

# OKLAHOMA MONTHLY SUMMARY MARCH 1993

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### MONTHLY SUMMARY FOR MARCH 1993

Six-inch snowfalls and sub-teen temperatures during mid-March barely beat the official end of winter in Oklahoma. Near the end of the month, heavy thunderstorms produced large hail, damaging winds, locally heavy rains and several small tornadoes to herald the beginnings of spring. Total precipitation for March 1993, averaged statewide, was 2.67 inches, .14 inch below normal for the month. Precipitation for the first three months of the year totals 7.78 inches, 1.97 inches above normal. The first quarter of 1993 precipitation is the eleventh highest for the state since 1892. The state-averaged temperature for the month was 48.4 degrees, 2.3 degrees below normal. Thus far in 1993, temperatures have averaged 41.3 degrees which is 1.6 degrees below normal.

A late winter storm of Pacific origin crossed the state on the first two days of the month, producing widespread precipitation. The heaviest rains were in the south where up to 1.86 inches (Bokchito on the 1st) was reported.

Gradual warming over the next week led to temperatures in the 80s over much of southern Oklahoma by the 8th. Marietta reported 88 degrees on the 9th, the highest temperature reported in the state during the month.

An upper-level disturbance and an intrusion of colder air into the state produced up to 6 inches of snow in the northwest, and light rain or snow across much of northern Oklahoma. Laverne reported 5 inches of new snow, extending its reported total snowfall for the 1992-1993 season to 56 inches, a record for that location. Cooler air in the northwest, combined with overnight cooling enhanced by the snow cover led to the coldest weather of the month during the next few days. Guymon reported 3 degrees on the 13th and Hooker noted 9 degrees on the 14th. Minimum temperatures in the teens were commonplace across the northern third of the state through the morning of the 15th.

Thunderstorms in southeastern Oklahoma on the 14th and 15th produced as much as 2.60 inches of rain (reported at Broken Bow on the 16th). Another poorly-defined storm system which crossed the state led to widespread precipitation, including sleet and freezing rain in the extreme northeast, on the 18th, 19th and 20th. Tuskahoma reported 2 inches of rain on the 20th. Large hail was reported overnight (evening of the 19th and morning of the 20th) near Clayton and Cloudy in Pushmataha County. High temperatures remained in the upper 60s or low 70s across southern Oklahoma, but daytime readings in the 30s and 40s were commonplace in the north.

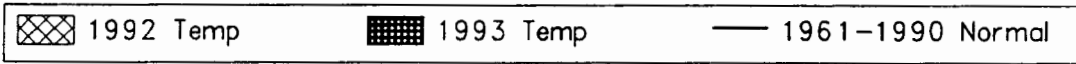
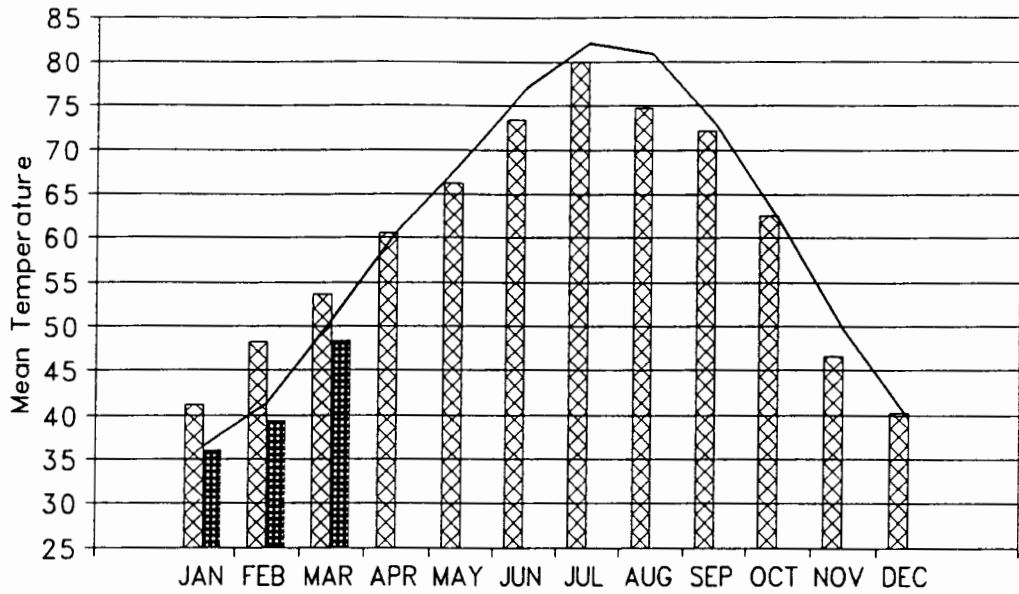
Springtime weather arrived in the state with a vengeance on the 28th. Morning thunderstorms dropped golf ball sized hail in Noble County and large hail elsewhere in north central and northeastern Oklahoma. New thunderstorm development later that afternoon produced three-quarter inch hail in Washington and Nowata Counties and spawned a small tornado between Lenapah and Nowata.

Major thunderstorms developed in western Oklahoma on the 29th and again on the 30th and moved eastward across the state through the night. Softball sized hail was reported in Sayre and 70 to 80 miles per hour winds struck Granite on the 29th. A small tornado reportedly touched down just west of Elk City. As the storms moved eastward, highway flooding was reported between Comanche and Waurika. Large hail was reported as far east as McCurtain in Haskell County. The National Weather Service reported that microburst winds and a tornado combined to produce a 4 to 5 mile damage path southeast of Prague. Reported daily rainfall amounts included 4.85 inches at Comanche and 4.67 inches at Waurika.

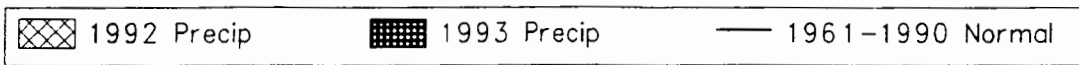
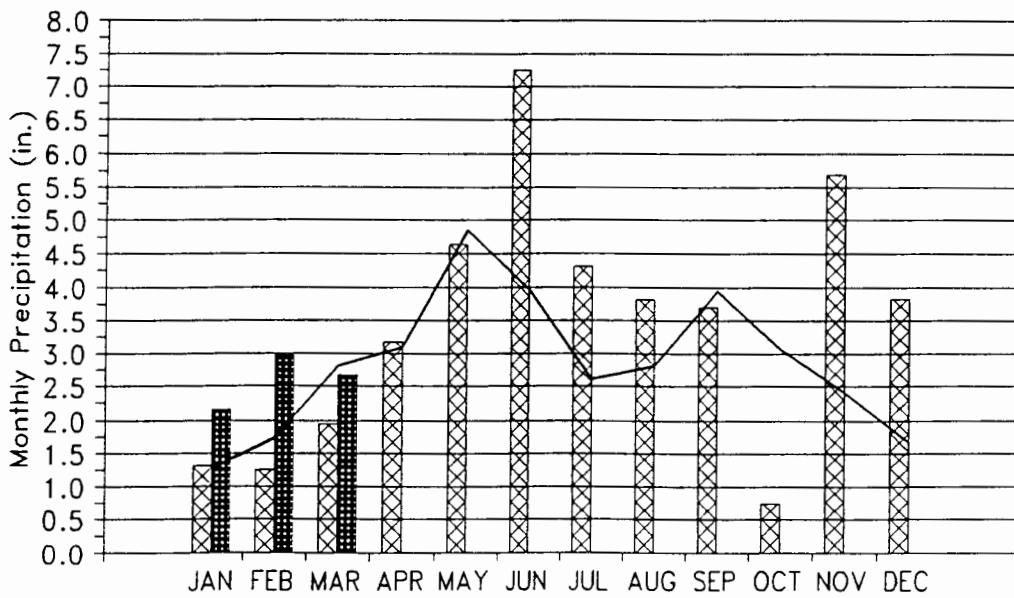
Thunderstorms that developed about mid-day on the 30th produced several small tornadoes in eastern Custer County and several incidents of large hail in north central Oklahoma. An apparent downburst destroyed a mobile home, snapped a telephone pole and broke limbs measuring up to ten inches off of trees in Dover.

Howard L. Johnson

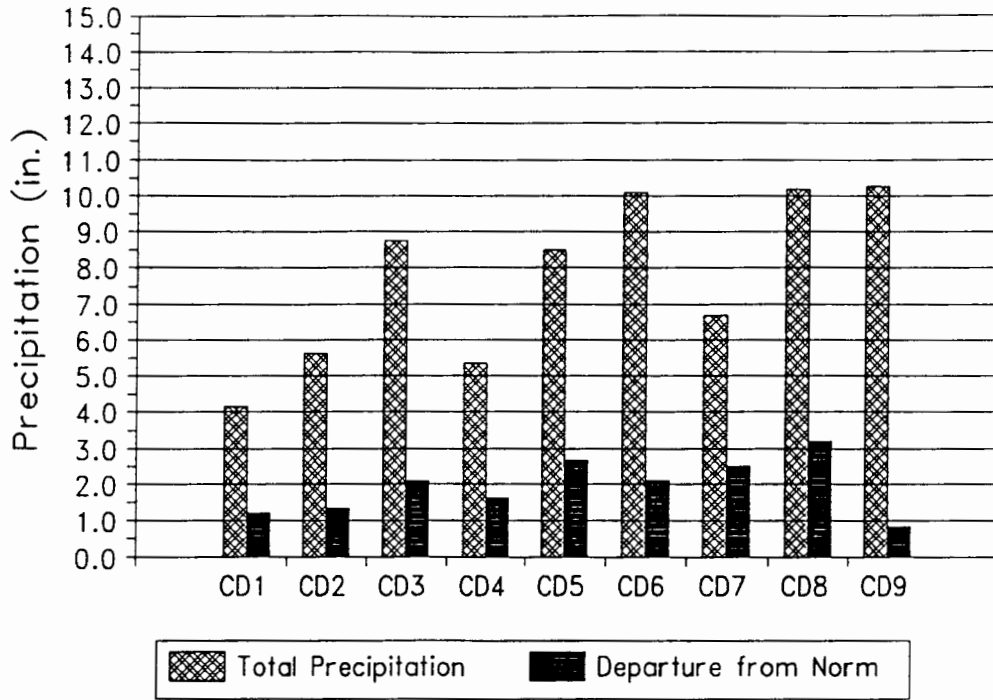
### 1992 and 1993 STATEWIDE TEMPERATURES Monthly Averages



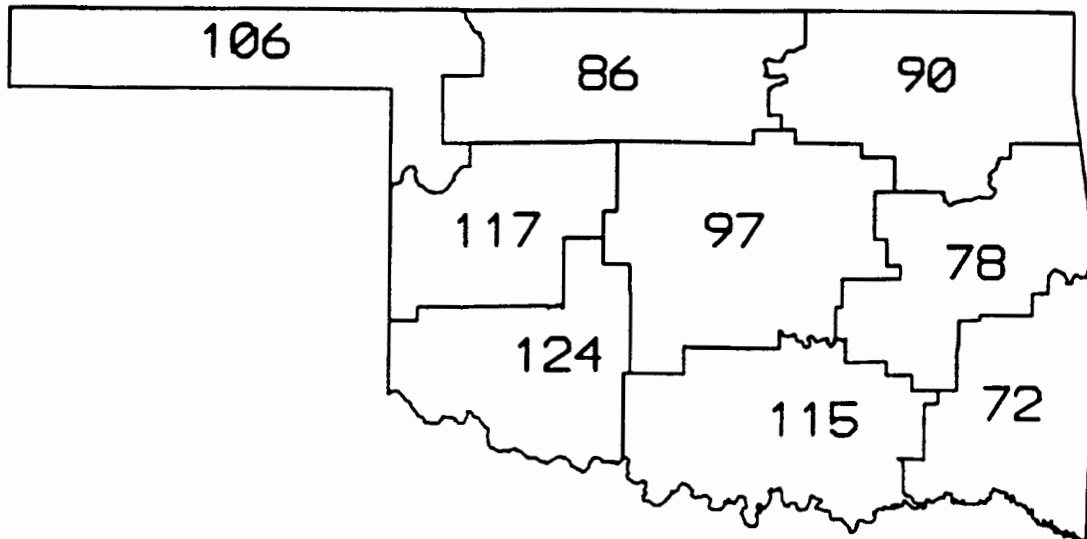
### 1992 and 1993 STATEWIDE PRECIPITATION Monthly Totals



