

OKLAHOMA MONTHLY SUMMARY AUGUST 1999

TABLE OF CONTENTS

August 1999 Oklahoma Summary.....	2
Table of August 1998/1999 Comparisons.....	5
August 1999 Data Summary Tables.....	6
August 1999 Mesonet Summary.....	11
August 1999 State Map Summary.....	12
August Climatological Normals.....	15
90 - Day National Weather Service Outlook.....	16
October Wind Roses - October 1999 Sunrise/Sunset Tables.....	17
Explanation of Tables.....	18
October Oklahoma City Climate Calendar.....	20
October Tulsa Climate Calendar.....	21

MONTHLY SUMMARY FOR AUGUST 1999

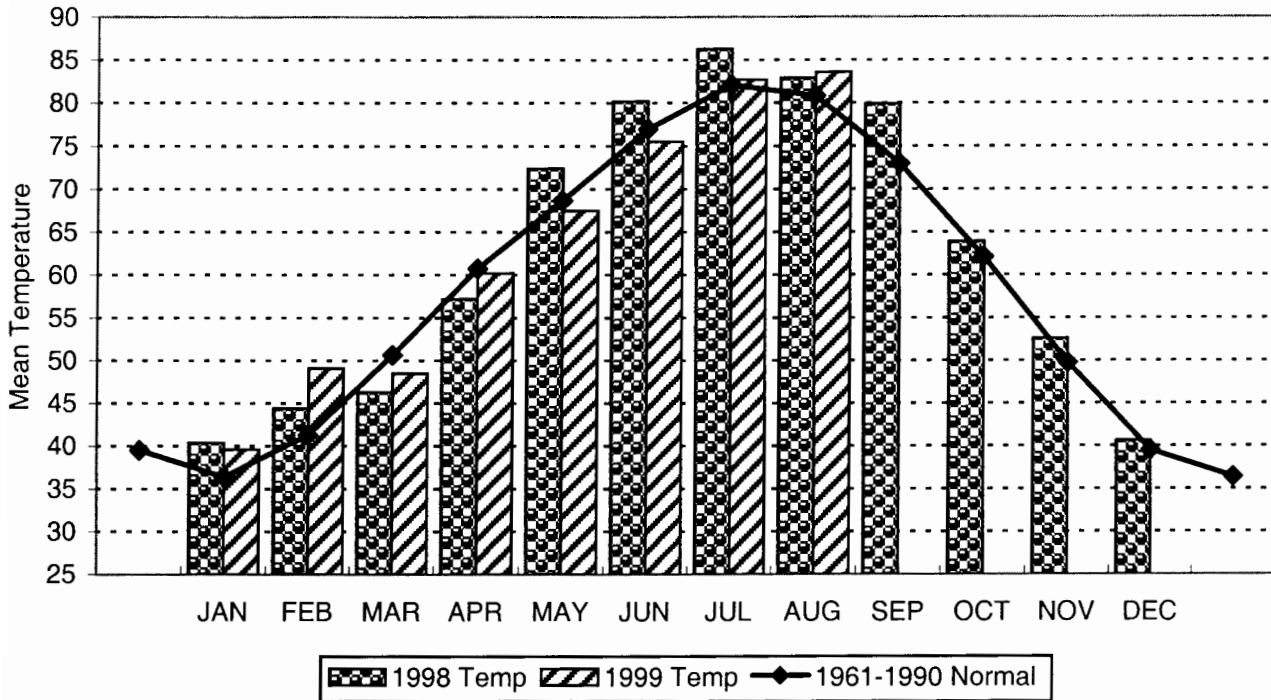
August was hot and dry throughout all of Oklahoma except the extreme western Panhandle. Statewide averages of preliminary data from the National Weather Service indicate that August 1999 was the 19th warmest and 16th driest August in Oklahoma since 1892. The statewide-averaged monthly temperature was 83.6 degrees, 2.8 degrees greater than normal. The hot August completed the state's 41st warmest summer whose average temperature of 80.7 degrees was 0.6 degree greater than normal. Temperatures have averaged 1.0 degree higher than normal during the first eight months of the year. The year-to-date average temperature of 63.5 degrees is the state's 28th highest January-through-August average temperature. Summer precipitation was 9.40 inches, averaged statewide, a mere 0.01 inch greater than normal, to rank this as the 59th wettest – or 51st driest – summer in the state's recorded history. January through August precipitation for the state (27.95 inches) was 4.81 inches greater than normal, ranking 19th wettest among the 109 January-through-August totals available for comparison.

