

OKLAHOMA MONTHLY SUMMARY REVISED FEBRUARY 1999

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MONTHLY SUMMARY FOR FEBRUARY 1999

February was warm and dry. According to preliminary data from the National Weather Service, the statewide-averaged temperature for the month, 49.1 degrees, was 7.8 degrees greater than normal, making February 1999 the 5th warmest February in Oklahoma since record-keeping began in 1892. All parts of the state received lower-than-average precipitation during the month. The statewide-averaged monthly precipitation was 0.90 inch, 0.83 inch less than normal, to rank this as the 29th driest February on record.

The winter of 1998-1999 was the 11th warmest on record (average temperature 42.9 degrees, 3.9 degrees above normal). Wintertime precipitation across the state was 4.95 inches, 0.25 inch greater than normal, ranking this as the 47th wettest winter of the 107 on record. The year-to-date temperature of 44.1 is 5.4 degrees higher than normal. The current January-February period is the 11th warmest such period since 1892. Precipitation through the first two months of the year averaged 3.07 inches across the state. The year-to-date precipitation was .08 inch greater than normal and ranked as the 47th highest precipitation total among comparable time periods.

The most significant rainfalls during the month fell on the 6th and 7th. Upper Spavinaw (Delaware County) recorded 3.51 inches of rain and Haskell (Muskogee County), Kansas (Delaware County), and Okmulgee (Okmulgee County) also reported precipitation exceeding 2.50 inches. Several locations in central and eastern Oklahoma recorded 2 inches or more. The Stigler Mesonet site (Haskell County) recorded a wind gust of 60 miles per hour on the 6th.

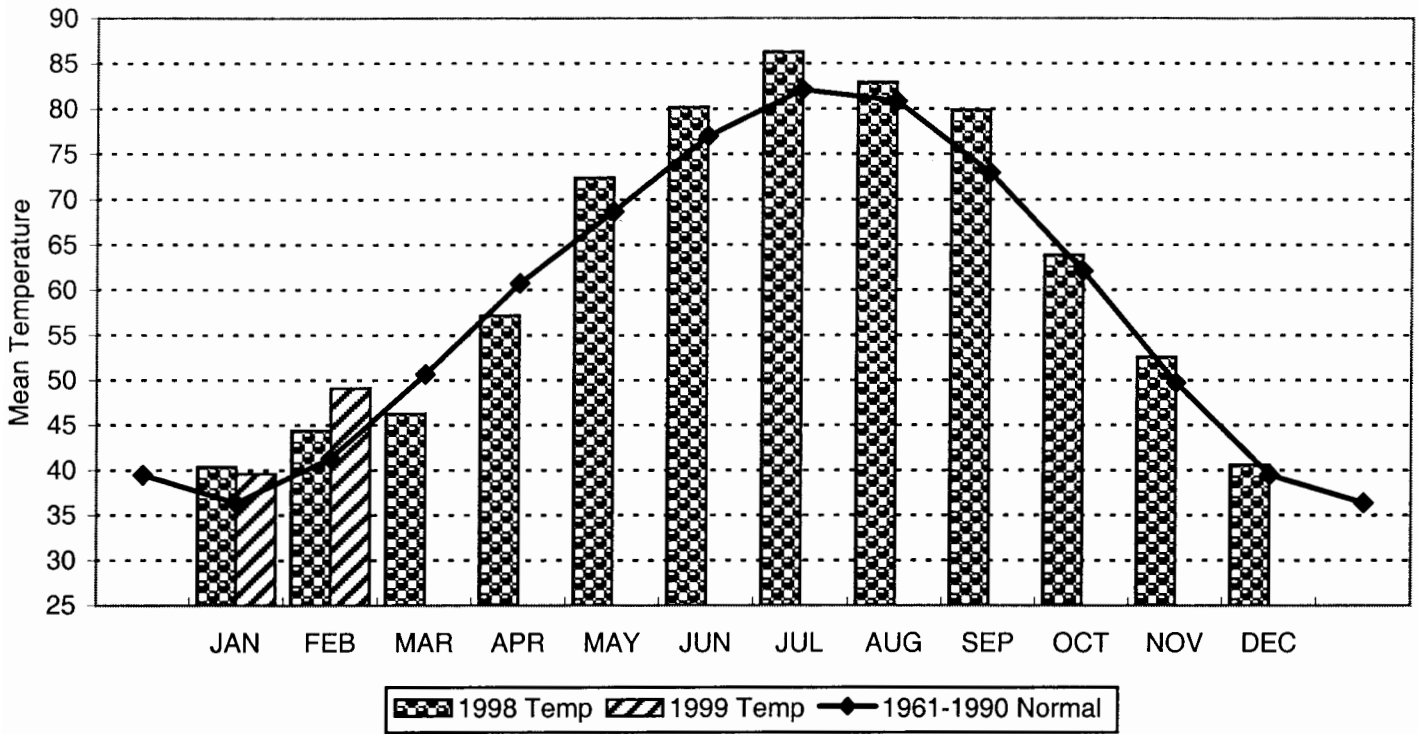
Boise City and Kenton (both in Cimarron County) reported 2 inches and 0.5 inch of snow, respectively, on the 11th as a developing winter storm brought high winds to the western part of the state. Fifty-one Mesonet stations recorded average wind speeds of 20 miles per hour on the 11th, led by Cheyenne (Roger Mills County) where the 24-hour average wind speed was 25.7 miles per hour.

Average wind speeds exceeded 20 miles per hour at 3 or more Mesonet sites on the 10th (9), 14th (3), 18th (3), and 22nd (5). The Boise City and Kenton Mesonet sites recorded peak winds of 66 and 61 miles per hour, respectively, on the 17th. The persistently strong winds combined with higher than normal temperatures and sparse precipitation led the state to declare a "Red Flag Fire Alert" to discourage outdoor burning. The alert extended from the 14th through the end of the month.

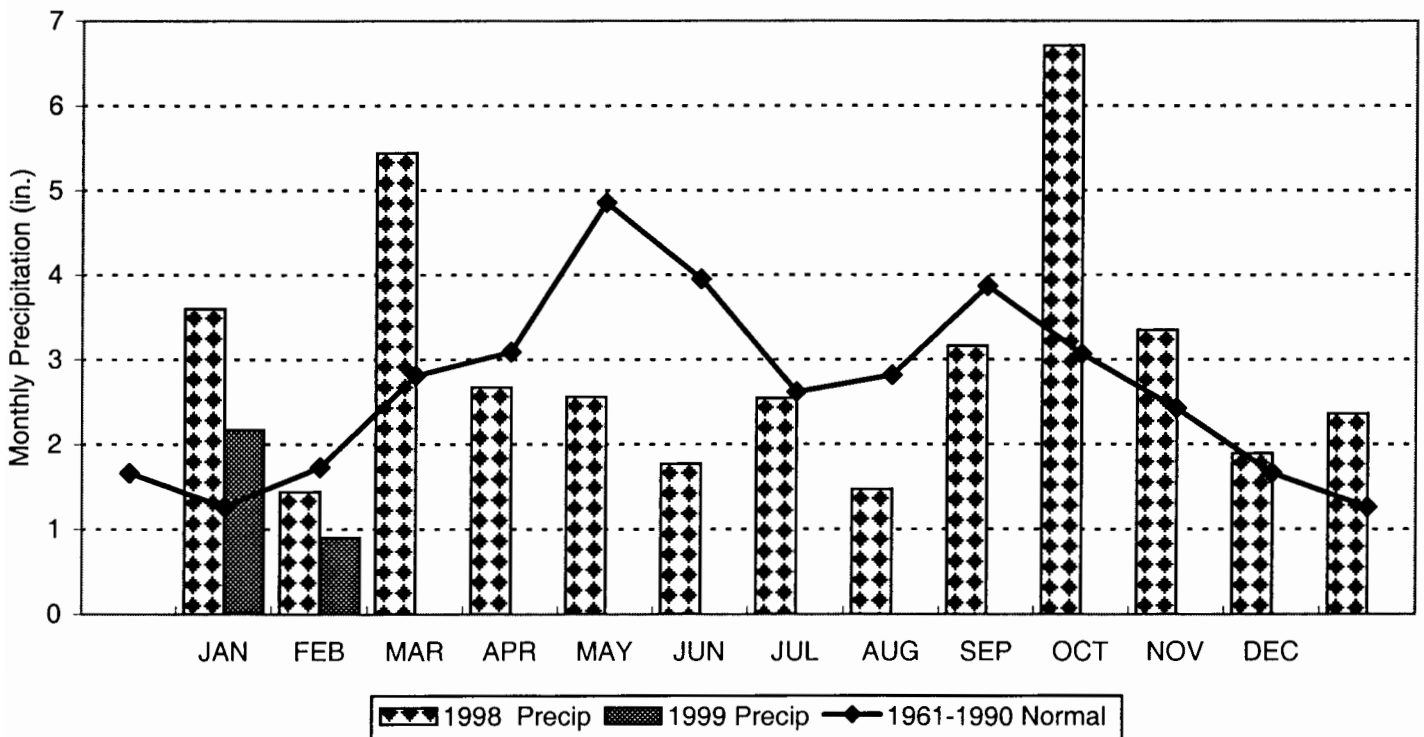
Daytime temperatures exceeded 80 degrees on six days during the month and only on the 12th did all of the state's 115 Mesonet stations record daily minimum temperatures lower than 32 degrees. The month's lowest temperatures immediately followed the snow and high winds of the 11th. Temperatures at Kenton and the Boise City Mesonet site each reached as low as 11 degrees overnight on the 11th and 12th. The highest temperature recorded during the month was 85 degrees at the Hollis Mesonet site (Harmon County) on the 25th.