### CD Averaged Precipitation January-March 1993



### CD PERCENT OF NORMAL PRECIPITATION



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

CD	MAX			MIN			24-HOUR			MONTHLY	
	TEMP	DATE	LOCATION	TEMP	DATE	LOCATION	PRECIP	DATE	LOCATION	PRECIP	LOCATION
1	80	24	GUYMON	3	13	GUYMON	1.10	30	GUYMON	2.38	GUYMON
	80	25	HOOKER								
2	80	28	PERRY	13	13	FT SUPPLY	1.50	30	WAYNOKA	2.69	WAYNOKA
				13	14	FT SUPPLY					
3	84	30	JAY TOWER	11	15	HULAH DAM	2.20	29	LENAPAH	4.90	LENAPAH
4	84	8	ELK CITY	13	13	HAMMON	1.23	19	CORDELL	2.87	SAYRE
	84	8	ERICK								
5	82	28	GUTHRIE	16	14	BRISTOW	1.94	30	WELTY	4.30	GUTHRIE
	82	8	NORMAN								
	82	8	PURCELL								
6	85	8	MCALESTER	12	14	STILWELL	1.65	16	MARBLE CITY	4.57	MARBLE CITY
	85	9	MCALESTER								
7	85	8	CARNEGIE	15	13	MANGUM	3.35	29	WALTERS	5.45	WALTERS
	85	8	HOLLIS								
8	88	9	MARIETTA	18	23	MCGEE CREEK	4.85	29	COMANCHE	6.98	COMANCHE
9	83	9	ANTLERS	14	13	POTEAU	2.60	16	BROKEN BOW	5.29	BROKEN BOW
	83	8	HUGO								
	83	9	HUGO								
	83	9	POTEAU								
	83	9	TUSKAHOMA								

TABLE OF 1992/1993 COMPARISON

Station	March Temperature (F)		March Precipitation (in.)	
	1992	1993	1992	1993
Arnett	50.1	43.6	1.77	1.82
Enid	53.1	45.8	1.27	2.05
Mutual	50.7	44.4	1.94	1.68
Tulsa	55.9	47.5	1.14	2.30
Elk City	54.5	49.4	2.14	2.66
Oklahoma City	54.9	47.9	1.01	2.83
McAlester	55.5	51.9	2.27	3.07
Altus Irr Sta	55.5	51.5	0.92	2.50
Durant	55.5	51.5	3.20	3.84
Ada	54.3	50.5	3.41	4.32
Antlers	55.9	51.7	2.13	3.61

EXTREMES

Variable	Station	Division	Observation	Date
Minimum temperature (F)	Guymon	1	03	13
Maximum temperature (F)	Marietta	8	88	9
Maximum 24-hour precipitation	Comanche	8	4.85"	29

MARCH 1993 SUMMARY FOR NORTHWEST DIVISION (CD1)

NAME	ID	CD	DEV					HEAT		DEV		COOL		DEV		TOT	NUM	DEV	MAX	DAY
			MEAN	NUM	FROM	MAX	MIN	DEG	FROM	DEG	FROM	DEG	FROM	PPT	OBS					
ARNETT	332	1	43.6	31	-2.2	75.	25	14.	14	663.0	68.0	.0	.0	1.822	31	.19	.55	2		
BEAVER	593	1	43.2	31	-1.4	79.	25	8.	14	674.5	42.5	.0	.0	1.483	31	.03	.51	2		
BOISE CITY 2 E	908	1	47.0	31	1.7	82.	24	6.	13	557.0	-54.0	.0	.0	1.673	31	.79	.68	30		
BUFFALO	1243	1	47.4	31	-1.6	79.	28	11.	13	545.5	39.5	.0	-10.0	1.111	31	-.75	.26	12		
FARGO	3070	1	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.580	31	-.05	.62	2		
GAGE FAA APT	3407	1	45.9	30	-2.1	77.	24	12.	13	573.5	39.5	.0	-7.0	2.221	31	.71	.88	2		
GATE	3489	1	44.3	31	-1.5	76.	24	12.	13	640.5	38.5	.0	-7.0	1.394	31	-.29	.53	12		
GOODWELL RES ST	3628	1	45.5	31	1.6	80.	25	6.	13	603.0	-51.0	.0	.0	1.581	31	.71	.70	30		
GUYMON	3835	1	44.1	25	*****	80.	24	3.	13	522.0	*****	.0	*****	2.381	27	*****	1.10	30		
HOOKER	4298	1	43.9	31	-2.0	80.	25	9.	14	654.5	62.5	.0	.0	1.532	31	.37	.75	30		
KENTON	4766	1	44.6	28	*****	77.	25	3.	13	571.0	*****	.0	*****	1.700	24	*****	.85	2		
LAVERNE	5045	1	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.781	31	.08	.66	2		
OPTIMA LAKE	6740	1	44.8	31	*****	80.	26	6.	13	627.0	*****	.0	*****	1.153	31	*****	.38	30		
REGNIER	7534	1	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.233	31	1.50	1.02	30		
TURPIN 4 SSE	9017	1	43.6	31	*****	79.	25	7.	13	664.5	*****	.0	*****	1.333	31	*****	.41	12		

MARCH 1993 SUMMARY FOR NORTH CENTRAL DIVISION (CD2)

NAME	ID	CD	DEV					HEAT		DEV		COOL		DEV		TOT	NUM	DEV	MAX	DAY
			MEAN	NUM	FROM	MAX	MIN	DEG	FROM	DEG	FROM	DEG	FROM	PPT	OBS					
ALVA	193	2	46.1	31	*****	79.	28	18.	13	586.5	*****	.0	*****	2.290	31	*****	.94	30		
VANCE AFB	302	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.905	31	*****	.72	30		
BILLINGS	755	2	44.5	31	-3.3	78.	29	20.	14	639.0	98.0	3.0	-5.0	2.133	31	-.56	.60	22		
BLACKWELL 2E	818	2	44.8	29	*****	77.	28	14.	13	586.0	*****	1.5	*****	1.632	31	-.77	.43	2		
BRAMAN	1075	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.342	30	*****	.39	2		
CEDARDALE	1620	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.972	31	*****	.99	30		
CHEROKEE	1724	2	46.5	31	-3.0	77.	29	21.	13	575.5	85.5	1.5	-7.5	3.750	30	*****	2.00	30		
ENID	2912	2	45.8	31	-4.1	76.	28	19.	13	595.0	117.0	1.0	-9.0	2.050	31	-.24	.50	30		
FT SUPPLY DAM	3304	2	44.0	31	-2.0	75.	29	13.	14	651.0	55.0	.0	-7.0	1.481	31	-.14	.58	30		
FREEDOM	3358	2	43.1	31	-5.6	79.	29	15.	15	680.0	165.0	.0	-10.0	2.352	31	.49	.93	30		
GREAT SALT PLNS	3740	2	45.3	29	*****	79.	29	21.	13	571.5	*****	1.5	*****	2.062	23	*****	.80	30		
HARDY	3909	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.188	31	*****	.42	21		
HELENA 1 SSE	4019	2	44.2	31	-2.1	79.	30	20.	14	643.5	63.5	.0	.0	2.223	31	-.17	.95	30		
JEFFERSON	4573	2	46.8	31	-2.3	79.	28	21.	13	566.0	66.0	2.0	-5.0	2.151	31	-.44	.66	29		
LAMONT	5013	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.912	31	*****	.53	30		
MEDFORD	5768	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.903	31	*****	.54	29		
MORRISON	6065	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.870	31	*****	.38	30		
MUTUAL	6139	2	44.4	31	-1.8	79.	29	16.	13	640.0	57.0	.0	.0	1.680	31	-.38	.75	30		
NEWKIRK	6278	2	45.8	31	-3.0	78.	28	20.	13	597.5	85.5	1.5	-8.5	1.860	31	-.51	.45	2		
ORIENTA	6751	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.830	31	-.26	.90	30		
PERRY	7012	2	48.2	31	-2.3	80.	28	21.	13	530.5	66.5	8.5	-5.5	2.490	31	-.22	.50	1		
PONCA CITY FAA	7201	2	47.1	30	-.8	78.	28	22.	14	539.0	1.0	1.5	-6.5	1.985	31	-.54	.45	30		
RED ROCK 1 NNE	7505	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.960	31	-.63	.50	30		
WAYNOKA	9404	2	45.4	30	-4.0	78.	28	17.	14	587.5	93.5	.0	-10.0	2.690	31	.78	1.50	30		
WOODWARD	9760	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.792	31	-.03	.85	30		

MARCH 1993 SUMMARY FOR NORTHEAST DIVISION (CD3)

NAME	ID	CD	DEV					HEAT		DEV		COOL		DEV		TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
			MEAN TEMP	NUM OBS	FROM NORM	MAX TEMP	MIN DAY	DEG DAY	FROM NORM	DEG DAY	FROM NORM	DEG DAY	FROM NORM	DEG DAY						
BARNSDALL	535	3	46.5	31	-3.6	75.	28	14.	14	572.0	100.0	.0	-10.0	1.833	30	*****	.73	30		
BARTLESVILLE 2W	548	3	46.9	31	-3.3	75.	30	16.	14	561.5	93.5	.0	-9.0	3.273	31	.02	1.02	19		
BIXBY	782	3	46.3	31	-2.2	80.	10	19.	14	582.5	62.5	2.0	-6.0	2.431	30	*****	.71	19		
BURBANK	1256	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.421	31	-.57	.56	22		
CHELSEA 4 S	1717	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.620	31	*****	1.35	19		
CLAREMORE	1828	3	45.8	31	-2.2	81.	10	16.	14	598.5	66.5	3.5	-1.5	4.250	31	.67	1.37	19		
CLEVELAND 5 WSW	1902	3	48.0	31	*****	80.	29	19.	14	530.0	*****	4.0	*****	2.380	31	*****	1.00	30		
FORAKER	3250	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.021	31	-.80	.46	22		
HOLLOW	4258	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	4.084	31	.40	1.31	19		
HOMINY	4289	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.282	31	-1.16	.84	30		
HULAH DAM	4393	3	44.7	22	*****	76.	30	11.	15	447.0	*****	.5	*****	3.713	27	*****	.74	19		
JAY TOWER	4567	3	45.6	31	*****	84.	30	14.	14	606.0	*****	5.0	*****	3.550	31	*****	1.20	19		
KANSAS 1 ESE	4672	3	46.9	31	-3.5	80.	29	15.	14	564.0	100.0	2.0	-10.0	3.810	31	-.36	.95	19		
KEYSTONE DAM	4812	3	45.4	26	*****	78.	29	14.	14	508.5	*****	.0	*****	2.763	27	*****	1.10	30		
LENAPAH	5118	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	4.900	31	*****	2.20	29		
MANNFORD 6 NW	5522	3	47.8	31	-3.1	82.	28	16.	14	536.0	88.0	4.0	-7.0	2.571	31	-.73	.72	30		
MARAMEC	5540	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.533	31	-.67	.86	30		
MIAMI	5855	3	46.0	31	-1.9	79.	31	17.	14	590.0	53.0	2.5	-4.5	3.100	29	*****	1.32	19		
NOWATA	6485	3	46.5	30	-3.1	77.	9	16.	14	554.0	70.0	.0	-6.0	4.517	29	*****	1.56	29		
ONETA 1 WNW	6713	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.170	31	*****	.85	30		
PAWHUSKA	6935	3	46.9	31	-2.7	77.	28	15.	14	560.5	74.5	.0	-9.0	2.251	31	-1.00	.70	30		
PAWNEE	6940	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.230	31	-.86	.48	30		
PRYOR 6 N	7309	3	46.3	30	-1.7	79.	10	16.	14	562.0	28.0	2.0	-5.0	3.155	26	*****	1.14	19		
RALSTON	7390	3	47.3	31	-2.7	80.	28	17.	14	548.5	76.5	1.0	-6.0	1.465	31	-1.60	.37	30		
RAMONA 4 N	7394	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.132	31	*****	1.35	19		
SKIATOOK	8258	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.510	31	-.77	1.02	23		
SPAVINAW	8380	3	48.4	31	-2.8	80.	29	17.	14	519.0	79.0	4.5	-7.5	3.715	31	.13	1.00	19		
TULSA WSO APT	8992	3	47.5	30	-3.1	80.	9	19.	14	526.5	69.5	1.0	-10.0	2.303	31	-1.16	.94	23		
UPPER SPAVINAW	9101	3	47.7	29	*****	78.	25	16.	14	502.5	*****	.0	*****	3.088	31	*****	1.10	19		
VINITA 2 N	9203	3	46.4	31	-2.5	77.	30	22.	14	579.0	73.0	2.0	-5.0	4.140	31	.19	1.60	19		
WAGONER	9247	3	49.0	31	-2.7	80.	9	19.	14	504.0	79.0	6.5	-6.5	3.672	31	.10	1.02	19		
WANN	9298	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	4.401	31	*****	1.82	29		
WYONOA	9792	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.456	31	*****	.76	30		

