



# OKLAHOMA MONTHLY SUMMARY SEPTEMBER 1999

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## MONTHLY SUMMARY FOR SEPTEMBER 1999

Dry weather continued in western and southeastern Oklahoma through September, although statewide statistics, skewed upward by locally heavy rains in other areas, indicate near-normal rainfall for the month. The statewide-averaged monthly total precipitation of 3.96 inches is 0.09 inch greater than normal and ranks as the 36<sup>th</sup> greatest September precipitation total since 1892. The above normal precipitation was attained by precipitation averaging 30 to 35 percent greater than normal across north central and northeastern Oklahoma; this was counterbalanced by 50 to 70 percent of normal precipitation in southeastern and western regions of the state. Statewide total precipitation for the first nine months of 1999 is 31.91 inches, 4.82 inches greater than normal, the 18<sup>th</sup> greatest January-through-September precipitation of the 108 years on record.

The statewide-averaged temperature for the month was 70.7 degrees, 2.3 degrees less than normal, making this the 13<sup>th</sup> coolest September on record. Average temperatures for the month were lower than normal in all areas of the state, most notably in north central and northeastern sections. The year-to-date temperature for the state is 64.3 degrees, 0.7 degree greater than normal and 38<sup>th</sup> highest January-through-September on record in Oklahoma.

Early in the month, outdoor burning restrictions were placed on the southeastern two-thirds of Oklahoma, including a total ban on outside fires in the southeastern one-third of the state, in response to the sparseness of rainfall over the previous two months. Strong thunderstorms, extending from extreme south central Oklahoma through north central and northeastern portions of the state, on the 7<sup>th</sup> and the 10<sup>th</sup> led to a lifting of those restrictions in most areas on the 14<sup>th</sup>.

Isolated heavy thunderstorm activity prior to the 7<sup>th</sup> included a 3.23-inch rain at Spiro (LeFlore County). The Burbank (Osage) and Breckinridge (Garfield) Mesonet sites recorded 3.54 and 3.51 inches of rain, respectively, on the 7<sup>th</sup>. Mulhall (Logan) reported 3.02 inches by the morning of the 8<sup>th</sup> and rainfall amounts between two and three inches were commonplace in the northeastern quarter of the state. Local flooding was reported in Adair and Cherokee counties. Two-inch hail was reported at Nelagoney (Osage) and the Marshall Mesonet site (Logan) recorded 73 mile-per-hour winds, both on the 7<sup>th</sup>.

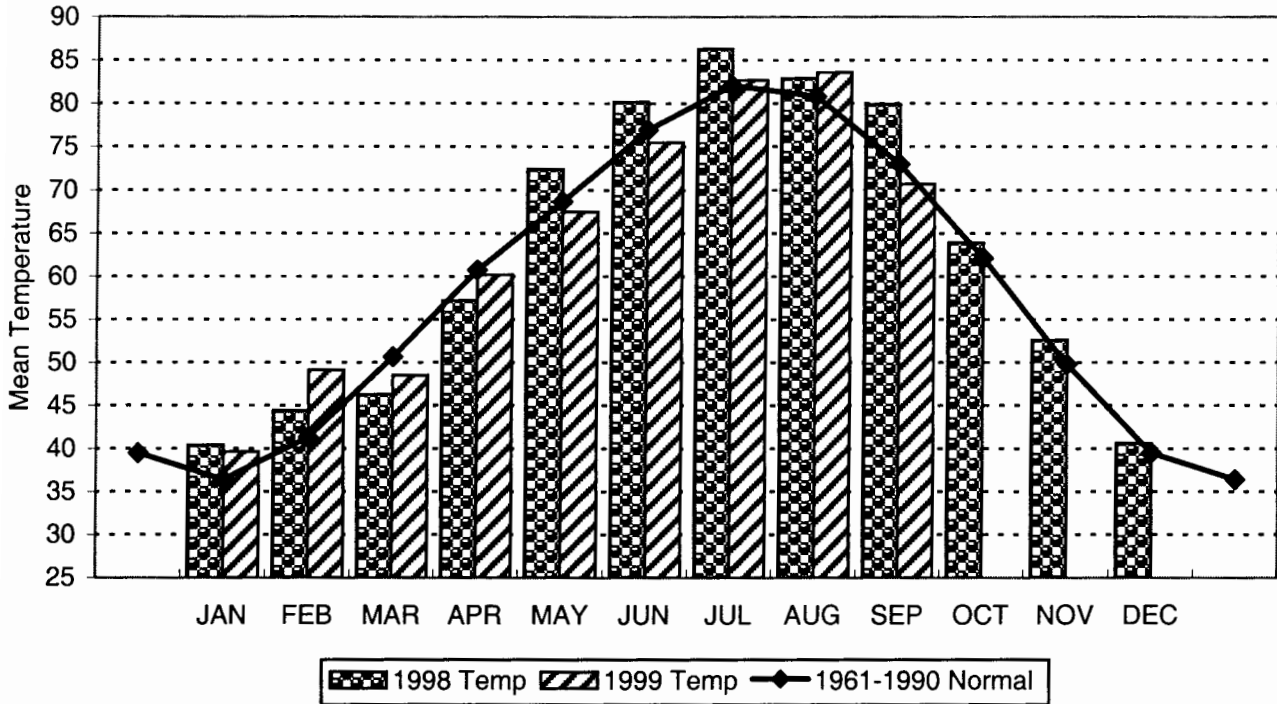
A line of very strong thunderstorms swept through south central, central, north central and northeastern Oklahoma on the 10<sup>th</sup>. Frequent lightning forced the suspension or cancellation of several Friday night high school football games in central Oklahoma. A weak tornado was confirmed near Ames (Major). Two-and-three-quarter-inch hail was reported east of Okemah (Okfuskee). The Chickasaw National Recreation Area (Murray) near Sulphur reported an overnight rainfall of 4.61 inches. The Mesonet site north of Tishomingo (Johnston) recorded 4.51 inches and Elmore City (Garvin) reported 4.40 inches. Additional rain over the weekend increased the three-day totals at Chickasaw NRA and Tishomingo to 7.01 and 7.00 inches, respectively. Weekend precipitation accumulations included: Ardmore Mesonet (Carter), 5.46 inches; Kingston (Marshall), 5.45 inches; Pontotoc (Johnston), 4.92 inches; and Burbank (Osage), 4.74 inches.

The first infusion of cold air into the state arrived on the 12<sup>th</sup>. The front touched off thunderstorms in the Panhandle. In Beaver County, Beaver was pelted with one-and-three-quarter-inch hailstones and the Mesonet sites at Slapout and Beaver recorded maximum winds of 82 and 78 miles per hour.

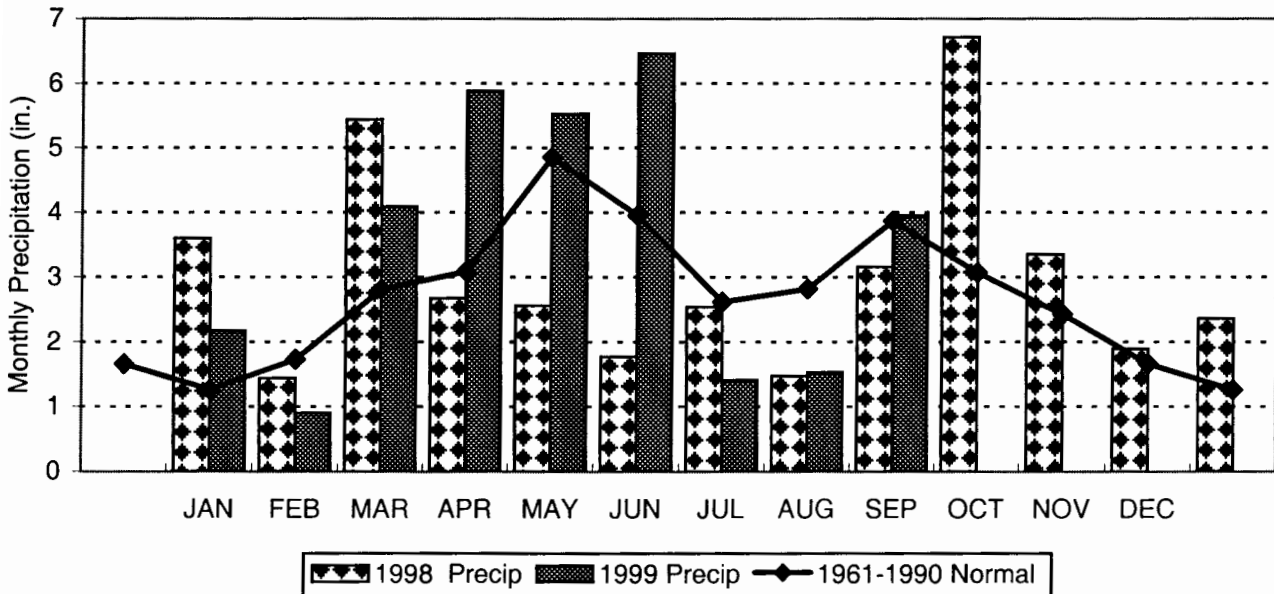
From the 13<sup>th</sup> through the end of the month, the state's weather settled into a pleasant autumn pattern. Rainfall was adequate over most of the state, but the western third and the extreme southeast were too dry. Kenton (Cimarron) experienced the state's first freezing temperature of the season on the 29<sup>th</sup>, reporting an overnight low of 29 degrees.

Howard L. Johnson

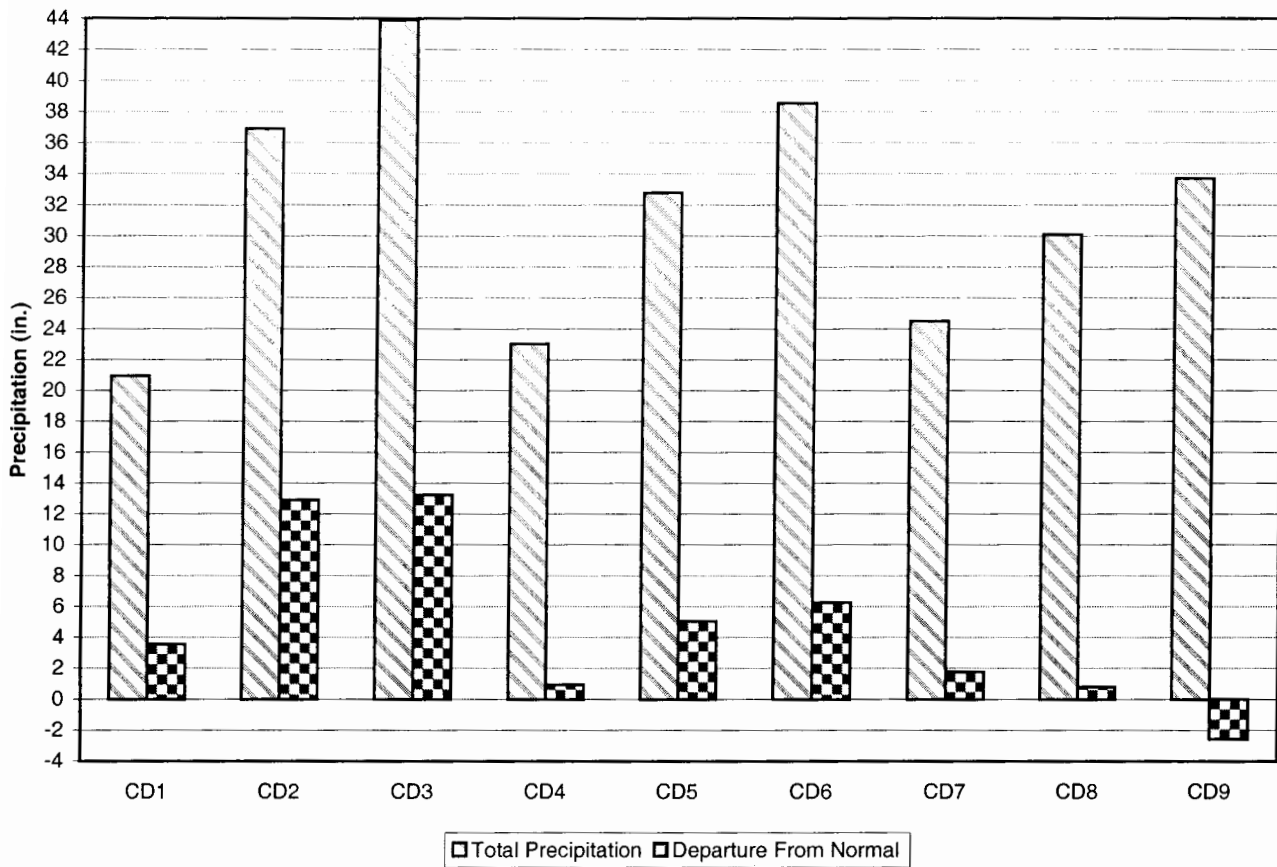
### 1998 and 1999 STATEWIDE TEMPERATURES Monthly Averages