Howard L. Johnson

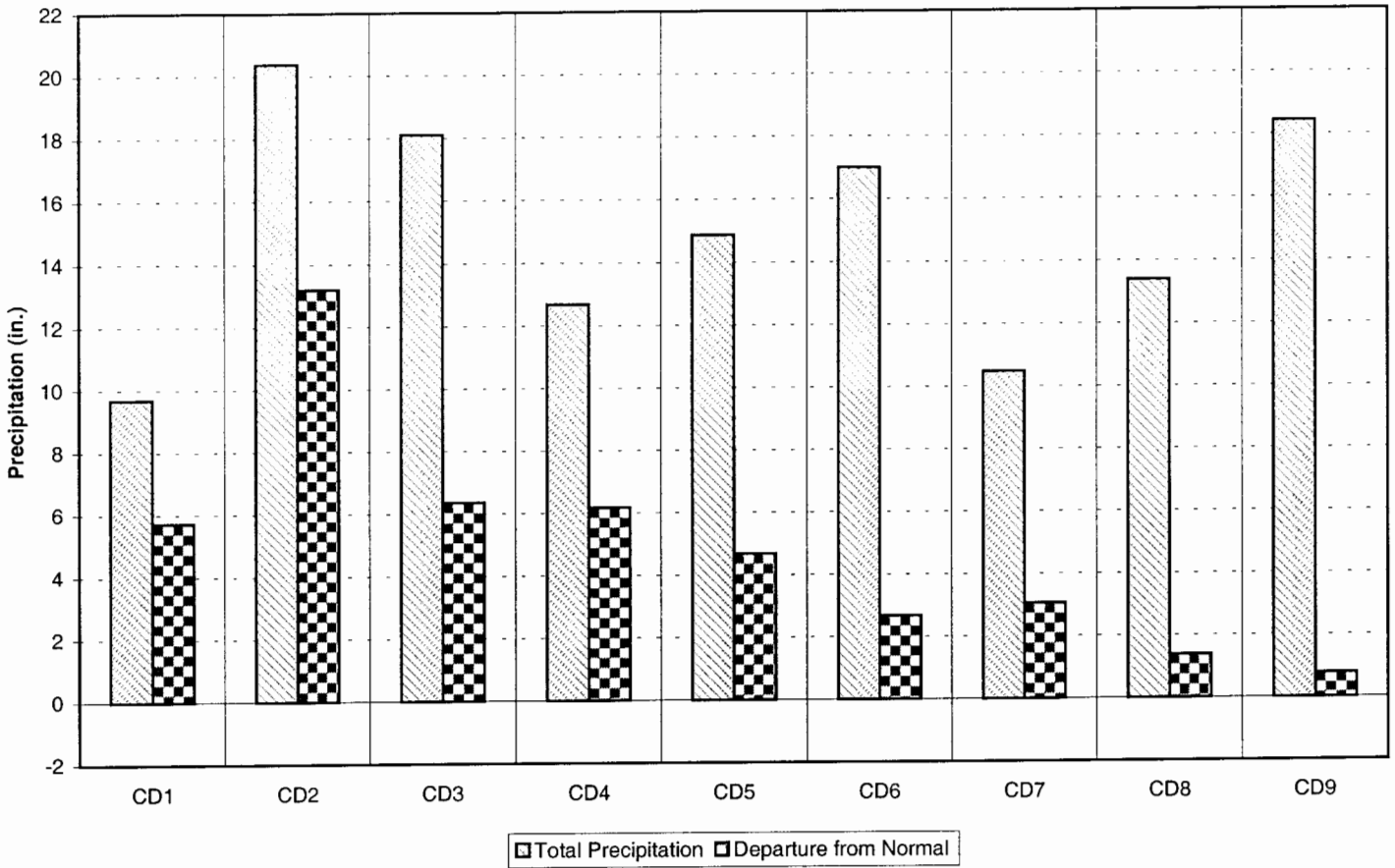
1998 and 1999 STATEWIDE TEMPERATURES Monthly Averages



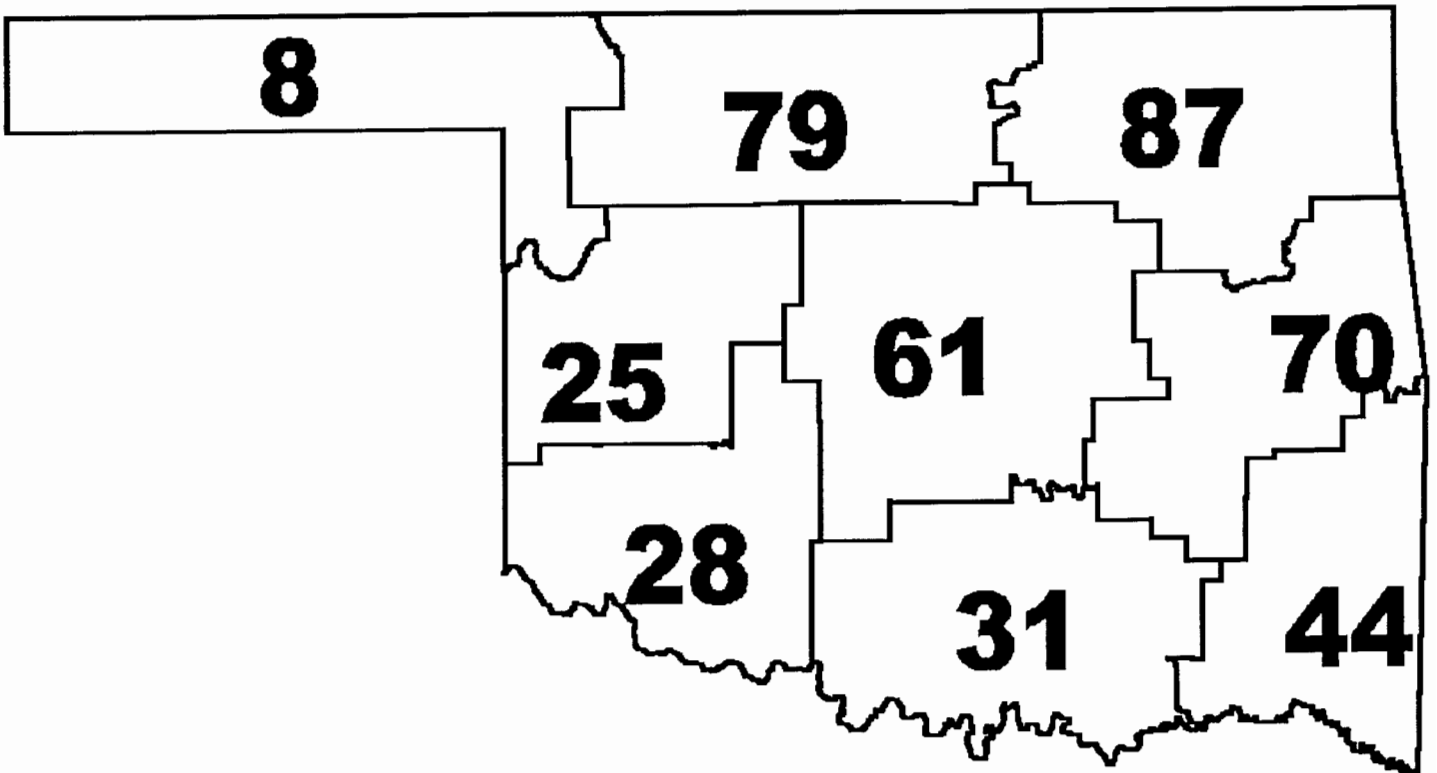
1998 and 1999 STATEWIDE PRECIPITATION Monthly Totals



CD Averaged Precipitation October 1998 through February 1999



CD PERCENT OF NORMAL PRECIPITATION
FEBRUARY 1999



**EXTREME VALUES OF TEMPERATURE AND PRECIPITATION IN EACH CLIMATE DIVISION
FEBRUARY, 1999**

CD	MAX TEMP	DATE	LOCATION	MIN TEMP	DATE	LOCATION	24-HOUR PRECIP	DATE	LOCATION	MONTHLY PRECIP	LOCATION
1	83	11	GATE	11	12	KENTON	.20	7	ARNETT	.39	ARNETT
2	83	27	ALVA	13 13	12 20	FT SUPPLY FT SUPPLY	1.19	16	PONCA CITY	1.86	PONCA CITY
3	79 79 79 79	26 26 26 26	BARTLESVILLE MANNFORD PAWHUSKA RALSTON	20 20	23 13	CLEVELAND 2 VINITA	3.51	7	UPPER SPAV	3.80	UPPER SPAV
4	81	27	ERICK	19	14	HAMMON	1.80	7	LEEDEY	2.00	LEEDEY
5	81 81	26 27	BLANCHARD STILLWATER	23	13	PURCELL	2.22	7	OKEMAH	2.34	OKEMAH
6	79 79	10 10	MCCURTAIN MUSKOGEE	22 22	22 13	STILWELL TAHLEQUAH	2.84	6	HASKELL	4.32	HASKELL
7	84	25	HOLLIS	20	12	HOLLIS	1.53	7	ANADARKO	1.53	ANADARKO
8	80 80 80 80 80	9 9 26 26 9	ARDMORE HEALDTON LINDSAY MARLOW TISHOMINGO	20 20	12 12	ATOKA DAM MARLOW	1.20 1.20	6 6	LINDSAY PAULS VALLEY	1.82	ATOKA DAM
9	80 80	9 10	HUGO IDABEL	22 22 22	12 22 23	PAGE PAGE SMITHVILLE	1.55	6	ANTLERS	2.23	PAGE