MARCH 1993 SUMMARY FOR WEST CENTRAL DIVISION (CD4)

NAME	ID	CD	DEV					HEAT		DEV		COOL		DEV		TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
			MEAN TEMP	NUM OBS	FROM NORM	MAX TEMP	MIN DAY	DEG DAY	FROM NORM	DEG DAY	FROM NORM	DEG DAY	FROM NORM	DEG DAY						
CANTON DAM	1445	4	43.8	29	*****	76.	29	17.	13	617.0	*****	2.0	*****	1.943	31	-.14	.84	30		
CHEYENNE	1738	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.870	31	.27	.80	30		
CLINTON	1909	4	49.1	31	-1.7	80.	8	16.	13	494.0	45.0	2.5	-6.5	2.422	31	.39	1.03	19		
COLONY	2039	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.460	31	*****	1.15	19		
CORDELL	2125	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.334	31	.38	1.23	19		
ELK CITY 1 E	2849	4	49.4	29	*****	84.	8	19.	13	453.0	*****	.0	*****	2.661	31	.62	.99	30		
ERICK 4 E	2944	4	48.5	31	-1.7	84.	8	15.	13	513.0	48.0	.0	-6.0	1.564	31	-.14	.60	30		
GEARY	3497	4	50.6	30	.7	80.	29	23.	14	442.5	-32.5	9.5	2.5	2.040	31	-.03	.70	30		
HAMMON 1 NNE	3871	4	45.2	31	-2.2	80.	9	13.	13	614.0	63.0	.0	-6.0	2.681	31	.79	1.08	30		
MORAVIA 2 NNE	6035	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.491	31	.68	1.16	30		
OKEENE	6629	4	47.0	31	-3.5	77.	29	20.	13	557.0	99.0	.0	-9.0	1.840	31	-.30	.71	30		
RETROP	7565	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.630	31	*****	1.12	30		
REYDON	7579	4	50.2	31	1.4	81.	8	18.	13	458.0	-52.0	.0	-8.0	2.240	31	.66	.74	22		
SAYRE	7952	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.871	31	1.34	1.12	30		
TALOGA	8708	4	46.1	30	-2.8	78.	27	16.	13	566.5	60.5	.0	-7.0	1.313	30	*****	.83	30		
THOMAS	8815	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.750	31	*****	.70	30		
VICI	9172	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.030	31	-.20	.77	30		
WATONGA	9364	4	47.2	31	-2.4	78.	29	19.	13	555.5	71.5	2.5	-4.5	2.292	31	.08	.82	30		
WEATHERFORD	9422	4	47.7	31	-.3	83.	9	17.	13	543.5	16.5	6.5	6.5	2.151	31	.24	.72	19		

MARCH 1993 SUMMARY FOR CENTRAL DIVISION (CD5)

NAME	ID	CD	DEV					HEAT		DEV		COOL		DEV		TOT PPT	NUM OBS	DEV	
			MEAN TEMP	NUM OBS	FROM NORM	MAX TEMP	MIN DAY	DEG DAY	FROM NORM	DEG DAY	FROM NORM	DEG DAY	FROM NORM	FROM NORM	MAX 24-HR			DAY	
AMBER	200	5	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	*****	2.280	31	*****	.81	30
ARCADIA	288	5	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	*****	2.591	31	*****	.75	30
TINKER AFB	325	5	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	*****	3.348	31	*****	1.39	19
BLANCHARD 2 SSW	830	5	49.3	31	-3.2	81.	8	21.	14	492.5	91.5	5.5	-7.5	2.113	31	-.58	.60	26	
BRISTOW	1144	5	48.6	31	-3.1	78.	28	16.	14	511.5	87.5	2.0	-10.0	3.512	31	.47	1.66	30	
CHANDLER	1684	5	48.8	30	-2.9	80.	28	21.	14	493.0	69.0	6.5	-5.5	2.280	30	*****	.77	30	
CHICKASHA EX ST	1750	5	48.8	31	-3.4	80.	28	17.	14	507.0	98.0	5.0	-7.0	2.680	31	.18	1.26	30	
COX CITY 1 E	2196	5	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	2.360	31	*****	.82	1	
CRESCENT	2242	5	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	2.210	31	*****	.64	30	
CUSHING	2318	5	45.8	30	-3.0	78.	30	20.	14	580.0	69.0	3.5	-5.5	2.322	30	*****	.85	30	
EL RENO 1 N	2818	5	48.3	31	-2.0	79.	28	21.	14	522.5	59.5	5.5	-2.5	2.240	31	-.10	.76	19	
GUTHRIE	3821	5	49.2	31	-2.1	82.	28	21.	14	496.5	60.5	7.0	-4.0	4.302	31	1.48	.90	30	
HENNESSEY 4 ESE	4055	5	45.9	30	-3.9	76.	29	20.	13	575.0	96.0	1.5	-6.5	1.891	31	-.46	.60	30	
INGALLS	4489	5	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	2.164	31	*****	.72	30	
KINGFISHER 2 SE	4861	5	47.4	31	-3.5	79.	28	21.	14	550.0	104.0	3.5	-5.5	1.930	31	-.32	.52	30	
KONAWA	4915	5	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	3.870	31	.66	1.49	30	
MARSHALL	5589	5	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	1.790	31	-.68	.56	30	
MEEKER 4 W	5779	5	48.5	30	-3.2	78.	28	19.	14	498.5	74.5	3.0	-8.0	3.090	30	*****	1.25	18	
MULHALL	6110	5	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	1.832	31	*****	.59	30	
NORMAN 3 S	6386	5	48.9	31	-3.5	82.	8	20.	14	503.0	99.0	4.0	-9.0	2.672	31	-.22	1.25	30	
OILTON 2 SE	6616	5	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	2.530	31	*****	1.05	30	
OKEMAH	6638	5	49.7	31	-2.3	81.	9	21.	14	476.0	59.0	2.5	-11.5	2.192	31	-.96	.78	30	
OKLAHOMA CTY WS	6661	5	47.9	31	-2.4	79.	28	20.	14	532.5	68.5	3.0	-6.0	2.830	31	.12	1.05	19	
PERKINS	7003	5	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	1.970	31	-.93	.76	30	
PIEDMONT	7068	5	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	2.460	31	*****	.79	30	
PRAGUE	7264	5	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	3.201	31	.02	1.16	30	
PURCELL 5 SW	7327	5	50.2	31	-2.3	82.	8	17.	14	464.0	64.0	5.5	-6.5	3.861	31	.73	1.15	19	
SEMINOLE	8042	5	50.8	31	-2.6	80.	8	19.	14	445.0	67.0	6.0	-12.0	2.482	31	-.79	.98	30	
SHAWNEE	8110	5	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	3.562	31	.37	1.90	30	
STELLA	8479	5	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	3.240	31	*****	1.62	30	
STILLWATER 2 W	8501	5	47.7	31	-.5	81.	29	21.	14	544.0	17.0	6.5	.5	2.404	31	-.39	.57	30	
STROUD 1 N	8563	5	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	2.894	31	*****	1.08	30	
TECUMSEH	8751	5	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	2.120	31	*****	.90	23	
TROUSDALE	8960	5	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	2.740	31	*****	.85	30	
UNION CITY 1 SE	9086	5	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	3.402	31	.49	1.52	19	
WELY 1 SSE	9479	5	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	4.073	31	*****	1.94	30	
WEWOKA	9575	5	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	3.130	31	-.12	.91	30	

MARCH 1993 SUMMARY FOR EAST CENTRAL DIVISION (CD6)

NAME	ID	CD	DEV					HEAT		DEV		COOL		DEV		TOT PPT	NUM OBS	DEV	
			MEAN TEMP	NUM OBS	FROM NORM	MAX TEMP	MIN DAY	DEG DAY	FROM NORM	DEG DAY	FROM NORM	DEG DAY	FROM NORM	FROM NORM	MAX 24-HR			DAY	
ASHLAND	364	6	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	*****	3.570	31	*****	.92	20
BEGGS	631	6	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	*****	2.960	31	*****	.92	30
BOYNTON	1027	6	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	*****	3.723	31	*****	1.34	30
CALVIN	1391	6	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	*****	3.363	31	-.44	.74	30
CHECOTAH	1711	6	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	*****	2.642	31	-1.06	.87	30
CLAYTON 14 WNW	1858	6	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	*****	3.181	31	*****	1.42	20
DEWAR 2 NE	2485	6	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	*****	2.590	31	-.96	1.30	30
DUSTIN	2690	6	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	*****	2.920	31	*****	1.10	30
EUFULA	2993	6	51.6	31	-1.8	83.	9	23.	14	421.0	43.0	5.5	-13.5	1.783	31	-2.39	.37	19	
HANNA	3884	6	50.0	31	-2.7	83.	9	17.	14	464.0	67.0	.0	-16.0	2.364	31	-1.71	.45	23	
HARTSHORNE	3946	6	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	*****	2.450	31	*****	.72	20
HASKELL	3956	6	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	*****	3.543	31	-.06	1.11	30
HOLDENVILLE	4235	6	50.1	31	-2.4	83.	9	18.	14	465.5	65.5	2.5	-9.5	2.852	31	-.49	.88	30	
LAKE EUFAULA	4975	6	49.2	31	*****	81.	30	22.	14	496.0	*****	6.0	*****	1.366	31	*****	.33	23	
LYONS 2 N	5437	6	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	*****	4.512	31	.26	1.14	30
MARBLE CITY	5546	6	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	*****	4.575	31	*****	1.65	16
MCALESTER FAA	5664	6	51.9	30	-.3	85.	9	18.	14	405.0	-6.0	12.0	-2.0	3.072	31	-.93	.78	19	
MCCURTAIN 1 SE	5693	6	51.5	31	-2.0	84.	9	17.	14	430.0	53.0	10.0	-10.0	3.115	31	-1.00	.97	30	
MUSKOGEE	6130	6	49.8	31	-2.2	80.	9	19.	14	474.5	58.5	4.5	-8.5	2.850	31	-.70	1.13	29	
OKMULGEE W W	6670	6	47.4	28	*****	81.	10	18.	14	492.0	*****	.0	*****	3.171	31	-.28	1.30	30	
OKTAHA 2 NE	6678	6	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	*****	3.300	31	*****	1.09	30
QUINTON	7372	6	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	*****	2.104	31	-1.90	.55	20
SALLISAW 2 NE	7862	6	49.3	31	-3.0	85.	30	14.	14	496.0	90.0	9.0	-4.0	2.170	31	-2.07	.75	16	
SCIPIO	7979	6	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	*****	2.160	31	*****	.48	20
SCRAPER	7993	6	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	*****	2.700	31	*****	.90	19
SHORT	8170	6	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	*****	3.385	31	*****	1.61	16
STILWELL 1 NE	8506	6	48.0	31	-2.5	80.	29	12.	14	530.5	69.5	3.5	-7.5	3.593	31	-.69	1.13	19	
TAHLEQUAH	8677	6	48.0	31	-3.1	81.	29	13.	14	530.5	87.5	3.5	-8.5	1.840	31	-2.25	.58	30	
WEBBERS FALLS	9445	6	47.4	31	-2.6	82.	10	17.	14	549.5	77.5	4.5	-2.5	2.780	31	-1.17	.84	16	
WESTVILLE	9523	6	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	*****	3.803	31	*****	1.08	30
WETUMKA 3 NE	9571	6	*****	0	*****	*****	0	*****	0	*****	*****	*****	*****	*****	3.710	31	.11	1.06	30



MARCH 1993 SUMMARY FOR SOUTHWEST DIVISION (CD7)