### 1998 and 1999 STATEWIDE PRECIPITATION Monthly Totals

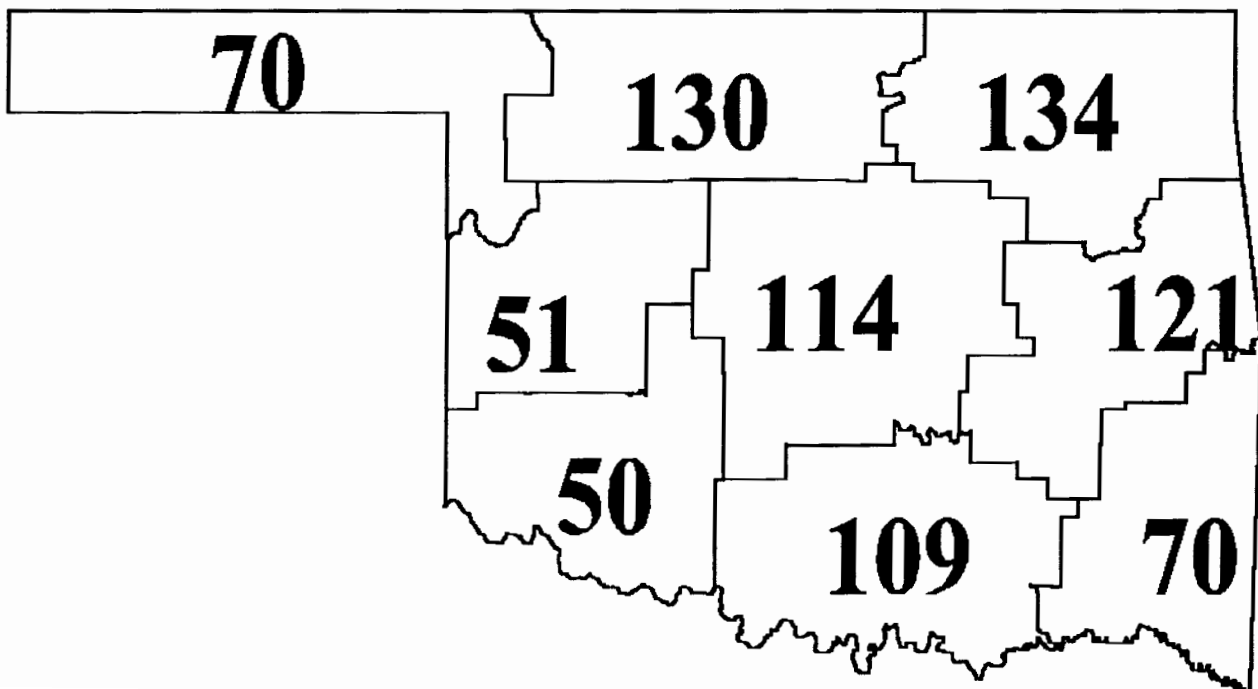


### CD Averaged Precipitation January through September 1999



### CD PERCENT OF NORMAL PRECIPITATION

September 1999



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

CD	MAX TEMP	DATE	LOCATION	MIN TEMP	DATE	LOCATION	24-HOUR PRECIP	DATE	LOCATION	MONTHLY PRECIP	LOCATION
1	103	7	BUFFALO	29	29	KENTON	1.63	12	GATE	4.07	BUFFALO
2	100	8	ALVA	39	28	FT SUPPLY	3.10	10	RED ROCK	8.19	PONCA CITY
	100	11	ALVA								
	100	8	GREAT SALT P								
	100	7	JEFFERSON								
	100	8	MUTUAL								
3	99	5	BIXBY	37	22	RALSTON	3.82	12	BURBANK	9.98	SKIATOOK
	99	7	MANNFORD								
	99	1	UPPER SPAV								
4	99	2	CORDELL	37	30	TALOGA	1.70	15	REYDON	4.22	REYDON
	99	7	OKEENE								
5	100	4	CHICKASHA	37	23	TROUSDALE	3.33	11	PRAGUE	8.12	WELTY
	100	5	GUTHRIE								
	100	8	KINGFISHER								
6	101	8	WEBBERS FALL	38	22	STILWELL	3.73	11	DUSTIN	7.66	DUSTIN
7	101	8	CHATTANOOGA	37	22	ANADARKO	2.00	11	LOOKEBA	2.80	LAWTON
	101	11	CHATTANOOGA	37	30	ANADARKO					
				37	30	WICHITA MT					
8	101	7	ATOKA DAM	35	22	MARLOW	4.61	11	CHICKASAW	9.18	CHICKASAW
9	102	7	WILBURTON	35	30	SMITHVILLE	3.23	5	SPIRO	6.49	SPIRO
				35	30	TUSKAHOMA					

**TABLE OF 1998/1999 COMPARISONS**

**SEPTEMBER  
Temperature (°F)**

**SEPTEMBER  
Precipitation (in.)**

Station	1999	1999	1998	1999
Arnett	77.0	66.5	0.19	1.51
Enid	81.0	70.5	2.34	4.11
Tulsa	80.8	69.8	5.13	9.69
Elk City	79.4	69.6	0.00	1.23
Oklahoma City	81.2	71.0	4.37	4.88
McAlester	80.8	71.6	2.38	3.68
Altus Irr Station	81.5	73.1	0.05	1.49
Ardmore	82.7	73.8	0.95	3.43
Idabel	79.2	73.2	8.02	3.14

VARIABLE	STATION	EXTREMES DIVISON	OBSERVATION	DATE
Minimum temperature (°F)	Kenton	1	29	29
Maximum temperature (°F)	Buffalo	1	103	7
Maximum 24-hour Precipitation	Chickasaw	8	4.61"	11

SEPTEMBER 1999 SUMMARY FOR PANHANDLE DIVISION (CD1)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV			MIN TEMP	MIN DAY	HEAT			TOT PPT	NUM OBS	DEV			
					FROM NORM	MAX TEMP	MAX DAY			DEG DAY	DEV FROM NORM	COOL DEG DAY			DEV FROM NORM	DEV FROM NORM	MAX 24-HR	MAX DAY
ARNETT	332	1	66.5	30	-3.5	95	8	39	30	97	72	142	-33	1.510	30	-1.02	0.56	15
BEAVER	593	1	66.7	30	-3.0	100	8	35	30	93	62	143	-30	2.071	30	0.25	1.50	12
BOISE CITY	908	1	65.1	30	-2.7	95	1	31	29	104	72	108	-9	1.543	30	-0.29	0.83	16
BUFFALO	1243	1	70.1	29	-2.8	103	7	41	28	47	34	194	-56	4.070	29	****	0.93	11
FARGO	3070	1	****	0	****	****	0	****	0	*****	*****	*****	*****	1.662	30	-0.61	1.08	12
GAGE	3407	1	68.5	30	-3.1	99	7	38	29	79	61	183	-33	1.088	29	****	0.27	25
GATE	3489	1	68.2	30	-3.0	101	8	39	29	77	60	173	-31	4.014	30	1.92	1.63	12
GOODWELL	3628	1	68.3	30	0.2	101	8	36	30	85	46	185	53	0.411	30	-1.27	0.20	16
GUYMON	3835	1	67.9	28	****	101	8	34	30	88	****	169	****	0.160	28	****	0.09	12
HOKKER	4298	1	69.0	30	-0.5	101	7	36	29	65	31	184	15	0.940	30	-1.11	0.62	12
KENTON	4766	1	65.5	25	****	95	7	29	29	84	****	96	****	0.532	27	****	0.30	10
LAVERNE	5045	1	****	0	****	****	0	****	0	*****	*****	*****	*****	2.790	30	0.77	1.06	19
RANGE	7412	1	****	0	****	****	0	****	0	*****	*****	*****	*****	0.585	30	****	0.50	14
REGNIER	7534	1	****	0	****	****	0	****	0	*****	*****	*****	*****	1.381	30	-0.32	0.71	15
TURPIN	9017	1	67.4	30	****	98	8	36	29	87	****	159	****	1.510	30	****	1.18	13

SEPTEMBER 1999 SUMMARY FOR NORTH CENTRAL DIVISION (CD2)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV			MIN TEMP	MIN DAY	HEAT			TOT PPT	NUM OBS	DEV			
					FROM NORM	MAX TEMP	MAX DAY			DEG DAY	DEV FROM NORM	COOL DEG DAY			DEV FROM NORM	DEV FROM NORM	MAX 24-HR	MAX DAY
ALVA	193	2	69.9	30	****	100	11	44	29	63	****	211	****	1.750	30	****	0.69	28
VANCE AFB	302	2	****	0	****	****	0	****	0	*****	*****	*****	*****	2.734	30	****	1.03	11
BILLINGS	755	2	69.2	30	-3.2	98	8	42	22	68	48	193	-50	5.111	30	0.57	1.35	8
BLACKWELL 2E	818	2	68.1	30	-4.7	97	8	43	23	66	49	160	-92	6.982	30	2.90	2.62	12
BRAMAN	1075	2	****	0	****	****	0	****	0	*****	*****	*****	*****	4.852	30	****	1.20	20
CEDARDALE	1620	2	****	0	****	****	0	****	0	*****	*****	*****	*****	2.292	30	****	1.22	12
CHEROKEE	1724	2	70.6	24	****	98	8	45	30	41	****	175	****	2.331	25	****	1.00	12
ENID	2912	2	70.5	30	-2.9	98	8	43	30	60	47	225	-41	4.110	30	0.63	1.46	11
FREEDOM	3358	2	68.9	25	****	99	7	41	28	55	****	152	****	4.600	28	****	1.27	11
FT SUPPLY	3304	2	66.6	30	-3.8	99	7	39	28	93	71	142	-42	3.211	30	0.90	0.99	11
GREAT SALT P	3740	2	69.4	30	-2.7	100	8	45	29	63	46	196	-34	4.113	30	0.78	2.17	12
HARDY	3909	2	****	0	****	****	0	****	0	*****	*****	*****	*****	3.933	30	****	1.13	19
HELENA	4019	2	69.2	30	-2.3	99	8	45	30	66	47	193	-22	3.272	30	0.04	1.25	11
JEFFERSON	4573	2	69.8	30	-3.5	100	7	40	22	43	32	186	-75	4.740	30	1.05	1.41	11
LAMONT	5013	2	****	0	****	****	0	****	0	*****	*****	*****	*****	4.990	30	****	2.26	8
MEDFORD	5768	2	****	0	****	****	0	****	0	*****	*****	*****	*****	6.200	30	****	1.93	7
MORRISON	6065	2	****	0	****	****	0	****	0	*****	*****	*****	*****	5.360	30	****	1.77	11
MUTUAL	6139	2	68.6	30	-2.6	100	8	41	30	85	66	192	-13	2.400	30	-0.25	0.90	12
NEWKIRK	6278	2	68.1	30	-4.6	97	2	42	22	73	59	165	-81	6.280	30	2.01	1.45	8
ORIENTA	6751	2	****	0	****	****	0	****	0	*****	*****	*****	*****	2.292	30	-0.77	0.90	11
PERRY	7012	2	71.4	30	-2.2	98	8	44	21	50	36	241	-31	7.321	30	2.94	2.65	11
PONCA CITY	7201	2	69.9	30	-2.2	98	7	43	22	49	26	197	-39	8.192	30	3.85	2.44	12
RED ROCK	7505	2	****	0	****	****	0	****	0	*****	*****	*****	*****	5.750	30	1.52	3.10	10
WAYNOKA	9404	2	64.3	13	****	100	11	43	30	55	****	46	****	5.200	19	****	1.50	12
WOODWARD	9760	2	****	0	****	****	0	****	0	*****	*****	*****	*****	3.012	30	0.67	1.42	12