TABLE OF 1998/1999 COMPARISONS

**FEBRUARY
Temperature (°F)**

**FEBRUARY
Precipitation (in.)**

Station	1998	1999	1998	1999
Arnett	41.3	45.8	0.76	0.39
Enid	41.7	46.3	0.02	1.36
Tulsa	44.7	50.0	0.30	1.26
Elk City	42.9	48.2	1.46	0.23
Oklahoma City	45.5	50.7	0.12	1.20
McAlester	46.9	52.4	0.25	1.32
Altus Irr Station	45.0	49.9	2.82	0.04
Ardmore	48.8	53.6	1.27	0.18
Idabel	47.0	50.7	5.27	0.88

EXTREMES

VARIABLE	STATION	DIVISON	OBSERVATION	DATE
Minimum temperature (°F)	Kenton	1	11	12
Maximum temperature (°F)	Hollis	7	84	25
Maximum 24-hour Precipitation	Upper Spavinaw	3	3.51"	7

FEBRUARY 1999 SUMMARY FOR PANHANDLE DIVISION (CD1)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV		MAX TEMP	DAY	MIN TEMP	DAY	HEAT		DEV		COOL		DEV		TOT PPT	NUM OBS	DEV		MAX 24-HR	DAY
					FROM NORM	MAX TEMP					DEG DAY	FROM NORM	DEG DAY	DEG DAY	FROM NORM	DEG DAY	FROM NORM	DEG DAY			FROM NORM	DEG DAY		
ARNETT	332	1	45.8	28	8.7	78	26	21	12	538	-244	0	0	0.391	28	-0.62	0.20	7						
BEAVER	593	1	43.2	26	*****	82	11	14	13	567	*****	0	*****	0.001	28	-0.78	0.00	11						
BOISE CITY	908	1	45.0	28	7	74	10	12	12	561	-195	0	0	0.151	28	-0.34	0.15	11						
BUFFALO	1243	1	49.5	28	9.5	82	11	20	21	433	-267	0	0	0.000	28	-1.04	0.00	28						
FARGO	3070	1	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.110	28	-0.87	0.10	7						
GAGE	3407	1	46.8	28	7.9	81	10	16	12	510	-221	0	0	0.161	28	-0.68	0.10	7						
GATE	3489	1	45.8	27	8.4	83	11	20	12	519	-255	0	0	0.005	28	-0.83	0.00	16						
GOODWELL	3628	1	43.9	28	7.8	80	11	16	12	590	-220	0	0	0.000	28	-0.42	0.00	28						
GUYMON	3835	1	42.8	26	*****	79	11	18	14	576	*****	0	*****	0.000	28	*****	0.00	28						
HOOKER	4298	1	46.3	28	8.6	78	10	18	12	524	-240	0	0	0.010	28	-0.58	0.01	11						
KENTON	4766	1	44.3	28	8.3	73	14	11	12	580	-232	0	0	0.041	28	-0.31	0.04	11						
LAVERNE	5045	1	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.003	28	-0.97	0.00	12						
RANGE	7412	1	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.002	28	*****	0.00	12						
REGNIER	7534	1	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.001	28	-0.32	0.00	11						
TURPIN	9017	1	43.1	19	*****	80	11	15	12	417	*****	0	*****	0.000	19	*****	0.00	26						

FEBRUARY 1999 SUMMARY FOR NORTH CENTRAL DIVISION (CD2)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV		MAX TEMP	DAY	MIN TEMP	DAY	HEAT		DEV		COOL		DEV		TOT PPT	NUM OBS	DEV		MAX 24-HR	DAY
					FROM NORM	MAX TEMP					DEG DAY	FROM NORM	DEG DAY	DEG DAY	FROM NORM	DEG DAY	FROM NORM	DEG DAY			FROM NORM	DEG DAY		
ALVA	193	2	46.2	28	*****	83	27	23	12	528	*****	0	*****	0.430	28	*****	0.35	7						
VANCE AFB	302	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.251	28	*****	0.72	16						
BILLINGS	755	2	46.4	26	*****	76	27	26	11	485	*****	0	*****	1.201	26	*****	1.15	16						
BLACKWELL 2E	818	2	46.5	28	8.3	77	27	27	14	518	-232	0	0	1.274	28	0.20	0.82	16						
CEDARDALE	1620	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.951	28	*****	0.55	7						
CHEROKEE	1724	2	45.5	27	5.8	78	27	25	21	526	-182	0	0	0.951	27	*****	0.80	7						
ENID	2912	2	46.3	28	6.2	77	27	27	12	523	-175	0	0	1.360	28	-0.05	1.09	16						
FT SUPPLY	3304	2	44.6	27	7.5	82	10	13	20	550	-232	0	0	0.102	27	*****	0.10	6						
FREEDOM	3358	2	46.0	28	6.7	82	26	20	12	532	-189	0	0	0.160	28	-0.72	0.15	6						
GREAT SALT P	3740	2	46.8	26	*****	79	27	26	15	474	*****	0	*****	0.761	26	*****	0.43	7						
HARDY	3909	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.341	28	*****	0.60	16						
HELENA	4019	2	45.1	28	8.4	77	27	24	13	558	-235	0	0	0.741	28	-0.41	0.47	16						
JEFFERSON	4573	2	49.4	28	10.2	77	26	25	13	437	-285	2	2	0.870	28	-0.30	0.55	15						
LAMONT	5013	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.290	28	*****	0.92	16						
MEDFORD	5768	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.740	28	*****	0.36	6						
MORRISON	6065	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.830	28	*****	0.68	7						
MUTUAL	6139	2	45.5	28	8.1	79	27	21	13	546	-228	0	0	0.741	28	-0.33	0.41	16						
NEWKIRK	6278	2	45.3	28	6.8	76	27	24	13	552	-191	0	0	1.372	28	0.20	0.82	16						
ORIENTA	6751	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.830	28	-0.20	0.65	16						
PERRY	7012	2	48.5	26	*****	79	27	27	13	429	*****	0	*****	0.800	26	*****	0.56	7						
PONCA CITY	7201	2	49.6	27	12	79	26	23	22	417	-350	2	2	1.860	27	*****	1.19	16						
RED ROCK	7505	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.090	28	-0.29	0.55	5						
WAYNOKA	9404	2	46.1	28	6.1	82	26	22	13	529	-171	0	0	0.000	28	-1.08	0.00	28						
WOODWARD	9760	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.271	28	-0.76	0.21	7						

FEBRUARY 1999 SUMMARY FOR NORTHEAST DIVISION (CD3)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV		MIN DAY	MAX DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV		MAX 24-HR	DAY
					FROM NORM	MAX TEMP									FROM NORM	MAX TEMP		
BARNSDALL	535	3	48.6	28	8.6	77	26	24	13	462	-239	3	3	0.930	28	-0.92	0.63	7
BARTLESVILLE	548	3	49.0	28	9	79	26	24	24	453	-248	4	4	1.481	28	-0.10	0.89	7
BIXBY	782	3	48.8	27	9.9	77	11	27	22	446	-286	7	7	1.370	27	*****	1.17	7
BURBANK	1256	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.932	28	-0.47	0.50	6
CHELSEA	1717	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.370	28	*****	0.92	7
CLAREMORE	1828	3	47.4	28	9.2	77	11	24	22	499	-251	6	6	1.900	28	-0.10	1.44	7
CLEVELAND 2	1902	3	48.3	27	*****	76	26	20	23	453	*****	1	*****	0.930	28	*****	0.73	6
FORAKER	3250	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.120	28	0.79	1.06	16
HOLLOW	4258	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.063	28	-0.72	0.78	7
HOMINY	4289	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.042	28	-0.62	0.92	7
KANSAS	4672	3	49.8	28	8.8	76	10	24	22	429	-243	2	2	2.908	28	0.57	2.70	7
LENAPAH	5118	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.390	28	*****	1.06	7
MANNFORD	5522	3	49.9	28	9	79	26	25	7	426	-249	4	4	1.100	28	-0.85	0.90	7
MARAMEC	5540	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.712	28	-0.85	0.62	7
NOWATA	6485	3	49.1	27	9.6	76	10	24	13	431	-284	0	0	1.130	28	-0.74	0.92	7
PAWHUSKA	6935	3	49.0	28	9.5	79	26	23	13	452	-262	4	4	1.400	28	-0.40	0.90	7
PAWNEE	6940	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.050	28	-0.64	0.74	7
PRYOR	7309	3	47.2	27	9.2	77	11	25	22	485	-271	4	4	1.724	28	-0.32	1.40	7
RALSTON	7390	3	50.6	28	10.6	79	26	22	11	410	-290	6	6	1.672	28	0.04	1.33	6
SKIATOOK	8258	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.410	28	-0.39	1.05	7
SPAVINAW	8380	3	51.4	28	10.1	77	10	26	22	384	-280	4	4	2.342	28	0.40	2.04	7
TULSA	8992	3	50.0	28	9.7	77	10	26	22	423	-270	2	2	1.261	28	-0.71	0.64	6
UPPER SPAV	9101	3	50.5	28	*****	78	10	25	24	409	*****	3	*****	3.802	28	*****	3.51	7
VINITA	9203	3	48.6	26	*****	77	10	20	13	429	*****	3	*****	1.620	27	*****	1.04	7
WAGONER	9247	3	50.7	28	8.9	78	10	27	12	405	-245	4	4	2.880	28	0.81	1.52	7
WANN	9298	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.500	28	*****	0.79	7
WYNONA	9792	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.914	28	*****	0.76	7