NAME	ID	CD	DEV				HEAT			DEV		COOL		DEV		TOT	NUM	DEV	MAX	DAY
			MEAN	NUM	FROM	MAX	DEG	FROM	DEG	FROM	DEG	FROM	FROM	NORM	FROM					
ALTUS IRR STA	179	7	51.5	31	-2.0	81.	28	18.	13	420.0	50.0	1.5	-12.5	2.500	31	.94	1.41	30		
ALTUS DAM	184	7	49.2	29	****	80.	29	18.	13	462.0	*****	4.0	*****	1.710	31	-.02	.58	30		
ANADARKO	224	7	49.1	30	-2.3	82.	8	19.	14	479.0	50.0	2.5	-4.5	2.122	30	*****	.87	19		
APACHE	260	7	****	0	****	****	0	****	0	*****	*****	*****	*****	2.940	31	.59	1.46	30		
ALTUS AFB	447	7	****	0	****	****	0	****	0	*****	*****	*****	*****	2.062	31	*****	.86	30		
CARNEGIE 2 ENE	1504	7	49.9	31	-1.5	85.	8	19.	13	474.5	44.5	5.5	-2.5	2.091	31	.09	.84	19		
CHATTANOOGA	1706	7	51.2	31	-1.7	81.	9	21.	13	433.5	46.5	4.5	-7.5	3.051	31	.92	1.00	30		
DUNCAN 11 W	2668	7	****	0	****	****	0	****	0	*****	*****	*****	*****	2.073	31	*****	1.43	29		
FREDERICK	3353	7	49.1	31	-2.5	82.	9	18.	13	493.0	67.0	1.5	-9.5	2.770	31	.70	1.28	30		
GRANDFIELD 4 NW	3709	7	****	0	****	****	0	****	0	*****	*****	*****	*****	4.570	31	2.45	3.10	30		
HOBART FAA APT	4204	7	49.0	30	-2.5	83.	8	20.	13	483.5	55.5	3.5	-6.5	1.892	31	.22	.62	30		
HOLLIS	4249	7	50.7	31	-2.2	85.	8	17.	13	443.5	55.5	.0	-12.0	1.330	31	-.05	.76	29		
LAWTON	5063	7	49.5	31	-1.8	81.	9	24.	14	487.0	53.0	6.0	-4.0	2.410	31	.28	.76	30		
FORT SILL	5068	7	50.9	31	****	82.	8	23.	13	445.0	*****	8.5	*****	2.546	31	*****	1.05	29		
LOOKEBA 2 ENE	5329	7	****	0	****	****	0	****	0	*****	*****	*****	*****	2.491	31	.31	1.12	19		
MANGUM RES STA	5509	7	49.9	31	-3.1	82.	8	15.	13	467.0	80.0	.0	-15.0	1.580	31	.05	.41	22		
RANDLETT 9 E	7403	7	****	0	****	****	0	****	0	*****	*****	*****	*****	4.280	31	*****	2.54	30		
ROOSEVELT	7727	7	****	0	****	****	0	****	0	*****	*****	*****	*****	1.610	31	-.12	.52	22		
SEDAN	8016	7	****	0	****	****	0	****	0	*****	*****	*****	*****	2.201	31	*****	.81	30		
SNYDER	8299	7	****	0	****	****	0	****	0	*****	*****	*****	*****	2.302	31	.51	.96	30		
VINSON 3 WNW	9212	7	****	0	****	****	0	****	0	*****	*****	*****	*****	1.312	31	-.16	.50	30		
WALTERS	9278	7	51.5	31	-2.5	83.	8	24.	14	422.0	64.0	4.5	-12.5	5.450	30	*****	3.35	29		
WICHITA MT WLR	9629	7	48.0	28	****	80.	9	19.	13	479.0	*****	3.0	*****	3.571	29	*****	1.70	19		
WILLOW	9668	7	****	0	****	****	0	****	0	*****	*****	*****	*****	3.024	31	*****	1.15	19		

MARCH 1993 SUMMARY FOR SOUTH CENTRAL DIVISION (CD8)

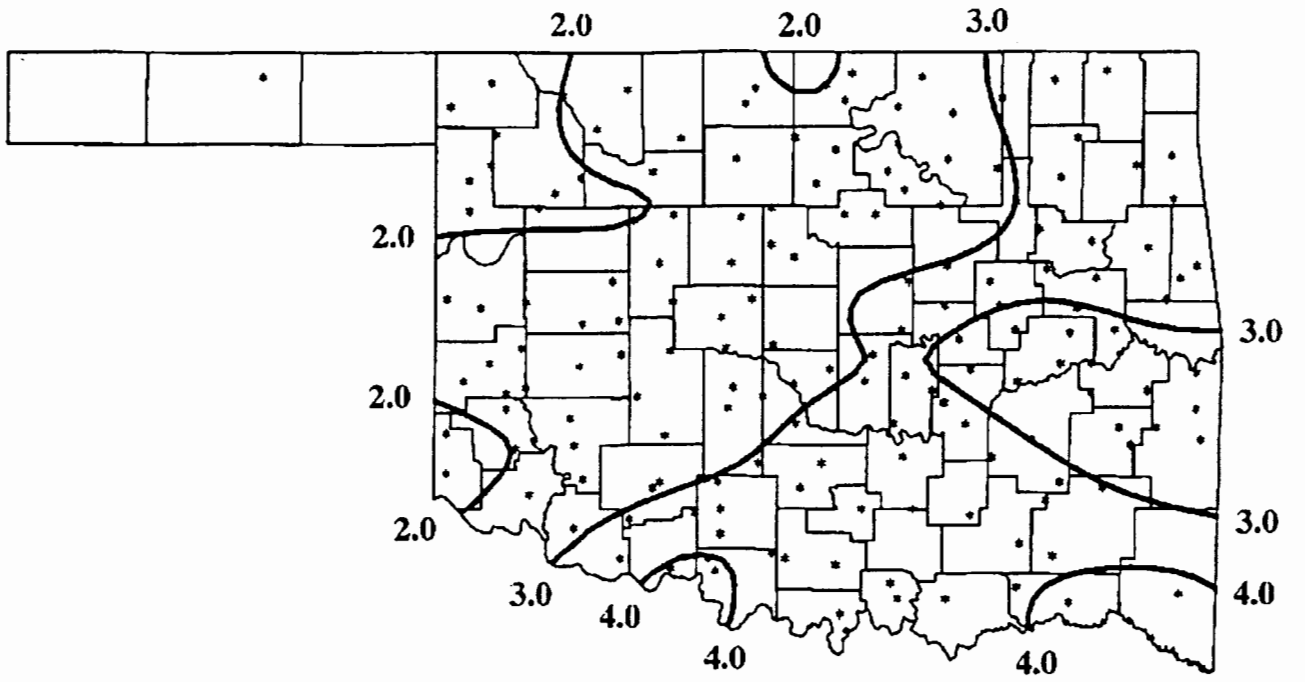
NAME	ID	CD	DEV				HEAT			DEV		COOL		DEV		TOT	NUM	DEV	MAX	DAY
			MEAN	NUM	FROM	MAX	DEG	FROM	DEG	FROM	DEG	FROM	FROM	NORM	FROM					
ADA	17	8	50.5	31	-2.4	82.	8	24.	14	451.5	59.5	2.0	-15.0	4.321	31	1.06	1.08	30		
ALLEN	147	8	****	0	****	****	0	****	0	*****	*****	*****	*****	3.630	31	*****	1.10	29		
ARDMORE	292	8	52.9	31	-2.6	85.	9	24.	14	382.5	62.5	7.5	-18.5	3.251	31	.15	1.81	1		
ATOKA DAM	394	8	52.1	22	****	84.	10	34.	5	292.5	*****	8.0	*****	3.101	23	*****	.96	22		
BOKCHITO	917	8	****	0	****	****	0	****	0	*****	*****	*****	*****	5.370	31	*****	1.86	1		
CANEY	1437	8	53.1	30	****	81.	9	25.	13	369.5	*****	12.0	*****	3.940	31	*****	.90	1		
CENTRAHOMA	1648	8	****	0	****	****	0	****	0	*****	*****	*****	*****	3.000	31	*****	1.00	2		
CHICKASAW NRA	1745	8	50.2	31	-1.1	84.	9	24.	14	466.5	30.5	6.5	-4.5	3.440	31	.00	.90	22		
COLEMAN	2011	8	****	0	****	****	0	****	0	*****	*****	*****	*****	2.210	31	*****	.92	20		
COMANCHE	2054	8	****	0	****	****	0	****	0	*****	*****	*****	*****	6.980	31	4.35	4.85	29		
DAISY 4 ENE	2354	8	****	0	****	****	0	****	0	*****	*****	*****	*****	3.542	31	-.84	1.33	20		
DUNCAN	2660	8	49.7	30	-2.1	81.	9	23.	14	461.5	40.5	3.5	-8.5	3.030	31	.44	1.23	30		
DURANT USDA	2678	8	51.5	31	-.8	85.	10	20.	14	430.5	19.5	11.0	-6.0	3.840	31	.10	1.00	20		
ELMORE CITY	2872	8	****	0	****	****	0	****	0	*****	*****	*****	*****	3.620	31	*****	2.68	29		
FARRIS 3 WNW	3083	8	****	0	****	****	0	****	0	*****	*****	*****	*****	3.420	31	-.35	1.01	20		
GRADY	3688	8	****	0	****	****	0	****	0	*****	*****	*****	*****	2.050	31	*****	.81	28		
HEALDTON	4001	8	51.7	31	-2.1	84.	9	20.	14	420.0	54.0	7.0	-12.0	3.102	31	.19	1.01	1		
HENNEPIN	4052	8	****	0	****	****	0	****	0	*****	*****	*****	*****	4.931	31	*****	2.82	30		
KETCHUM RANCH	4780	8	****	0	****	****	0	****	0	*****	*****	*****	*****	3.710	31	*****	2.20	30		
KINGSTON	4865	8	****	0	****	****	0	****	0	*****	*****	*****	*****	3.040	31	-.52	1.02	1		
LEHIGH	5108	8	****	0	****	****	0	****	0	*****	*****	*****	*****	3.903	31	*****	1.20	2		
LINDSAY 2 W	5216	8	49.9	26	****	81.	8	19.	14	397.5	*****	4.5	*****	2.821	29	*****	.69	1		
LOCO 6 SE	5247	8	****	0	****	****	0	****	0	*****	*****	*****	*****	2.730	31	*****	.89	1		
MADILL	5468	8	52.7	31	-1.7	85.	9	20.	14	389.0	40.0	8.0	-12.0	2.061	31	-1.44	.79	19		
MARIETTA	5563	8	53.8	31	-.8	88.	9	26.	14	358.5	16.5	11.5	-8.5	2.650	31	-.66	1.18	1		
MARLOW 1 WSW	5581	8	50.3	31	-2.7	81.	29	19.	13	462.5	76.5	7.0	-7.0	2.671	31	.23	.73	30		
MC GEE CREEK DAM	5713	8	50.7	28	****	85.	10	19.	14	404.0	*****	2.5	*****	3.900	31	*****	1.04	20		
PAULS VALLEY	6926	8	51.2	31	-2.2	84.	8	19.	14	435.5	61.5	7.0	-8.0	3.611	31	.69	1.42	30		
PONTOTOC	7214	8	****	0	****	****	0	****	0	*****	*****	*****	*****	3.611	31	-.04	.92	29		
TISHOMINGO NWLR	8884	8	52.8	22	****	86.	9	32.	5	272.5	*****	5.0	*****	3.910	24	*****	1.25	1		
TUSSY	9032	8	****	0	****	****	0	****	0	*****	*****	*****	*****	4.042	31	*****	2.09	29		
WAURIKA	9395	8	52.4	31	-2.4	85.	9	23.	14	399.0	60.0	9.5	-13.5	4.073	31	1.71	2.15	30		
WAURIKA DAM	9399	8	51.2	31	****	84.	30	24.	14	436.5	*****	8.0	*****	6.911	31	*****	4.67	30		