Triple-digit temperatures were present somewhere in the state on every day in August. Guthrie (Logan County) recorded the state's highest temperature during the month, 111 degrees reported on the 27th. Occasional relief from the heat came by way of localized thunderstorms, a few of which produced damaging winds. Blackwell (Kay) reported 3.25 inches of rain on the 3rd and the Mesonet site near Hinton (Caddo) recorded 2.98 inches on the 5th. After the 10th when the Alva Mesonet site (Woods) reported 2.63 inches of rain, the greatest daily rainfall amount recorded in the state was 1.91 inches at the Boise City Mesonet site on the 19th. Although there was some precipitation in the state on most days, it was quite localized and total precipitation was usually small. Boise City, Kenton, and Regnier, all in Cimarron County, each received substantial rains during the first week of August to exceed their respective normal totals for the month.

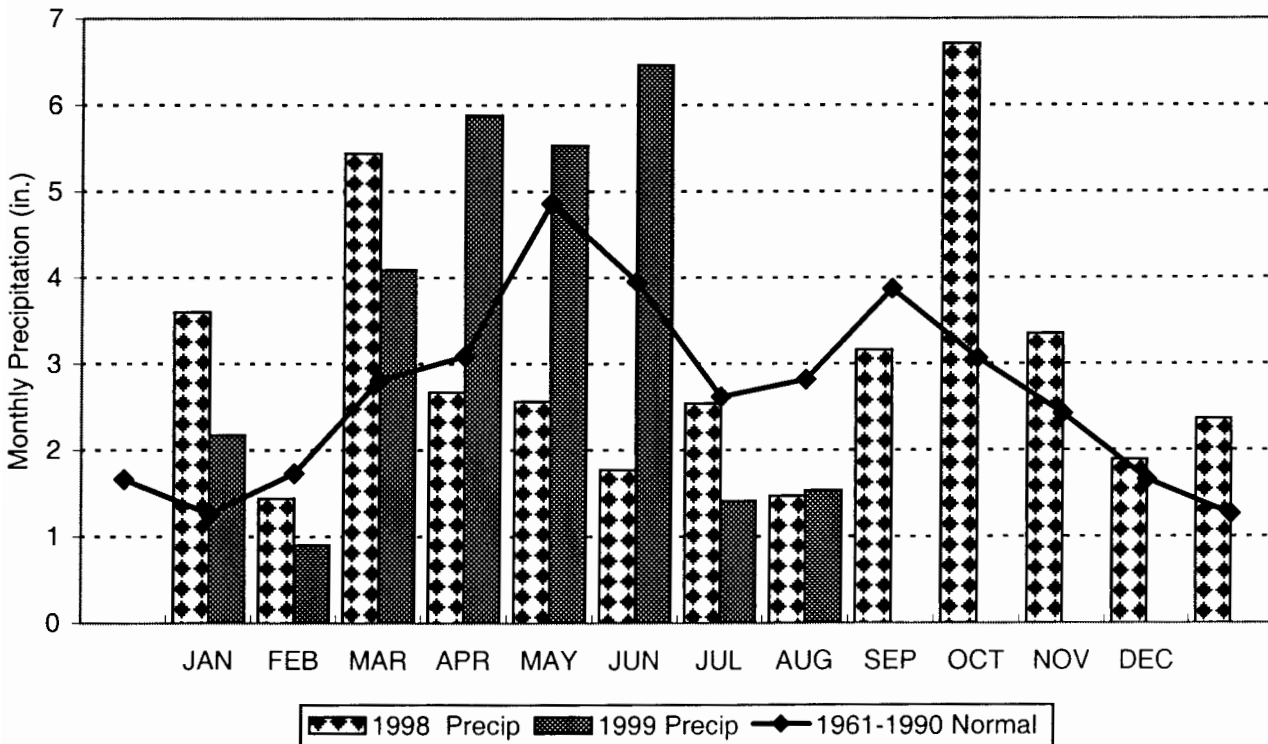
Thunderstorm winds estimated at 80 miles per hour caused extensive damage to a school in Coweta (Wagoner). Other significant wind reports included measured gusts of 81 miles per hour near Rush Springs (Grady) at the Acme Mesonet site on the 26th, 75 miles per hour at the Idabel Mesonet site (McCurtain) on the 10th, and 73 miles per hour reported east of Washington (McClain).