FEBRUARY 1999 SUMMARY FOR WEST CENTRAL DIVISION (CD4)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV		MIN DAY	MAX DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV		MAX 24-HR	DAY
					FROM NORM	MAX TEMP									FROM NORM	MAX TEMP		
CANTON DAM	1445	4	46.3	27	7.9	78	27	23	13	505	-241	0	0	0.250	27	*****	0.21	16
COLONY	2039	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.160	28	*****	0.16	7
CORDELL	2125	4	47.1	28	5.7	78	27	25	13	502	-159	0	0	0.080	28	-1.12	0.08	7
ELK CITY	2849	4	48.2	28	7.1	80	27	22	12	472	-198	0	0	0.230	28	-0.97	0.23	7
ERICK	2944	4	48.1	27	6.6	81	27	21	13	456	-203	0	0	0.270	27	*****	0.27	7
GEARY	3497	4	48.8	26	*****	77	27	24	7	421	*****	0	*****	0.000	28	-1.23	0.00	28
HAMMON	3871	4	46.6	22	*****	80	27	19	14	406	*****	0	*****	0.370	23	*****	0.37	7
LEEDEY	5090	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.000	28	0.98	1.80	7
MACKIE	5463	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.000	28	*****	0.00	28
MORAVIA	6035	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.200	28	-0.96	0.20	7
OKEENE	6629	4	49.0	28	7.8	77	27	25	13	448	-219	0	0	0.550	28	-0.66	0.44	16
RETROP	7565	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.120	28	*****	0.12	7
REYDON	7579	4	48.3	25	*****	79	27	21	12	417	*****	0	*****	0.200	25	*****	0.20	6
SAYRE	7952	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.280	28	-0.54	0.28	7
SWEETWATER	8652	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.170	28	*****	0.17	7
TALOGA	8708	4	45.6	28	5.8	79	28	22	14	544	-163	0	0	0.440	28	-0.65	0.24	16
THOMAS	8815	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.080	28	*****	0.06	7
VICI	9172	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.070	28	-0.13	0.62	15
WATONGA	9364	4	49.9	28	9.6	78	26	24	12	424	-268	2	2	1.103	28	-1.16	0.09	7
WEATHERFORD	9422	4	47.5	28	8.6	77	26	25	12	491	-240	0	0	0.070	28	-1.07	0.07	6

FEBRUARY 1999 SUMMARY FOR SOUTHWEST DIVISION (CD7)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
ALTUS	179	7	49.9	28	5.6	83	25	23	12	423	-158	0	0	0.040	28	-1.06	0.04	7
ALTUS DAM	184	7	50.0	28	8.5	82	26	24	13	421	-238	0	0	0.110	28	-1.08	0.11	7
ANADARKO	224	7	47.4	28	5.4	79	11	23	13	493	-151	0	0	1.530	28	0.12	1.53	7
ALTUS AFB	447	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.050	28	*****	0.05	7
APACHE	260	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.430	28	-0.01	1.43	7
CARNEGIE	1504	7	48.8	27	6.8	77	25	23	12	438	-206	0	0	0.171	28	-1.18	0.17	6
CHATTANOOGA	1706	7	49.2	26	*****	81	27	24	13	411	*****	0	*****	0.910	26	*****	0.91	7
DUNCAN 11 W	2668	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.170	28	*****	0.17	7
FREDERICK	3353	7	51.0	28	8.4	81	26	27	12	392	-235	0	0	0.510	28	-0.78	0.51	6
HEADRICK	3998	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.420	28	*****	0.42	7
HOBART	4204	7	48.5	28	6.6	77	26	22	12	463	-185	0	0	0.100	28	-0.95	0.08	7
HOLLIS	4249	7	50.7	27	7.1	84	25	20	12	385	-214	0	0	0.070	28	-0.94	0.07	7
LAWTON	5063	7	49.9	28	8	82	27	28	12	424	-224	2	2	0.710	28	-0.60	0.71	7
LOOKEBA	5329	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.332	28	-0.98	0.33	7
MANGUM	5509	7	49.0	28	5.5	83	26	22	13	449	-153	0	0	0.000	28	-1.12	0.00	28
RANDLETT	7403	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.090	28	*****	0.09	6
ROOSEVELT	7727	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.200	28	-0.94	0.20	7
SEDAN	8016	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.200	28	*****	0.20	7
SNYDER	8299	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.820	28	-0.41	0.82	7
VINSON	9212	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.150	28	-0.72	0.15	7
WALTERS	9278	7	50.0	28	5.3	82	27	27	12	420	-149	0	0	0.200	28	-1.60	0.20	7
WICHITA MT	9629	7	49.3	25	*****	78	28	23	12	394	*****	0	*****	1.160	25	*****	1.16	7
WILLOW	9668	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.110	28	*****	0.11	7

FEBRUARY 1999 SUMMARY FOR SOUTH CENTRAL DIVISION (CD8)

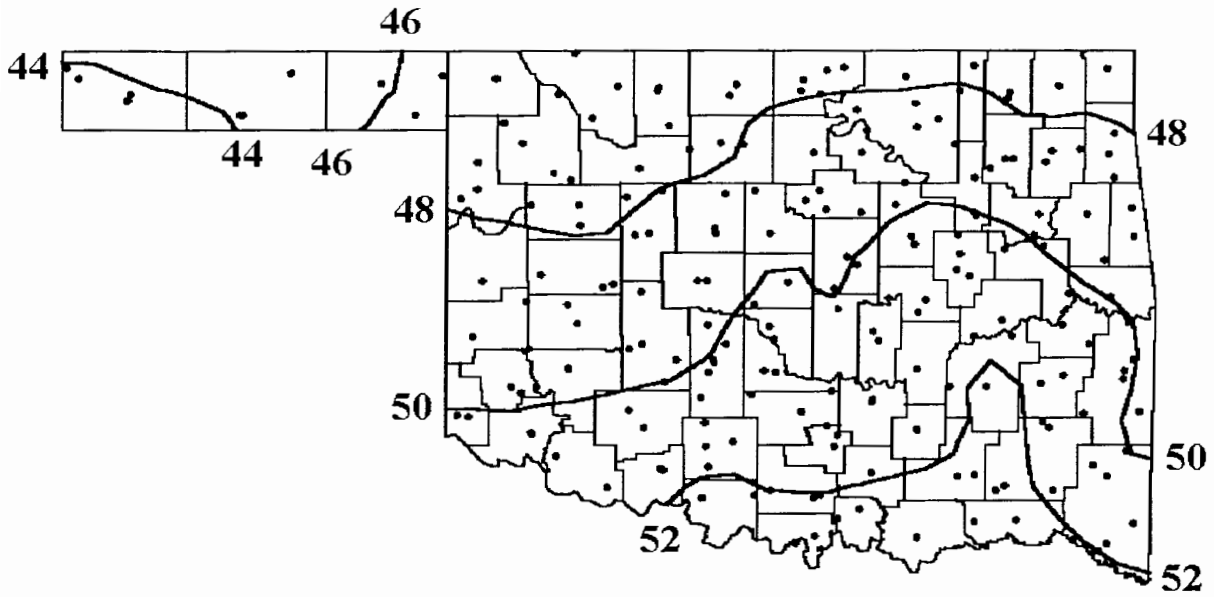
NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
ADA	17	8	50.8	28	7.1	75	25	26	13	398	-198	0	0	0.900	28	-1.25	0.72	7
ALLEN	147	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.980	28	*****	0.65	7
ARDMORE	292	8	53.6	28	7.1	80	9	31	12	326	-199	6	-1	0.181	28	-1.84	0.18	7
ATOKA DAM	394	8	52.1	20	*****	79	9	20	12	263	*****	6	*****	1.821	20	*****	0.94	8
BOKCHITO	917	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.000	28	*****	0.00	28
CANEY	1437	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.250	28	*****	0.20	8
CENTRAHOMA	1648	8	51.3	28	*****	77	10	25	22	387	*****	3	*****	0.600	28	*****	0.35	7
CHICKASAW	1745	8	49.8	27	7.6	78	26	22	12	412	-226	2	2	0.360	27	*****	0.19	7
COLEMAN	2011	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.000	28	*****	0.00	28
COMANCHE	2054	8	53.0	28	*****	77	25	29	12	338	*****	3	*****	0.320	28	-1.42	0.25	6
DAISY	2354	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.990	28	-2.13	0.68	7
DUNCAN	2660	8	50.5	28	7.8	79	27	26	12	408	-217	3	3	0.570	28	-1.13	0.57	7
ELMORE CITY	2872	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.000	28	*****	0.00	28
GRADY	3688	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.220	28	*****	0.22	6
HEALDTON	4001	8	50.9	28	6.5	80	9	28	12	394	-183	0	0	0.580	28	-1.25	0.56	7
HENNEPIN	4052	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.140	28	*****	0.59	7
KETCHUM RAN	4780	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.890	28	*****	0.85	6
KINGSTON	4865	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.370	28	-2.26	0.35	7
LEHIGH	5108	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.400	28	*****	0.30	7
LINDSAY	5216	8	49.1	28	5.8	80	26	25	11	444	-164	0	0	1.310	28	-0.47	1.20	6
LOCO	5247	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.650	28	*****	0.65	7
MADILL	5468	8	52.5	27	7.1	78	11	31	24	340	-210	3	3	0.110	27	*****	0.11	7
MARIETTA	5563	8	50.8	28	5.2	77	9	25	13	402	-142	3	3	0.260	28	-1.90	0.19	7
MARLOW	5581	8	52.1	28	8.6	80	26	20	12	366	-237	5	5	0.780	28	-0.81	0.74	7
MCGEE CREEK	5713	8	52.1	28	*****	78	10	29	12	368	*****	8	*****	0.780	28	*****	0.57	7
PAULS VALLEY	6926	8	48.3	19	*****	76	27	24	13	318	*****	0	*****	1.210	28	-0.64	1.20	6
PONTOTOC	7214	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.510	28	-1.62	0.27	6
TISHOMINGO	8884	8	54.5	24	*****	80	9	26	13	258	*****	7	*****	0.120	25	*****	0.09	6
TUSSY	9032	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.050	28	*****	1.05	6
WAURIKA	9395	8	52.4	28	7	80	25	26	13	354	-196	0	0	0.051	28	-1.57	0.05	11

