

OKLAHOMA MONTHLY SUMMARY OCTOBER 1999

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MONTHLY SUMMARY FOR OCTOBER 1999

Precipitation and temperature were both less than normal during October. Monthly precipitation, averaged statewide, totaled 1.93 inches, failing by 1.14 inches to attain the October normal and thus giving 1999 the 37th driest October since 1892. The dry weather was widespread, as only the Panhandle climate division received greater than normal precipitation during the month. The statewide-averaged temperature of 61.8 degrees was 0.3 degree less than normal, ranking this as the 43rd coolest October in 108 years.

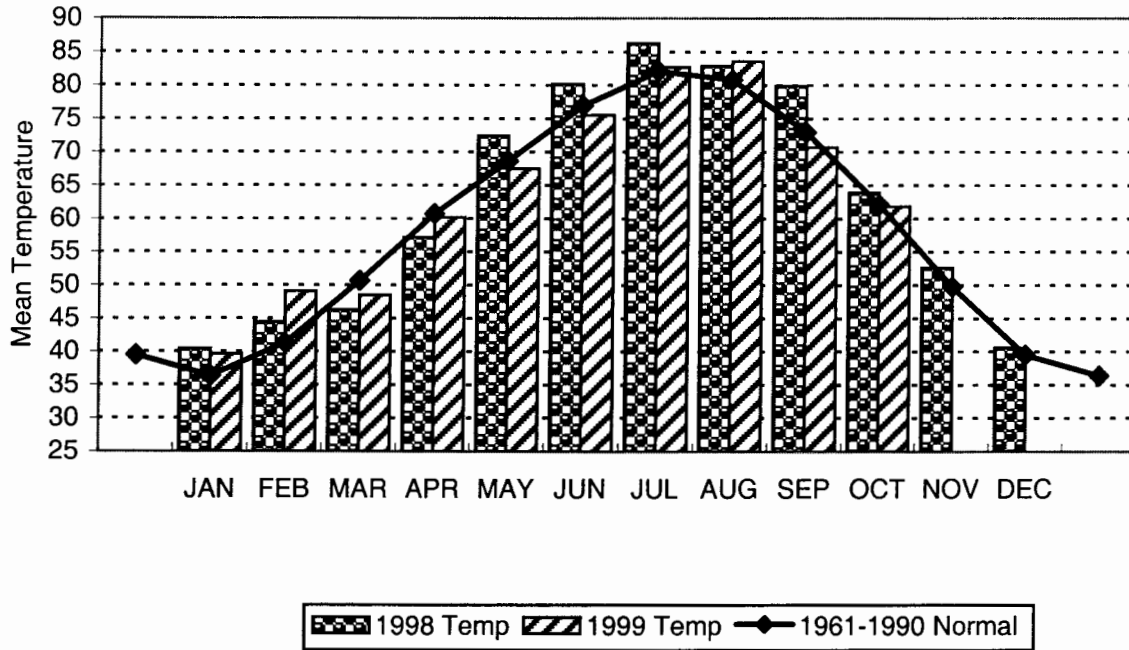
The dry weather, featuring mild days and cool nights, was boon to golfers, outdoor recreational interests and farmers facing an autumn harvest, but not so beneficial to wheat farmers and stockmen. By the end of the month, pastures and wheat were in need of rain. Timely rains in southwestern Oklahoma allowed the state to remove the last burning ban left from the dry late-summer and early-autumn weather (Cotton and Tillman counties) on the 12th, although most of the state remained under a Red Flag Fire Alert throughout the remainder of the month.

Only a handful of substantial rainfall events were reported during the month. Daily precipitation amounts in excess of one-half inch were recorded at Mesonet sites on only eight days in October. The Mesonet site near Kenton (Cimarron County) recorded 3.02 inches of rain on the 8th while the National Weather Service observer five miles away recorded 2.95 inches. A late-month storm system produced over five inches of rain over a three-day period from the 29th through the 31st, as recorded by the Mesonet sites near Hinton (Caddo) and Stillwater (Payne) and two-or-more inches of rain throughout the middle of the state.

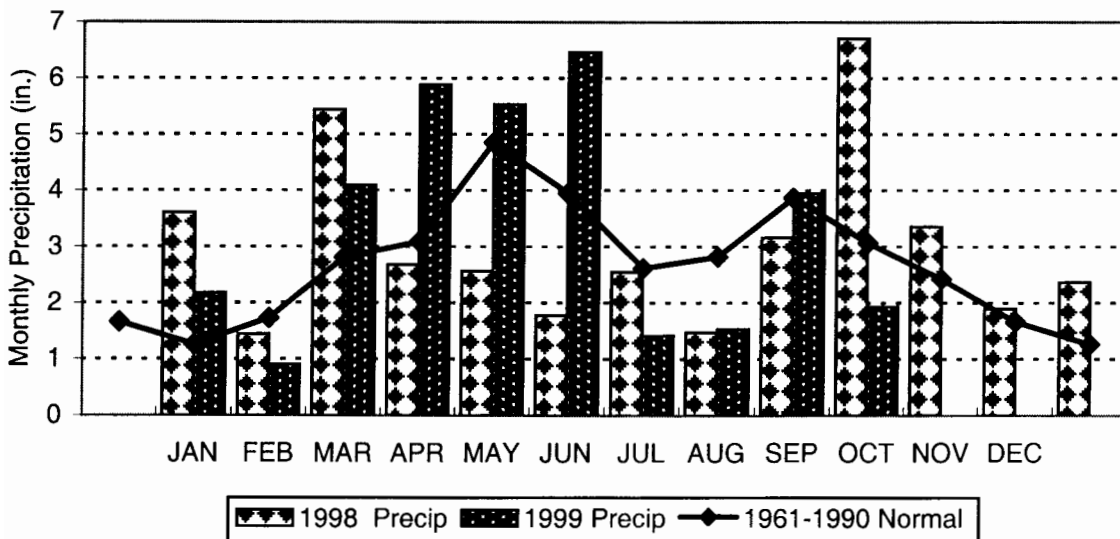
Only isolated severe weather events were reported through the first 28 days of the month. Thunderstorms on the evening of the 29th produced several reports of wind damage. Winds clocked at 66 miles per hour knocked over power poles and damaged some roofs in northeast Norman (Cleveland) and southeast Oklahoma City (Oklahoma). Twenty thousand customers were left without power in Norman. Four small tornadoes struck in Creek County on the 31st, doing little damage, but raising the number of tornadoes in Oklahoma during 1999 to a record 140, according to a preliminary information compiled by the National Weather Service. The previous record of 107 was set in 1957.

Howard L. Johnson

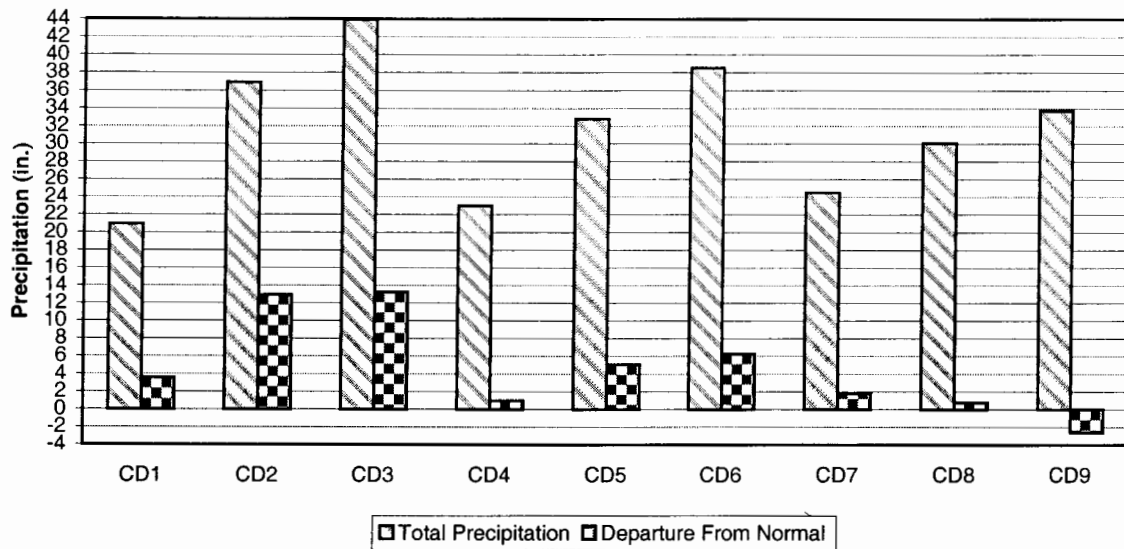
1998 and 1999 STATEWIDE TEMPERATURES
Monthly Averages



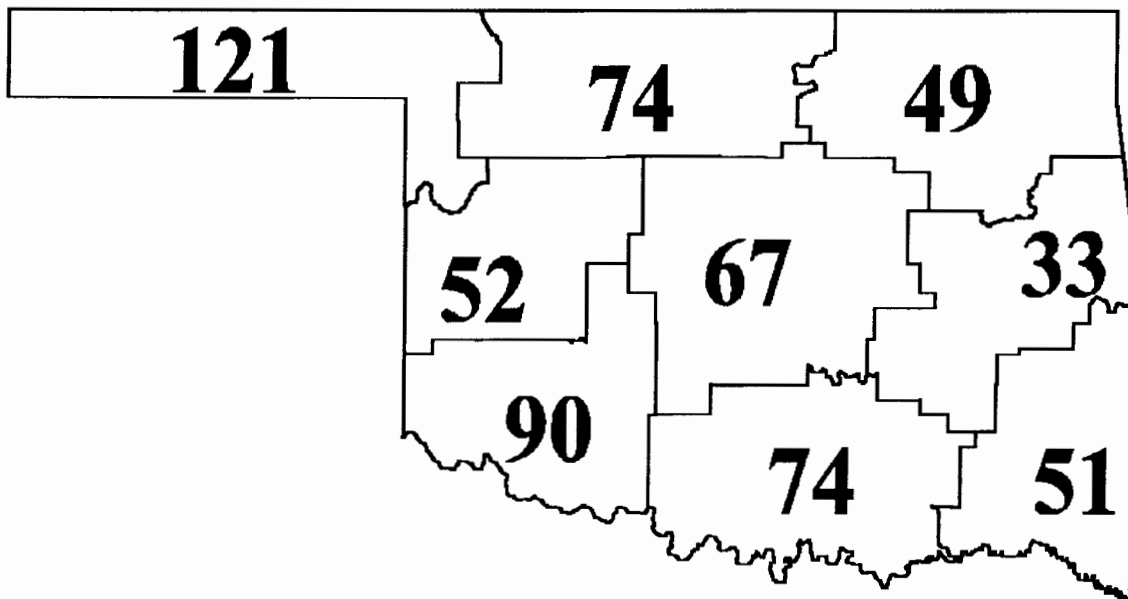
1998 and 1999 STATEWIDE PRECIPITATION
Monthly Totals