Howard L. Johnson

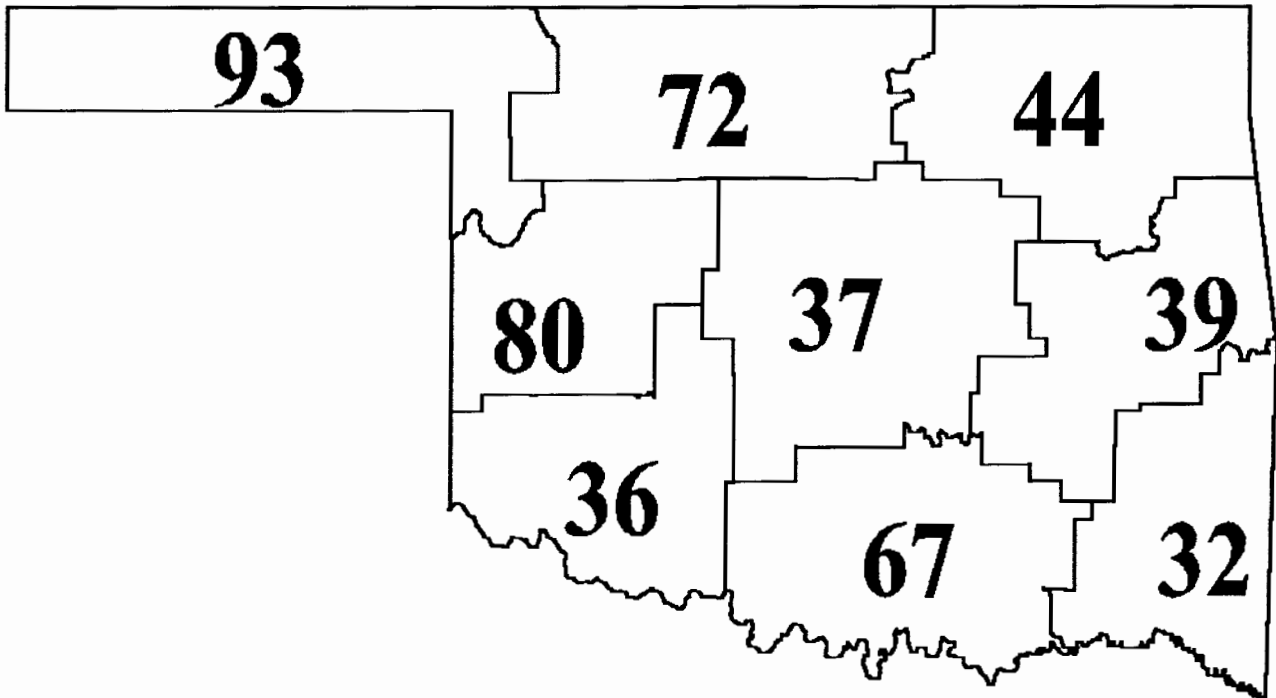
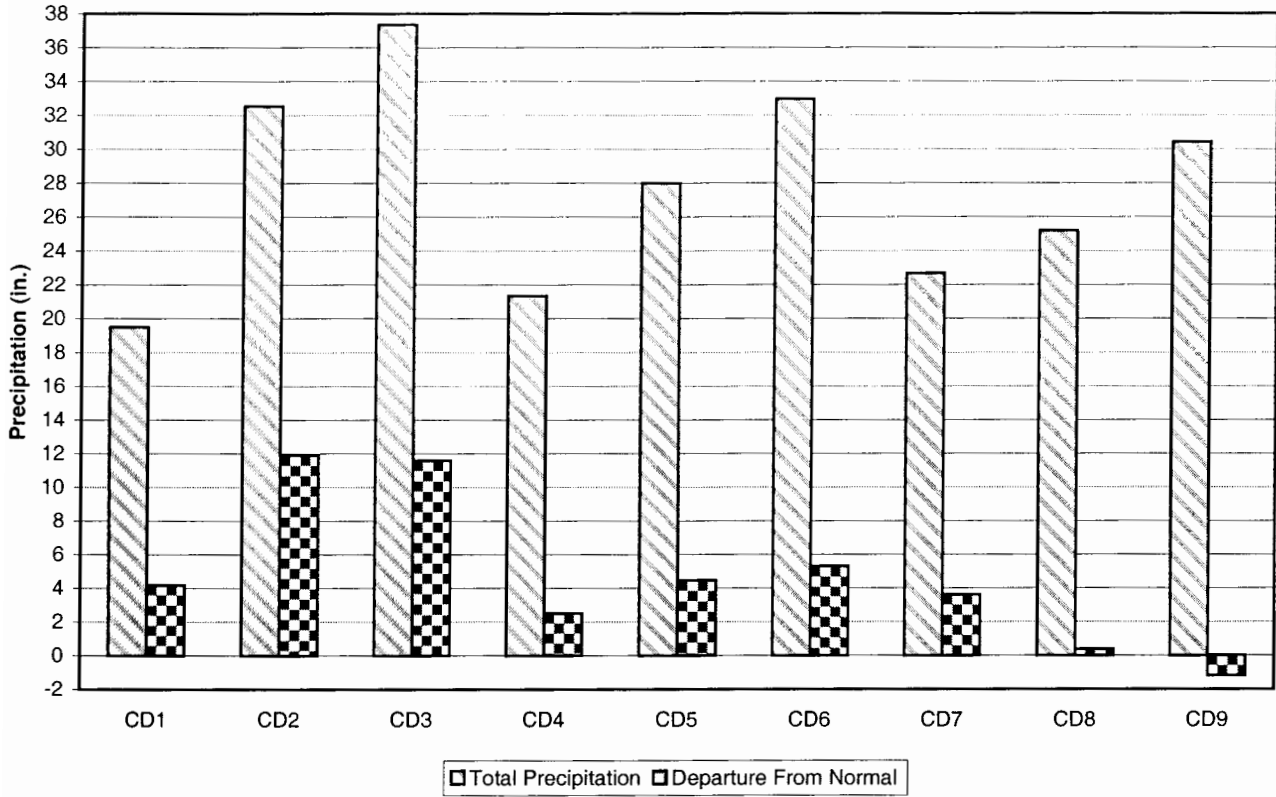
1998 and 1999 STATEWIDE TEMPERATURES Monthly Averages