FEBRUARY 1999 SUMMARY FOR SOUTHEAST DIVISION (CD9)

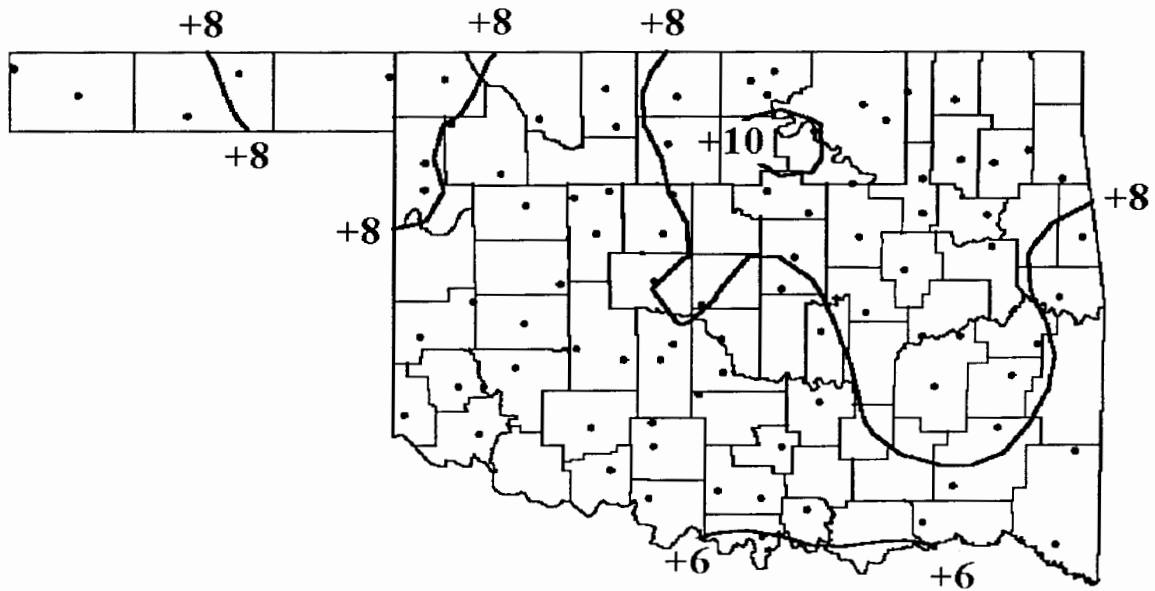
NAME	ID	CD	MEAN TEMP	NUM OBS	DEV		MIN			HEAT DEG	DEV FROM	COOL DEG	DEV FROM	TOT PPT	NUM OBS	DEV FROM	MAX 24-HR	DAY
					FROM NORM	MAX TEMP	DAY	TEMP	DAY	DAY	NORM	DAY	NORM	DAY	NORM	DAY		
ANTLERS	256	9	52.8	28	8	78	9	26	24	348	-218	8	8	1.770	28	-0.94	1.55	6
BATTIEST	567	9	48.4	28	*****	75	11	24	23	470	*****	5	*****	1.540	28	*****	1.00	7
BENGAL	670	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.590	28	*****	0.85	7
BOSWELL	980	9	50.8	28	5.6	79	11	28	24	406	-149	9	9	0.750	28	-2.31	0.55	7
BROKEN BOW	1162	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.000	28	-2.50	0.60	7
CARNASAW	1499	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.272	28	-2.27	0.78	7
CARTER TWR	1544	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.820	28	-1.75	0.80	7
FANSHAWE	3065	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.570	28	-1.57	1.06	6
HEAVENER	4008	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.620	28	-1.32	1.06	7
HUGO	4384	9	50.9	28	4.3	80	9	30	28	395	-120	0	0	1.020	28	-2.31	0.63	7
IDABEL	4451	9	50.7	28	6.3	80	10	23	13	409	-168	8	8	0.881	28	-2.65	0.71	7
PAGE	6842	9	48.9	28	*****	75	11	22	22	457	*****	7	*****	2.230	28	*****	1.31	7
POTEAU	7254	9	49.7	28	*****	79	10	23	21	429	*****	1	*****	1.581	28	*****	0.95	6
SMITHVILLE	8285	9	49.1	28	6.2	75	11	22	23	449	-170	4	4	1.702	28	-1.94	1.40	7
SPIRO	8416	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.490	28	-1.39	0.96	7
TUSKAHOMA	9023	9	53.5	28	8.6	79	10	24	22	342	-221	20	20	1.533	28	-1.41	0.95	7
VALLIANT	9118	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.772	28	-2.70	0.45	7
WILBURTON	9634	9	51.9	28	8.7	78	10	24	22	371	-240	3	3	1.560	28	-1.47	1.00	6
WISTER	9724	9	50.0	28	*****	77	11	24	22	430	*****	10	*****	1.500	28	*****	1.02	7

FEBRUARY 1999 CLIMATE DIVISION SUMMARY

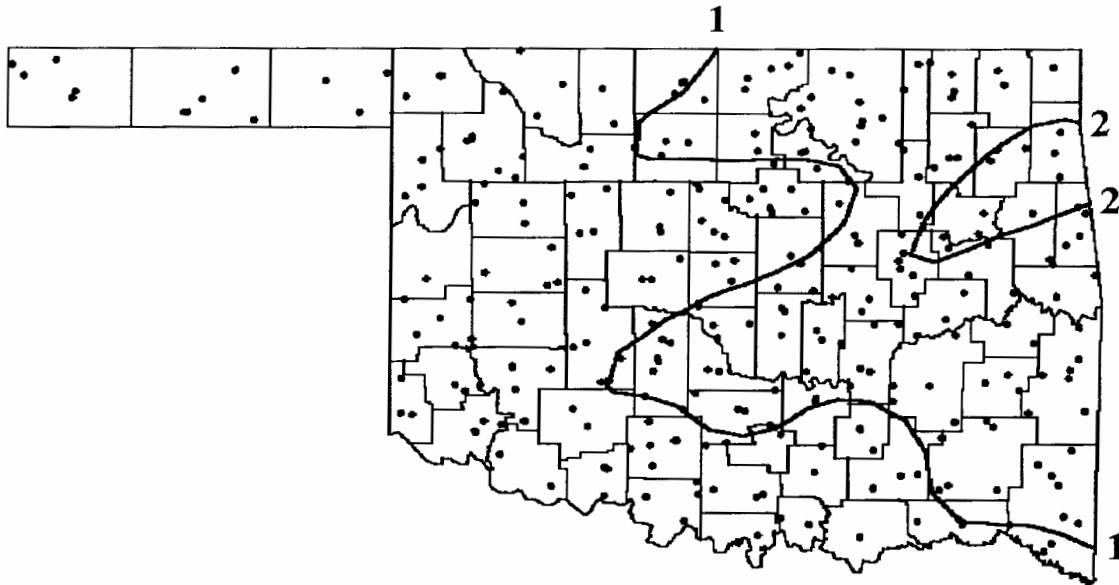
CD	MEAN TEMP	NUM OBS	DEV		MIN			HEAT DEG	DEV FROM	COOL DEG	DEV FROM	TOT PPT	NUM OBS	DEV FROM	MAX 24-HR	DAY
			FROM NORM	MAX TEMP	DAY	TEMP	DAY	DAY	NORM	DAY	NORM	DAY	NORM	DAY		
1	45.9	8	8.5	83	11	11	12	532	-239	0	0	0.060	14	-0.66	0.20	7
2	46.4	12	7.7	83	27	13	20	518	-219	0	0	0.860	18	-0.30	1.19	16
3	49.3	15	9.5	79	26	20	13	438	-266	3	3	1.560	25	-0.26	3.51	7
4	47.7	8	7.4	81	27	19	14	480	-213	0	0	0.350	16	-0.76	1.80	7
5	49.5	17	7.8	81	27	23	13	432	-219	1	1	1.050	37	-0.69	2.22	7
6	51.2	8	9.1	79	10	22	13	387	-253	4	4	1.650	22	-0.72	2.84	6
7	49.5	10	6.8	84	25	20	12	431	-193	0	0	0.350	21	-0.91	1.53	7
8	51.5	13	7.3	80	25	20	12	380	-204	3	2	0.580	26	-1.53	1.20	6
9	50.6	11	6	80	10	22	23	410	-163	7	7	1.430	19	-1.80	1.55	6