**CD Averaged Precipitation
January through October 1999**



**CD PERCENT OF NORMAL PRECIPITATION
OCTOBER 1999**



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

CD	MAX TEMP	DATE	LOCATION	MIN TEMP	DATE	LOCATION	24-HOUR PRECIP	DATE	LOCATION	MONTHLY PRECIP	LOCATION
1	93	7	BEAVER	24	18	BOISE CITY	2.80	8	KENTON	3.20	KENTON
2	90	10	FT SUPPLY	26	23	FT SUPPLY	2.77	30	MORRISON	3.11	NEWKIRK
	90	28	FREEDOM								
	90	16	GREAT SALT P								
	90	15	JEFFERSON								
3	88	15	BIXBY	24	24	BARNSDALL	3.08	30	PAWNEE	3.08	PAWNEE
4	90	16	ERICK	29	20	TALOGA	2.43	30	OKEENE	2.70	OKEENE
	90	16	REYDON								
5	91	14	BLANCHARD	28	24	CUSHING	3.27	30	STILLWATER	3.87	EDMOND
	91	14	CHICKASHA	28	25	MEEKER					
	91	15	CHICKASHA								
	91	16	KINGFISHER								
6	91	13	MCCURTAIN	24	24	STILWELL	2.66	30	LAKE EUFAULA	2.66	LAKE EUFAULA
	91	14	MCCURTAIN								
7	96	26	FREDERICK	29	20	ANADARKO	2.95	30	LOOKEBA	4.35	RANDLETT
				29	21	ANADARKO					
8	94	13	MARLOW	31	24	PAULS VALLEY	2.62	30	KETCHUM RAN	4.58	TISHOMINGO
				31	25	PAULS VALLEY					
9	94	13	TUSKAHOMA	27	24	PAGE	1.70	31	CARNASAW	3.83	CARNASAW
				27	24	POTEAU					
				27	24	WILBURTON					

TABLE OF 1998/1999 COMPARISONS

**OCTOBER
Temperature (°F)**

**OCTOBER
Precipitation (in.)**

Station	1998	1999	1998	1999
Arnett	60.1	58.6	4.22	0.00
Enid	62.7	61.2	5.87	2.14
Tulsa	63.0	62.3	9.04	1.75
Elk City	62.4	61.0	6.26	0.80
Oklahoma City	64.4	62.7	6.76	2.22
McAlester	65.3	64.1	5.66	1.12
Altus Irr Station	65.2	62.1	3.50	3.05
Ardmore	68.3	68.1	7.51	2.78
Idabel	64.9	64.6	3.61	2.15

**EXTREMES
DIVISION**

VARIABLE	STATION	OBSERVATION	DATE
Minimum temperature (°F)	Boise City	24	18
	Barnsdall	24	24
	Stilwell	24	24
Maximum temperature (°F)	Frederick	96	26
Maximum 24-hour Precipitation	Stillwater	3.27"	30

OCTOBER 1999 SUMMARY FOR PANHANDLE DIVISION (CD1)

NAME	ID	CD	MEAN		DEV		MIN	MAX	HEAT	DEV	COOL	DEV	TOT	NUM	DEV		DAY	
			TEMP	NUM	FROM	MAX									DEG	FROM		DEG
ARNETT	332	1	58.6	31	-0.2	89	16	33	4	215	-9	17	-14	0.001	31	-1.83	0.00	30
BEAVER	593	1	56.1	31	-1.5	93	7	28	19	289	42	13	-4	1.970	31	0.78	1.45	9
BOISE CITY	908	1	56.7	31	-0.5	88	12	24	18	270	16	13	0	2.043	31	1.18	1.05	7
BUFFALO	1243	1	60.9	31	-0.7	91	15	29	25	166	10	38	-14	0.600	31	-1.34	0.60	8
FARGO	3070	1	*****	0 *	****	****	0	****	0	*****	*****	*****	*****	0.061	31	-1.58	0.06	8
GAGE	3407	1	59.2	31	-1.2	91	15	30	24	213	28	35	-8	0.052	31	-1.51	0.04	8
GATE	3489	1	58.7	31	-0.6	89	7	33	4	221	16	25	-3	1.280	31	-0.13	1.18	9
GOODWELL	3628	1	57.1	31	0.3	92	2	29	19	268	-1	23	9	2.200	31	1.24	1.40	9
GUYMON	3835	1	57.0	30 *	****	92	2	30	4	261	*****	22	*****	2.230	30	*****	1.82	9
HOOVER	4298	1	58.9	31	0.7	92	1	31	18	210	-30	21	-8	2.190	31	1.25	1.66	8
KENTON	4766	1	55.1	30	-0.6	88	12	25	19	303	4	7	-5	3.200	31	2.25	2.80	8
LAVERNE	5045	1	*****	0 *	****	****	0	****	0	*****	*****	*****	*****	0.450	31	-0.96	0.38	9
RANGE	7412	1	*****	0 *	****	****	0	****	0	*****	*****	*****	*****	2.340	31	*****	2.04	9
REGNIER	7534	1	*****	0 *	****	****	0	****	0	*****	*****	*****	*****	2.091	31	1.33	1.85	8
TURPIN	9017	1	58.1	24 *	****	91	7	30	18	179	*****	14	*****	2.780	24	*****	1.95	9

OCTOBER 1999 SUMMARY FOR NORTH CENTRAL DIVISION (CD2)

NAME	ID	CD	MEAN		DEV		MIN	MAX	HEAT	DEV	COOL	DEV	TOT	NUM	DEV		DAY	
			TEMP	NUM	FROM	MAX									DEG	FROM		DEG
ALVA	193	2	60.0	31 *	****	89	16	33	25	189	*****	34	*****	0.180	31	*****	0.14	8
VANCE AFB	302	2	*****	0 *	****	****	0	****	0	*****	*****	*****	*****	1.791	31	*****	1.64	30
BILLINGS	755	2	59.5	31	-1.4	87	16	33	24	192	25	20	-20	2.050	31	-0.68	2.00	30
BLACKWELL 2E	818	2	59.8	31	-1.4	87	16	34	25	183	27	21	-19	2.060	31	-0.64	2.05	30
BRAMAN	1075	2	*****	0 *	****	****	0	****	0	*****	*****	*****	*****	2.630	31	*****	1.95	30
CEDARDALE	1620	2	*****	0 *	****	****	0	****	0	*****	*****	*****	*****	0.840	31	*****	0.49	8
CHEROKEE	1724	2	58.2	29 *	****	89	16	32	25	217	*****	20	*****	0.021	29	*****	0.02	30
ENID	2912	2	61.2	31	-1.2	88	16	37	19	160	23	42	-14	2.140	31	-0.97	2.01	31
FT SUPPLY	3304	2	57.4	31	-1.5	90	10	26	23	249	38	13	-10	0.330	31	-1.21	0.21	8
FREEDOM	3358	2	58.8	30	-2.2	90	28	31	24	208	47	23	-14	0.700	30	*****	0.50	7
GREAT SALT P	3740	2	60.8	31	0.2	90	16	33	24	163	-15	33	-8	1.020	31	-1.04	0.81	30
HARDY	3909	2	*****	0 *	****	****	0	****	0	*****	*****	*****	*****	2.050	31	*****	2.05	30
HELENA	4019	2	59.8	31	0.0	89	16	34	19	189	-4	29	-3	1.241	31	-0.85	1.08	30
JEFFERSON	4573	2	61.0	31	-1.0	90	15	29	24	161	19	36	-14	2.190	31	-0.46	1.62	29
LAMONT	5013	2	*****	0 *	****	****	0	****	0	*****	*****	*****	*****	2.410	31	*****	2.08	30
MEDFORD	5768	2	*****	0 *	****	****	0	****	0	*****	*****	*****	*****	2.171	31	*****	2.02	29
MORRISON	6065	2	*****	0 *	****	****	0	****	0	*****	*****	*****	*****	2.830	31	*****	2.77	30
MUTUAL	6139	2	59.2	31	-0.2	89	16	34	4	202	-2	21	-8	0.450	31	-1.23	0.41	8
NEWKIRK	6278	2	59.7	31	-1.9	86	16	35	25	192	45	27	-14	3.110	31	-0.12	2.44	30
ORIENTA	6751	2	*****	0 *	****	****	0	****	0	*****	*****	*****	*****	0.810	31	-1.07	0.51	30
PERRY	7012	2	62.5	30	-0.3	88	16	36	24	129	2	54	-6	2.191	30	*****	2.15	30
PONCA CITY	7201	2	62.0	30	1.3	88	15	34	24	148	-24	57	19	2.164	30	*****	1.52	30
RED ROCK	7505	2	*****	0 *	****	****	0	****	0	*****	*****	*****	*****	1.851	31	-0.94	1.85	29
WAYNOKA	9404	2	62.8	27 *	****	89	19	33	23	86	*****	27	*****	0.000	27	*****	0.00	31
WOODWARD	9760	2	*****	0 *	****	****	0	****	0	*****	*****	*****	*****	0.300	30	*****	0.30	8

OCTOBER 1999 SUMMARY FOR NORTHEAST DIVISION (CD3)