SEPTEMBER 1999 SUMMARY FOR NORTHEAST DIVISION (CD3)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV		DAY	MIN TEMP	DAY	HEAT		DEV		COOL		DEV		TOT PPT	NUM OBS	DEV	
					FROM NORM	MAX TEMP				DEG DAY	FROM NORM	DEG DAY	FROM NORM	DEG DAY	FROM NORM	DEG DAY	FROM NORM			MAX 24-HR	DAY
BARNSDALL	535	3	69.3	30	-3.5	98	1	39	22	55	31	184	-74	7.582	30	1.97	2.25	12			
BARTLESVILLE	548	3	69.2	29	-3.6	98	7	39	22	49	33	172	-79	5.130	30	0.56	2.20	11			
BIXBY	782	3	70.1	30	-1.4	99	5	42	30	43	22	195	-22	5.452	30	0.74	2.24	11			
BURBANK	1256	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	7.764	30	3.10	3.82	12			
CHELSEA	1717	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.480	30	*****	1.95	11			
CLAREMORE	1828	3	69.3	30	-2.7	96	8	41	30	48	24	176	-59	5.810	30	1.36	1.26	11			
CLEVELAND 2	1902	3	67.5	30	*****	94	7	41	22	65	*****	140	*****	7.611	30	*****	2.60	11			
FORAKER	3250	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.870	30	1.03	1.20	18			
HOLLOW	4258	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	4.301	30	-0.73	1.09	11			
HOMINY	4289	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.342	30	0.22	1.18	11			
KANSAS	4672	3	69.6	30	-2.0	98	2	39	30	42	21	179	-40	5.262	30	-0.18	1.96	8			
LENAPAH	5118	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	4.010	30	*****	0.73	11			
MANNFORD	5522	3	69.0	30	-3.6	99	7	40	22	49	24	168	-86	7.951	30	3.39	1.83	20			
MARAMEC	5540	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	6.961	30	2.27	2.00	8			
NOWATA	6485	3	70.4	30	-2.0	98	4	40	22	44	24	206	-37	6.170	30	0.82	1.67	11			
PAWHUSKA	6935	3	69.6	30	-2.7	97	7	41	30	51	30	188	-52	8.920	30	3.99	3.20	12			
PAWNEE	6940	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	8.350	30	3.31	2.20	8			
PRYOR	7309	3	69.5	29	-1.7	97	8	40	30	51	22	181	-34	4.942	30	0.19	1.24	8			
RALSTON	7390	3	67.8	30	-5.0	97	8	37	22	63	44	149	-105	6.231	30	1.56	2.00	8			
SKIATOOK	8258	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	9.980	30	5.13	2.04	20			
SPAVINAW	8380	3	71.8	30	-1.9	98	1	46	30	30	18	234	-40	6.303	30	1.52	2.00	8			
TULSA	8992	3	69.8	30	-3.5	98	4	43	22	41	21	186	-84	9.692	30	4.99	3.10	10			
UPPER SPAV	9101	3	69.8	30	*****	99	1	41	30	40	*****	185	*****	6.091	30	*****	2.60	8			
VINITA	9203	3	69.9	26	*****	96	7	40	22	41	*****	168	*****	5.771	26	*****	2.02	12			
WAGONER	9247	3	72.9	22	*****	98	7	46	29	11	*****	186	*****	4.830	24	*****	1.10	19			
WANN	9298	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.861	30	*****	0.80	19			
WYNONA	9792	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	7.321	30	*****	1.54	12			

SEPTEMBER 1999 SUMMARY FOR WEST CENTRAL DIVISION (CD4)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV		DAY	MIN TEMP	DAY	HEAT		DEV		COOL		DEV		TOT PPT	NUM OBS	DEV	
					FROM NORM	MAX TEMP				DEG DAY	FROM NORM	DEG DAY	FROM NORM	DEG DAY	FROM NORM	DEG DAY	FROM NORM			MAX 24-HR	DAY
CANTON DAM	1445	4	68.9	29	-3.0	97	8	39	23	81	65	195	-29	2.470	29	*****	0.89	4			
CLINTON	1909	4	70.5	30	-3.4	98	8	43	30	65	52	229	-52	2.880	30	-0.85	1.00	10			
COLONY	2039	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.682	30	*****	1.41	11			
CORDELL	2125	4	70.9	30	-2.5	99	2	41	23	57	46	233	-31	0.822	30	-2.79	0.60	11			
ELK CITY	2849	4	69.6	30	-2.6	98	11	42	30	65	52	202	-28	1.230	30	-2.05	0.34	11			
ERICK	2944	4	69.8	30	-2.6	98	8	42	29	63	50	208	-27	2.020	30	-1.20	0.85	15			
GEARY	3497	4	69.9	27	*****	98	7	43	22	51	*****	185	*****	1.200	27	*****	0.70	10			
HAMMON	3871	4	68.1	30	-3.2	97	8	38	30	77	53	171	-42	1.910	30	-1.18	0.81	25			
LEEDEY	5090	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.130	30	-0.58	1.20	12			
MACKIE	5463	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.730	30	*****	1.15	15			
MORAVIA	6035	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.031	30	-2.38	0.36	15			
OKEENE	6629	4	71.7	30	-2.0	99	7	41	22	39	26	239	-35	1.630	30	-2.06	0.75	12			
RETROP	7565	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.940	30	*****	0.30	11			
REYDON	7579	4	69.1	28	*****	95	8	39	30	57	*****	171	*****	4.220	28	*****	1.70	15			
SAYRE	7952	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.510	30	-0.53	0.79	11			
SWEETWATER	8652	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.003	30	*****	0.92	15			
TALOGA	8708	4	68.8	30	-3.3	98	8	37	30	79	65	193	-34	1.134	30	-1.84	0.62	11			
THOMAS	8815	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.220	30	*****	0.63	11			
VICI	9172	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.960	30	-1.68	0.26	11			
WATONGA	9364	4	71.3	30	-1.3	98	7	42	22	36	20	226	-21	1.545	30	-1.82	1.13	11			
WEATHERFORD	9422	4	69.7	29	-2.4	97	7	45	30	58	40	193	-38	1.710	30	-2.03	1.13	10			

SEPTEMBER 1999 SUMMARY FOR CENTRAL DIVISION (CD5)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV		DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV		DAY
					FROM NORM	MAX TEMP										FROM NORM	MAX 24-HR	
AMBER	200	5	****	0	****	****	0	****	0	*****	*****	*****	*****	2.450	30	****	1.80	11
ARCADIA	288	5	****	0	****	****	0	****	0	*****	*****	*****	*****	5.250	30	****	2.57	11
BLANCHARD	830	5	72.7	30	-1.3	96	10	42	22	23	12	254	-27	3.894	30	-0.27	1.70	11
BRISTOW	1144	5	70.8	28	****	98	4	39	22	30	*****	193	*****	6.890	29	****	3.15	11
CHANDLER	1684	5	70.0	30	-3.3	97	2	41	23	46	29	197	-70	6.150	30	1.90	2.43	11
CHICKASHA EXP	1750	5	74.0	30	0.4	100	4	39	22	21	9	290	20	2.541	30	-1.26	1.01	11
COX CITY	2196	5	****	0	****	****	0	****	0	*****	*****	*****	*****	4.130	30	****	2.96	11
CRESCENT	2242	5	****	0	****	****	0	****	0	*****	*****	*****	*****	4.270	30	****	2.05	8
CUSHING	2318	5	74.0	16	****	96	5	46	30	25	*****	169	*****	5.520	21	****	1.95	11
EDMOND	2788	5	****	0	****	****	0	****	0	*****	*****	*****	*****	3.890	30	****	2.00	10
EL RENO	2818	5	70.6	30	-2.2	96	8	40	23	57	44	224	-23	2.030	30	-2.10	1.20	11
GUTHRIE	3821	5	70.4	25	****	100	5	38	21	23	*****	159	*****	4.882	27	****	2.90	9
HENNESSEY	4055	5	69.0	29	-4.2	99	5	41	22	53	41	168	-91	1.400	29	****	0.51	11
INGALLS	4489	5	****	0	****	****	0	****	0	*****	*****	*****	*****	6.480	30	****	1.74	11
KINGFISHER	4861	5	71.1	30	-2.8	100	8	40	22	50	40	233	-44	2.310	30	-1.81	1.72	11
KONAWA	4915	5	****	0	****	****	0	****	0	*****	*****	*****	*****	4.980	30	0.54	2.17	10
MARSHALL	5589	5	****	0	****	****	0	****	0	*****	*****	*****	*****	5.530	30	1.70	2.26	8
MEEKER	5779	5	67.4	28	****	93	8	38	23	69	*****	135	*****	5.491	29	****	2.38	11
MULHALL	6110	5	****	0	****	****	0	****	0	*****	*****	*****	*****	5.810	30	****	3.02	8
NORMAN NWS	6386	5	70.2	30	-3.8	96	7	41	22	44	34	199	-82	5.384	30	1.29	2.10	10
OKEMAH	6638	5	72.3	30	-1.0	97	4	47	30	21	6	242	-23	7.700	30	3.44	2.85	11
OKLAHOMA CTY	6659	5	****	0	****	****	0	****	0	*****	*****	*****	*****	4.704	30	****	3.27	11
OKLAHOMA CTY	6661	5	71.0	30	-2.0	98	7	42	30	37	22	218	-37	4.884	30	1.04	2.09	10
PERKINS	7003	5	****	0	****	****	0	****	0	*****	*****	*****	*****	5.510	30	1.11	2.35	11
PIEDMONT	7068	5	****	0	****	****	0	****	0	*****	*****	*****	*****	2.380	30	****	1.74	11
PRAGUE	7264	5	****	0	****	****	0	****	0	*****	*****	*****	*****	7.061	30	2.58	3.33	11
SEMINOLE	8042	5	70.7	30	-4.1	96	8	41	30	41	32	211	-93	2.340	30	-2.05	1.20	10
SHAWNEE	8110	5	****	0	****	****	0	****	0	*****	*****	*****	*****	4.371	30	0.15	2.02	11
STELLA	8479	5	****	0	****	****	0	****	0	*****	*****	*****	*****	6.822	30	****	2.49	8
STILLWATER	8501	5	70.1	30	-2.0	99	8	40	22	56	39	208	-23	6.123	30	1.83	2.21	11
STROUD	8563	5	****	0	****	****	0	****	0	*****	*****	*****	*****	5.902	30	****	2.60	11
TECUMSEH	8751	5	****	0	****	****	0	****	0	*****	*****	*****	*****	4.110	30	****	2.71	11
TROUSDALE	8960	5	70.8	27	****	97	5	37	23	40	*****	197	*****	6.050	27	****	2.40	11
UNION CITY	9086	5	****	0	****	****	0	****	0	*****	*****	*****	*****	3.365	30	-0.87	2.24	11
WELTY	9479	5	****	0	****	****	0	****	0	*****	*****	*****	*****	8.122	30	****	3.00	11
WEWOKA	9575	5	****	0	****	****	0	****	0	*****	*****	*****	*****	4.540	30	0.22	2.19	11