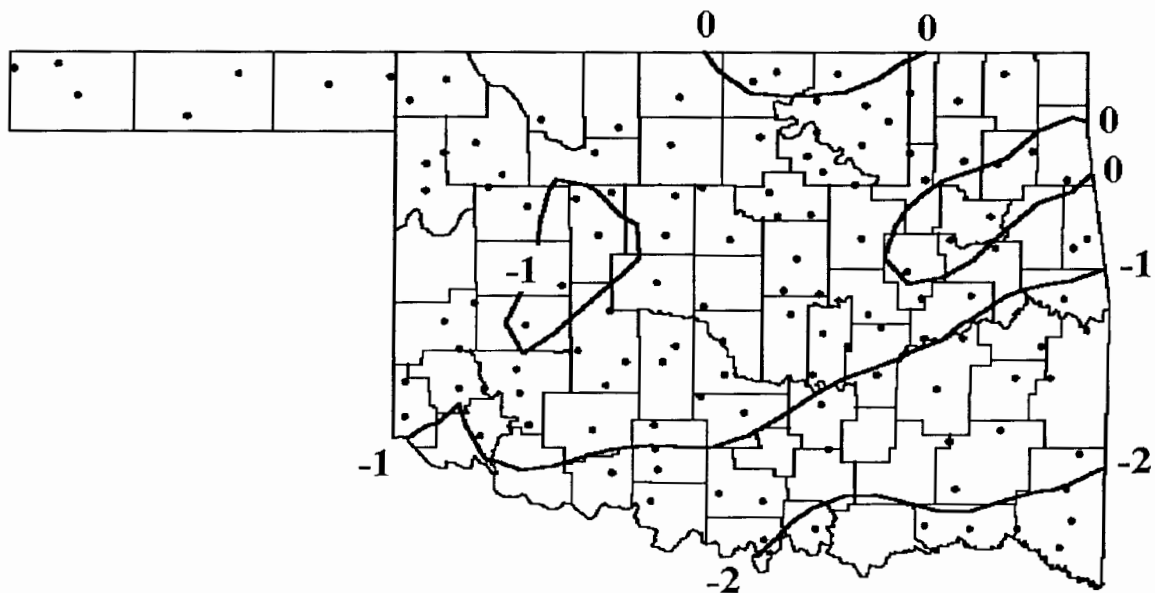
FEBRUARY 1999 AVERAGE MONTHLY TEMPERATURE (F)



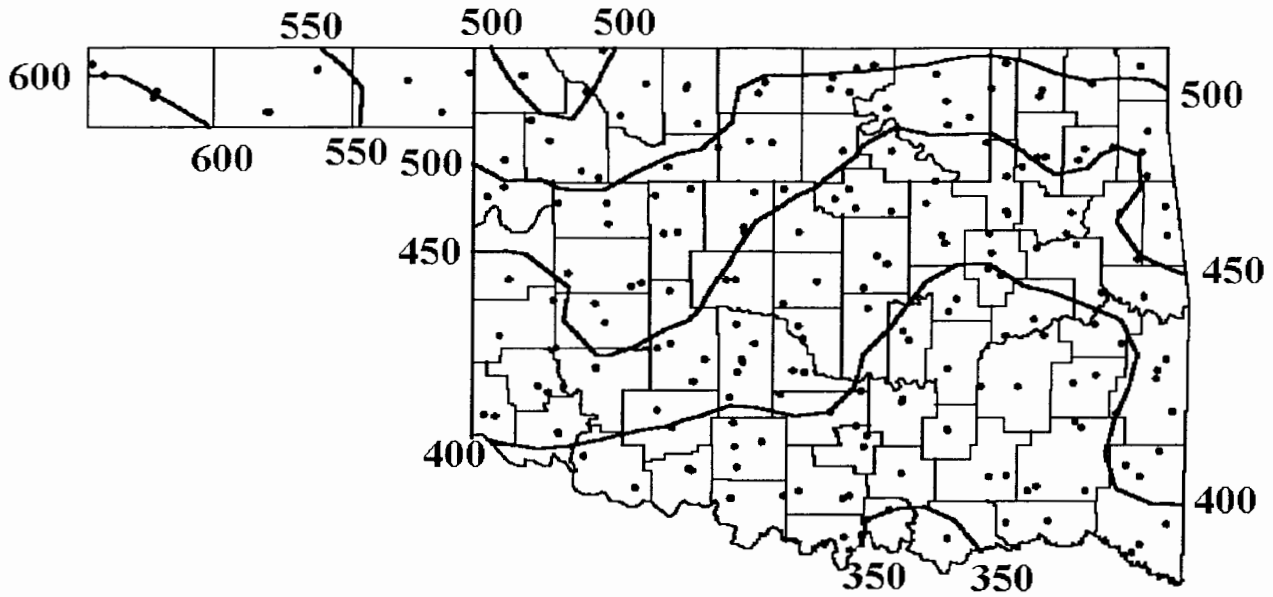
FEBRUARY 1999 DEPARTURE FROM NORMAL TEMPERATURE (F)



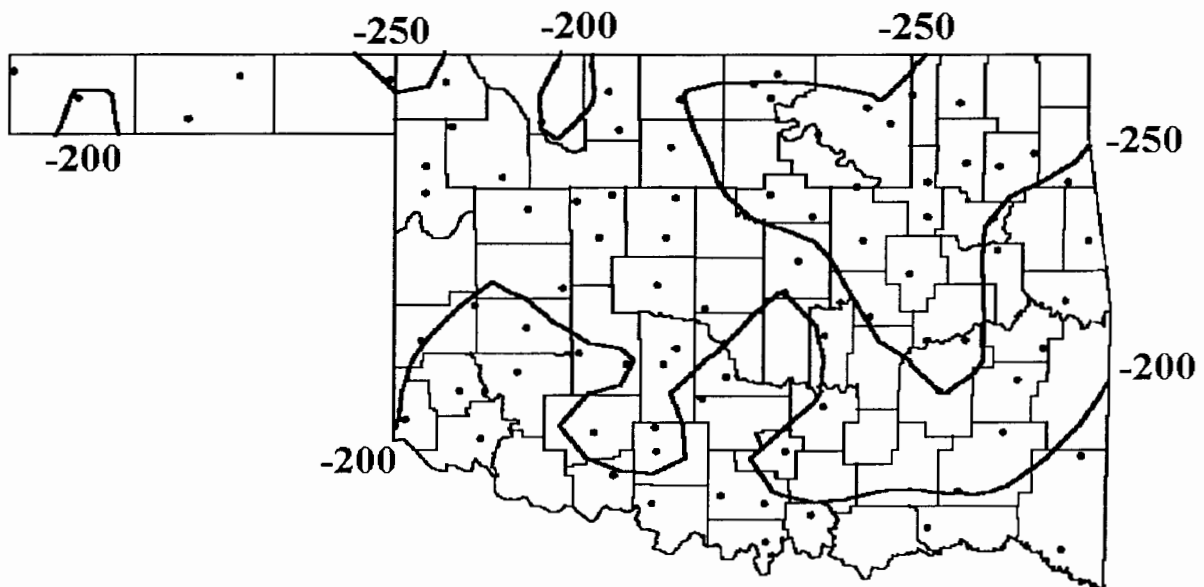
FEBRUARY 1999 TOTAL PRECIPITATION (INCHES)



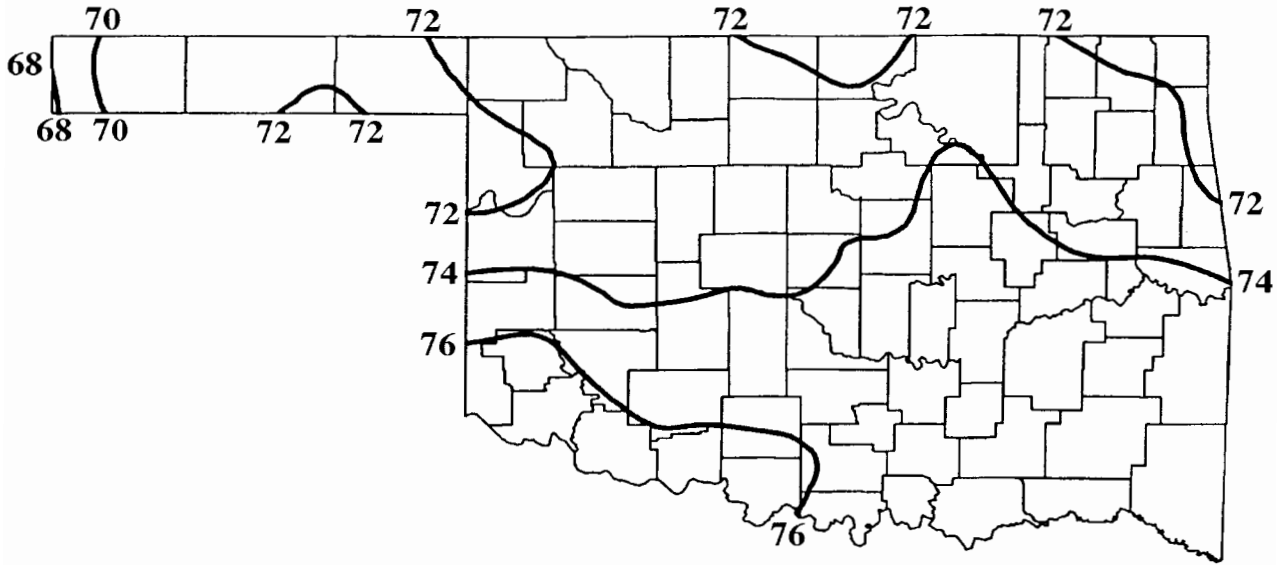
FEBRUARY 1999 DEPARTURE FROM NORMAL PRECIPITATION (INCHES)