NAME	ID	CD	MEAN		DEV		MAX	DAY	MIN	DAY	HEAT		DEV		COOL		DEV		TOT	NUM	FROM	MAX	DAY
			TEMP	NUM	FROM	NORM					DEG	FROM	DEG	FROM	NORM	FROM	NORM	FROM					
BARNSDALL	535	3	60.6	31	-0.8	86	15	24	24	173	14	36	-14	1.390	31	-1.80	1.20	30					
BARTLESVILLE	548	3	60.6	31	-1.0	87	15	28	24	172	22	36	-9	1.181	31	-2.12	1.04	30					
BIXBY	782	3	61.2	31	0.7	88	15	32	25	159	-19	41	3	1.450	31	-2.25	1.10	30					
BURBANK	1256	3	*****	0*	****	****	0	****	0	*****	*****	*****	*****	2.470	31	-0.62	1.32	30					
CHELSEA	1717	3	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.660	31	*****	1.28	30					
CLAREMORE	1828	3	59.9	31	-0.5	86	16	28	25	192	11	35	-5	1.580	31	-1.98	1.26	30					
CLEVELAND 2	1902	3	61.6	28*	****	85	25	36	19	127	*****	33	*****	2.001	28	*****	1.75	30					
FORAKER	3250	3	*****	0*	****	****	0	****	0	*****	*****	*****	*****	2.370	31	-1.07	2.30	30					
HOLLOW	4258	3	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.400	31	-2.23	1.21	30					
HOMINY	4289	3	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.691	31	-1.27	1.45	30					
KANSAS	4672	3	61.7	23*	****	83	26	28	24	107	*****	31	*****	0.103	26	*****	0.10	8					
LENAPAH	5118	3	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.300	31	*****	1.08	30					
MANNFORD	5522	3	61.8	31	-0.3	86	15	30	20	148	4	48	-6	1.660	31	-1.42	1.40	30					
MARAMEC	5540	3	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.930	31	-1.09	1.75	30					
NOWATA	6485	3	61.7	31	0.4	85	15	30	24	148	-13	45	0	1.240	31	-2.10	1.02	30					
PAWHUSKA	6935	3	61.0	31	-0.2	86	15	28	24	168	11	42	3	1.600	31	-1.60	1.40	30					
PAWNEE	6940	3	*****	0*	****	****	0	****	0	*****	*****	*****	*****	3.080	31	0.25	3.08	30					
PRYOR	7309	3	60.7	31	0.7	87	12	29	25	175	-19	42	4	1.540	31	-2.27	1.13	30					
RALSTON	7390	3	59.4	31	-2.2	87	15	27	24	190	48	15	-22	2.620	31	-0.27	2.50	30					
SKIATOOK	8258	3	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.360	31	-1.82	1.05	30					
SPAVINAW	8380	3	64.2	31	1.1	86	11	33	24	102	-26	78	10	1.070	31	-2.62	0.62	30					
TULSA	8992	3	62.3	31	0.1	87	15	32	24	135	-9	53	-5	1.751	31	-1.91	1.57	30					
UPPER SPAV	9101	3	61.2	31*	****	86	15	28	24	165	*****	48	*****	1.350	31	*****	0.57	30					
VINITA	9203	3	61.1	31	0.6	84	15	27	24	166	-12	46	8	1.400	31	-2.44	1.02	30					
WAGONER	9247	3	62.8	31	-0.1	87	15	35	20	132	-5	62	-9	2.070	31	-2.05	1.10	30					
WANN	9298	3	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.271	31	*****	1.04	30					
WYNONA	9792	3	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.730	31	*****	1.50	30					

OCTOBER 1999 SUMMARY FOR WEST CENTRAL DIVISION (CD4)

NAME	ID	CD	MEAN		DEV		MAX	DAY	MIN	DAY	HEAT		DEV		COOL		DEV		TOT	NUM	FROM	MAX	DAY
			TEMP	NUM	FROM	NORM					DEG	FROM	DEG	FROM	NORM	FROM	NORM	FROM					
CANTON DAM	1445	4	60.4	30	0.0	88	16	31	25	166	-12	28	-8	1.870	30	*****	1.48	30					
CLINTON	1909	4	60.9	31	-1.6	88	16	35	19	157	29	30	-22	1.921	31	-0.90	1.57	30					
COLONY	2039	4	*****	0*	****	****	0	****	0	*****	*****	*****	*****	2.480	31	*****	2.02	30					
CORDELL	2125	4	61.7	31	-0.7	89	16	34	19	141	12	38	-10	1.892	31	-0.63	1.43	30					
ELK CITY	2849	4	61.0	31	-0.5	89	16	38	25	152	-6	29	-20	0.800	31	-1.19	0.60	30					
ERICK	2944	4	60.6	31	-0.9	90	16	34	21	162	20	25	-8	0.322	31	-1.84	0.17	30					
GEARY	3497	4	62.5	25*	****	88	15	38	18	109	*****	48	*****	2.050	25	*****	1.65	29					
HAMMON	3871	4	58.8	31	-0.7	88	16	31	25	207	4	15	-18	0.380	31	-1.60	0.20	8					
LEEDEY	5090	4	*****	0*	****	****	0	****	0	*****	*****	*****	*****	0.390	31	-1.51	0.24	8					
MACKIE	5463	4	*****	0*	****	****	0	****	0	*****	*****	*****	*****	0.080	31	*****	0.08	8					
MORAVIA	6035	4	*****	0*	****	****	0	****	0	*****	*****	*****	*****	0.942	31	-1.45	0.84	30					
OKEENE	6629	4	63.5	31	0.7	89	15	34	24	103	-23	55	-2	2.700	31	0.25	2.43	30					
RETROP	7565	4	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.080	31	*****	0.95	30					
REYDON	7579	4	60.5	26*	****	90	16	37	4	143	*****	25	*****	0.100	26	*****	0.10	8					
SAYRE	7952	4	*****	0*	****	****	0	****	0	*****	*****	*****	*****	0.610	31	-1.55	0.44	30					
SWEETWATER	8652	4	*****	0*	****	****	0	****	0	*****	*****	*****	*****	0.002	31	*****	0.00	30					
TALOGA	8708	4	59.0	31	-1.7	88	16	29	20	211	48	23	-6	0.690	31	-1.31	0.36	30					
THOMAS	8815	4	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.720	31	*****	1.65	30					
VICI	9172	4	*****	0*	****	****	0	****	0	*****	*****	*****	*****	0.342	31	-1.62	0.34	7					
WATONGA	9364	4	62.8	31	1.1	89	15	33	24	131	-17	61	16	2.011	31	-0.37	1.68	30					
WEATHERFORD	9422	4	61.1	30	0.4	87	15	37	23	149	-18	32	-2	2.270	31	-0.42	2.00	29					

OCTOBER 1999 SUMMARY FOR CENTRAL DIVISION (CD5)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV		DAY	MIN TEMP	DAY	HEAT		DEV		TOT PPT	NUM OBS	DEV		DAY
					FROM NORM	MAX TEMP				DEG DAY	FROM NORM	DEG DAY	FROM NORM			MAX 24-HR		
AMBER	200	5	*****	0*	****	****	0	****	0	*****	*****	*****	*****	2.050	31	*****	1.55	30
ARCADIA	288	5	*****	0*	****	****	0	****	0	*****	*****	*****	*****	2.170	31	*****	1.96	30
BLANCHARD	830	5	64.7	31	1.3	91	14	37	24	89	-33	79	8	2.070	31	-1.30	1.47	30
BRISTOW	1144	5	62.7	31	-0.3	89	15	29	24	127	-5	57	-13	1.440	31	-1.71	1.12	30
CHANDLER	1684	5	61.8	31	-1.0	88	15	33	25	147	21	47	-12	2.080	31	-0.94	1.76	30
CHICKASHA EXP	1750	5	64.6	31	1.6	91	15	32	20	90	-35	77	14	1.770	31	-1.48	1.14	30
COX CITY	2196	5	*****	0*	****	****	0	****	0	*****	*****	*****	*****	3.280	31	*****	1.73	31
CRESCENT	2242	5	*****	0*	****	****	0	****	0	*****	*****	*****	*****	2.250	31	*****	2.10	30
CUSHING	2318	5	61.7	31	0.1	87	16	28	24	151	-3	50	1	2.120	31	-0.77	1.95	30
EDMOND	2788	5	*****	0*	****	****	0	****	0	*****	*****	*****	*****	3.870	31	****	1.84	29
EL RENO	2818	5	62.1	31	0.0	88	16	33	20	139	3	48	2	3.200	31	0.68	2.00	30
GUTHRIE	3821	5	62.7	27*	****	89	11	31	25	96	*****	33	*****	1.970	27	****	1.97	31
HENNESSEY	4055	5	61.3	29*	****	88	15	34	24	145	*****	37	*****	2.840	30	****	2.49	30
INGALLS	4489	5	*****	0*	****	****	0	****	0	*****	*****	*****	*****	2.060	31	*****	2.00	30
KINGFISHER	4861	5	62.4	31	-0.4	91	16	33	25	143	19	63	7	1.590	31	-0.74	1.24	30
KONAWA	4915	5	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.750	31	-2.32	0.95	30
MARSHALL	5589	5	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.960	31	-0.79	1.96	30
MEEKER	5779	5	59.1	31	-3.6	86	15	28	25	202	68	21	-42	2.250	31	-1.29	1.86	30
MULHALL	6110	5	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.950	31	*****	1.95	30
NORMAN NWS	6386	5	62.1	31	-1.2	88	14	35	20	139	27	50	-10	2.250	31	-0.98	1.24	30
OKEMAH	6638	5	65.1	31	2.0	89	14	38	24	84	-42	87	20	1.010	31	-2.83	0.75	30
OKLAHOMA CTY	6659	5	*****	0*	****	****	0	****	0	*****	*****	*****	*****	2.102	31	*****	1.30	30
OKLAHOMA CTY	6661	5	62.7	31	0.7	88	15	36	20	119	-19	49	5	2.221	31	-1.01	1.08	30
PERKINS	7003	5	*****	0*	****	****	0	****	0	*****	*****	*****	*****	2.130	31	-0.84	1.96	30
PIEDMONT	7068	5	*****	0*	****	****	0	****	0	*****	*****	*****	*****	2.690	31	*****	2.06	30
PRAGUE	7264	5	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.550	31	-2.28	1.37	30
SEMINOLE	8042	5	62.3	26*	****	90	15	34	20	107	*****	36	*****	1.671	27	****	0.75	29
SHAWNEE	8110	5	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.900	31	-2.17	1.87	31
STELLA	8479	5	*****	0*	****	****	0	****	0	*****	*****	*****	*****	2.460	31	*****	1.78	30
STILLWATER	8501	5	61.3	31	0.8	88	11	32	25	155	-13	40	12	3.580	31	0.75	3.27	30
STROUD	8563	5	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.641	31	****	1.34	30
TECUMSEH	8751	5	*****	0*	****	****	0	****	0	*****	*****	*****	*****	2.000	31	****	1.00	30
TROUSDALE	8960	5	60.9	31*	****	89	15	31	20	163	*****	36	*****	2.570	31	****	1.50	30
UNION CITY	9086	5	*****	0*	****	****	0	****	0	*****	*****	*****	*****	2.140	31	-1.13	1.36	30
WELTY	9479	5	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.500	31	****	1.25	30
WEWOKA	9575	5	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.450	31	-2.26	1.09	31