SEPTEMBER 1999 SUMMARY FOR EAST CENTRAL DIVISION (CD6)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV		DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV		DAY
					FROM NORM	MAX TEMP										FROM NORM	MAX 24-HR	
ASHLAND	364	6	****	0	****	****	0	****	0	*****	*****	*****	*****	5.611	30	****	2.14	11
BEGGS	631	6	****	0	****	****	0	****	0	*****	*****	*****	*****	6.060	30	****	1.60	11
CALVIN	1391	6	****	0	****	****	0	****	0	*****	*****	*****	*****	4.300	30	-0.14	2.60	11
CHECOTAH	1711	6	****	0	****	****	0	****	0	*****	*****	*****	*****	7.470	30	2.59	2.88	11
CLAYTON	1858	6	****	0	****	****	0	****	0	*****	*****	*****	*****	4.870	30	****	1.60	11
DEWAR	2485	6	****	0	****	****	0	****	0	*****	*****	*****	*****	7.414	30	2.87	2.70	11
DUSTIN	2690	6	****	0	****	****	0	****	0	*****	*****	*****	*****	7.660	30	****	3.73	11
EUFAULA	2993	6	73.3	30	-1.4	98	7	47	30	16	6	263	-38	5.940	30	1.37	1.70	11
HANNA	3884	6	71.0	30	-2.6	97	4	40	30	32	20	211	-59	5.083	30	0.50	1.47	11
HASKELL	3956	6	****	0	****	****	0	****	0	*****	*****	*****	*****	6.810	30	2.42	2.42	11
LAKE EUFAULA	4975	6	71.2	25	****	97	8	48	23	35	*****	190	*****	5.750	26	****	3.10	13
LYONS	5437	6	****	0	****	****	0	****	0	*****	*****	*****	*****	5.931	30	1.11	2.23	8
MARBLE CITY	5546	6	****	0	****	****	0	****	0	*****	*****	*****	*****	5.000	30	****	1.65	8
MCALESTER	5664	6	71.6	30	-2.1	99	4	40	30	35	19	233	-44	3.677	30	-1.18	1.01	5
MCCURTAIN	5693	6	72.1	30	-1.9	100	11	40	30	22	8	236	-49	3.873	30	-0.89	1.12	5
MUSKOGEE	6130	6	70.5	30	-3.0	100	7	41	30	39	24	205	-65	5.424	30	0.91	1.65	7
OKMULGEE	6670	6	68.8	30	-3.1	99	4	39	30	45	24	161	-68	6.260	30	2.35	1.65	10
OKTAHA	6678	6	****	0	****	****	0	****	0	*****	*****	*****	*****	5.360	30	****	2.94	11
SALLISAW	7862	6	72.0	30	-1.8	96	11	43	30	27	16	238	-37	7.350	30	2.84	2.85	8
SCIPIO	7979	6	****	0	****	****	0	****	0	*****	*****	*****	*****	6.640	30	****	1.40	5
SHORT	8170	6	****	0	****	****	0	****	0	*****	*****	*****	*****	3.840	30	****	0.88	8
STILWELL	8506	6	69.5	30	-2.2	95	1	38	22	27	7	162	-60	4.601	30	-0.12	1.52	8
TAHLEQUAH	8677	6	69.6	30	-2.9	95	7	39	30	41	14	177	-75	3.935	30	-1.06	1.24	8
WEBBERS FALL	9445	6	72.1	30	-0.7	101	8	42	30	33	17	247	-4	6.330	30	1.72	2.26	11
WETUMKA	9571	6	****	0	****	****	0	****	0	*****	*****	*****	*****	5.514	30	0.93	1.50	11



SEPTEMBER 1999 SUMMARY FOR SOUTHWEST DIVISION (CD7)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV		DAY	MIN TEMP	DAY	HEAT DEG		DEV FROM		COOL DEG		DEV FROM		TOT PPT	NUM OBS	DEV FROM		MAX 24-HR	DAY
					FROM NORM	MAX TEMP				DAY	NORM	DAY	DAY	NORM	DAY	NORM	DAY			NORM	DAY		
ALTUS	179	7	73.1	29	-2.0	99	25	41	30	20	14	256	-54	1.490	30	-1.95	0.47	15					
ALTUS DAM	184	7	74.3	30	0.3	100	2	42	23	33	25	311	33	1.030	30	-2.40	0.44	11					
ANADARKO	224	7	69.6	30	-4.1	96	5	37	30	58	45	194	-80	1.750	30	-1.96	1.05	11					
APACHE	260	7	****	0	****	****	0	****	0	*****	*****	*****	*****	2.680	30	-1.07	1.36	11					
ALTUS AFB	447	7	****	0	****	****	0	****	0	*****	*****	*****	*****	0.903	27	****	0.41	11					
CARNEGIE	1504	7	72.3	30	-1.6	100	10	43	29	41	29	260	-19	1.355	30	-2.67	0.51	10					
CHATTANOOGA	1706	7	74.4	29	-0.9	101	11	40	30	27	20	301	-15	1.110	29	****	0.46	12					
DUNCAN 11 W	2668	7	****	0	****	****	0	****	0	*****	*****	*****	*****	2.331	30	****	1.38	11					
FREDERICK	3353	7	73.7	30	-0.8	98	6	46	30	30	23	289	-3	2.140	30	-1.44	1.31	3					
HEADRICK	3998	7	****	0	****	****	0	****	0	*****	*****	*****	*****	1.140	30	****	0.45	6					
HOBART	4204	7	72.4	30	-1.5	99	7	43	22	33	23	255	-23	1.494	30	-2.06	0.62	8					
HOLLIS	4249	7	72.9	30	-1.6	100	7	39	30	28	22	265	-26	2.350	30	-0.78	0.98	15					
LAWTON	5063	7	73.7	30	-0.3	98	8	43	30	29	21	291	13	2.801	30	-0.86	1.25	11					
LOOKEBA	5329	7	****	0	****	****	0	****	0	*****	*****	*****	*****	2.122	30	-2.23	2.00	11					
MANGUM	5509	7	73.3	23	****	99	8	45	30	39	****	230	****	0.000	23	****	0.00	30					
RANDLETT	7403	7	****	0	****	****	0	****	0	*****	*****	*****	*****	1.771	30	****	0.57	12					
ROOSEVELT	7727	7	****	0	****	****	0	****	0	*****	*****	*****	*****	1.131	30	-2.20	0.67	11					
SEDAN	8016	7	****	0	****	****	0	****	0	*****	*****	*****	*****	2.200	30	****	0.65	25					
SNYDER	8299	7	****	0	****	****	0	****	0	*****	*****	*****	*****	1.471	30	-2.10	0.50	11					
VINSON	9212	7	****	0	****	****	0	****	0	*****	*****	*****	*****	1.820	30	-1.38	1.09	15					
WALTERS	9278	7	74.4	30	-1.1	99	2	43	22	24	15	306	-19	1.380	30	-2.87	0.39	11					
WICHITA MT	9629	7	70.7	29	-1.7	97	8	37	30	50	37	216	-20	2.270	29	****	1.37	11					
WILLOW	9668	7	****	0	****	****	0	****	0	*****	*****	*****	*****	2.010	30	****	0.67	25					

SEPTEMBER 1999 SUMMARY FOR SOUTH CENTRAL DIVISION (CD8)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV		DAY	MIN TEMP	DAY	HEAT DEG		DEV FROM		COOL DEG		DEV FROM		TOT PPT	NUM OBS	DEV FROM		MAX 24-HR	DAY
					FROM NORM	MAX TEMP				DAY	NORM	DAY	DAY	NORM	DAY	NORM	DAY						
ADA	17	8	71.1	30	-2.7	98	5	40	22	30	22	212	-60	5.180	30	0.72	1.51	11					
ALLEN	147	8	****	0	****	****	0	****	0	*****	*****	*****	*****	6.700	30	****	2.25	11					
ARDMORE	292	8	73.8	26	****	100	5	49	21	17	****	245	****	3.430	26	****	2.03	12					
ATOKA DAM	394	8	72.1	20	****	101	7	41	30	25	****	168	****	3.730	21	****	3.62	13					
BOKCHITO	917	8	****	0	****	****	0	****	0	*****	*****	*****	*****	3.610	30	****	1.25	25					
CANEY	1437	8	****	0	****	****	0	****	0	*****	*****	*****	*****	4.160	30	****	1.79	13					
CENTRAHOMA	1648	8	71.9	30	****	98	5	40	30	35	****	241	****	4.450	30	****	1.20	11					
CHICKASAW	1745	8	71.0	29	-2.6	98	5	38	22	43	29	218	-55	9.180	30	4.54	4.61	11					
COLEMAN	2011	8	****	0	****	****	0	****	0	*****	*****	*****	*****	4.780	30	****	2.00	11					
COMANCHE	2054	8	73.3	30	****	95	3	46	30	21	****	272	****	3.520	30	-0.96	1.75	11					
DAISY	2354	8	****	0	****	****	0	****	0	*****	*****	*****	*****	4.841	30	-0.72	1.83	11					
DUNCAN	2660	8	73.3	29	-0.9	96	9	42	22	30	21	270	-16	2.590	29	****	1.55	11					
ELMORE CITY	2872	8	****	0	****	****	0	****	0	*****	*****	*****	*****	5.540	30	****	4.40	11					
GRADY	3688	8	****	0	****	****	0	****	0	*****	*****	*****	*****	4.940	30	****	1.95	12					
HEALDTON	4001	8	71.3	26	****	100	7	42	30	33	****	196	****	4.380	29	****	1.59	13					
HENNEPIN	4052	8	****	0	****	****	0	****	0	*****	*****	*****	*****	5.110	30	****	3.92	11					
KETCHUM RAN	4780	8	****	0	****	****	0	****	0	*****	*****	*****	*****	2.380	30	****	1.50	11					
KINGSTON	4865	8	****	0	****	****	0	****	0	*****	*****	*****	*****	7.500	30	2.72	3.06	10					
LEHIGH	5108	8	****	0	****	****	0	****	0	*****	*****	*****	*****	5.500	30	****	2.10	11					
LINDSAY	5216	8	70.6	29	-3.0	97	7	39	29	49	35	210	-63	2.731	29	****	1.75	10					
LOCO	5247	8	****	0	****	****	0	****	0	*****	*****	*****	*****	3.950	30	****	1.54	11					
MADILL	5468	8	73.8	30	-1.6	99	5	44	30	21	13	285	-35	5.850	30	1.03	3.02	11					
MARIETTA	5563	8	73.8	30	-1.6	98	5	39	23	29	21	292	-29	3.070	30	-1.12	0.94	11					
MARLOW	5581	8	73.7	30	0.0	100	1	35	22	27	17	289	18	2.371	30	-1.96	1.80	11					
MC GEE CREEK	5713	8	73.5	28	****	99	5	41	30	19	****	258	****	5.110	28	****	2.50	11					
PAULS VALLEY	6926	8	71.3	30	-3.3	99	5	38	22	45	36	234	-63	5.980	30	1.93	3.40	11					
PONTOTOC	7214	8	****	0	****	****	0	****	0	*****	*****	*****	*****	7.340	30	3.34	1.94	12					
TISHOMINGO	8884	8	****	0	****	****	0	****	0	*****	*****	*****	*****	6.270	30	1.36	3.70	11					
TUSSY	9032	8	****	0	****	****	0	****	0	*****	*****	*****	*****	3.900	30	****	3.10	10					
WAURIKA	9395	8	76.3	30	0.6	99	4	42	30	15	15	355	29	2.380	30	-1.53	1.30	12					