**MARCH 1993 SUMMARY FOR SOUTHEAST DIVISION (CD9)**

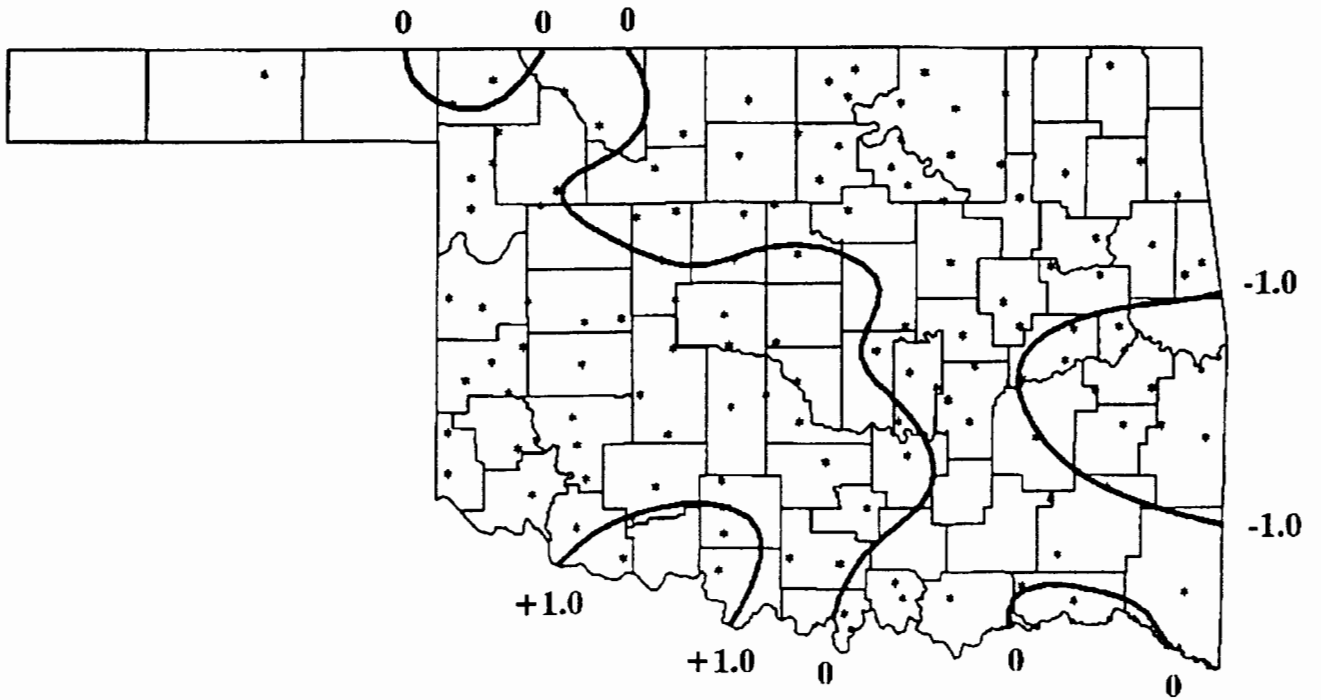
NAME	ID	CD	DEV						HEAT		DEV		COOL		DEV		TOT	NUM	FROM	MAX	24-HR	DAY
			MEAN	NUM	FROM	MAX	MIN	DAY	DEG	FROM	DEG	FROM	DEG	FROM	PPT	OBS						
ANTLERS	256	9	51.7	31	-2.2	83.	9	17.	14	416.5	53.5	4.5	-14.5	3.610	31	-.18	1.12	19				
BATTIEST 1 SSW	567	9	48.6	31	*****	79.	10	13.	14	508.5	*****	.0	*****	4.920	31	*****	2.25	16				
BEAR MT TWR	584	9	51.1	30	-3.6	83.	10	21.	14	420.5	80.5	3.0	-18.0	5.770	30	*****	2.90	16				
BENGAL	670	9	*****	0	*****	*****	0	****	0	*****	*****	*****	*****	2.030	31	*****	.96	20				
BOSWELL 4 NNW	980	9	51.4	31	-2.8	82.	9	16.	14	426.0	75.0	5.5	-10.5	4.245	31	.46	1.50	16				
BROKEN BOW 1 N	1162	9	*****	0	*****	*****	0	****	0	*****	*****	*****	*****	5.290	31	.40	2.60	16				
BROKEN BOW DAM	1168	9	51.2	31	-1.0	85.	10	18.	15	433.0	28.0	4.5	-4.5	5.270	30	*****	3.30	16				
CARNASAW TWR	1499	9	*****	0	*****	*****	0	****	0	*****	*****	*****	*****	5.480	31	.22	3.33	16				
CARTER TWR	1544	9	*****	0	*****	*****	0	****	0	*****	*****	*****	*****	4.380	31	-.48	2.15	16				
FANSHAWE	3065	9	*****	0	*****	*****	0	****	0	*****	*****	*****	*****	2.131	31	-2.20	1.01	20				
HEAVENER 1 SE	4008	9	*****	0	*****	*****	0	****	0	*****	*****	*****	*****	1.781	31	-2.30	.75	20				
HEE MT TWR	4017	9	*****	0	*****	*****	0	****	0	*****	*****	*****	*****	3.750	31	-1.47	2.46	16				
HUGO	4384	9	53.8	31	-1.7	83.	9	23.	14	353.0	37.0	6.5	-14.5	4.661	31	.47	1.60	19				
IDABEL	4451	9	52.3	31	-1.1	85.	10	19.	14	401.0	30.0	7.0	-5.0	4.554	31	-.30	1.65	20				
POTEAU W W	7254	9	49.3	31	*****	83.	10	14.	14	488.5	*****	.5	*****	1.693	31	*****	.61	16				
SMITHVILLE 1 W	8285	9	49.0	31	-2.8	81.	10	13.	14	499.0	77.0	2.5	-10.5	4.958	31	-.37	2.45	16				
SPIRO	8416	9	*****	0	*****	*****	0	****	0	*****	*****	*****	*****	1.832	31	-2.48	.65	20				
TUSKAHOMA	9023	9	51.1	31	-2.9	83.	9	14.	14	434.5	75.5	4.0	-14.0	3.482	31	-.65	2.00	20				
VALLIANT 3 W	9118	9	*****	0	*****	*****	0	****	0	*****	*****	*****	*****	5.140	31	.68	1.90	16				
WILBURTON 9 ENE	9634	9	50.7	31	-2.0	83.	9	15.	14	448.0	52.0	5.5	-8.5	2.073	31	-2.10	1.07	19				

**MARCH 1993 CLIMATE DIVISION SUMMARY**

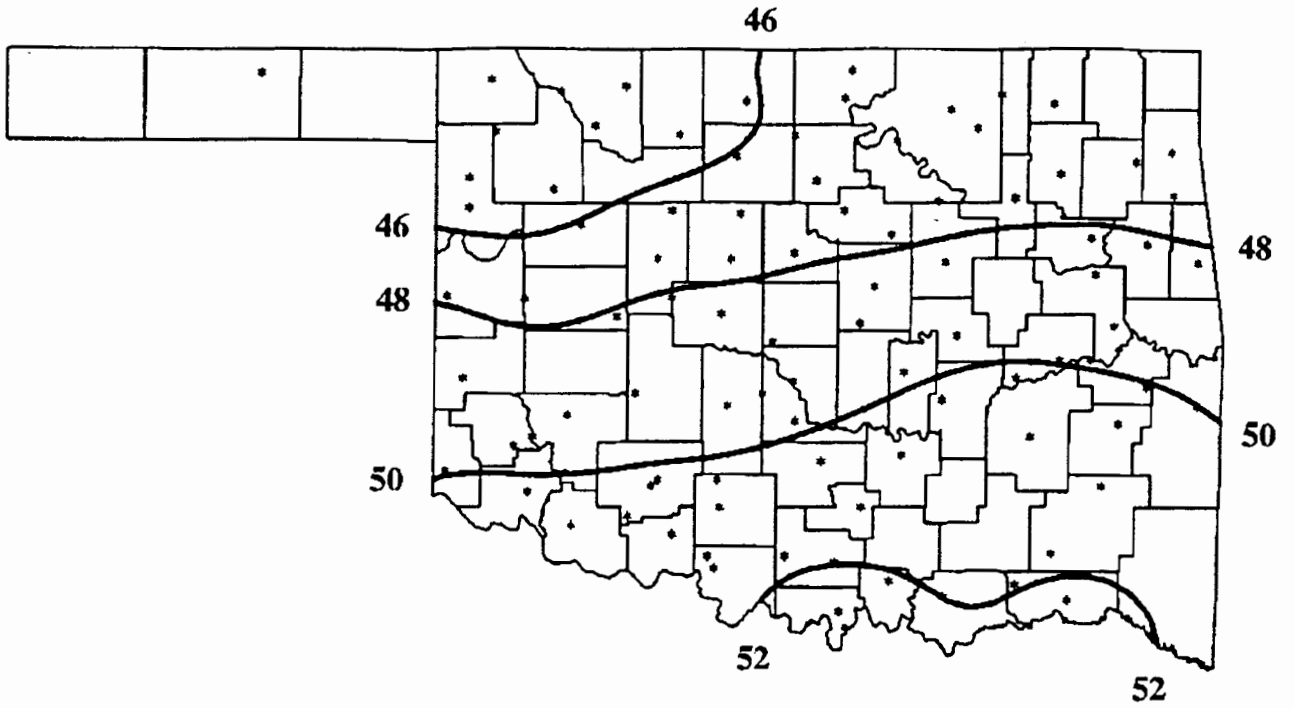
CLIMATE	MEAN	NUM	DEV						HEAT		DEV		COOL		DEV		TOT	NUM	FROM	MAX	24-HR	DAY
			FROM	MAX	MIN	DAY	DEGREE	FROM	DEGREE	FROM	DEGREE	FROM	DEGREE	PPT	STA	NORM						
1	44.9	10	-.8	82.0	24	3.0	13	620.3	19.4	.0	-2.7	1.61	13	-.28	1.10	30						
2	45.5	13	-2.8	80.0	28	13.0	14	602.4	77.0	1.5	-6.1	1.97	22	-.31	2.00	30						
3	47.0	17	-2.5	84.0	30	11.0	15	558.5	69.0	2.4	-5.9	3.09	26	-.34	2.20	29						
4	48.0	9	-1.5	84.0	8	13.0	13	527.1	37.8	2.3	-4.4	2.24	18	.32	1.23	19						
5	48.5	16	-2.8	82.0	8	16.0	14	511.9	76.8	4.4	-6.7	2.73	34	-.13	1.94	30						
6	49.7	11	-2.1	85.0	30	12.0	14	478.4	55.9	5.5	-7.7	2.97	31	-.90	1.65	16						
7	50.2	11	-1.8	85.0	8	15.0	13	458.9	45.4	3.5	-7.9	2.42	21	.47	3.35	29						
8	51.6	13	-1.7	88.0	9	19.0	14	420.2	42.3	7.7	-9.2	3.69	30	.44	4.85	29						
9	50.9	11	-2.7	85.0	10	13.0	14	439.0	69.7	4.0	-11.9	3.67	18	-.90	3.33	16						



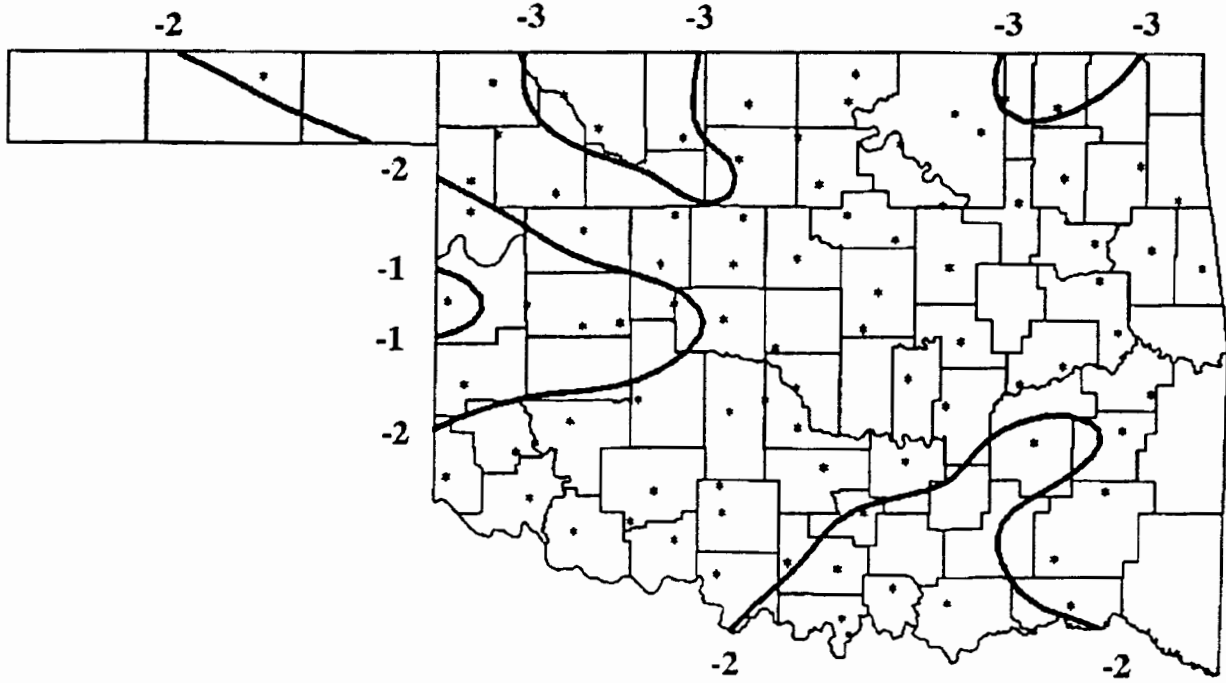
MARCH 1993 TOTAL PRECIPITATION  
(Inches)