OCTOBER 1999 SUMMARY FOR EAST CENTRAL DIVISION (CD6)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV		DAY	MIN TEMP	DAY	HEAT		DEV		TOT PPT	NUM OBS	DEV		DAY
					FROM NORM	MAX TEMP				DEG DAY	FROM NORM	DEG DAY	FROM NORM			MAX 24-HR		
ASHLAND	364	6	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.352	31	****	0.80	31
BEGGS	631	6	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.410	31	****	0.92	30
CALVIN	1391	6	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.300	31	-2.80	1.30	31
CHECOTAH	1711	6	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.360	31	-2.87	0.92	30
CLAYTON	1858	6	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.690	31	****	0.98	31
DEWAR	2485	6	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.402	31	-2.56	0.80	30
DUSTIN	2690	6	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.670	31	****	1.15	30
EUFULA	2993	6	66.3	30	1.7	89	13	39	24	69	-34	109	18	1.820	30	****	1.57	30
HANNA	3884	6	62.5	31	-0.5	89	14	31	24	130	12	53	-3	1.240	31	-2.91	0.63	30
HASKELL	3956	6	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.280	31	-2.79	0.90	30
LAKE EUFAULA	4975	6	63.3	29*	****	87	15	40	25	117	*****	66	*****	2.661	29	****	2.66	30
LYONS	5437	6	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.150	31	-2.33	1.10	31
MARBLE CITY	5546	6	*****	0*	****	****	0	****	0	*****	*****	*****	*****	0.650	31	****	0.51	31
MCALESTER	5664	6	64.1	31	1.0	90	13	31	24	108	-23	81	10	1.123	31	-3.46	0.87	30
MCCURTAIN	5693	6	65.4	31	1.7	91	14	30	24	89	-27	102	27	0.721	31	-3.18	0.72	31
MUSKOGEE	6130	6	62.8	31	0.2	89	15	30	24	131	-4	62	2	1.757	31	-2.39	1.08	30
OKMULGEE	6670	6	61.3	31	-0.4	88	15	30	24	161	5	45	-10	2.300	31	-1.71	1.20	30
OKTAHA	6678	6	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.300	31	****	0.91	30
SALLISAW	7862	6	64.0	31	0.8	87	16	34	25	115	-11	84	15	0.840	31	-3.60	0.80	31
SCIPIO	7979	6	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.180	31	****	0.70	31
SHORT	8170	6	*****	0*	****	****	0	****	0	*****	*****	*****	*****	2.000	31	****	1.40	31
STILWELL	8506	6	62.5	31	1.2	85	26	24	24	142	-18	64	19	1.530	31	-2.55	1.23	31
TAHLEQUAH	8677	6	63.0	31	1.2	87	15	29	24	125	-33	61	3	1.070	31	-3.14	1.01	31
WEBBERS FALL	9445	6	63.7	26*	****	88	16	28	25	91	*****	56	*****	1.120	26	****	0.45	30
WETUMKA	9571	6	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.311	31	-2.53	0.84	30

OCTOBER 1999 SUMMARY FOR SOUTHWEST DIVISION (CD7)

NAME	ID	CD	MEAN		DEV		DAY	MIN		HEAT		DEV		COOL		DEV		TOT	DEV		DAY
			TEMP	NUM	FROM	MAX		FROM	MAX	TEMP	DAY	DEG	FROM	DEG	FROM	DEG	FROM		DEG	FROM	
ALTUS	179	7	62.1	31	-2.5	92	15	35	20	135	35	46	-42	3.050	31	0.68	1.47	30			
ALTUS DAM	184	7	63.4	31	0.9	92	16	34	21	120	-12	70	15	2.580	31	-0.16	1.68	30			
ANADARKO	224	7	60.0	31	-2.4	88	16	29	21	186	57	31	-17	1.790	31	-0.91	1.04	30			
APACHE	260	7	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.800	31	-1.01	0.90	30			
ALTUS AFB	447	7	*****	0*	****	****	0	****	0	*****	*****	*****	*****	2.972	31	****	1.60	30			
CARNEGIE	1504	7	63.5	31	0.5	92	14	36	19	110	-8	65	9	2.182	31	-0.21	1.68	29			
CHATTANOOGA	1706	7	63.8	30	-0.5	92	16	34	19	103	11	66	-5	2.250	30	*****	1.12	31			
DUNCAN 11 W	2668	7	*****	0*	****	****	0	****	0	*****	*****	*****	*****	2.282	31	****	0.93	30			
FREDERICK	3353	7	63.1	27*	****	96	26	40	31	114	*****	64	*****	2.450	31	-0.20	0.75	4			
HEADRICK	3998	7	*****	0*	****	****	0	****	0	*****	*****	*****	*****	2.910	31	****	1.60	30			
HOBART	4204	7	63.6	30	0.7	91	15	35	19	106	-22	64	2	2.501	31	-1.15	1.59	30			
HOLLIS	4249	7	63.2	31	-0.1	93	15	33	19	110	-8	56	-10	1.310	31	-0.86	0.61	9			
LAWTON	5063	7	64.2	31	1.6	91	14	38	19	93	-38	67	11	2.061	31	-0.92	0.82	31			
LOOKEBA	5329	7	*****	0*	****	****	0	****	0	*****	*****	*****	*****	2.950	31	0.22	2.95	30			
MANGUM	5509	7	64.2	29*	****	93	16	35	20	70	*****	47	*****	0.680	31	-1.98	0.53	30			
RANDLETT	7403	7	*****	0*	****	****	0	****	0	*****	*****	*****	*****	4.350	31	****	1.20	31			
ROOSEVELT	7727	7	*****	0*	****	****	0	****	0	*****	*****	*****	*****	3.150	31	0.59	1.75	30			
SEDAN	8016	7	*****	0*	****	****	0	****	0	*****	*****	*****	*****	2.740	31	****	1.60	30			
SNYDER	8299	7	*****	0*	****	****	0	****	0	*****	*****	*****	*****	2.972	31	0.44	1.27	30			
VINSON	9212	7	*****	0*	****	****	0	****	0	*****	*****	*****	*****	0.491	31	-1.71	0.32	30			
WALTERS	9278	7	64.0	31	-0.6	91	14	36	21	102	-2	72	-19	3.760	31	0.52	1.20	9			
WICHITA MT	9629	7	61.8	28*	****	90	16	34	21	131	*****	41	*****	2.010	28	****	1.04	30			
WILLOW	9668	7	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.050	31	****	0.68	30			

OCTOBER 1999 SUMMARY FOR SOUTH CENTRAL DIVISION (CD8)

NAME	ID	CD	MEAN		DEV		DAY	MIN		HEAT		DEV		COOL		DEV		TOT	DEV		DAY
			TEMP	NUM	FROM	MAX		FROM	MAX	TEMP	DAY	DEG	FROM	DEG	FROM	DEG	FROM		DEG	FROM	
ADA	17	8	63.3	31	-0.3	89	13	34	24	106	-23	54	-31	1.412	31	-2.83	0.85	31			
ALLEN	147	8	*****	0*	****	****	0	****	0	*****	*****	*****	*****	2.100	31	****	1.85	31			
ARDMORE	292	8	68.1	26*	****	92	14	43	24	33	*****	115	*****	2.781	26	****	2.25	31			
ATOKA DAM	394	8	64.6	21*	****	92	11	37	25	65	*****	57	*****	0.800	21	****	0.57	18			
BOKCHITO	917	8	*****	0*	****	****	0	****	0	*****	*****	*****	*****	2.850	31	****	1.10	30			
CANEY	1437	8	*****	0*	****	****	0	****	0	*****	*****	*****	*****	2.550	31	****	1.70	31			
CENTRAHOMA	1648	8	63.7	31*	****	93	15	34	24	108	*****	66	*****	1.200	31	****	0.65	31			
CHICKASAW	1745	8	61.8	30	-0.6	89	14	33	21	137	9	40	-8	2.772	31	-1.75	1.66	31			
COLEMAN	2011	8	*****	0*	****	****	0	****	0	*****	*****	*****	*****	2.350	31	****	1.50	31			
COMANCHE	2054	8	65.4	31*	****	89	14	40	19	75	*****	86	*****	2.950	31	-0.22	1.61	31			
DAISY	2354	8	*****	0*	****	****	0	****	0	*****	*****	*****	*****	2.333	31	-2.18	1.09	30			
DUNCAN	2660	8	63.6	31	0.4	91	14	37	20	113	-9	70	4	3.481	31	0.12	1.60	31			
ELMORE CITY	2872	8	*****	0*	****	****	0	****	0	*****	*****	*****	*****	2.380	31	****	2.30	31			
GRADY	3688	8	*****	0*	****	****	0	****	0	*****	*****	*****	*****	3.090	31	****	1.10	30			
HEALDTON	4001	8	63.5	29*	****	92	14	37	25	111	*****	67	*****	2.770	31	-0.81	1.65	31			
HENNEPIN	4052	8	*****	0*	****	****	0	****	0	*****	*****	*****	*****	3.500	31	****	2.25	31			
KETCHUM RAN	4780	8	*****	0*	****	****	0	****	0	*****	*****	*****	*****	3.980	31	****	2.62	30			
KINGSTON	4865	8	*****	0*	****	****	0	****	0	*****	*****	*****	*****	2.930	31	-1.34	1.63	30			
LEHIGH	5108	8	*****	0*	****	****	0	****	0	*****	*****	*****	*****	1.950	31	****	0.70	31			
LINDSAY	5216	8	61.8	31	-1.6	89	15	32	24	149	39	50	-11	3.230	31	-0.42	1.63	29			
LOCO	5247	8	*****	0*	****	****	0	****	0	*****	*****	*****	*****	3.390	31	****	1.72	31			
MADILL	5468	8	64.6	31	-0.4	92	15	39	24	98	9	86	-4	2.060	31	-2.24	1.60	31			
MARIETTA	5563	8	65.0	31	-0.2	92	15	37	25	87	4	86	-4	3.330	31	-0.37	1.46	31			
MARLOW	5581	8	65.6	31	2.2	94	13	32	20	88	-30	108	40	2.430	31	-1.15	1.15	31			
MCGEE CREEK	5713	8	64.2	31*	****	92	14	36	24	106	*****	83	*****	3.030	31	****	1.20	30			
PAULS VALLEY	6926	8	61.4	31	-2.6	91	14	31	25	150	50	39	-30	2.911	31	-1.02	1.50	30			
PONTOTOC	7214	8	*****	0*	****	****	0	****	0	*****	*****	*****	*****	2.520	31	-1.69	1.54	30			
TISHOMINGO	8884	8	64.5	22*	****	93	14	34	24	73	*****	63	*****	4.580	31	0.21	1.78	17			
TUSSY	9032	8	*****	0*	****	****	0	****	0	*****	*****	*****	*****	4.150	31	****	1.75	30			
WAURIKA	9395	8	66.3	31	1.2	91	14	36	20	69	-17	109	20	3.733	31	0.77	2.40	30			

OCTOBER 1999 SUMMARY FOR SOUTHEAST DIVISION (CD9)