SEPTEMBER 1999 SUMMARY FOR SOUTHWEST DIVISION (CD9)

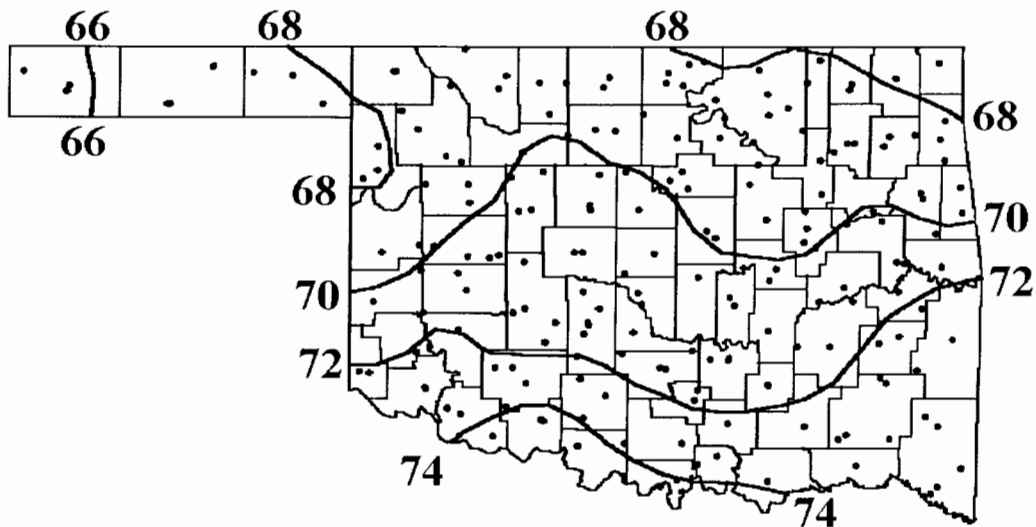
NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
ANTLERS	256	9	73.2	30	-0.9	98	4	39	30	20	10	267	-16	5.370	30	0.56	2.97	11
BATTIEST	567	9	72.8	30	*****	98	8	42	30	16	*****	249	*****	2.210	30	*****	0.82	8
BENGAL	670	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.601	30	*****	1.28	8
BROKEN BOW	1162	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.160	30	-2.38	0.60	26
CARNASAW	1499	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.181	30	-1.41	1.65	13
CARTER TWR	1544	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.000	30	-2.79	0.72	13
FANSHAWE	3065	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.930	30	-0.75	1.46	8
HEAVENER	4008	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.810	31	-1.76	1.35	8
IDABEL	4451	9	73.2	30	-0.7	97	1	43	30	16	8	262	-14	3.141	30	-1.05	1.86	11
PAGE	6842	9	68.5	21	*****	96	8	37	30	36	*****	109	*****	1.130	21	*****	0.51	11
POTEAU	7254	9	71.7	30	*****	99	7	38	30	32	*****	233	*****	1.942	30	*****	0.50	10
SMITHVILLE	8285	9	69.2	25	*****	97	2	35	30	29	*****	135	*****	3.070	25	*****	1.25	8
SPIRO	8416	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	6.490	30	2.45	3.23	5
TUSKAHOMA	9023	9	73.7	30	-0.5	99	7	35	30	21	8	282	-8	3.382	30	-1.80	1.02	11
VALLIANT	9118	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.570	30	-2.40	1.26	13
WILBURTON	9634	9	72.1	30	-0.8	102	7	36	30	23	8	237	-16	2.980	30	-1.91	1.30	10
WISTER	9724	9	74.9	30	*****	97	7	36	30	17	*****	315	*****	2.450	30	*****	1.43	8

SEPTEMBER 1999 CLIMATE DIVISION SUMMARY

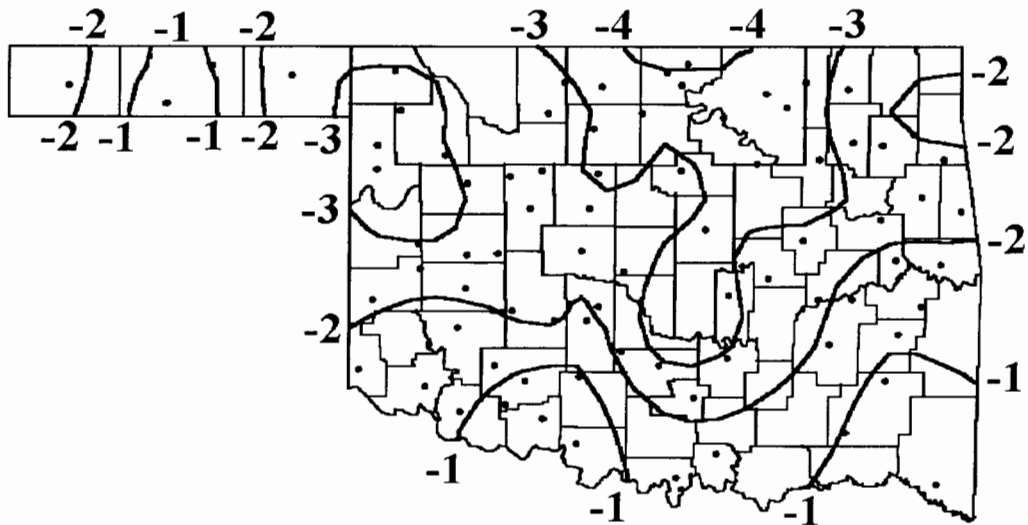
CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
1	67.7	9	-2.0	103	7	29	29	81	53	163	-7	1.670	11	-0.40	1.63	12
2	69.2	12	-3.3	100	11	39	28	65	49	192	-49	4.500	22	1.07	3.10	10
3	69.5	14	-2.9	99	1	37	22	48	27	181	-62	6.500	25	1.62	3.82	12
4	69.9	10	-2.5	99	7	37	30	62	47	209	-31	1.670	18	-1.61	1.70	15
5	71.1	11	-2.3	100	8	37	23	41	27	222	-43	4.770	30	0.56	3.33	11
6	71.1	10	-2.2	101	8	38	22	31	15	213	-50	5.620	24	1.02	3.73	11
7	72.9	11	-1.4	101	11	37	30	34	25	267	-20	1.810	19	-1.84	2.00	11
8	72.7	11	-1.9	101	7	35	22	31	23	261	-37	4.940	24	0.44	4.61	11
9	73.1	7	-0.3	102	7	35	30	20	7	263	-2	3.150	15	-1.50	3.23	5