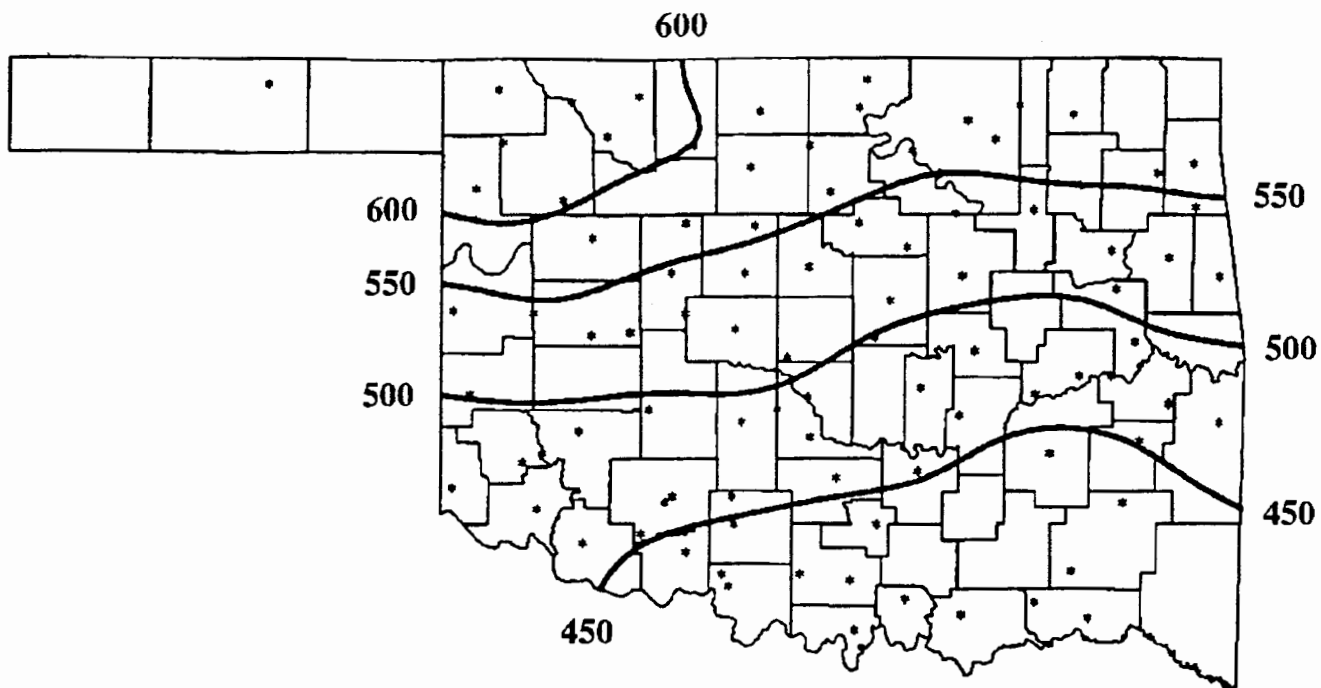
MARCH 1993 DEVIATION FROM NORMAL PRECIPITATION  
(Inches)



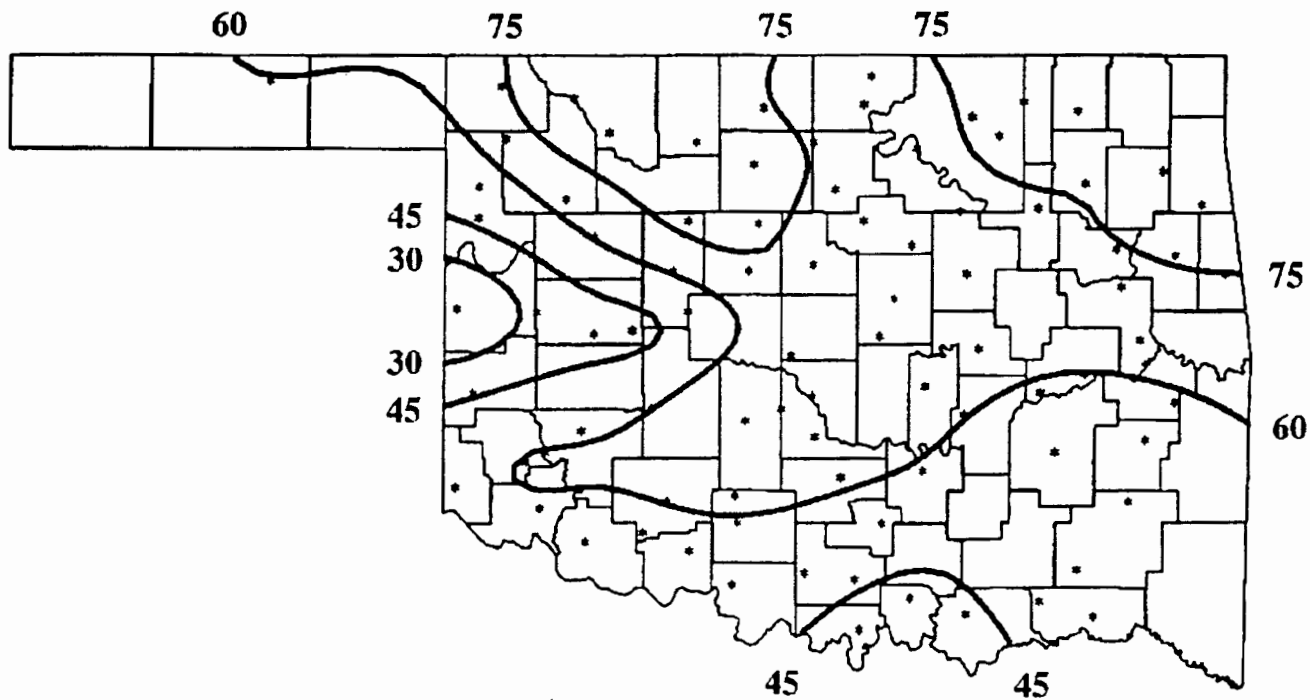
MARCH 1993 AVERAGE MONTHLY TEMPERATURES  
(Degrees F)



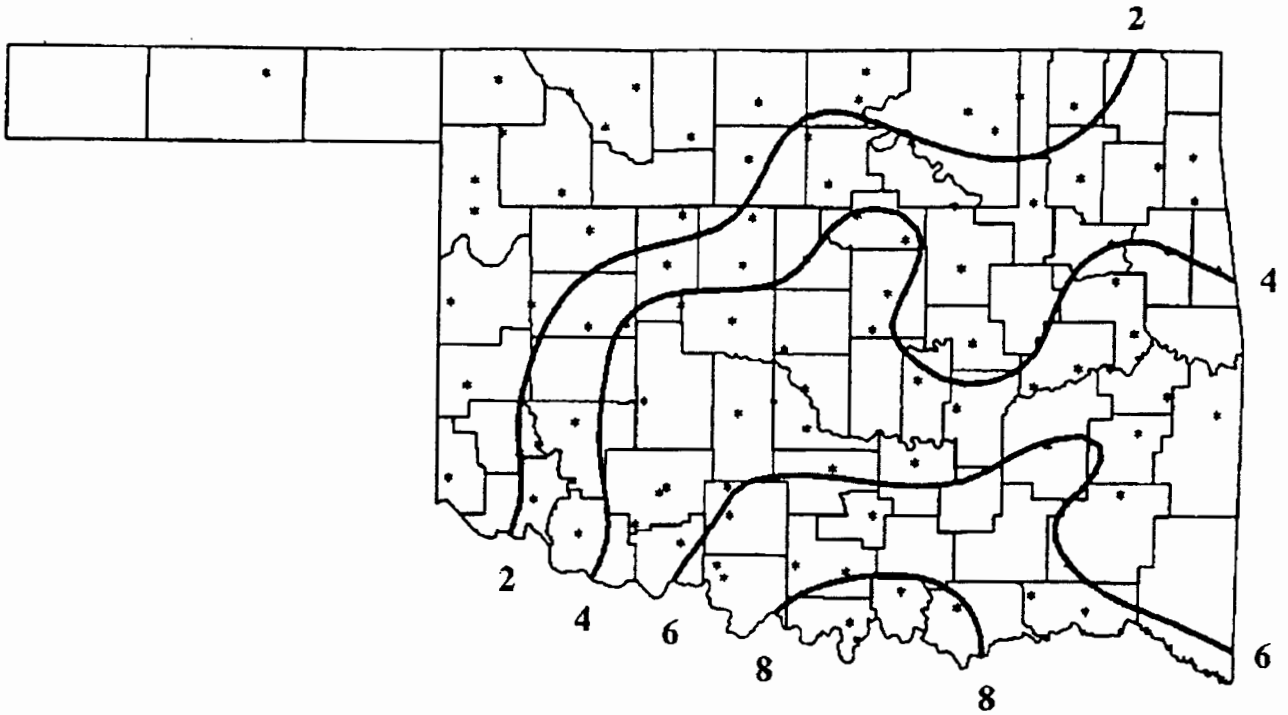
MARCH 1993 DEVIATION FROM NORMAL TEMPERATURES  
(Degrees F)