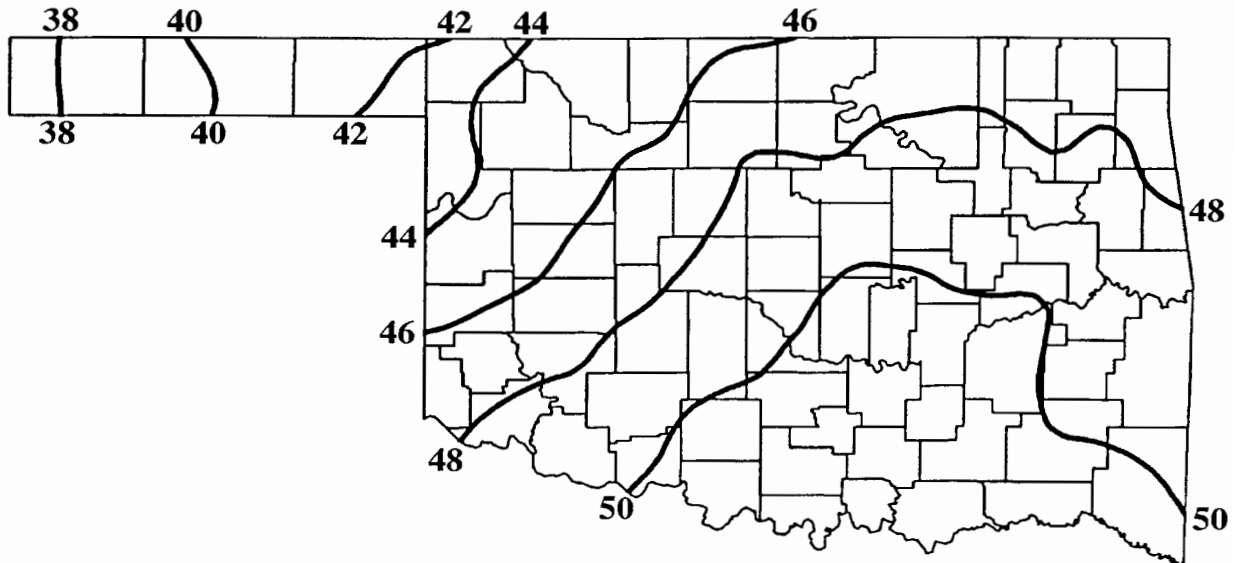
FEBRUARY 1999 ACCUMULATED HEATING DEGREE DAYS (F)



FEBRUARY 1999 DEPARTURE FROM NORMAL HEATING DEGREE DAYS (F)

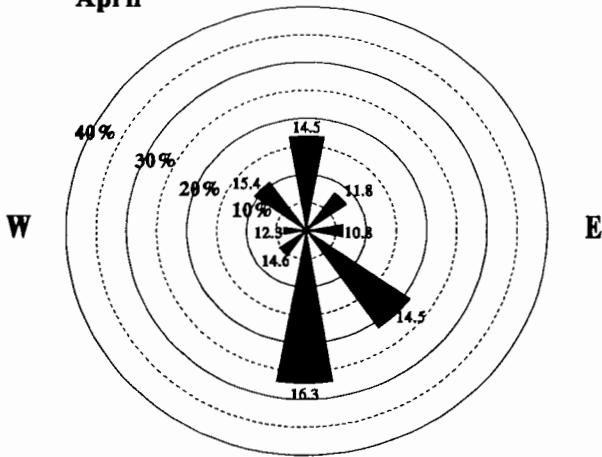


APRIL NORMAL DAILY MAXIMUM TEMPERATURE (F)



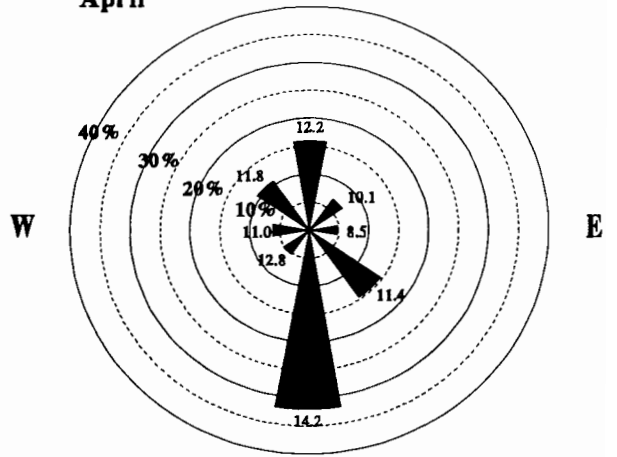
APRIL NORMAL DAILY MINIMUM TEMPERATURE (F)

Oklahoma City
April



Calm=0.9%
Mean Speed= 14.4 mph

Tulsa
April



Calm=3.8%
Mean Speed= 11.9 mph

April Wind Roses for Oklahoma City and Tulsa. The frequency (percent) of winds from each direction is represented by length of its bar. The numbers at the ends of the bars indicate the average wind speed from that direction in miles per hour.

APRIL SUNRISE/SUNSET TIMES FOR 1999

ALL TIMES ARE CENTRAL STANDARD TIME

OKLAHOMA CITY

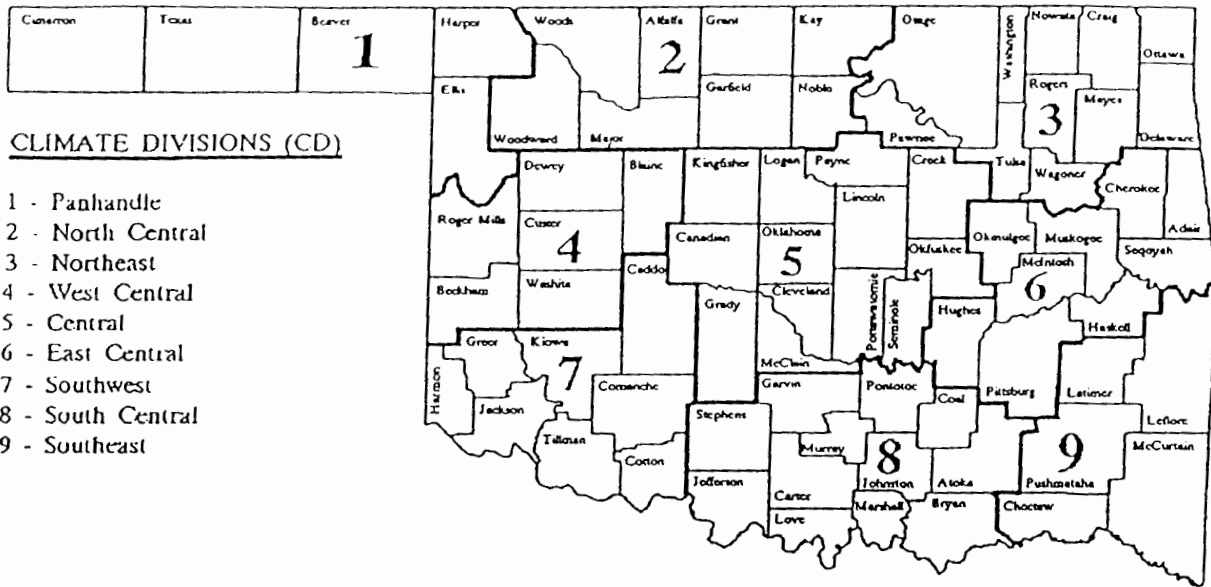
TULSA

DATE	SUNRISE	SUNSET
4/1/99	617	1851
4/2/99	616	1852
4/3/99	614	1853
4/4/99	613	1854
4/5/99	612	1855
4/6/99	610	1856
4/7/99	609	1856
4/8/99	607	1857
4/9/99	606	1858
4/10/99	605	1859
4/11/99	603	1900
4/12/99	602	1900
4/13/99	601	1901
4/14/99	559	1902
4/15/99	558	1903
4/16/99	557	1904
4/17/99	555	1905
4/18/99	554	1905
4/19/99	553	1906
4/20/99	552	1907
4/21/99	550	1908
4/22/99	549	1909
4/23/99	548	1909
4/24/99	547	1910
4/25/99	546	1911
4/26/99	544	1912
4/27/99	543	1913
4/28/99	542	1914
4/29/99	541	1914
4/30/99	540	1915

DATE	SUNRISE	SUNSET
4/1/99	617	1851
4/2/99	616	1852
4/3/99	614	1853
4/4/99	613	1854
4/5/99	612	1855
4/6/99	610	1856
4/7/99	609	1856
4/8/99	607	1857
4/9/99	606	1858
4/10/99	605	1859
4/11/99	603	1900
4/12/99	602	1900
4/13/99	601	1901
4/14/99	559	1902
4/15/99	558	1903
4/16/99	557	1904
4/17/99	555	1905
4/18/99	554	1905
4/19/99	553	1906
4/20/99	552	1907
4/21/99	550	1908
4/22/99	549	1909
4/23/99	548	1909
4/24/99	547	1910
4/25/99	546	1911
4/26/99	544	1912
4/27/99	543	1913
4/28/99	542	1914
4/29/99	541	1914
4/30/99	540	1915