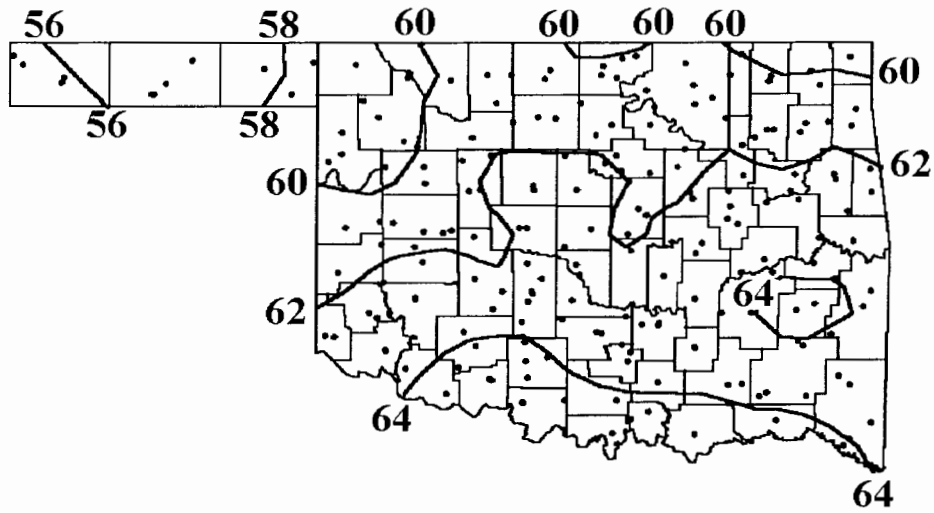
NAME	ID	CD	MEAN		DEV		MIN		HEAT		DEV		COOL		DEV		TOT		DEV		
			TEMP	NUM	FROM	MAX	DAY	TEMP	DAY	DEG	FROM	DEG	FROM	NORM	DEG	FROM	NORM	PPT	NUM	FROM	MAX
ANTLERS	256	9	63.0	31	-0.3	89	14	33	24	120	-1	59	-9	3.240	31	-1.34	1.32	17			
BATTIEST	567	9	63.5	31 *	****	92	14	35	25	114	*****	68	*****	2.010	31	*****	1.35	31			
BENGAL	670	9	*****	0 *	****	****	0	****	0	*****	*****	*****	*****	1.310	31	*****	0.83	31			
BROKEN BOW	1162	9	*****	0 *	****	****	0	****	0	*****	*****	*****	*****	2.330	31	-2.00	1.46	31			
CARNASAW	1499	9	*****	0 *	****	****	0	****	0	*****	*****	*****	*****	3.830	31	-0.77	1.70	31			
CARTER TWR	1544	9	*****	0 *	****	****	0	****	0	*****	*****	*****	*****	3.730	31	-1.33	1.50	31			
HEAVENER	4008	9	*****	0 *	****	****	0	****	0	*****	*****	*****	*****	2.360	31	-1.71	0.96	30			
IDABEL	4451	9	64.6	31	1.2	90	14	37	24	93	-23	80	15	2.150	31	-2.32	1.60	31			
PAGE	6842	9	60.5	24 *	****	84	3	27	24	136	*****	28	*****	3.540	24	*****	1.62	31			
POTEAU	7254	9	62.7	31 *	****	90	14	27	24	133	*****	61	*****	1.861	31	*****	0.83	30			
SMITHVILLE	8285	9	62.2	10 *	****	85	7	31	21	38	*****	10	*****	0.650	24	*****	0.60	8			
SPIRO	8416	9	*****	0 *	****	****	0	****	0	*****	*****	*****	*****	1.090	31	-2.73	0.75	31			
TUSKAHOMA	9023	9	65.0	31	1.2	94	13	28	24	99	-10	99	29	2.182	31	-2.03	0.95	31			
VALLIANT	9118	9	*****	0 *	****	****	0	****	0	*****	*****	*****	*****	1.380	31	-2.62	0.74	31			
WILBURTON	9634	9	63.6	31	1.3	91	13	27	24	111	-29	68	11	2.470	31	-1.84	1.65	31			
WISTER	9724	9	64.9	31 *	****	93	14	29	25	88	*****	84	*****	1.810	31	*****	1.00	31			

OCTOBER 1999 CLIMATE DIVISION SUMMARY

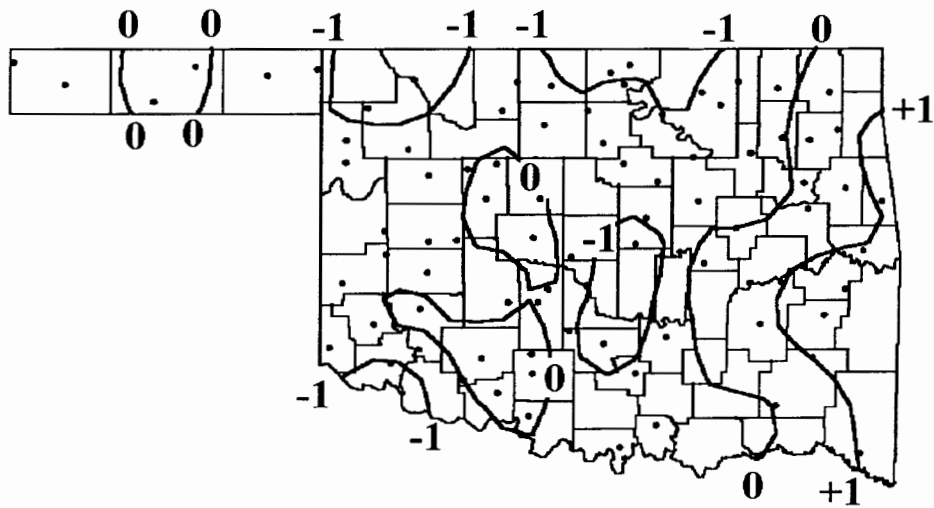
CD	MEAN		DEV		MIN		HEAT		DEV		COOL		DEV		TOT		DEV		
	TEMP	NUM	FROM	MAX	DAY	TEMP	DAY	DEG	FROM	DEG	FROM	DEG	FROM	NORM	PPT	NUM	FROM	MAX	DAY
1	57.8	10	-0.6	93	7	24	18	241	11	21	-5	1.420	13	0.13	2.80	8			
2	60.1	13	-1.0	90	15	26	23	182	18	31	-11	1.690	19	-0.63	2.77	30			
3	61.3	14	-0.1	88	15	24	24	159	1	45	-3	1.690	25	-1.73	3.08	30			
4	61.0	10	-0.4	90	16	29	20	158	3	34	-8	1.150	18	-1.06	2.43	30			
5	62.4	13	-0.3	91	16	28	25	134	6	54	-3	2.150	33	-1.06	3.27	30			
6	63.5	9	0.9	91	14	24	24	119	-17	73	11	1.350	22	-2.77	2.66	30			
7	63.1	9	-0.2	96	26	29	21	118	-1	59	-6	2.380	21	-0.27	2.95	30			
8	63.9	12	-0.2	94	13	31	25	107	2	73	-3	2.860	28	-1.02	2.62	30			
9	63.9	7	1.1	94	13	27	24	108	-21	74	14	2.270	14	-2.19	1.70	31			