1998 and 1999 STATEWIDE PRECIPITATION Monthly Totals



CD Averaged Precipitation January through August 1999



CD PERCENT OF NORMAL PRECIPITATION
August 1999

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

CD	MAX TEMP	DATE	LOCATION	MIN TEMP	DATE	LOCATION	24-HOUR PRECIP	DATE	LOCATION	MONTHLY PRECIP	LOCATION
1	109	16	BUFFALO	51	14	GAGE	2.76	4	KENTON	6.54	BOISE CITY
2	108	26	JEFFERSON	53	19	FT SUPPLY	3.25	3	BLACKWELL	5.38	RED ROCK
	108	11	MUTUAL								
	108	12	MUTUAL								
	108	27	MUTUAL								
3	109	26	MANNFORD	55	20	MANNFORD	2.54	3	RALSTON	3.82	RALSTON
	109	26	TULSA	55	19	RALSTON					
4	105	28	CORDELL	56	20	CANTON DAM	2.78	3	THOMAS	3.98	CANTON DAM
	105	28	ELK CITY	56	21	HAMMON					
	105	28	HAMMON	56	20	TALOGA					
	105	26	OKEENE	56	21	TALOGA					
	105	1	TALOGA								
5	111	27	GUTHRIE	54	20	MEEKER	2.50	6	TROUSDALE	2.94	HENNESSEY
				54	21	MEEKER					
6	109	12	WEBBERS FALLS	54	24	STILWELL	1.60	28	DEWAR	3.02	DEWAR
7	109	13	CHATTANOOGA	54	20	ANADARKO	2.80	5	WILLOW	3.07	WILLOW
	109	23	WICHITA MT								
8	110	11	ATOKA DAM	55	20	PAULS VALLEY	1.80	3	TUSSY	4.02	ADA
				55	21	PAULS VALLEY					
9	109	26	WILBURTON	53	20	PAGE	1.20	26	POTEAU	2.44	PAGE

TABLE OF 1998/1999 COMPARISONS

**AUGUST
Temperature (°F)**

**AUGUST
Precipitation (in.)**

Station	1998	1999	1998	1999
Arnett	78.9	80.4	1.27	1.02
Enid	83.3	83.4	0.17	3.59
Tulsa	84.1	84.5	1.67	0.42
Elk City	81.0	83.0	0.81	2.49
Oklahoma City	85.0	84.7	0.48	1.35
McAlester	85.1	84.4	0.71	1.22
Altus Irr Station	83.8	85.9	2.54	0.60
Ardmore	86.9	87.2	1.17	1.67
Idabel	84.0	86.0	1.87	0.33

EXTREMES

VARIABLE	STATION	DIVISON	OBSERVATION	DATE
Minimum temperature (°F)	Gage	1	51	14
Maximum temperature (°F)	Guthrie	5	111	27
Maximum 24-hour Precipitation	Blackwell	2	3.25"	3

AUGUST 1999 SUMMARY FOR PANHANDLE DIVISION (CD1)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV		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		
ARNETT	332	1	80.4	31	1.8	103	17	59	14	0	0	476	54	1.021	31	-1.39	0.83	5
BEAVER	593	1	80.7	31	2.1	105	28	55	15	0	0	486	64	2.480	31	-0.47	1.77	2
BOISE CITY	908	1	76.8	31	1.3	98	30	57	14	0	0	366	40	6.541	31	4.09	2.16	5
BUFFALO	1243	1	83.9	31	2.6	109	16	56	14	0	0	586	81	0.640	31	-2.82	0.40	3
FARGO	3070	1	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.513	31	-2.20	0.28	4
GAGE	3407	1	81.8	30	1.7	104	27	51	14	0	0	505	37	0.015	29	*****	0.01	3
GATE	3489	1	82.4	27	*****	106	17	60	14	0	*****	471	*****	1.951	31	-0.93	1.22	5
GOODWELL	3628	1	80.6	27	*****	105	30	55	15	0	*****	423	*****	1.020	27	*****	0.31	3
GUYMON	3835	1	81.0	31	*****	105	17	62	20	0	*****	495	*****	1.190	31	*****	0.49	1
HOOKER	4298	1	80.9	31	3.2	104	16	59	14	0	0	493	99	1.340	31	-0.97	0.49	1
KENTON	4766	1	75.9	28	*****	96	31	56	24	0	*****	305	*****	4.753	31	2.11	2.76	4
LAVERNE	5045	1	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.671	31	-2.19	0.40	8
REGNIER	7534	1	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.482	31	3.60	2.42	1
TURPIN	9017	1	79.6	26	*****	103	28	59	14	0	*****	380	*****	2.900	26	*****	1.10	30