MESONET MONTHLY SUMMARY FOR SEPTEMBER 1999

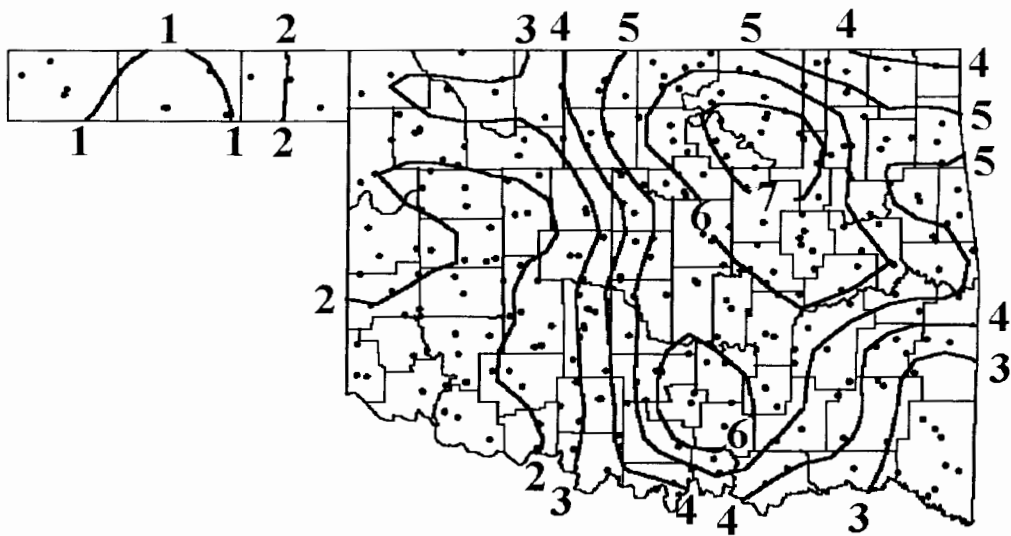
NAME	MEAN TEMP	MAX TEMP	MIN TEMP	HDD	ODD	TOT PPT	MAX 24-HR	DAY	NAME	MEAN TEMP	MAX TEMP	MIN TEMP	HDD	ODD	TOT PPT	MAX 24-HR	DAY
PANHANDLE																	
Arnett	67.8	96	7 40 29	76	161	3.13	1.22	14	Goodwell	66.8	99	7 33 29	92	147	0.36	0.15	15
Beaver	68.1	100	7 35 29	75	168	1.80	1.41	12	Hooker	67.5	99	1 36 29	87	162	0.70	0.43	12
Boise City	64.7	94	7 36 30	99	91	1.16	0.65	15	Kenton	64.8	94	7 31 29	112	104	1.86	1.67	15
Buffalo	69.0	101	7 41 29	61	180	3.15	0.81	12	Slapout	67.8	101	7 38 29	79	164	3.15	1.88	12
NORTH CENTRAL																	
Alva	68.9	99	7 43 22	62	181	4.36	2.34	12	May Ranch	68.8	98	7 43 29	65	178	1.79	0.70	28
Blackwell	68.9	97	1 43 22	49	166	5.85	1.96	12	Medford	68.9	98	7 45 21	48	167	5.39	2.22	7
Breckenridge	69.3	97	7 44 22	49	179	7.88	3.51	7	Newkirk	67.7	95	1 42 21	64	145	6.77	2.65	12
Cherokee	70.2	101	7 44 22	48	204	*****	*****	***	Red Rock	69.3	98	7 42 22	49	179	7.97	2.48	10
Fairview	70.7	101	7 42 22	48	219	1.34	0.75	12	Seiling	69.6	97	7 41 22	63	199	2.16	0.92	12
Freedom	69.0	101	7 41 29	64	183	4.10	2.00	12	Woodward	69.0	98	7 42 29	68	187	3.38	1.71	12
Lahoma	70.0	99	7 43 30	47	197	3.38	1.52	10									
NORTHEAST																	
Bixby	69.1	96	4 41 22	46	169	5.43	2.17	10	Nowata	67.9	97	1 37 22	64	150	5.42	1.20	10
Burbank	68.2	98	7 40 22	59	154	8.16	3.54	7	Pawnee	69.1	98	7 40 22	49	173	8.18	2.31	7
Catoosa	70.2	98	4 42 22	38	194	5.90	1.42	12	Pryor	68.8	97	1 39 22	53	168	3.45	1.07	12
Claremore	69.3	99	4 40 22	46	176	4.85	1.26	12	Skiatook	69.6	98	4 42 22	47	184	8.16	2.23	12
Copan	68.5	99	7 40 22	54	159	3.71	0.96	10	Tulahassee	70.5	98	4 41 22	39	204	5.25	1.53	7
Foraker	67.7	97	7 41 30	64	144	6.15	1.51	10	Vinita	67.6	98	1 38 22	64	141	*****	*****	***
Jay	68.2	96	1 38 22	62	158	6.08	2.57	12	Wynona	68.8	98	7 41 22	52	167	7.19	1.95	12
Miami	65.7	96	1 39 22	71	90	3.45	1.12	4									
WEST CENTRAL																	
Bessie	71.4	99	7 44 29	39	231	1.21	0.37	24	Putnam	70.2	98	7 43 29	49	204	1.06	0.31	11
Butler	71.0	100	7 41 22	45	224	3.01	1.07	24	Retrop	71.8	99	7 45 22	39	242	1.02	0.40	15
Camargo	68.9	98	7 38 30	66	183	1.57	0.34	11	Watonga	70.7	99	7 45 22	47	217	1.14	0.49	11
Cheyenne	69.6	97	7 41 29	57	196	6.09	1.84	14	Weatherford	70.4	98	7 43 30	48	211	1.96	1.03	11
Erick	69.8	99	7 41 22	52	197	1.92	0.74	15									
CENTRAL																	
Acme	71.7	96	1 37 22	38	237	1.94	0.73	10	Minco	70.2	95	1 43 30	41	198	3.64	1.15	11
Bowlegs	69.6	97	4 39 22	49	187	4.33	2.08	10	Ninnekah	71.5	98	4 38 22	36	230	3.14	1.12	25
Bristow	68.5	95	1 39 22	53	155	5.85	2.20	10	Norman	70.6	96	7 43 22	39	206	5.08	2.22	10
Chandler	69.6	96	7 41 22	42	179	4.88	2.33	10	Oilton	68.3	96	1 39 22	56	151	7.20	2.54	10
Chickasha	70.9	98	4 37 22	45	222	2.10	0.72	11	Okemah	69.9	97	4 42 30	40	172	4.80	2.34	5
El Reno	69.6	96	7 36 22	55	193	1.64	0.70	11	Perkins	70.1	99	7 42 22	41	195	4.86	2.31	10
Guthrie	70.5	98	7 42 22	43	209	4.86	1.67	7	Shawnee	70.4	98	4 42 22	42	205	3.94	1.29	10
Kingfisher	71.2	99	7 40 22	42	227	2.50	1.01	10	Spencer	70.3	96	1 39 22	41	201	6.82	2.95	10
Marena	69.8	99	7 43 30	44	186	4.57	2.25	10	Stillwater	69.6	98	1 41 22	48	184	6.01	2.75	10
Marshall	70.6	99	7 42 22	42	211	3.98	1.62	7	Washington	71.5	97	1 42 22	36	231	4.09	1.76	10
EAST CENTRAL																	
Calvin	70.5	98	4 40 22	42	207	7.13	1.86	10	Preston	70.7	99	4 46 22	32	203	5.62	1.10	20
Cookson	69.2	95	1 39 30	46	172	5.28	1.21	7	Sallisaw	71.3	97	7 41 30	31	220	5.74	2.22	7
Eufaula	70.7	97	4 44 22	36	206	5.76	1.11	7	Stigler	71.0	99	7 40 30	35	216	5.39	1.72	10
Haskell	69.6	97	4 41 30	42	179	7.67	2.69	10	Stuart	71.1	96	4 42 30	33	216	4.98	1.10	11
Hectorville	70.7	99	4 44 22	39	211	7.63	2.02	10	Tahlequah	69.1	96	1 38 30	53	174	3.45	1.08	7
McAlester	71.2	97	4 40 30	37	222	4.84	1.24	11	Webbers Falls	71.1	100	7 40 30	34	218	*****	*****	***
Okmulgee	69.3	98	4 39 22	46	176	6.55	2.25	10	Westville	69.2	95	1 40 30	44	171	4.50	1.57	7
SOUTHWEST																	
Altus	72.3	97	26 42 30	31	251	1.22	0.49	15	Hollis	72.3	99	1 39 30	34	252	2.13	1.32	15
Apache	70.9	96	4 43 22	40	217	3.31	0.89	25	Mangum	71.3	98	7 39 30	42	230	1.05	0.73	15
Fort Cobb	70.7	95	4 42 22	35	207	1.96	0.85	11	Medicine Park	72.2	97	1 46 22	31	248	2.09	0.81	10
Grandfield	74.6	100	1 42 22	21	309	0.66	0.18	12	Tipton	73.6	99	7 42 22	28	287	1.44	0.38	15
Hinton	70.3	98	7 42 22	46	204	2.22	1.31	11	Walters	74.6	100	1 41 22	24	312	1.24	0.32	5
Hobart	71.9	97	1 42 22	37	243	1.46	0.61	7									
SOUTH CENTRAL																	
Ada	70.2	98	4 39 22	44	199	5.62	1.10	12	Madill	73.8	98	4 41 30	23	287	3.20	1.26	11
Ardmore	73.1	99	4 44 30	21	264	7.00	2.77	11	Pauls Valley	72.2	100	4 42 22	35	250	6.11	3.06	10
Burneyville	74.3	100	4 38 22	28	306	2.62	0.96	11	Ringling	73.8	100	4 42 22	24	286	4.19	2.27	12
Byars	70.6	96	4 44 22	35	204	8.19	2.76	25	Sulphur	71.6	98	4 39 22	40	239	7.16	2.20	11
Centrahoma	70.6	99	4 36 30	43	211	4.72	2.13	11	Tishomingo	72.1	98	4 39 30	34	246	7.88	4.54	11
Durant	74.1	98	4 42 30	19	291	2.96	1.99	11	Vanoss	70.5	98	4 39 22	40	206	6.54	2.14	10
Ketchum Ranch	72.8	98	7 41 22	30	266	2.51	1.13	11	Waurika	74.6	100	4 42 22	20	308	2.29	1.18	12
Lane	72.4	97	4 40 30	27	248	4.54	2.55	11									
SOUTHEAST																	
Antlers	72.0	98	4 33 30	36	246	*****	*****	***	Idabel	73.9	97	4 40 30	16	283	2.27	0.63	12
Broken Bow	72.7	98	4 38 30	23	254	2.94	1.58	12	Mt Herman	72.1	94	3 38 30	27	239	1.56	0.51	12
Clayton	72.3	99	4 37 30	30	248	3.42	1.37	11	Talihina	73.0	100	7 35 30	29	269	2.39	0.99	8
Cloudy	72.9	97	4 37 30	28	265	2.55	0.97	11	Wilburton	71.6	97	4 38 30	35	233	3.17	1.27	11
Hugo	73.8	96	4 44 30	17	280	3.58	1.77	11	Wister	71.1	100	7 34 30	33	217	2.36	0.79	8