MESONET MONTHLY SUMMARY for OCTOBER 1999

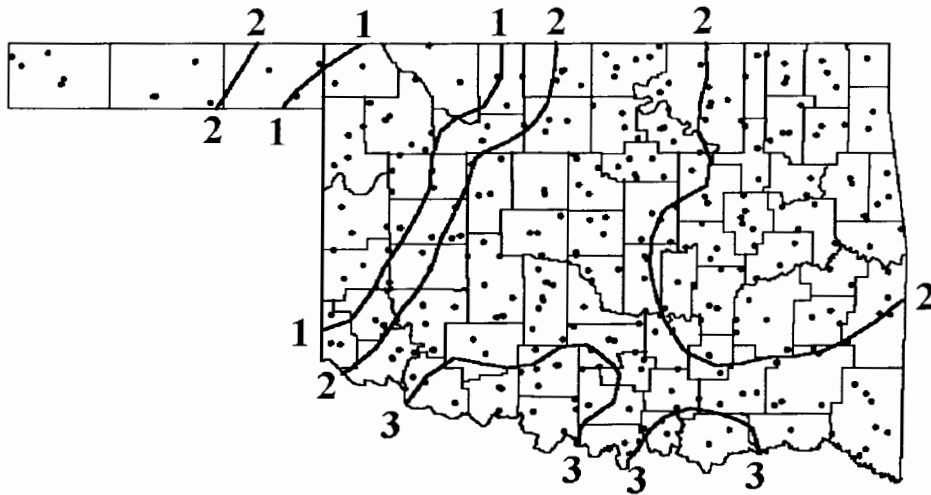
NAME	MEAN TEMP	MAX TEMP	MIN TEMP	DAY	HDD	CDD	TOT PPT	MAX 24-HR	DAY	NAME	MEAN TEMP	MAX TEMP	MIN TEMP	DAY	HDD	CDD	TOT PPT	MAX 24-HR	DAY		
PANHANDLE																					
Arnett	60.1	90	15	34	20	178	26	0.04	0.03	7	Goodwell	56.6	91	1	30	4	276	15	2.27	1.84	8
Beaver	56.9	92	1	28	18	241	22	2.01	1.55	8	Hooker	57.1	90	1	28	18	260	17	2.16	1.89	8
Boise City	54.0	89	1	23	18	346	5	1.79	1.52	8	Kenton	54.5	88	12	24	18	335	10	3.31	3.02	8
Buffalo	59.4	90	12	29	18	211	39	0.69	0.68	8	Slapout	58.7	89	6	30	18	221	27	0.52	0.38	8
NORTH CENTRAL																					
Alva	59.9	89	15	33	24	193	36	0.47	0.37	8	May Ranch	60.3	88	15	34	4	185	41	0.74	0.74	8
Blackwell	60.6	88	15	33	24	169	34	2.05	1.72	29	Medford	60.2	89	15	35	4	182	34	3.38	1.83	29
Breckenridge	60.9	88	15	34	24	162	34	2.26	1.91	29	Newkirk	60.1	86	15	32	24	185	32	3.66	2.17	30
Cherokee	60.6	90	15	33	24	179	44	0.56	0.28	29	Red Rock	60.9	87	15	31	24	162	35	4.14	2.28	30
Fairview	61.7	90	14	33	24	155	53	1.48	0.75	29	Seiling	60.0	89	15	31	24	184	31	0.50	0.38	8
Freedom	60.2	90	14	33	4	189	40	0.67	0.63	8	Woodward	61.0	88	15	34	4	170	45	0.22	0.20	8
Lahoma	60.8	89	15	35	19	165	35	2.85	1.63	29											
NORTHEAST																					
Bixby	61.4	87	14	29	24	160	47	2.13	1.53	30	Nowata	59.0	85	15	25	24	216	31	1.39	1.32	30
Burbank	60.3	86	12	30	24	176	30	2.36	1.53	29	Pawnee	61.6	86	15	31	24	149	44	2.83	2.73	30
Catoosa	62.7	86	11	31	24	130	59	1.63	1.43	30	Pryor	60.7	87	15	25	24	168	39	1.59	1.30	30
Claremore	61.5	87	15	28	24	161	54	1.50	1.45	30	Skiatook	62.5	85	15	34	24	138	59	1.50	1.39	30
Copan	60.1	85	10	28	24	190	39	0.00	0.00	1	Tulahassee	63.0	87	11	29	24	127	64	2.25	1.17	30
Foraker	60.4	87	15	31	24	179	37	3.12	1.99	30	Vinita	59.7	86	11	25	24	196	32	1.43	1.40	30
Jay	60.3	84	11	24	24	181	39	1.73	0.97	30	Wynona	61.2	87	15	33	24	160	43	1.77	1.09	30
Miami	59.6	85	11	24	24	201	33	0.95	0.91	30											
WEST CENTRAL																					
Bessie	63.0	90	15	37	19	117	55	1.90	1.49	29	Putnam	61.5	88	14	37	4	150	43	0.32	0.31	8
Butler	61.4	90	15	31	20	154	43	0.43	0.27	29	Retrop	63.1	91	15	36	19	107	51	1.45	0.77	29
Camargo	59.3	89	15	29	20	196	21	0.38	0.27	8	Watonga	62.4	88	14	36	24	138	58	2.38	1.76	29
Cheyenne	61.8	90	15	38	4	141	43	0.17	0.09	8	Weatherford	62.2	88	15	38	19	137	50	2.35	1.89	29
Erick	60.0	91	15	29	20	178	25	0.45	0.29	29											
CENTRAL																					
Acme	63.9	90	15	33	19	119	84	2.42	1.42	30	Minco	62.5	88	14	39	24	125	48	2.47	1.17	30
Bowlegs	62.2	90	14	30	20	139	51	1.77	0.88	30	Ninnekah	63.1	90	14	34	19	119	61	1.38	0.70	29
Bristow	61.0	87	14	29	24	170	45	1.92	1.48	30	Norman	62.6	89	14	35	24	125	51	2.14	1.13	30
Chandler	62.6	88	14	34	24	128	55	2.23	1.56	30	Oilton	60.4	86	14	27	24	181	37	3.39	1.74	30
Chickasha	61.9	90	15	30	20	139	42	2.06	0.95	30	Okemah	62.3	87	14	32	19	136	54	1.62	1.03	30
El Reno	60.8	89	14	29	24	161	32	3.42	2.47	29	Perkins	62.3	88	14	32	24	135	52	3.51	2.18	30
Guthrie	62.9	88	15	36	19	126	62	4.07	2.35	30	Shawnee	62.8	87	14	36	19	125	56	2.78	2.19	30
Kingfisher	61.9	89	14	31	24	144	49	1.66	0.88	29	Spencer	63.1	88	14	35	19	124	64	2.43	1.40	30
Marena	62.2	88	15	35	24	135	49	3.77	2.71	29	Stillwater	61.0	87	14	30	24	159	35	5.04	2.83	30
Marshall	62.1	89	12	33	19	141	50	3.60	1.84	30	Washington	63.4	90	14	37	20	112	62	2.67	1.47	30
EAST CENTRAL																					
Calvin	62.8	89	13	31	24	123	55	1.54	1.35	30	Preston	64.3	88	14	37	24	103	82	1.64	1.30	30
Cookson	62.4	86	11	27	24	141	60	2.20	1.37	31	Sallisaw	63.4	88	13	28	24	116	66	1.75	1.10	31
Eufaula	63.6	87	13	33	24	111	68	2.17	1.31	30	Stigler	62.8	89	14	27	24	122	54	1.45	0.90	31
Haskell	61.6	86	14	30	24	147	42	2.07	1.43	30	Stuart	64.1	89	13	34	24	103	75	1.66	1.13	30
Hectorville	63.5	86	14	36	24	116	71	1.84	1.39	30	Tahlequah	61.6	86	11	25	24	157	52	1.88	1.11	30
McAlester	63.7	90	13	30	24	115	74	1.98	1.47	30	Webbers Falls	63.1	89	15	28	24	121	65	2.07	1.04	30
Okmulgee	61.6	88	14	29	24	151	47	1.59	1.23	30	Westville	62.6	84	11	28	24	126	55	1.43	0.94	30
SOUTHWEST																					
Altus	63.4	92	15	35	19	112	62	2.95	1.38	29	Hollis	62.7	93	15	34	19	118	47	1.29	0.66	8
Apache	62.9	88	15	38	19	123	59	2.10	0.90	30	Mangum	61.7	91	15	30	20	146	42	1.62	0.84	29
Fort Cobb	62.6	88	14	34	20	126	53	2.65	1.28	29	Medicine Park	64.2	88	15	43	19	105	79	2.89	1.02	8
Grandfield	64.4	92	13	35	20	105	86	4.44	1.83	30	Tipton	64.2	92	15	35	19	105	79	2.56	0.99	4
Hinton	61.9	88	14	35	19	141	45	5.29	2.83	30	Walters	64.8	93	13	35	20	97	90	4.23	1.71	30
Hobart	63.0	90	15	35	19	122	61	2.65	1.65	29											
SOUTH CENTRAL																					
Ada	63.4	90	13	30	24	114	64	1.37	0.91	30	Madill	65.4	91	13	36	20	89	101	2.43	1.27	30
Ardmore	65.0	91	13	38	24	88	88	3.06	1.97	30	Pauls Valley	63.7	91	13	35	19	109	69	2.82	1.81	30
Burneyville	65.5	93	14	34	24	86	102	2.37	1.40	30	Ringling	65.0	92	13	37	20	92	93	2.72	2.05	30
Byars	63.8	89	13	36	24	109	72	2.76	1.94	30	Sulphur	63.2	90	13	33	20	118	63	2.92	1.72	30
Centrahoma	62.8	91	13	28	24	128	60	1.42	1.06	30	Tishomingo	63.1	90	13	36	19	120	62	2.35	1.48	30
Durant	65.5	91	13	39	24	89	104	5.03	2.05	30	Vanoss	63.4	90	13	31	24	117	66	2.07	1.31	30
Ketchum Ranch	64.7	92	13	36	20	97	88	4.09	2.15	30	Waurika	65.5	93	13	36	20	87	102	4.13	2.31	30
Lane	63.5	91	13	34	24	113	68	1.99	1.11	30											
SOUTHEAST																					
Antlers	62.3	92	13	29	24	143	59	3.72	1.30	30	Idabel	64.3	92	13	33	24	102	79	1.89	1.04	30
Broken Bow	63.1	92	13	30	24	126	68	2.70	0.96	30	Mt Herman	63.3	90	13	33	24	127	75	2.92	1.00	30
Clayton	64.1	90	13	31	24	112	85	1.38	0.69	30	Talihina	63.5	93	13	28	24	127	82	2.27	1.10	30
Cloudy	63.4	90	13	32	24	124	73	2.44	1.25	30	Wilburton	63.8	91	13	29	24	116	77	1.12	0.56	30
Hugo	64.9	91	13	38	24	92	89	2.16	0.92	30	Wister	62.1	92	13	24	24	143	52	1.81	0.72	30



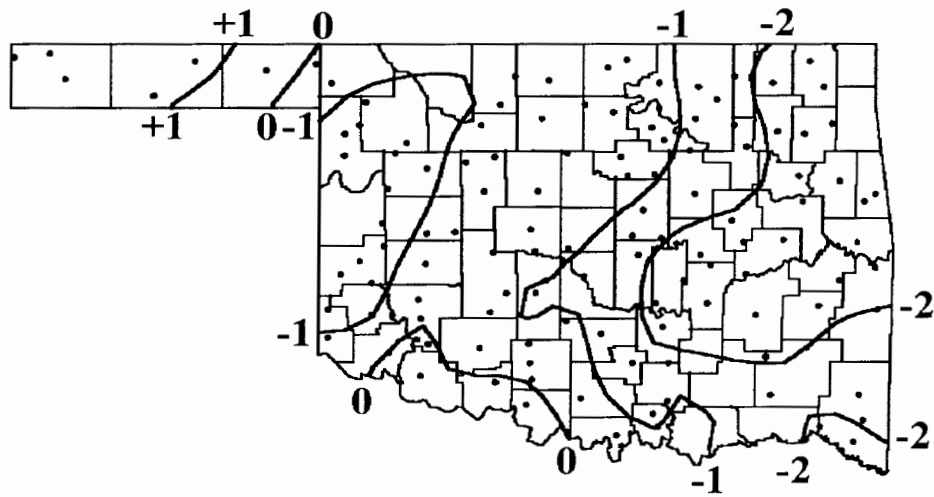
OCTOBER 1999 AVERAGE MONTHLY TEMPERATURE (F)



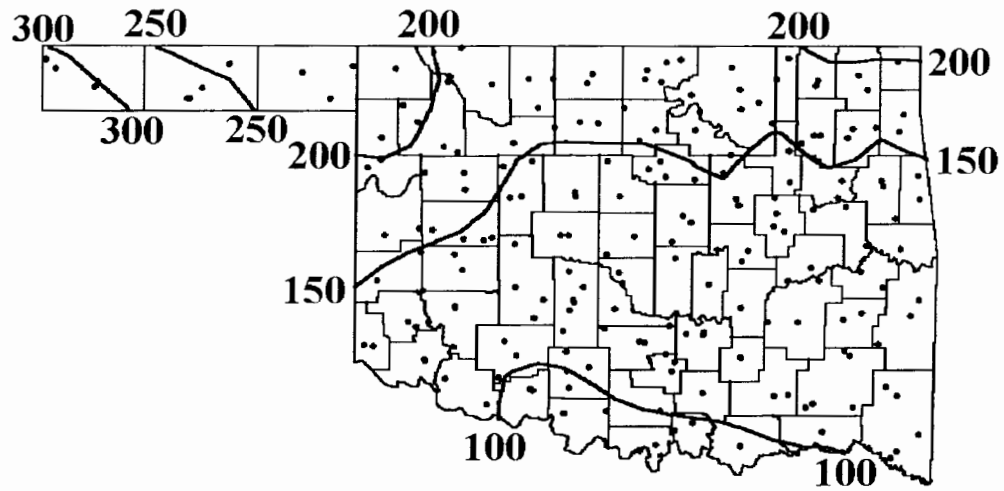
OCTOBER 1999 DEPARTURE FROM NORMAL TEMPERATURE (F)



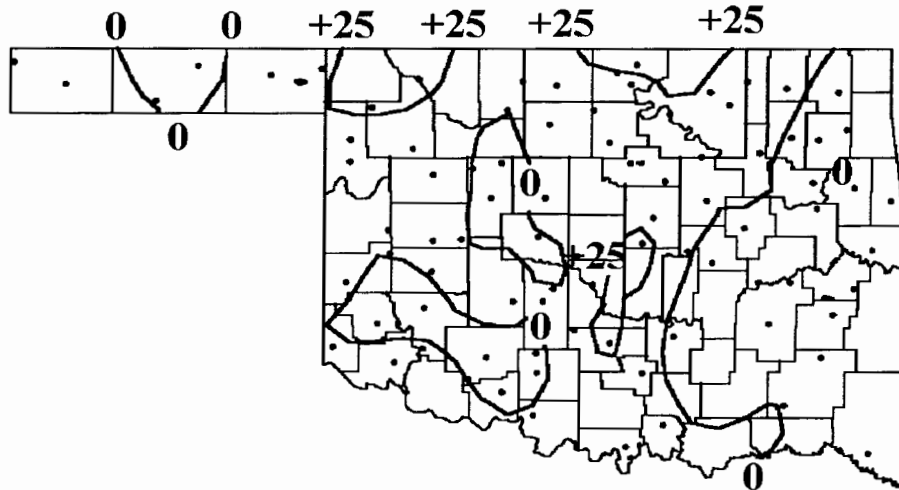
OCTOBER 1999 TOTAL PRECIPITATION (INCHES)