AUGUST 1999 SUMMARY FOR NORTH CENTRAL DIVISION (CD2)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV		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		
ALVA	193	2	82.0	31	*****	105	27	59	20	0	*****	526	*****	4.340	31	*****	1.39	4
VANCE AFB	302	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.182	30	*****	2.17	3
BILLINGS	755	2	82.3	31	1.3	106	27	61	14	0	0	536	40	2.122	31	-1.01	1.00	4
BLACKWELL 2E	818	2	81.5	31	0.4	106	27	60	21	0	0	512	13	4.330	31	1.14	3.25	3
BRAMAN	1075	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.390	31	*****	1.58	3
CEDARDALE	1620	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.842	31	*****	0.37	4
CHEROKEE	1724	2	82.6	31	0.4	105	27	57	21	0	0	545	12	0.810	31	-2.21	0.71	3
ENID	2912	2	83.4	31	1.7	104	27	63	15	0	0	569	51	3.590	31	0.41	2.80	3
FT SUPPLY	3304	2	81.1	30	2	107	16	53	19	0	0	482	45	1.600	31	-1.22	1.30	3
FREEDOM	3358	2	81.2	30	0.1	106	16	56	20	0	0	486	-13	3.110	30	*****	1.78	5
GREAT SALT P	3740	2	83.5	31	2.6	106	17	59	20	0	0	572	79	0.371	31	-2.90	0.12	22
HARDY	3909	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.640	31	*****	0.61	3
HELENA	4019	2	82.3	31	2	103	1	59	20	0	0	535	61	3.480	31	0.72	1.13	3
JEFFERSON	4573	2	84.0	31	2.3	108	26	57	24	0	0	588	70	0.811	31	-2.42	0.26	2
LAMONT	5013	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.800	31	*****	1.32	3
MEDFORD	5768	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.600	31	*****	1.10	2
MORRISON	6065	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.260	31	*****	1.05	5
MUTUAL	6139	2	82.4	31	2.4	108	27	57	14	0	0	538	73	0.400	31	-1.80	0.11	6
NEWKIRK	6278	2	81.3	31	0.4	105	27	58	24	0	0	506	13	2.090	31	-1.36	1.10	3
ORIENTA	6751	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.221	31	-0.52	0.87	4
PERRY	7012	2	84.5	30	2.8	106	27	61	20	0	0	584	66	2.330	31	-0.93	1.73	3
PONCA CITY	7201	2	83.8	30	3	107	26	61	24	0	0	565	75	2.562	31	-0.86	1.87	4
RED ROCK	7505	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.380	31	2.55	2.30	2
WAYNOKA	9404	2	82.0	26	*****	106	17	57	23	0	*****	443	*****	2.101	26	*****	2.00	6
WOODWARD	9760	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.475	31	-2.44	0.28	3