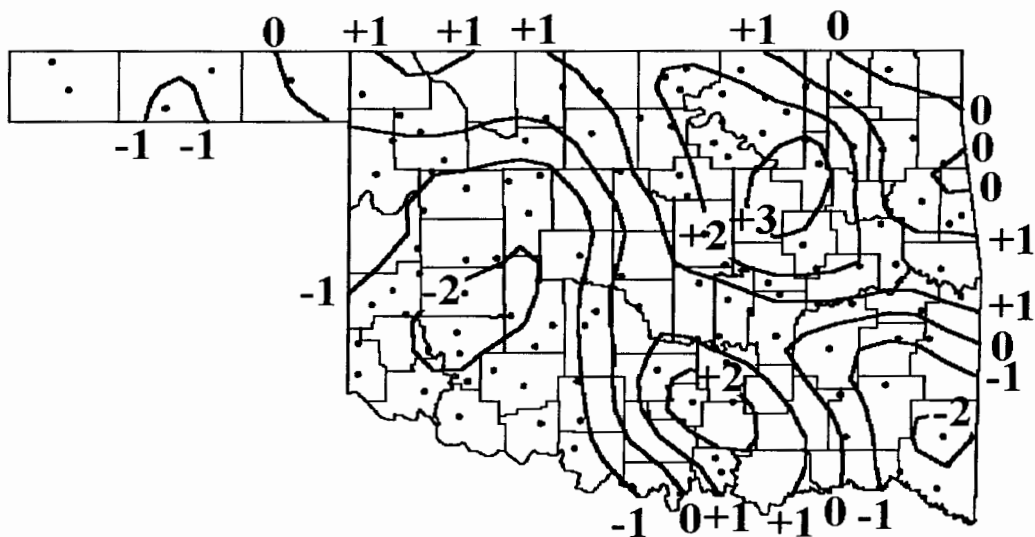
**SEPTEMBER 1999 AVERAGE MONTHLY TEMPERATURE (F)**



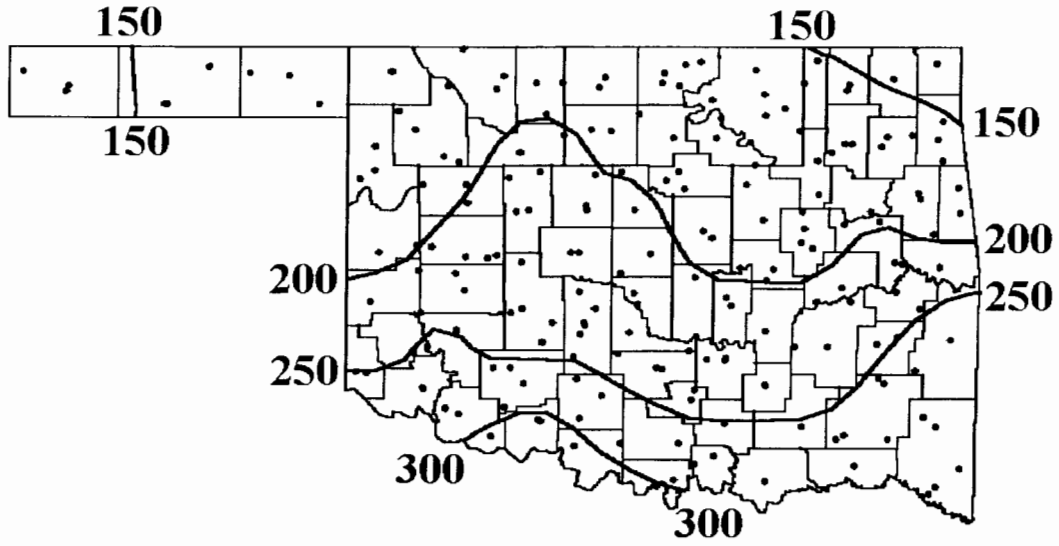
**SEPTEMBER 1999 DEPARTURE FROM NORMAL TEMPERATURE (F)**



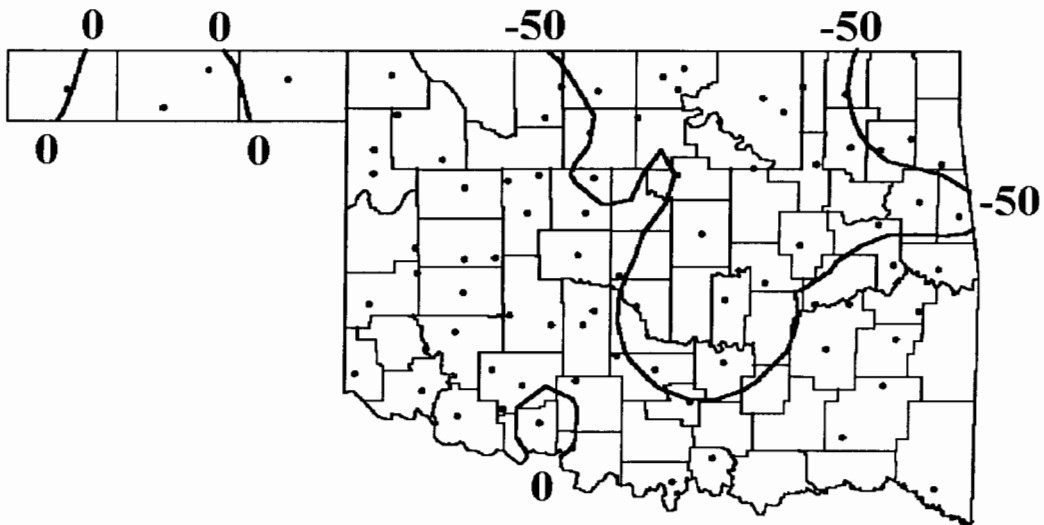
SEPTEMBER 1999 AVERAGE MONTHLY PRECIPITATION (INCHES)



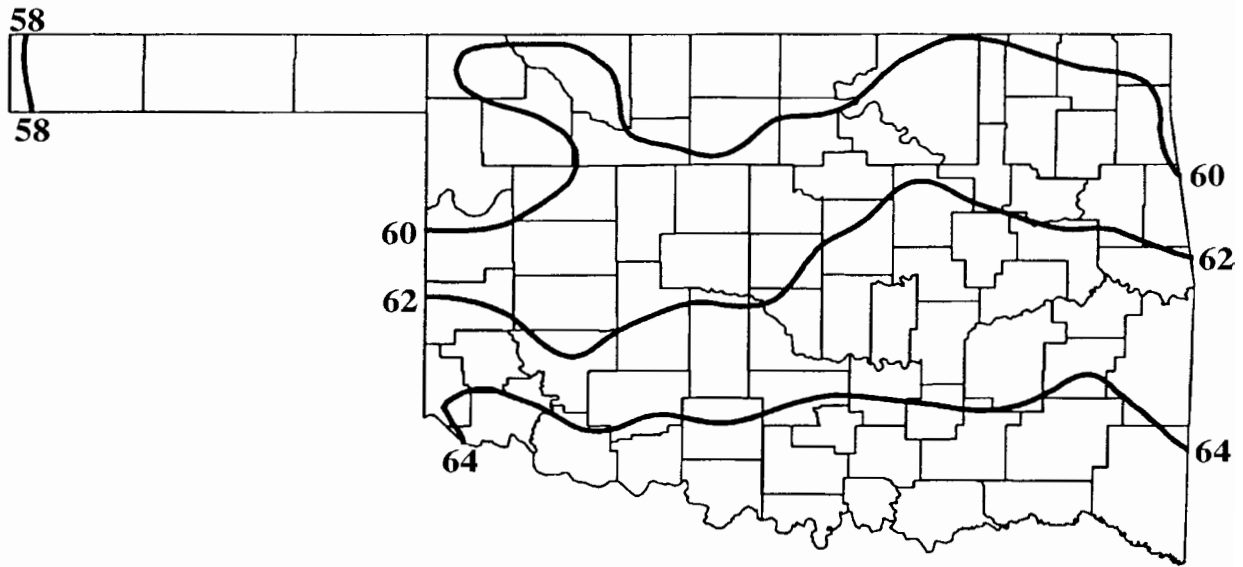
SEPTEMBER 1999 DEPARTURE FROM NORMAL PRECIPITATION (INCHES)