ADD ONE HOUR FOR CENTRAL DAYLIGHT TIME

OKLAHOMA



EXPLANATION OF TABLES

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

- Station Name:
- Station Identification Number: These are usually assigned by the National Climatic Data Center.
- Climate Division: See the figure above.
- Number of Temperature Observations: These are the actual number of temperature reports recorded at the station during the current month. Missing observations may result in artificially high or low mean monthly temperatures.
- Deviation from Normal: The deviation of the observed mean monthly temperature from the monthly station normal. A positive value indicates the month was warmer than normal. A negative value indicates the month was cooler than normal. Normal monthly temperatures may be calculated by subtracting the deviation from the observed temperature.
- Maximum Daily Maximum: The maximum daily maximum temperature observed during the current month and year and the day which it occurred.
- Minimum Daily Minimum: The minimum daily minimum temperature observed during the current month and year and the day which it occurred.
- Heating Degree Days: HDD are calculated each day of the month for which there is a temperature report and the average temperature for the day is less than 65 degrees. Daily values are summed to arrive at a monthly total. They are a qualitative measure of how much heat was required to maintain a comfortable indoor temperature. Missing observations may result in an artificially high or low value. For February 1984 HDD would be calculated as:

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

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

Cooling Degree Days: CDD are calculated each day of the month for which there is a temperature report and the average temperature for the day exceeds 65 degrees. Daily values are summed to give a monthly total. They are a proxy measure of how much cooling was required to maintain a comfortable indoor temperature. Missing observations may result in an artificially high or low value. For June, CDD would be calculated as:

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

Deviation from Normal Cooling Degree Days: A positive value indicates higher 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
 DATA COURTESY OF NATIONAL WEATHER SERVICE NORMAN

APRIL

The data on this calendar is for Oklahoma City.
 Normal values are calculated for the period 1961-1990.
 Temperature extremes are for the period 1891-1997.
 Precipitation extremes are for the period 1891-1997.

Day	Avg. Temp	Avg. High	Record High	Year	Lowest Max	Year	1999	Avg. Low	Highest Min	Year	Record Low	Year	1999	Avg. Ppt.	Greatest Ppt.	Year	1999
1	56.0	67.7	92	1946	45	1938		44.3	68	1946	26	1899		0.04	2.87	1905	
2	57.5	69.6	88	1918	43	1975		45.5	67	1946	20	1936		0.07	0.99	1922	
3	56.3	68.3	92	1893	43	1979		44.3	66	1934	21	1975		0.09	1.37	1919	
4	54.5	66.2	93	1893	38	1920		42.8	68	1929	22	1891		0.02	3.06	1906	
5	54.6	67.0	94	1893	43	1899		42.2	65	1978	26	1970		0.14	3.39	1953	
6	58.1	71.5	95	1893	41	1899		44.6	68	1967	26	1936		0.01	1.24	1940	
7	58.5	70.6	94	1893	38	1938		46.4	68	1893	27	1938		0.05	1.76	1942	
8	57.9	68.6	88	1905	36	1938		47.3	63	1894	28	1938		0.09	2.99	1922	
9	56.6	68.1	90	1930	44	1973		45.0	66	1927	25	1914		0.06	2.91	1944	
10	56.9	68.1	91	1934	45	1958		45.8	66	1965	28	1973		0.09	1.40	1979	
11	58.0	69.5	90	1972	47	1952		46.5	66	1972	29	1940		0.04	1.14	1997	
12	58.1	69.3	100	1972	35	1957		46.9	70	1972	23	1957		0.09	3.11	1967	
13	57.4	68.8	94	1972	43	1957		46.1	65	1941	20	1957		0.10	3.75	1910	
14	58.6	71.1	92	1936	46	1928		46.2	68	1972	27	1980		0.08	1.27	1947	
15	59.8	71.8	90	1940	51	1902		47.9	66	1982	30	1928		0.05	1.67	1947	
16	61.6	73.8	92	1940	49	1905		49.4	67	1896	31	1921		0.10	1.08	1970	
17	62.7	74.2	92	1987	47	1905		51.2	67	1963	30	1953		0.09	1.40	1908	
18	62.5	73.1	96	1925	47	1953		51.9	66	1964	30	1953		0.11	2.97	1942	
19	62.7	73.6	94	1987	50	1918		51.8	68	1948	33	1953		0.16	2.92	1919	
20	62.5	73.3	91	1961	43	1918		51.7	69	1985	33	1966		0.16	2.07	1937	
21	63.4	74.8	90	1965	45	1959		51.9	70	1961	34	1966		0.03	1.39	1996	
22	64.2	75.6	95	1955	45	1909		52.8	69	1961	34	1959		0.14	1.98	1915	
23	64.0	75.0	89	1989	52	1931		52.9	70	1989	33	1909		0.08	0.96	1945	
24	63.8	75.7	89	1901	52	1947		51.9	68	1989	35	1995		0.08	1.67	1948	
25	63.2	73.9	91	1939	51	1997		52.6	66	1893	35	1910		0.10	2.64	1915	
26	63.4	74.0	92	1896	50	1919		52.9	68	1975	35	1907		0.09	1.50	1963	
27	64.0	74.8	91	1959	57	1979		53.1	69	1970	35	1920		0.11	1.57	1897	
28	62.7	73.2	93	1902	50	1922		52.2	70	1970	37	1979		0.11	1.97	1960	
29	63.9	75.0	92	1936	50	1994		52.7	68	1933	34	1908		0.22	2.87	1974	
30	63.7	74.2	93	1948	48	1994		53.3	68	1936	32	1907		0.19	2.13	1970	
MONTH	60.2	71.7	100	1972	35	1957		48.8	70	1989	20	1957		2.79	3.75	1910	

*The most tornadoes reported in April for Oklahoma was 40 in 1957.

TULSA CLIMATE CALENDAR
 DATA COURTESY OF NATIONAL WEATHER SERVICE TULSA

APRIL

The data on this calendar is for Tulsa.
 Normal values are calculated for the period 1961-1990.
 Temperature extremes are for the period 1905-1998.
 Precipitation extremes are for the period 1888-1998.

Day	Avg. Temp	Avg. High	Record High	Year	Lowest Max	Year	1999	Avg. Low	Highest Min	Year	Record Low	Year	1999	Avg. Ppt.	Greatest Ppt.	Year	1999
1	57	69	94	1946	44	1993		45	69	1946	28	1972		0.12	1.60	1988	
2	57	69	89	1918	41	1949		45	69	1946	22	1936		0.11	0.89	1916	
3	58	69	88	1965	46	1979		46	69	1981	23	1975		0.11	1.25	1978	
4	58	70	90	1943	46	1993		46	68	1929	27	1972		0.11	4.40	1964	
5	58	70	87	1967	47	1996		46	66	1929	22	1920		0.11	2.54	1933	
6	59	70	92	1960	43	1939		47	67	1929	29	1996		0.11	1.40	1940	
7	59	71	88	1949	46	1916		47	67	1986	28	1939		0.11	1.47	1975	
8	59	71	88	1965	37	1938		48	63	1991	29	1938		0.11	2.33	1913	
9	60	71	90	1930	43	1973		48	64	1978	24	1914		0.11	1.78	1925	
10	60	72	92	1927	47	1956		48	66	1927	31	1973		0.11	2.72	1908	
11	60	72	93	1972	46	1914		49	68	1972	30	1940		0.11	1.73	1901	
12	61	72	102	1972	36	1957		49	68	1981	26	1957		0.12	2.88	1945	
13	61	73	96	1936	45	1957		49	69	1972	22	1957		0.12	1.69	1945	
14	61	73	94	1936	47	1933		50	71	1936	31	1957		0.12	2.55	1929	
15	62	73	93	1936	53	1993		50	68	1982	27	1928		0.12	2.51	1941	
16	62	73	93	1982	49	1944		50	72	1963	31	1953		0.12	1.38	1968	
17	62	74	92	1987	56	1939		51	70	1963	28	1921		0.12	1.75	1953	
18	62	74	98	1925	48	1953		51	70	1963	29	1953		0.12	2.61	1941	
19	63	74	94	1987	45	1983		51	70	1964	34	1953		0.13	2.52	1917	
20	63	74	92	1963	41	1918		51	71	1964	32	1953		0.13	3.30	1929	
21	63	75	94	1965	49	1931		52	71	1961	32	1966		0.13	2.54	1928	
22	64	75	91	1965	49	1995		52	69	1961	32	1931		0.13	1.39	1985	
23	64	75	93	1958	56	1995		52	70	1925	32	1909		0.13	3.22	1953	
24	64	75	91	1975	46	1910		53	71	1989	37	1909		0.14	1.67	1947	
25	64	76	89	1939	49	1907		53	68	1989	36	1910		0.14	1.59	1922	
26	64	76	91	1987	48	1919		53	70	1975	35	1910		0.14	2.09	1915	
27	65	76	92	1966	57	1998		53	70	1989	36	1920		0.14	2.33	1998	
28	65	76	88	1970	53	1992		54	71	1970	37	1965		0.15	3.04	1912	
29	65	76	92	1987	49	1907		54	68	1942	38	1969		0.15	1.99	1994	
30	65	76	91	1987	50	1907		54	71	1936	35	1908		0.15	3.00	1970	
MONTH	61.5	73	102	1972	37	1938		49.9	71	1989	22	1957		3.72	4.40	1964	

*The average number of tornadoes reported in April for Oklahoma is 10.8.