AUGUST 1999 SUMMARY FOR NORTHEAST DIVISION (CD3)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV		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												
BARNSDALL	535	3	83.3	30	2.6	107	26	59	20	0	0	549	62	0.495	30	****	0.16	22
BARTLESVILLE	548	3	82.2	31	1.7	106	26	59	15	0	0	534	53	3.001	31	-0.15	1.42	4
BIXBY	782	3	83.9	31	4.6	107	27	63	25	0	0	586	143	0.001	31	-2.75	0.00	23
BURBANK	1256	3	****	0	****	****	0	****	0	****	****	****	****	1.900	31	-1.51	0.98	3
CHELSEA	1717	3	****	0	****	****	0	****	0	****	****	****	****	1.200	31	****	0.55	27
CLAREMORE	1828	3	82.0	31	2.3	105	27	60	21	0	0	527	71	1.190	31	-1.88	0.52	24
CLEVELAND 2	1902	3	81.7	27	****	103	26	59	14	0	****	450	****	1.691	28	****	1.06	27
FORAKER	3250	3	****	0	****	****	0	****	0	****	****	****	****	1.770	31	-1.69	0.86	4
HOLLOW	4258	3	****	0	****	****	0	****	0	****	****	****	****	0.931	31	-2.28	0.62	4
HOMINY	4289	3	****	0	****	****	0	****	0	****	****	****	****	1.112	31	-2.17	0.55	27
KANSAS	4672	3	81.3	29	****	102	10	59	20	0	****	472	****	1.951	29	****	1.05	3
LENAPAH	5118	3	****	0	****	****	0	****	0	****	****	****	****	1.060	31	****	0.87	4
MANNFORD	5522	3	84.3	31	3.5	109	26	55	20	0	0	599	109	1.000	31	-2.28	0.77	27
MARAMEC	5540	3	****	0	****	****	0	****	0	****	****	****	****	1.881	31	-1.30	0.94	27
NOWATA	6485	3	82.7	31	2.2	105	27	59	20	0	0	550	69	1.800	31	-1.52	0.93	3
PAWHUSKA	6935	3	82.6	31	2.4	106	26	57	20	0	0	545	74	1.730	31	-1.85	0.90	4
PAWNEE	6940	3	****	0	****	****	0	****	0	****	****	****	****	2.010	31	-1.20	0.70	3
PRYOR	7309	3	82.2	31	3	104	27	59	15	0	0	532	92	0.742	31	-2.53	0.41	27
RALSTON	7390	3	81.0	31	0.5	107	26	55	19	0	0	497	16	3.820	31	0.51	2.54	3
SKIATOOK	8258	3	****	0	****	****	0	****	0	****	****	****	****	0.640	31	-2.52	0.48	13
SPAVINAW	8380	3	84.2	26	****	103	11	64	25	0	****	500	****	2.120	27	****	1.19	27
TULSA	8992	3	84.5	31	3	109	26	61	20	0	0	606	94	0.423	31	-2.70	0.18	4
UPPER SPAV	9101	3	82.0	31	****	106	11	59	25	0	****	529	****	2.442	31	****	1.55	3
VINITA	9203	3	80.0	27	****	102	12	57	20	0	****	405	****	1.810	27	****	0.61	5
WAGONER	9247	3	84.2	30	3.3	106	11	61	26	0	0	575	85	0.781	31	-2.25	0.47	26
WANN	9298	3	****	0	****	****	0	****	0	****	****	****	****	1.771	31	****	0.99	4
WYONONA	9792	3	****	0	****	****	0	****	0	****	****	****	****	0.791	31	****	0.25	21

AUGUST 1999 SUMMARY FOR WEST CENTRAL DIVISION (CD4)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV		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												
CANTON DAM	1445	4	82.0	31	1.8	103	28	56	20	0	0	529	58	3.981	31	1.57	2.66	3
CLINTON	1909	4	83.6	31	1.2	103	28	61	20	0	0	578	39	2.401	31	-0.77	1.55	2
COLONY	2039	4	****	0	****	****	0	****	0	****	****	****	****	2.351	31	****	2.07	6
CORDELL	2125	4	84.0	31	2.5	105	28	63	20	0	0	588	76	1.670	31	-1.41	0.95	6
ELK CITY	2849	4	83.0	31	2.9	105	28	61	21	0	0	559	91	2.491	31	-0.39	1.37	28
ERICK	2944	4	82.2	31	2.1	104	28	61	21	0	0	532	64	1.941	31	-0.57	1.88	9
GEARY	3497	4	84.3	31	3.4	104	13	63	14	0	0	598	105	0.600	31	-1.60	0.60	26
HAMMON	3871	4	81.6	30	1.7	105	28	56	21	0	0	498	36	0.900	30	****	0.47	6
LEEDEY	5090	4	****	0	****	****	0	****	0	****	****	****	****	0.320	31	-2.23	0.28	4
MACKIE	5463	4	****	0	****	****	0	****	0	****	****	****	****	2.030	31	****	1.09	5
MORAVIA	6035	4	****	0	****	****	0	****	0	****	****	****	****	2.230	31	-0.28	1.44	6
OKEENE	6629	4	84.1	31	2.2	105	26	58	20	0	0	592	68	3.281	31	0.55	1.52	3
RETROP	7565	4	****	0	****	****	0	****	0	****	****	****	****	1.190	31	****	0.50	6
REYDON	7579	4	82.0	19	****	104	28	64	22	0	****	323	****	1.380	19	****	0.60	4
SAYRE	7952	4	****	0	****	****	0	****	0	****	****	****	****	1.860	31	-0.56	0.49	2
SWEETWATER	8652	4	****	0	****	****	0	****	0	****	****	****	****	1.720	31	****	0.87	4
TALOGA	8708	4	82.1	31	1.8	105	2	56	21	0	0	531	57	2.510	31	0.08	1.42	6
THOMAS	8815	4	****	0	****	****	0	****	0	****	****	****	****	3.730	31	****	2.78	3
VICI	9172	4	****	0	****	****	0	****	0	****	****	****	****	1.401	31	-0.88	1.12	4
WATONGA	9364	4	84.3	31	3.4	104	26	58	20	0	0	598	105	1.331	31	-0.96	0.47	27
WEATHERFORD	9422	4	84.1	31	3.6	105	12	63	20	0	0	592	111	1.280	31	-1.56	0.74	5