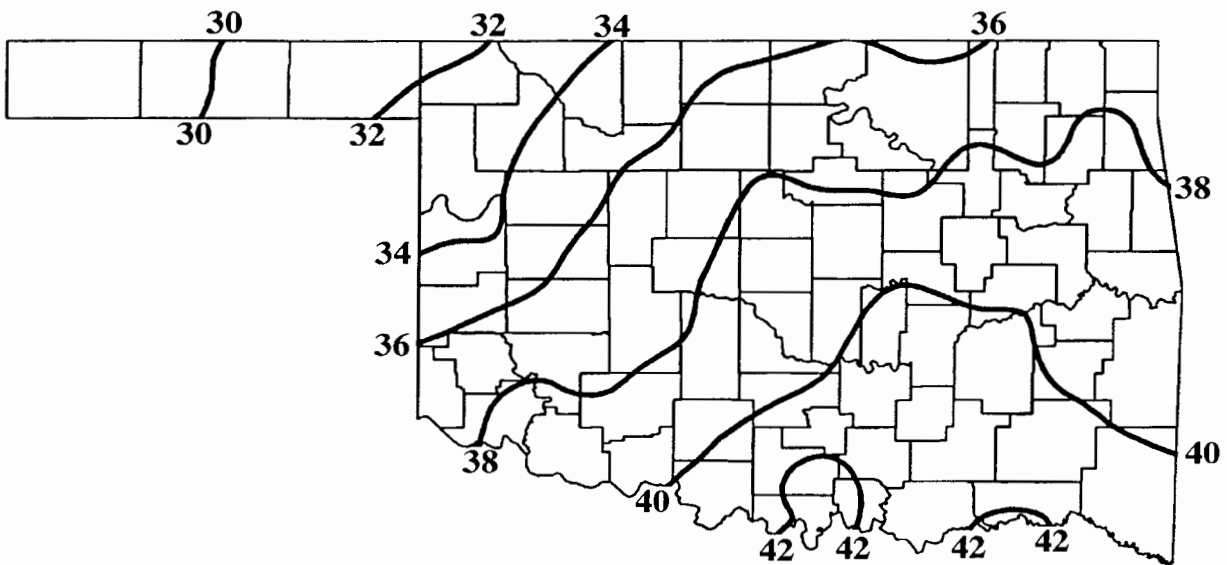
**SEPTEMBER 1999 ACCUMULATED COOLING DEGREE DAYS (F)**



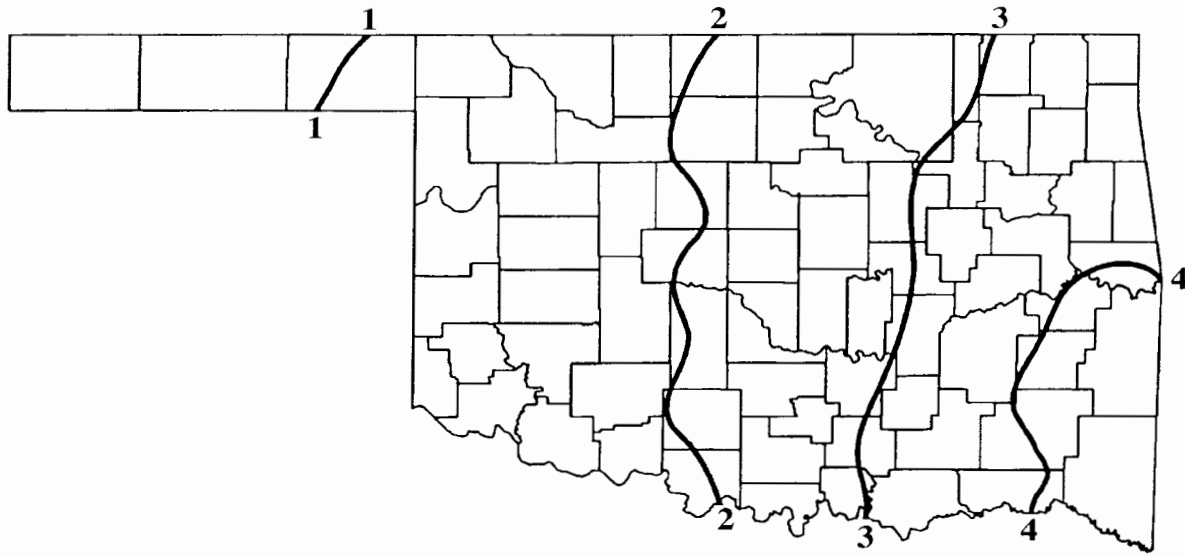
**SEPTEMBER 1999 DEPARTURE FROM NORMAL COOLING DEGREE DAYS (F)**



**NOVEMBER NORMAL DAILY MAXIMUM TEMPERATURE (F)**



**NOVEMBER NORMAL DAILY MINIMUM TEMPERATURE (F)**



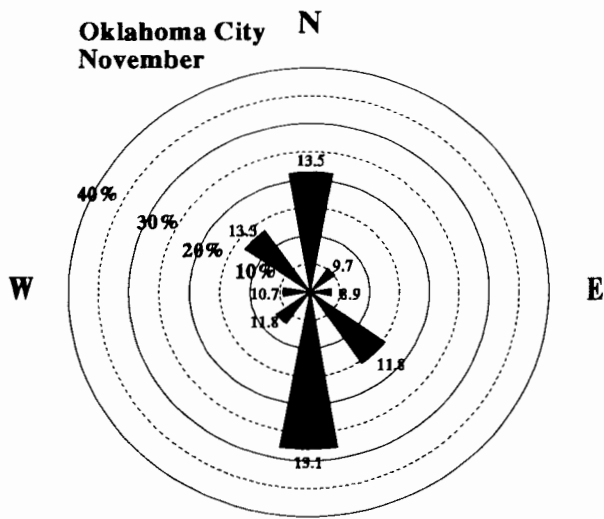
**NOVEMBER NORMAL MONTHLY PRECIPITATION (INCHES)**

**OUTLOOK FOR NOVEMBER 1999 THROUGH JANUARY 2000**  
BASED ON SEASONAL OUTLOOK PROVIDED BY THE CLIMATE PREDICTION CENTER

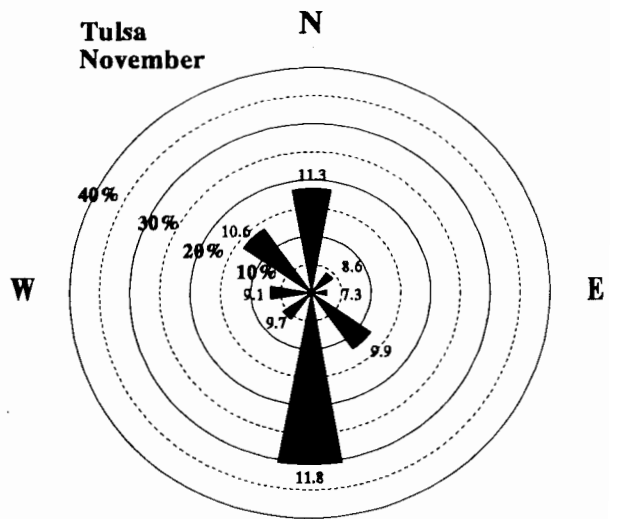
TEMPERATURE:      TEMPERATURE NORMAL STATEWIDE

PRECIPITATION:      PRECIPITATION NORMAL STATEWIDE





Calm=1.9%  
Mean Speed= 12.2 mph



Calm=5.5%  
Mean Speed= 10.1 mph

**November 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.

**NOVEMBER SUNRISE/SUNSET TIMES FOR 1999**

ALL TIMES ARE CENTRAL STANDARD TIME

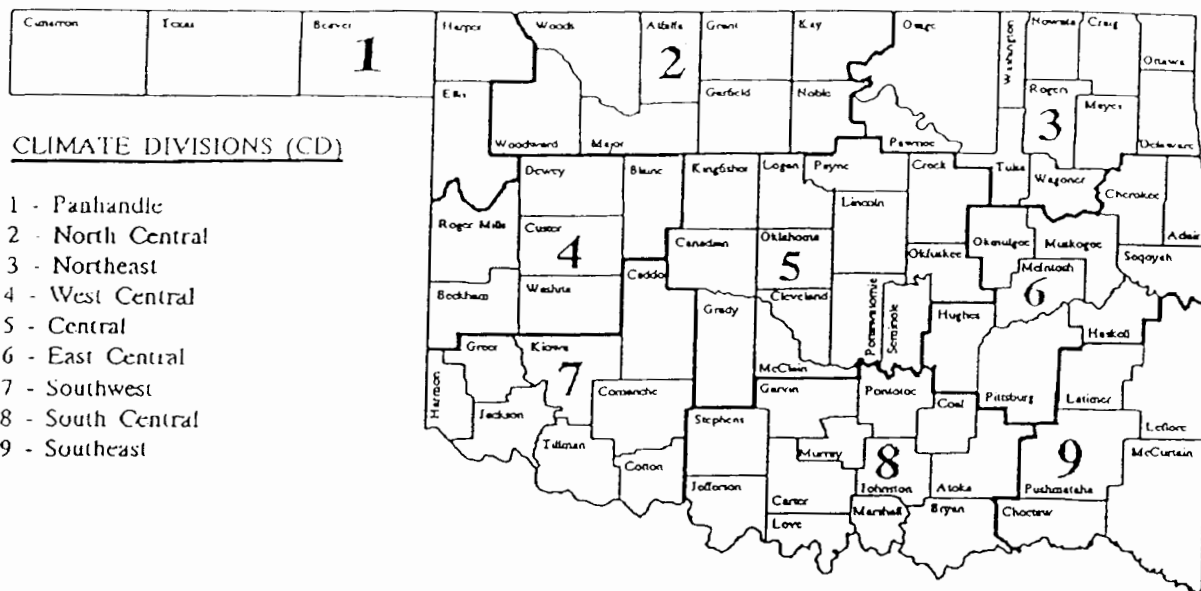
**OKLAHOMA CITY**

**TULSA**

DATE	SUNRISE	SUNSET
11/1/99	652	1735
11/2/99	653	1734
11/3/99	653	1733
11/4/99	654	1733
11/5/99	655	1732
11/6/99	656	1731
11/7/99	657	1730
11/8/99	658	1729
11/9/99	659	1728
11/10/99	700	1727
11/11/99	701	1727
11/12/99	702	1726
11/13/99	703	1725
11/14/99	704	1724
11/15/99	705	1724
11/16/99	706	1723
11/17/99	707	1723
11/18/99	708	1722
11/19/99	709	1721
11/20/99	710	1721
11/21/99	711	1720
11/22/99	712	1720
11/23/99	713	1720
11/24/99	714	1719
11/25/99	715	1719
11/26/99	716	1718
11/27/99	717	1718
11/28/99	718	1718
11/29/99	719	1718
11/30/99	720	1718

DATE	SUNRISE	SUNSET
11/1/99	646	1728
11/2/99	647	1727
11/3/99	648	1726
11/4/99	649	1725
11/5/99	650	1724
11/6/99	651	1723
11/7/99	652	1722
11/8/99	653	1721
11/9/99	654	1721
11/10/99	655	1720
11/11/99	656	1719
11/12/99	657	1718
11/13/99	658	1717
11/14/99	659	1717
11/15/99	700	1716
11/16/99	701	1715
11/17/99	702	1715
11/18/99	703	1714
11/19/99	704	1714
11/20/99	705	1713
11/21/99	706	1713
11/22/99	707	1712
11/23/99	708	1712
11/24/99	709	1711
11/25/99	710	1711
11/26/99	711	1711
11/27/99	712	1710
11/28/99	713	1710
11/29/99	714	1710
11/30/99	715	1710

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

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.

November

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	55	67	83	1916	25	1991		44	65	1936	34	1951		0.08	1.05	1981	
2	55	66	83	1924	19	1991		44	66	1938	26	1991		0.08	1.51	1974	
3	55	66	84	1909	11	1991		43	63	1994	36	1991		0.08	1.51	1964	
4	54	65	83	1921	23	1936		43	58	1916	40	1990		0.08	2.17	1986	
5	54	65	87	1891	23	1951		43	64	1924	34	1951		0.08	1.23	1994	
6	53	64	85	1980	20	1959		42	63	1945	39	1959		0.08	2.14	1895	
7	53	64	86	1980	23	1993		42	62	1916	41	1953		0.07	1.71	1920	
8	53	64	87	1980	19	1991		41	66	1966	39	1936		0.07	1.42	1895	
9	52	63	82	1988	25	1955		41	61	1939	37	1950		0.07	1.15	1977	
10	52	63	83	1995	20	1950		41	60	1982	33	1950		0.07	1.17	1937	
11	51	62	83	1911	17	1911		40	61	1922	33	1935		0.07	1.10	1988	
12	51	62	79	1910	14	1911		40	62	1902	29	1940		0.07	1.18	1922	
13	51	61	80	1967	12	1940		40	61	1989	28	1986		0.07	3.22	1909	
14	50	61	79	1973	14	1916		39	65	1897	29	1940		0.07	1.56	1924	
15	50	60	84	1903	15	1940		39	61	1971	32	1932		0.07	2.43	1890	
16	49	60	82	1941	14	1932		38	64	1958	31	1937		0.06	3.94	1931	
17	49	60	80	1896	9	1894		38	61	1896	30	1903		0.06	1.70	1984	
18	49	59	80	1930	13	1903		38	64	1934	35	1903		0.06	2.14	1899	
19	48	59	82	1898	18	1937		37	63	1913	31	1937		0.06	4.46	1899	
20	48	58	78	1989	19	1937		37	60	1990	25	1906		0.06	2.17	1994	
21	47	58	80	1927	14	1898		37	58	1902	29	1926		0.06	1.48	1916	
22	47	58	78	1982	15	1898		36	60	1966	27	1898		0.06	1.54	1931	
23	47	57	79	1973	19	1950		36	60	1966	29	1895		0.06	1.62	1931	
24	46	57	76	1990	15	1950		35	60	1966	32	1918		0.06	1.14	1973	
25	46	56	84	1965	15	1993		35	62	1966	28	1990		0.06	2.01	1940	
26	45	56	81	1910	13	1993		35	62	1990	31	1992		0.06	1.80	1982	
27	45	56	82	1905	16	1976		34	63	1927	25	1896		0.06	1.30	1908	
28	45	55	81	1949	14	1896		34	58	1927	26	1911		0.05	1.44	1908	
29	44	55	80	1927	11	1911		34	64	1933	28	1897		0.05	0.67	1996	
30	44	55	74	1946	13	1976		33	60	1933	32	1896		0.05	0.72	1909	
<b>MONTH</b>	<b>49.6</b>	<b>60.4</b>	<b>87</b>	<b>1980</b>	<b>9</b>	<b>1894</b>		<b>38.6</b>	<b>66</b>	<b>1966</b>	<b>25</b>	<b>1906</b>		<b>1.98</b>	<b>4.46</b>	<b>1899</b>	

\*The most tornadoes reported in November for Oklahoma was 12 in 1958.

TULSA CLIMATE CALENDAR  
DATA COURTESY OF NATIONAL WEATHER SERVICE TULSA

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.

**November**

Day	Avg. Temp	Avg. High	Record High	Year	Lowest Max	Year	Avg. Low	Highest Min	Year	Record Low	Year	1999	Avg. Ppt.	Greatest Ppt.	Year	1999
1	56	67	85	1916	25	1991	45	64	1987	37	1951		0.11	2.10	1901	
2	55	67	89	1909	20	1966	44	65	1983	27	1991		0.11	2.82	1974	
3	55	66	88	1909	16	1991	44	67	1983	36	1991		0.11	3.20	1974	
4	55	66	86	1914	21	1991	44	62	1909	39	1951		0.11	2.49	1994	
5	54	65	87	1914	25	1976	43	61	1924	34	1951		0.11	1.39	1994	
6	54	65	87	1945	20	1959	43	70	1924	39	1959		0.11	3.49	1996	
7	53	64	85	1980	22	1991	43	65	1945	41	1991		0.11	3.67	1918	
8	53	64	84	1980	16	1991	42	67	1966	41	1991		0.11	1.45	1977	
9	52	63	82	1934	23	1955	42	60	1931	42	1950		0.11	0.95	1916	
10	52	63	83	1995	21	1950	42	62	1949	37	1950		0.11	1.31	1937	
11	52	62	85	1989	17	1950	41	60	1949	31	1986		0.11	1.57	1992	
12	51	62	80	1989	15	1911	41	67	1931	31	1940		0.11	2.64	1972	
13	51	61	84	1910	12	1940	40	62	1989	30	1986		0.11	1.80	1985	
14	51	61	79	1989	13	1916	40	64	1913	30	1940		0.11	1.72	1909	
15	50	60	82	1950	11	1940	40	63	1964	38	1976		0.11	2.50	1964	
16	50	60	83	1963	14	1932	39	65	1958	28	1932		0.11	1.85	1996	
17	49	59	80	1969	11	1959	39	58	1941	31	1937		0.11	1.24	1952	
18	49	59	82	1930	19	1951	39	63	1934	32	1937		0.10	1.26	1964	
19	48	59	81	1908	14	1937	38	64	1913	29	1906		0.10	1.70	1900	
20	48	58	81	1989	16	1937	38	64	1913	28	1906		0.10	4.59	1979	
21	48	58	79	1927	18	1964	38	58	1913	30	1937		0.10	1.76	1934	
22	47	57	79	1966	16	1929	37	64	1913	33	1937		0.10	2.34	1931	
23	47	57	78	1974	17	1970	37	63	1966	33	1970		0.10	0.80	1931	
24	46	56	80	1965	14	1950	36	61	1966	35	1918		0.10	2.54	1973	
25	46	56	84	1965	17	1950	36	62	1915	31	1993		0.10	1.50	1940	
26	46	56	83	1965	14	1993	36	61	1927	30	1975		0.10	1.56	1982	
27	45	55	77	1927	16	1938	35	62	1927	35	1985		0.09	1.13	1982	
28	45	55	81	1949	13	1976	35	63	1998	26	1911		0.09	2.60	1908	
29	44	54	82	1927	10	1976	34	63	1933	32	1911		0.09	2.80	1908	
30	44	54	76	1933	13	1964	34	56	1933	32	1944		0.09	0.73	1981	
MONTH	50	60	89	1909	10	1976	40	70	1924	26	1911		3.13	4.59	1979	

\*The average number of tornadoes reported in November for Oklahoma is 1.4.