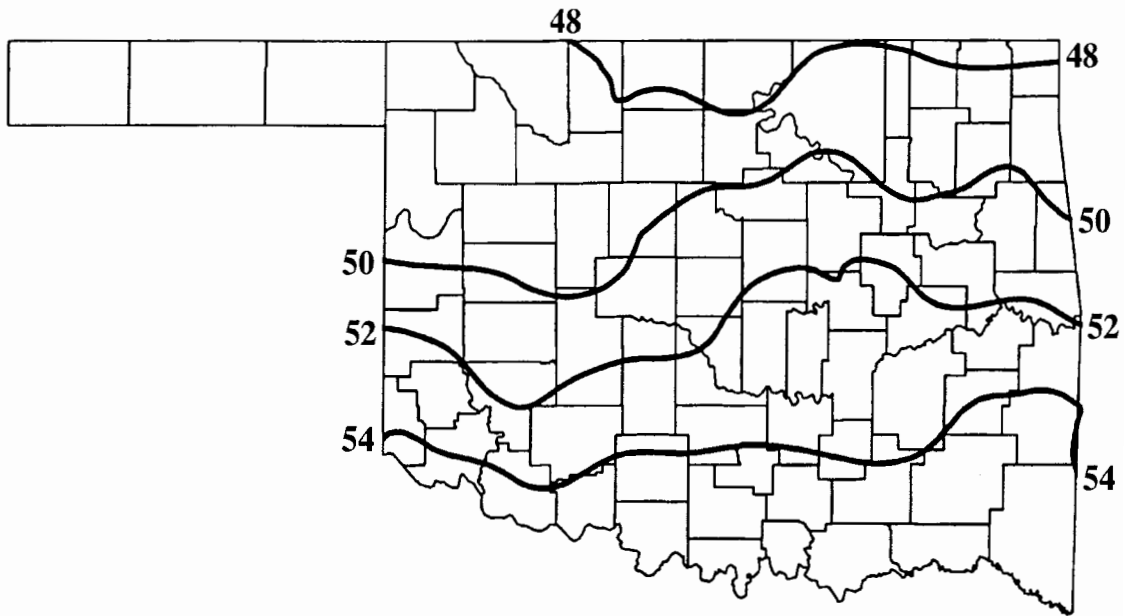
OCTOBER 1999 DEPARTURE FROM NORMAL PRECIPITATION (INCHES)



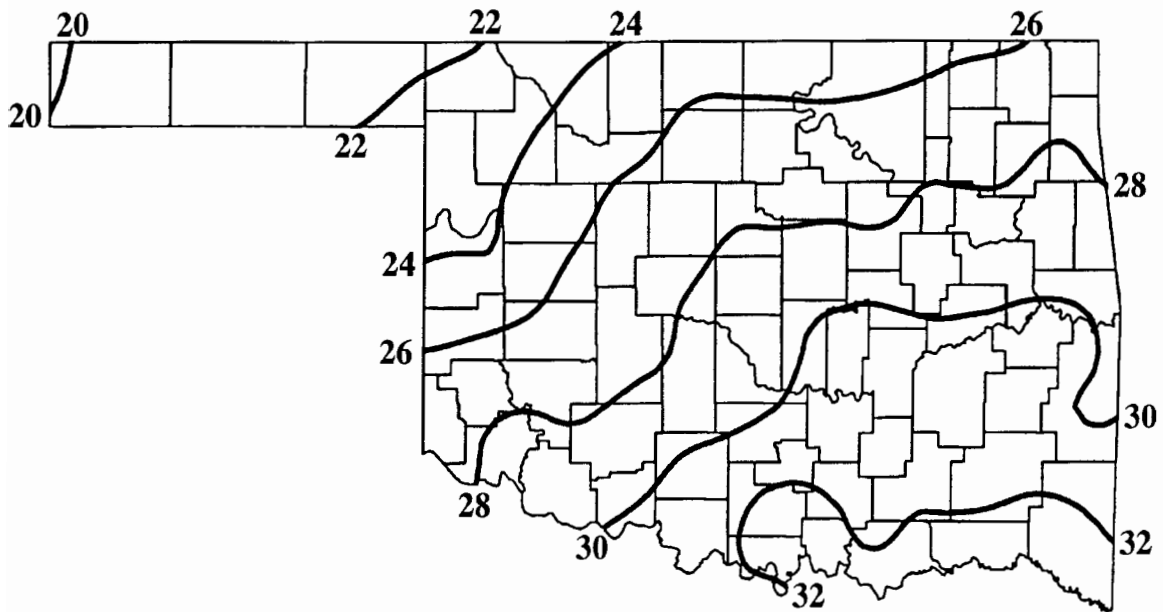
OCTOBER 1999 ACCUMULATED HEATING DEGREE DAYS (F)



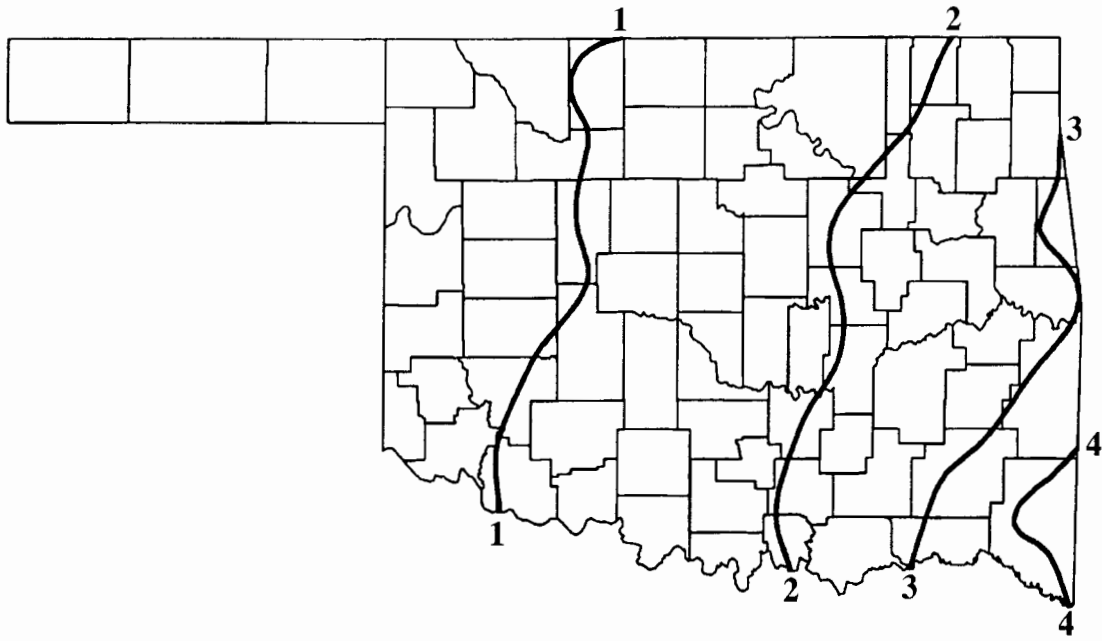
OCTOBER 1999 DEPARTURE FROM NORMAL HEATING DEGREE DAYS (F)



DECEMBER NORMAL DAILY MAXIMUM TEMPERATURE (F)



DECEMBER NORMAL DAILY MINIMUM TEMPERATURE (F)



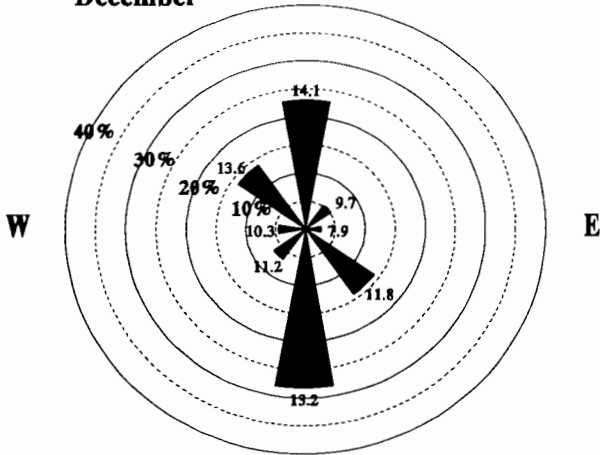
DECEMBER NORMAL MONTHLY PRECIPITATION (INCHES)

**OUTLOOK FOR DECEMBER 1999 THROUGH FEBRUARY 2000
BASED ON SEASONAL OUTLOOK PROVIDED BY THE CLIMATE PREDICTION CENTER**

TEMPERATURE: TEMPERATURE ABOVE NORMAL STATEWIDE

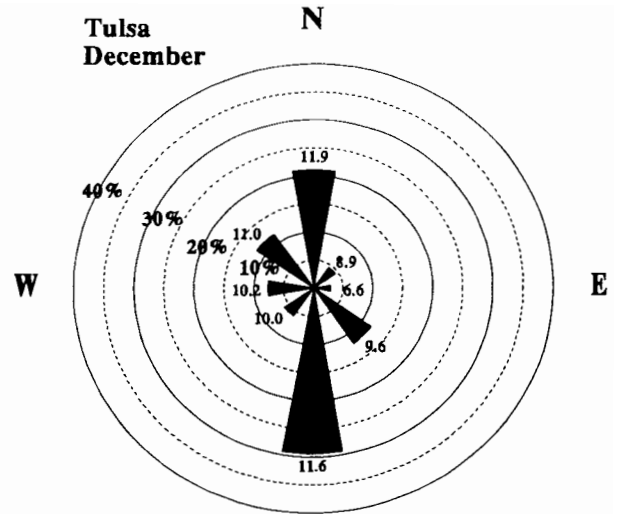
PRECIPITATION: PRECIPITATION NORMAL STATEWIDE

**Oklahoma City
December**



**Calm=1.8%
Mean Speed= 12.5 mph**

**Tulsa
December**



**Calm=5.1%
Mean Speed= 10.3 mph**

December 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.