AUGUST 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	*****	*****	*****	*****	0.720	31	****	0.47	4
ARCADIA	288	5	****	0	****	****	0	****	0	*****	*****	*****	*****	0.571	31	****	0.46	27
BLANCHARD	830	5	85.0	31	3.2	106	26	61	20	0	0	621	100	1.453	31	-1.28	1.22	6
BRISTOW	1144	5	84.3	31	3.4	108	26	56	20	0	0	599	106	1.680	31	-0.98	0.91	27
CHANDLER	1684	5	84.7	29	****	108	27	63	25	0	*****	571	*****	0.180	29	****	0.18	27
CHICKASHA EXP	1750	5	85.9	31	4.8	106	26	58	20	0	0	648	149	1.691	31	-1.07	1.43	4
COX CITY	2196	5	****	0	****	****	0	****	0	*****	*****	*****	*****	1.180	31	****	0.76	6
CRESCENT	2242	5	****	0	****	****	0	****	0	*****	*****	*****	*****	0.890	31	****	0.32	27
CUSHING	2318	5	84.7	31	4	107	28	61	21	0	0	612	125	1.040	31	-1.69	0.50	21
EDMOND	2788	5	****	0	****	****	0	****	0	*****	*****	*****	*****	0.390	31	****	0.25	25
EL RENO	2818	5	83.8	31	2.9	105	13	57	20	0	0	584	91	0.870	31	-1.92	0.50	6
GUTHRIE	3821	5	84.9	31	2.7	111	27	59	20	0	0	617	84	0.004	31	-2.27	0.00	22
HENNESSEY	4055	5	82.7	31	1.1	105	26	57	20	0	0	548	33	2.940	31	0.08	1.20	4
INGALLS	4489	5	****	0	****	****	0	****	0	*****	*****	*****	*****	0.311	31	****	0.20	5
KINGFISHER	4861	5	84.5	31	2.6	105	12	56	21	0	0	603	79	1.040	31	-1.66	0.53	6
KONAWA	4915	5	****	0	****	****	0	****	0	*****	*****	*****	*****	1.460	31	-0.53	0.90	27
MARSHALL	5589	5	****	0	****	****	0	****	0	*****	*****	*****	*****	2.300	31	-0.27	1.64	4
MEEKER	5779	5	81.1	31	-0.2	104	27	54	21	0	0	499	-7	0.390	31	-2.07	0.22	28
MULHALL	6110	5	****	0	****	****	0	****	0	*****	*****	*****	*****	0.250	31	****	0.25	27
NORMAN NWS	6386	5	84.3	31	3.1	104	26	63	20	0	0	600	98	0.723	31	-2.14	0.72	5
OKEMAH	6638	5	85.8	31	4.9	106	26	65	20	0	0	646	153	1.192	31	-1.45	0.47	27
OKLAHOMA CTY	6659	5	****	0	****	****	0	****	0	*****	*****	*****	*****	0.733	31	****	0.62	6
OKLAHOMA CTY	6661	5	84.7	31	3.6	105	26	66	20	0	0	612	113	1.352	31	-1.25	1.24	5
PERKINS	7003	5	****	0	****	****	0	****	0	*****	*****	*****	*****	0.080	31	-2.46	0.06	5
PIEDMONT	7068	5	****	0	****	****	0	****	0	*****	*****	*****	*****	0.700	31	****	0.45	27
PRAGUE	7264	5	****	0	****	****	0	****	0	*****	*****	*****	*****	0.083	31	-2.35	0.08	27
SEMINOLE	8042	5	84.2	30	1.6	106	12	62	20	0	0	575	29	0.440	31	-2.20	0.41	26
SHAWNEE	8110	5	****	0	****	****	0	****	0	*****	*****	*****	*****	0.041	31	-2.46	0.04	27
STELLA	8479	5	****	0	****	****	0	****	0	*****	*****	*****	*****	0.441	31	****	0.30	27
STILLWATER	8501	5	84.0	31	3.7	108	27	57	20	0	0	589	115	0.970	31	-1.79	0.47	4
STROUD	8563	5	****	0	****	****	0	****	0	*****	*****	*****	*****	0.261	31	****	0.23	27
TECUMSEH	8751	5	****	0	****	****	0	****	0	*****	*****	*****	*****	0.250	31	****	0.25	28
TROUSDALE	8960	5	83.0	31	****	105	27	56	20	0	*****	559	*****	2.770	31	****	2.50	6
UNION CITY	9086	5	****	0	****	****	0	****	0	*****	*****	*****	*****	1.841	31	-1.04	1.18	6
WELTY	9479	5	****	0	****	****	0	****	0	*****	*****	*****	*****	0.800	31	****	0.80	27
WEWOKA	9575	5	****	0	****	****	0	****	0	*****	*****	*****	*****	2.430	31	-0.34	1.32	24

