-1968	Greatest ppt	.55-1973	Greatest ppt	.61-1958	Greatest ppt	.61-1958	Greatest ppt	.61-1958	Greatest ppt	.61-1958	Greatest ppt	.55-1973	
Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	
45.0 max 26.0 min .07 ppt 28 hdd 0 cdd	78-1903	45.0 max 25.0 min .08 ppt 30 hdd 0 cdd	78-1909	50.0 max 26.0 min .02 ppt 27 hdd 0 cdd	79-1950	50.0 max 28.0 min .10 ppt 26 hdd 0 cdd	74-1952	46.0 max 26.0 min .06 ppt 28 hdd 0 cdd	71-1911	43.0 max 25.0 min .07 ppt 29 hdd 0 cdd	71-1911	47.0 max 24.0 min .01 ppt 29 hdd 0 cdd	47.0 max 24.0 min .01 ppt 29 hdd 0 cdd	82-1909	43.0 max 26.0 min .06 ppt 28 hdd 0 cdd	43.0 max 26.0 min .06 ppt 28 hdd 0 cdd	74-1914	43.0 max 26.0 min .06 ppt 28 hdd 0 cdd	20-1957	43.0 max 26.0 min .06 ppt 28 hdd 0 cdd	44-1952	43.0 max 26.0 min .06 ppt 28 hdd 0 cdd	59-1968	
Highest Max	78-1903	Highest Max	78-1909	Highest Max	79-1950	Highest Max	74-1952	Highest Max	71-1911	Highest Max	71-1911	Highest Max	82-1909	Highest Max	74-1914	Highest Max	74-1914	Highest Max	74-1914	Highest Max	74-1914	Highest Max	82-1909	
Lowest Min	16-1962	Lowest Min	12-1963	Lowest Min	20-1948	Lowest Min	19-1949	Lowest Min	20-1957	Lowest Min	20-1957	Lowest Min	21-1972	Lowest Min	21-1948	Lowest Min	21-1948	Lowest Min	21-1948	Lowest Min	21-1948	Lowest Min	21-1972	
Highest Min	53-1965	Highest Min	54-1967	Highest Min	45-1950	Highest Min	49-1981	Highest Min	44-1952	Highest Min	44-1952	Highest Min	3-1948	Highest Min	52-1968	Highest Min	52-1968	Highest Min	52-1968	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	.62-1967	Greatest ppt	.69-1989	Greatest ppt	.85-1968	Greatest ppt	.85-1968	Greatest ppt	.85-1968	Greatest ppt	.85-1968	Greatest ppt	.69-1989	
Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	
47.0 max 25.0 min .08 ppt 29 hdd 0 cdd	76-1947	45.0 max 25.0 min .10 ppt 30 hdd 0 cdd	74-1931	46.0 max 25.0 min .11 ppt 29 hdd 0 cdd	76-1989	46.0 max 28.0 min .10 ppt 26 hdd 0 cdd	74-1952	46.0 max 26.0 min .06 ppt 28 hdd 0 cdd	71-1911	43.0 max 25.0 min .07 ppt 29 hdd 0 cdd	71-1911	47.0 max 24.0 min .01 ppt 29 hdd 0 cdd	47.0 max 24.0 min .01 ppt 29 hdd 0 cdd	82-1909	43.0 max 26.0 min .06 ppt 28 hdd 0 cdd	43.0 max 26.0 min .06 ppt 28 hdd 0 cdd	74-1914	43.0 max 26.0 min .06 ppt 28 hdd 0 cdd	20-1957	43.0 max 26.0 min .06 ppt 28 hdd 0 cdd	44-1952	43.0 max 26.0 min .06 ppt 28 hdd 0 cdd	59-1968	
Highest Max	76-1947	Highest Max	74-1931	Highest Max	76-1989	Highest Max	74-1952	Highest Max	71-1911	Highest Max	71-1911	Highest Max	82-1909	Highest Max	74-1914	Highest Max	74-1914	Highest Max	74-1914	Highest Max	74-1914	Highest Max	82-1909	
Lowest Min	14-1966	Lowest Min	15-1949	Lowest Min	12-1985	Lowest Min	19-1949	Lowest Min	20-1957	Lowest Min	20-1957	Lowest Min	21-1972	Lowest Min	21-1948	Lowest Min	21-1948	Lowest Min	21-1948	Lowest Min	21-1948	Lowest Min	21-1972	
Highest Min	50-1982	Highest Min	58-1987	Highest Min	43-1973	Highest Min	49-1981	Highest Min	44-1952	Highest Min	44-1952	Highest Min	3-1948	Highest Min	52-1968	Highest Min	52-1968	Highest Min	52-1968	Highest Min	52-1968	Highest Min	59-1968	
Greatest ppt	99-1969	Greatest ppt	1.73-1975	Greatest ppt	.43-1973	Greatest ppt	1.89-1989	Greatest ppt	.62-1967	Greatest ppt	.62-1967	Greatest ppt	.69-1989	Greatest ppt	.85-1968	Greatest ppt	.85-1968	Greatest ppt	.85-1968	Greatest ppt	.85-1968	Greatest ppt	.69-1989	

JANUARY AVERAGES

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