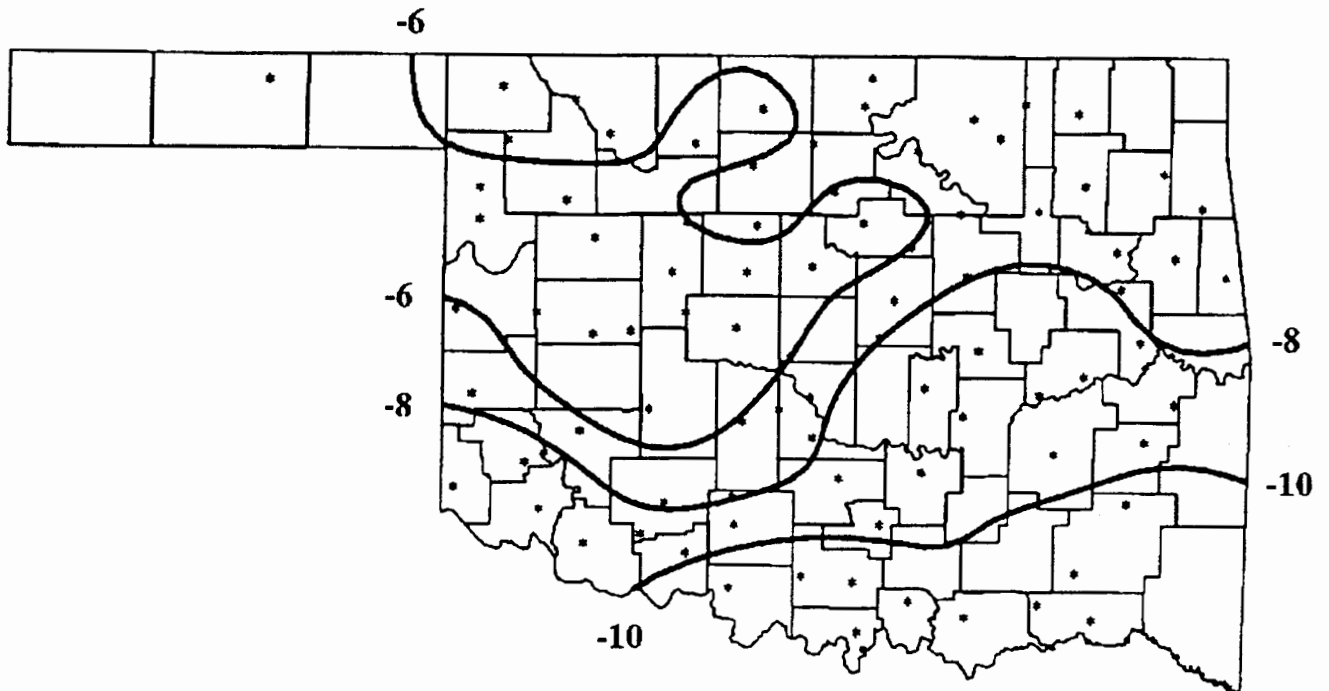
MARCH 1993 HEATING DEGREE DAYS



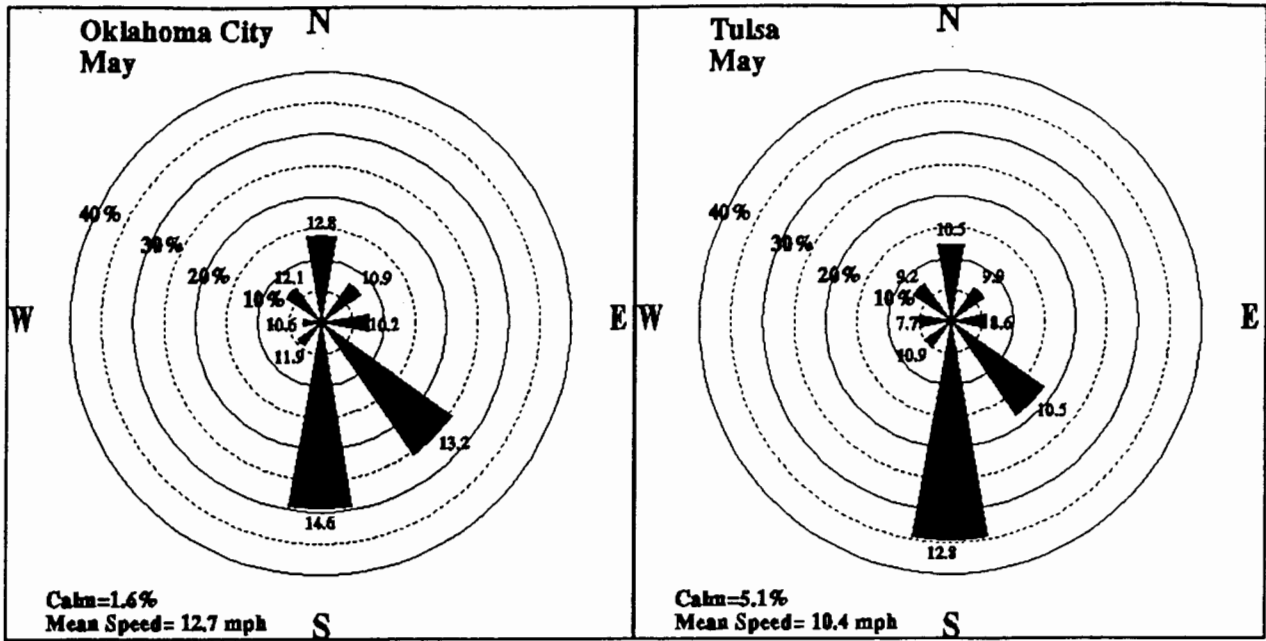
MARCH 1993 DEVIATION FROM NORMAL HEATING DEGREE DAYS



MARCH 1993 COOLING DEGREE DAYS



MARCH 1993 DEVIATION FROM NORMAL COOLING DEGREE DAYS



May 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.

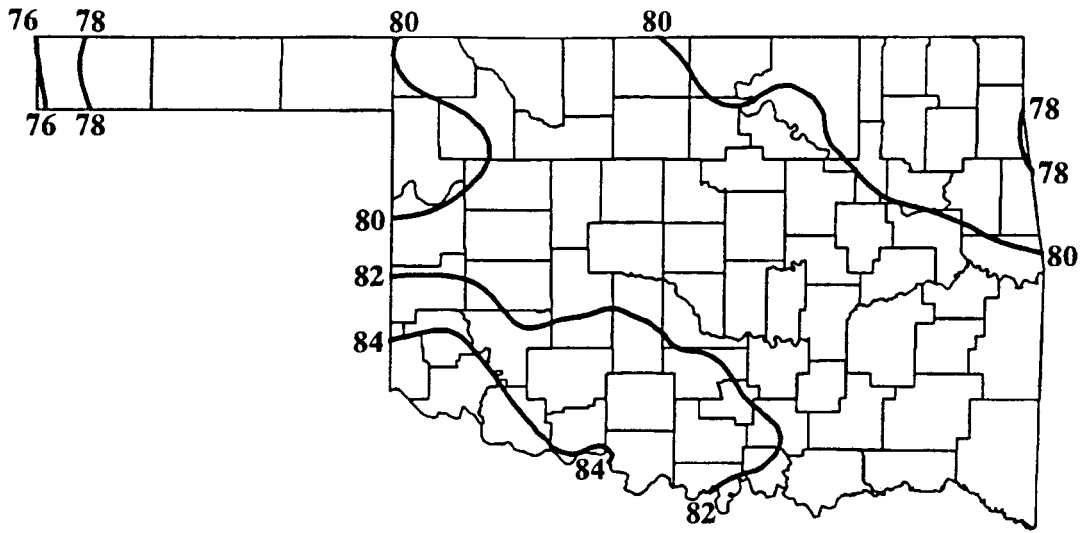
MAY 1993 SUNRISE AND SUNSET

OKLAHOMA CITY

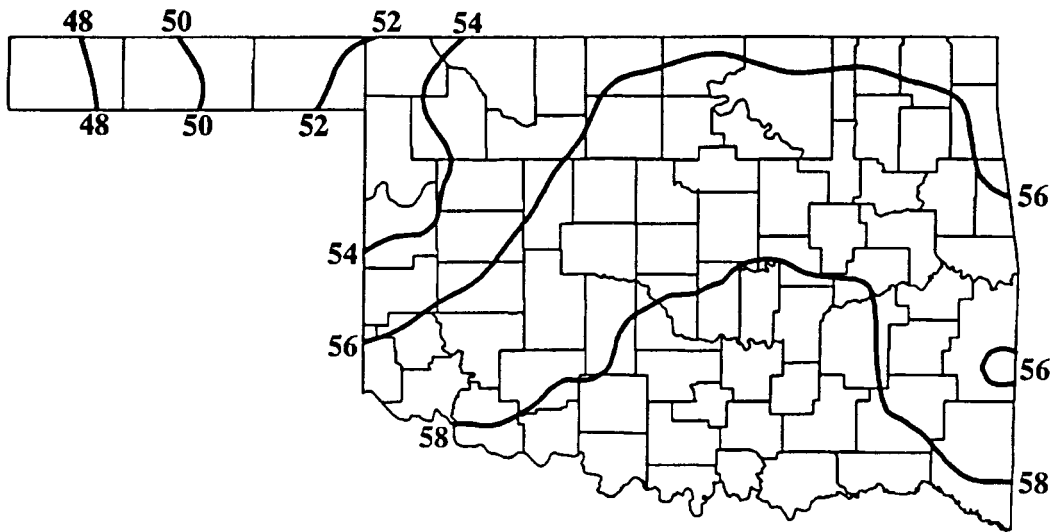
TULSA

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

DATE	SUNRISE	SUNSET	DAYLIGHT
93 5 1	6:32AM	8: 9PM CDT	13 hrs 37 mins
93 5 2	6:31AM	8:10PM CDT	13 hrs 39 mins
93 5 3	6:30AM	8:11PM CDT	13 hrs 41 mins
93 5 4	6:29AM	8:11PM CDT	13 hrs 42 mins
93 5 5	6:28AM	8:12PM CDT	13 hrs 44 mins
93 5 6	6:27AM	8:13PM CDT	13 hrs 46 mins
93 5 7	6:26AM	8:14PM CDT	13 hrs 48 mins
93 5 8	6:25AM	8:15PM CDT	13 hrs 50 mins
93 5 9	6:24AM	8:15PM CDT	13 hrs 51 mins
93 5 10	6:23AM	8:16PM CDT	13 hrs 53 mins
93 5 11	6:22AM	8:17PM CDT	13 hrs 55 mins
93 5 12	6:22AM	8:18PM CDT	13 hrs 56 mins
93 5 13	6:21AM	8:19PM CDT	13 hrs 58 mins
93 5 14	6:20AM	8:19PM CDT	14 hrs 0 mins
93 5 15	6:19AM	8:20PM CDT	14 hrs 1 mins
93 5 16	6:18AM	8:21PM CDT	14 hrs 3 mins
93 5 17	6:18AM	8:22PM CDT	14 hrs 4 mins
93 5 18	6:17AM	8:23PM CDT	14 hrs 6 mins
93 5 19	6:16AM	8:23PM CDT	14 hrs 7 mins
93 5 20	6:16AM	8:24PM CDT	14 hrs 8 mins
93 5 21	6:15AM	8:25PM CDT	14 hrs 10 mins
93 5 22	6:14AM	8:26PM CDT	14 hrs 11 mins
93 5 23	6:14AM	8:26PM CDT	14 hrs 12 mins
93 5 24	6:13AM	8:27PM CDT	14 hrs 14 mins
93 5 25	6:13AM	8:28PM CDT	14 hrs 15 mins
93 5 26	6:12AM	8:28PM CDT	14 hrs 16 mins
93 5 27	6:12AM	8:29PM CDT	14 hrs 17 mins
93 5 28	6:11AM	8:30PM CDT	14 hrs 18 mins
93 5 29	6:11AM	8:31PM CDT	14 hrs 20 mins
93 5 30	6:11AM	8:31PM CDT	14 hrs 21 mins
93 5 31	6:10AM	8:32PM CDT	14 hrs 22 mins

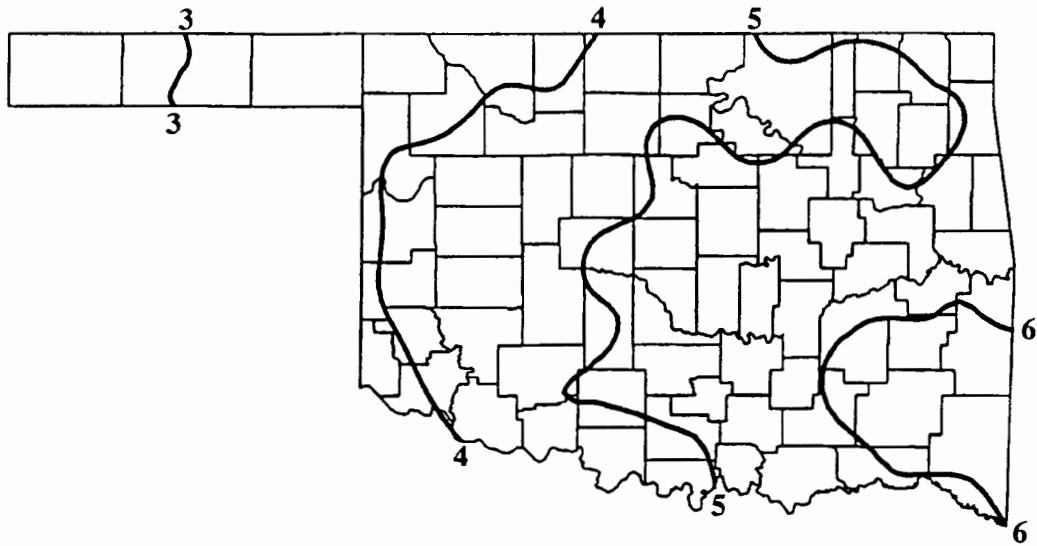


May Normal Daily Maximum Temperatures (°F)



May Normal Daily Minimum Temperatures (°F)