DECEMBER SUNRISE/SUNSET TIMES FOR 1999

ALL TIMES ARE CENTRAL STANDARD TIME

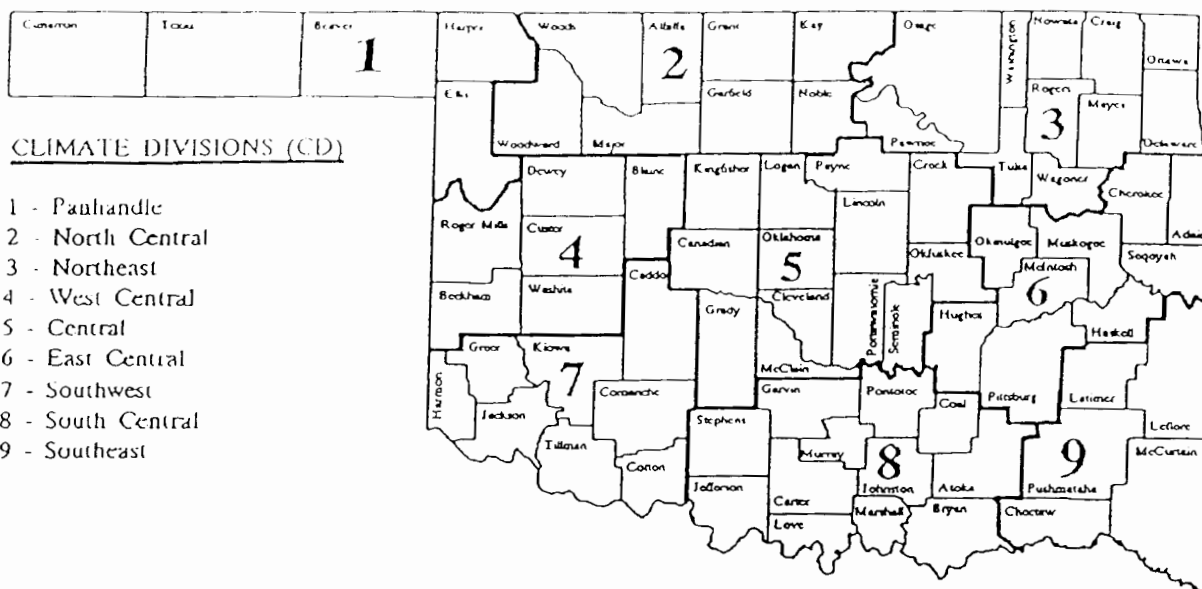
OKLAHOMA CITY

TULSA

DATE	SUNRISE	SUNSET
12/1/99	721	1717
12/2/99	722	1717
12/3/99	722	1717
12/4/99	723	1717
12/5/99	724	1717
12/6/99	725	1717
12/7/99	726	1717
12/8/99	727	1717
12/9/99	727	1717
12/10/99	728	1717
12/11/99	729	1718
12/12/99	730	1718
12/13/99	730	1718
12/14/99	731	1718
12/15/99	732	1719
12/16/99	732	1719
12/17/99	733	1719
12/18/99	734	1720
12/19/99	734	1720
12/20/99	735	1720
12/21/99	735	1721
12/22/99	736	1721
12/23/99	736	1722
12/24/99	737	1723
12/25/99	737	1723
12/26/99	738	1724
12/27/99	738	1724
12/28/99	738	1725
12/29/99	739	1726
12/30/99	739	1726
12/31/99	739	1727

DATE	SUNRISE	SUNSET
12/1/99	716	1709
12/2/99	717	1709
12/3/99	718	1709
12/4/99	719	1709
12/5/99	719	1709
12/6/99	720	1709
12/7/99	721	1709
12/8/99	722	1709
12/9/99	723	1709
12/10/99	724	1709
12/11/99	724	1709
12/12/99	725	1710
12/13/99	726	1710
12/14/99	727	1710
12/15/99	727	1710
12/16/99	728	1711
12/17/99	728	1711
12/18/99	729	1711
12/19/99	730	1712
12/20/99	730	1712
12/21/99	731	1713
12/22/99	731	1713
12/23/99	732	1714
12/24/99	732	1714
12/25/99	733	1715
12/26/99	733	1716
12/27/99	733	1716
12/28/99	734	1717
12/29/99	734	1718
12/30/99	734	1718
12/31/99	735	1719

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

DECEMBER

The data on this calendar is for Oklahoma City.
 Normal values are calculated for the period 1891-1990.
 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	44	54	76	1982	12	1985		33	57	1933	20	1985		0.05	0.60	1913	
2	43	54	77	1975	10	1985		32	56	1951	20	1919		0.05	1.59	1953	
3	43	53	77	1916	6	1897		32	54	1913	15	1897		0.05	1.39	1947	
4	43	53	75	1954	6	1897		32	53	1913	25	1972		0.05	2.59	1930	
5	42	53	77	1975	9	1950		31	59	1980	31	1992		0.05	1.00	1935	
6	42	52	77	1939	4	1950		31	63	1980	19	1972		0.05	2.78	1892	
7	42	52	80	1966	5	1950		31	54	1894	19	1909		0.05	1.23	1980	
8	41	52	71	1970	1	1917		30	61	1946	17	1917		0.05	1.00	1956	
9	41	52	73	1915	3	1919		30	56	1946	15	1919		0.05	1.93	1911	
10	41	51	75	1996	3	1919		30	58	1965	22	1917		0.05	1.06	1960	
11	40	51	75	1939	5	1917		30	52	1991	21	1961		0.05	1.37	1991	
12	40	51	73	1973	6	1932		29	45	1991	17	1932		0.05	1.33	1892	
13	40	50	79	1921	4	1917		29	62	1929	17	1958		0.05	1.80	1984	
14	39	50	74	1933	-2	1901		29	64	1948	10	1901		0.05	1.37	1902	
15	39	50	75	1948	3	1989		29	59	1929	19	1901		0.05	1.53	1984	
16	39	50	73	1939	7	1989		28	56	1929	21	1932		0.05	0.56	1931	
17	39	49	75	1939	2	1979		28	45	1939	21	1964		0.04	1.68	1959	
18	38	49	69	1982	4	1924		28	47	1939	19	1983		0.04	2.20	1898	
19	38	49	75	1978	-2	1924		28	54	1978	8	1924		0.04	1.97	1991	
20	38	49	73	1966	2	1924		27	51	1890	15	1924		0.04	1.43	1991	
21	38	48	68	1966	-2	1983		27	53	1894	11	1983		0.04	1.26	1907	
22	38	48	75	1896	-4	1989		27	55	1893	4	1989		0.04	2.01	1932	
23	37	48	72	1982	-8	1989		27	57	1965	10	1983		0.04	1.80	1932	
24	37	48	86	1955	0	1983		27	54	1893	3	1983		0.04	1.47	1914	
25	37	48	73	1922	-1	1983		26	49	1936	13	1983		0.04	1.05	1987	
26	37	48	68	1968	2	1892		26	56	1936	18	1892		0.04	1.15	1940	
27	37	47	75	1946	3	1924		26	56	1946	15	1894		0.04	1.06	1927	
28	37	47	73	1947	-1	1924		26	59	1984	21	1925		0.04	1.85	1979	
29	36	47	77	1951	3	1983		26	60	1992	12	1917		0.04	0.23	1972	
30	36	47	74	1951	3	1990		26	55	1965	14	1990		0.04	0.40	1899	
31	36	47	80	1951	1	1968		26	55	1965	10	1927		0.04	2.55	1984	
MONTH	39	49.9	86	1955	-8	1989		28.6	64	1948	3	1983		1.40	2.78	1892	

*The most tornadoes reported in December for Oklahoma was 4 in 1971, 1975, & 1982.

TULSA CLIMATE CALENDAR
 DATA COURTESY OF NATIONAL WEATHER SERVICE TULSA

DECEMBER

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	44	53	77	1950	14	1985		34	59	1982	26	1985		0.09	1.48	1909	
2	43	53	76	1995	11	1985		33	58	1951	24	1985		0.09	1.40	1913	
3	43	53	77	1916	15	1929		33	60	1998	27	1919		0.09	0.87	1913	
4	42	52	77	1906	20	1945		32	58	1922	27	1972		0.08	1.30	1944	
5	42	52	77	1989	10	1950		32	61	1980	32	1992		0.08	1.14	1913	
6	42	52	77	1966	3	1950		32	64	1980	18	1972		0.08	1.65	1935	
7	41	51	80	1966	4	1950		31	55	1916	19	1909		0.08	1.48	1926	
8	41	51	73	1991	-3	1917		31	61	1946	19	1909		0.08	1.01	1956	
9	41	50	75	1993	0	1917		31	58	1946	22	1937		0.08	1.26	1992	
10	40	50	74	1996	3	1919		30	56	1996	22	1917		0.08	1.73	1960	
11	40	50	76	1929	4	1917		30	53	1929	27	1917		0.07	0.87	1946	
12	40	50	73	1924	3	1962		30	51	1939	19	1932		0.07	1.82	1923	
13	39	49	80	1948	4	1917		29	54	1927	19	1917		0.07	2.33	1984	
14	39	49	74	1933	4	1958		29	64	1948	20	1926		0.07	3.02	1971	
15	39	49	77	1948	-1	1989		29	58	1929	19	1951		0.07	0.72	1930	
16	39	48	77	1908	3	1989		29	52	1929	15	1932		0.07	0.85	1961	
17	38	48	78	1908	2	1932		28	61	1908	23	1964		0.07	1.00	1959	
18	38	48	72	1939	4	1964		28	48	1939	23	1981		0.07	0.85	1934	
19	38	48	70	1967	-1	1924		28	55	1978	9	1983		0.07	1.90	1987	
20	38	47	75	1966	3	1924		28	49	1967	17	1924		0.06	1.44	1991	
21	37	47	70	1979	0	1989		27	48	1941	15	1916		0.06	1.03	1997	
22	37	47	71	1982	-6	1989		27	55	1979	7	1989		0.06	1.51	1966	
23	37	47	73	1982	-8	1989		27	60	1982	9	1983		0.06	4.23	1932	
24	37	47	80	1955	-2	1983		27	54	1982	5	1983		0.06	2.80	1965	
25	36	46	73	1922	-2	1983		26	51	1971	12	1983		0.06	1.29	1987	
26	36	46	69	1971	9	1914		26	57	1936	23	1983		0.06	0.97	1987	
27	36	46	77	1946	8	1925		26	55	1946	27	1915		0.06	1.62	1943	
28	36	46	74	1928	0	1924		26	62	1984	20	1917		0.06	0.98	1927	
29	36	46	71	1984	3	1983		26	52	1992	12	1917		0.06	0.84	1971	
30	36	46	77	1951	2	1983		26	58	1965	20	1946		0.05	0.36	1922	
31	35	46	78	1951	0	1969		25	54	1965	18	1927		0.05	3.27	1984	
MONTH	39	48.8	80	1966	-8	1989		28.9	64	1980	5	1983		2.16	4.23	1932	

*The average number of tornadoes reported in December for Oklahoma is 12.