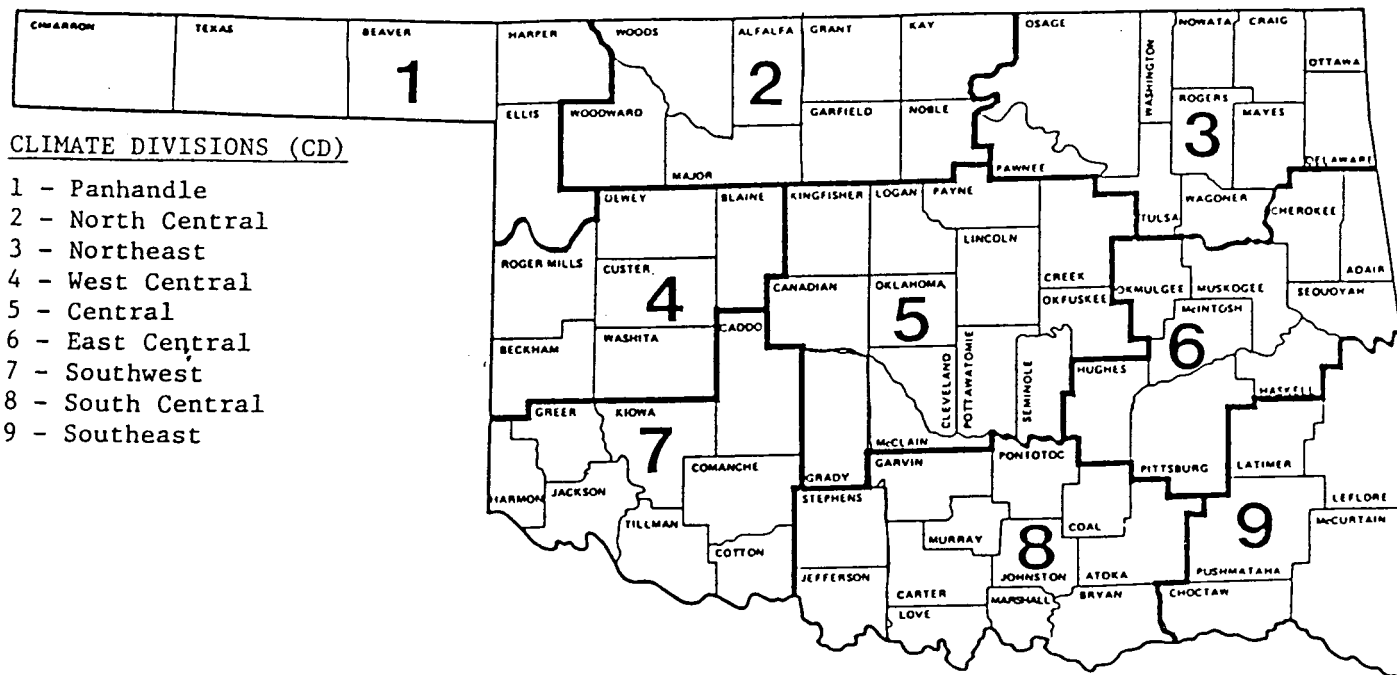
**May Normal Monthly Precipitation (inches)**

**90-DAY NATIONAL WEATHER SERVICE OUTLOOK**

**(MARCH 1993 - MAY 1993)**

**Precipitation - Near Normal Statewide**

**Temperature - Near Normal Statewide**



CLIMATE DIVISIONS (CD)

- 1 - Panhandle
- 2 - North Central
- 3 - Northeast
- 4 - West Central
- 5 - Central
- 6 - East Central
- 7 - Southwest
- 8 - South Central
- 9 - Southeast

**EXPLANATION OF TABLES**

Two kinds of tables appear in this summary. The first is a set of tables containing all reporting stations grouped by climate division. The figure above shows the locations of the climate divisions. Each table contains the following information for each station:

**Station Name:**

**Station Identification Number:** These are usually assigned by the National Climatic Data Center.

**Climate Division:** See the figure above.

**Number of Temperature Observations:** These are the actual number of temperature reports recorded at the station during the current month. Missing observations may result in artificially high or low mean monthly temperatures.

**Deviation from Normal:** The deviation of the observed mean monthly temperature from the monthly station normal. A positive value indicates the month was warmer than normal. A negative value indicates the month was cooler than normal. Normal monthly temperatures may be calculated by subtracting the deviation from the observed temperature.

**Maximum Daily Maximum:** The maximum daily maximum temperature observed during the current month and year and the day which it occurred.

**Minimum Daily Minimum:** The minimum daily minimum temperature observed during the current month and year and the day which it occurred.

**Heating Degree Days:** HDD are calculated each day of the month for which there is a temperature report and summed. They are a qualitative measure of how much heat was required to maintain a comfortable indoor temperature. Missing observations may result in an artificially high or low value. For February 1984 HDD would be calculated as:

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

**Deviation from Normal Heating Degree Days:** A positive value indicates higher than normal heating requirements for the month as a whole. A negative value indicates lower than normal heating requirements for the month as a whole. Normal HDD may be calculated by subtracting the deviation from observed HDD.

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

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

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

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

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

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

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

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

OKLAHOMA CITY CLIMATE CALENDAR

May 1993

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).

Normal	1 Actual	Normal	2 Actual	Normal	3 Actual	Normal	4 Actual	Normal	5 Actual	Normal	6 Actual	Normal	7 Actual	
73.0 max 52.7 min .09 ppt 1 hdd 4 cdd	73.6 max 52.2 min .19 ppt 4 hdd 2 cdd	74.5 max 53.8 min 1.0 ppt 3 hdd 3 cdd	76.8 max 54.0 min .12 ppt 3 hdd 2 cdd	77.4 max 57.2 min .15 ppt 4 hdd 1 cdd	77.0 max 56.0 min 1.0 ppt 2 hdd 2 cdd	78.2 max 56.0 min .14 ppt 2 hdd 4 cdd	78.4 max 55.3 min .11 ppt 2 hdd 4 cdd	79.0 max 57.6 min -1.4 ppt 2 hdd 5 cdd	80.8 max 58.5 min .19 ppt 5 hdd 1 cdd	80.1 max 58.7 min .11 ppt 1 hdd 5 cdd	81.0 max 60.7 min .18 ppt 1 hdd 6 cdd	81.3 max 61.3 min .20 ppt 1 hdd 7 cdd	81.3 max 61.3 min .20 ppt 1 hdd 7 cdd	
Highest Max 93.1948	Highest Max 94.1943	Highest Max 95.1920	Highest Max 93.1955	Highest Max 94.1939	Highest Max 94.1940	Highest Max 92.1918	Highest Max 96.1918	Highest Max 90.1966	Highest Max 92.1966	Highest Max 95.1956	Highest Max 96.1973	Highest Max 96.1927	Highest Max 96.1927	Highest Max 93.1895
Lowest Max 53.1966	Lowest Max 52.1954	Lowest Max 49.1978	Lowest Max 44.1935	Lowest Max 63.1947	Lowest Max 50.1935	Lowest Max 48.1908	Lowest Max 54.1954	Lowest Max 48.1945	Lowest Max 56.1920	Lowest Max 59.1943	Lowest Max 61.1943	Lowest Max 59.1942	Lowest Max 52.1932	Lowest Max 55.1893
Highest Min 66.1938	Highest Min 69.1959	Highest Min 70.1949	Highest Min 72.1950	Lowest Min 47.1947	Lowest Min 37.1917	Lowest Min 37.1944	Lowest Min 37.1984	Lowest Min 38.1907	Lowest Min 40.1945	Lowest Min 45.1976	Lowest Min 45.1901	Lowest Min 42.1907	Lowest Min 43.1947	Lowest Min 43.1947
Greatest ppt 1.63.1954	Greatest ppt 2.99.1990	Greatest ppt 3.58.1898	Greatest ppt 3.60.1898	Greatest ppt 4.24.1899	Greatest ppt 4.24.1899	Greatest ppt 2.61.1930	Greatest ppt 4.71.1950	Greatest ppt 3.09.1955	Greatest ppt 3.37.1943	Greatest ppt 4.71.1950	Greatest ppt 3.17.1951	Greatest ppt 4.06.1903	Greatest ppt 2.61.1930	Greatest ppt 2.27.1892
Normal 8 Actual	Normal 9 Actual	Normal 10 Actual	Normal 11 Actual	Normal 12 Actual	Normal 13 Actual	Normal 14 Actual	Normal 15 Actual	Normal 16 Actual	Normal 17 Actual	Normal 18 Actual	Normal 19 Actual	Normal 20 Actual	Normal 21 Actual	
78.4 max 55.3 min .11 ppt 2 hdd 4 cdd	77.7 max 56.3 min .15 ppt 2 hdd 4 cdd	75.6 max 56.3 min .31 ppt 2 hdd 3 cdd	76.7 max 56.3 min .07 ppt 3 hdd 4 cdd	76.9 max 55.9 min .19 ppt 2 hdd 4 cdd	77.2 max 56.3 min .18 ppt 2 hdd 4 cdd	78.2 max 56.0 min .14 ppt 2 hdd 4 cdd	79.0 max 57.6 min -1.4 ppt 2 hdd 5 cdd	80.8 max 58.5 min .19 ppt 5 hdd 1 cdd	80.1 max 58.7 min .11 ppt 1 hdd 5 cdd	81.0 max 60.7 min .18 ppt 1 hdd 6 cdd	81.5 max 60.5 min .32 ppt 1 hdd 7 cdd	81.3 max 59.5 min .37 ppt 1 hdd 6 cdd	81.3 max 61.3 min .20 ppt 1 hdd 7 cdd	
Highest Max 96.1918	Highest Max 93.1895	Highest Max 96.1967	Highest Max 94.1923	Highest Max 93.1992	Highest Max 95.1984	Highest Max 95.1984	Highest Max 90.1943	Highest Max 92.1966	Highest Max 95.1956	Highest Max 96.1973	Highest Max 96.1973	Highest Max 94.1990	Highest Max 95.1953	
Lowest Max 50.1943	Lowest Max 55.1943	Lowest Max 53.1954	Lowest Max 54.1954	Lowest Max 55.1914	Lowest Max 49.1953	Lowest Max 49.1953	Lowest Max 48.1945	Lowest Max 56.1920	Lowest Max 59.1943	Lowest Max 61.1943	Lowest Max 58.1950	Lowest Max 63.1942	Lowest Max 56.1968	
Highest Min 70.1927	Highest Min 70.1963	Highest Min 71.1963	Highest Min 70.1963	Highest Min 72.1956	Highest Min 68.1974	Highest Min 70.1990	Highest Min 71.1990	Highest Min 75.1974	Highest Min 74.1974	Highest Min 72.1938	Highest Min 74.1916	Highest Min 74.1912	Highest Min 73.1955	
Greatest ppt 3.09.1955	Greatest ppt 3.37.1943	Greatest ppt 4.71.1950	Greatest ppt 2.85.1920	Greatest ppt 2.26.1987	Greatest ppt 4.18.1943	Greatest ppt 2.48.1946	Greatest ppt 3.09.1955	Greatest ppt 3.37.1943	Greatest ppt 4.71.1950	Greatest ppt 3.17.1951	Greatest ppt 4.06.1903	Greatest ppt 2.61.1930	Greatest ppt 2.81.1922	
Normal 22 Actual	Normal 23 Actual	Normal 24 Actual	Normal 25 Actual	Normal 26 Actual	Normal 27 Actual	Normal 28 Actual	Normal 29 Actual	Normal 30 Actual	Normal 31 Actual					
81.0 max 60.7 min .18 ppt 1 hdd 6 cdd	80.8 max 60.5 min .20 ppt 1 hdd 6 cdd	80.8 max 61.3 min .12 ppt 0 hdd 6 cdd	82.5 max 61.7 min .15 ppt 7 hdd 7 cdd	81.5 max 60.5 min .32 ppt 1 hdd 7 cdd	81.3 max 59.5 min .37 ppt 1 hdd 6 cdd	81.3 max 61.3 min .20 ppt 1 hdd 7 cdd	82.6 max 61.6 min .20 ppt 0 hdd 8 cdd	82.2 max 63.0 min .22 ppt 1 hdd 8 cdd	82.0 max 63.0 min .22 ppt 1 hdd 8 cdd					
Highest Max 98.1939	Highest Max 99.1939	Highest Max 94.1939	Highest Max 99.1990	Highest Max 96.1953	Highest Max 96.1953	Highest Max 96.1927	Highest Max 94.1985	Highest Max 104.1985	Highest Max 98.1934					
Lowest Max 57.1892	Lowest Max 60.1963	Lowest Max 63.1947	Lowest Max 63.1925	Lowest Max 58.1950	Lowest Max 58.1950	Lowest Max 59.1893	Lowest Max 57.1902	Lowest Max 64.1915	Lowest Max 54.1903					
Highest Min 74.1953	Highest Min 72.1953	Highest Min 72.1953	Highest Min 72.1965	Highest Min 74.1916	Highest Min 74.1916	Highest Min 74.1912	Highest Min 73.1989	Highest Min 74.1974	Highest Min 44.1983					
Greatest ppt 3.09.1952	Greatest ppt 4.16.1908	Greatest ppt 4.06.1903	Greatest ppt 1.49.1958	Greatest ppt 2.00.1959	Greatest ppt 5.38.1987	Greatest ppt 2.33.1987	Greatest ppt 5.63.1970	Greatest ppt 1.67.1958	Greatest ppt 2.14.1892					

MAY AVERAGES

TEMPERATURE : 68.5°F

PRECIPITATION : 5.66"

HEATING DEGREE DAYS : 46

COOLING DEGREE DAYS : 152