AUGUST 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	*****	*****	*****	*****	2.520	31	****	0.87	5
CALVIN	1391	6	****	0	****	****	0	****	0	*****	*****	*****	*****	1.200	31	-1.21	0.95	29
CHECOTAH	1711	6	****	0	****	****	0	****	0	*****	*****	*****	*****	0.710	31	-2.13	0.42	28
CLAYTON	1858	6	****	0	****	****	0	****	0	*****	*****	*****	*****	1.130	31	****	1.02	3
DEWAR	2485	6	****	0	****	****	0	****	0	*****	*****	*****	*****	3.022	31	0.51	1.60	28
DUSTIN	2690	6	****	0	****	****	0	****	0	*****	*****	*****	*****	1.820	31	****	0.63	27
EUFAULA	2993	6	86.9	31	4.7	108	26	67	25	0	0	680	147	1.380	31	-1.21	0.85	27
HANNA	3884	6	83.7	31	2.7	105	26	58	17	0	0	579	83	2.471	31	-0.09	1.51	27
HASKELL	3956	6	****	0	****	****	0	****	0	*****	*****	*****	*****	1.250	31	-1.27	1.25	24
LAKE EUFAULA	4975	6	83.6	31	****	105	27	65	20	0	*****	577	*****	0.191	31	****	0.19	27
LYONS	5437	6	****	0	****	****	0	****	0	*****	*****	*****	*****	0.480	31	-2.68	0.30	3
MARBLE CITY	5546	6	****	0	****	****	0	****	0	*****	*****	*****	*****	0.270	31	****	0.27	27
MCALESTER	5664	6	84.4	31	3.1	107	26	59	20	0	0	602	97	1.221	31	-1.83	0.83	2
MCCURTAIN	5693	6	84.9	30	3.5	106	26	60	25	0	0	598	90	0.432	31	-2.48	0.43	27
MUSKOGEE	6130	6	83.7	30	2.6	106	26	61	25	0	0	560	61	0.791	30	****	0.39	23
OKMULGEE	6670	6	82.3	26	****	106	11	58	20	0	*****	451	*****	2.130	28	****	1.00	2
OKTAHA	6678	6	****	0	****	****	0	****	0	*****	*****	*****	*****	0.691	31	****	0.35	27
SALLISAW	7862	6	84.0	31	3	104	27	63	26	0	0	588	92	0.100	31	-3.29	0.08	27
SCIPIO	7979	6	****	0	****	****	0	****	0	*****	*****	*****	*****	2.090	31	****	1.06	28
SHORT	8170	6	****	0	****	****	0	****	0	*****	*****	*****	*****	0.220	31	****	0.12	10
STILWELL	8506	6	80.6	31	1.8	104	26	54	24	0	0	483	55	0.430	31	-3.46	0.22	24
TAHLEQUAH	8677	6	82.3	31	2.5	103	26	60	24	0	0	537	78	0.432	31	-3.28	0.43	27
WEBBERS FALL.	9445	6	84.9	31	4.7	109	12	57	21	0	0	617	146	0.690	31	-2.20	0.68	27
WETUMKA	9571	6	****	0	****	****	0	****	0	*****	*****	*****	*****	2.301	31	-0.29	1.24	24

AUGUST 1999 SUMMARY FOR SOUTHWEST DIVISION (CD7)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV		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		
ALTUS	179	7	85.9	31	3.1	108	27	64	20	0	0	648	96	0.600	31	-1.85	0.30	3
ALTUS DAM	184	7	88.0	31	5.5	108	1	66	21	0	0	712	169	0.610	31	-1.78	0.36	3
ANADARKO	224	7	82.8	31	1.4	103	27	54	20	0	0	551	43	0.000	31	-2.36	0.00	31
APACHE	260	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.000	31	-2.43	0.00	31
ALTUS AFB	447	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.052	29	*****	0.62	6
CARNEGIE	1504	7	85.8	10	*****	107	26	60	31	0	*****	208	*****	0.610	13	*****	0.37	4
CHATTANOOGA	1706	7	87.0	29	*****	109	13	63	20	0	*****	639	*****	0.000	29	*****	0.00	31
DUNCAN 11 W	2668	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.722	31	*****	0.36	5
FREDERICK	3353	7	87.0	24	*****	108	12	60	19	0	*****	528	*****	0.050	24	*****	0.05	2
HEADRICK	3998	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.231	31	*****	0.20	3
HOBART	4204	7	86.1	30	4.1	107	27	61	20	0	0	634	107	0.004	30	*****	0.00	28
HOLLIS	4249	7	86.1	31	3.8	107	27	65	21	0	0	656	120	0.200	31	-2.24	0.09	5
LAWTON	5063	7	87.5	31	5.2	108	11	66	19	0	0	698	162	0.450	31	-1.76	0.40	5
LOOKEBA	5329	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.580	31	-2.00	0.58	6
MANGUM	5509	7	84.9	31	2.3	106	28	66	29	0	0	618	72	0.410	31	-1.87	0.41	2
RANDLETT	7403	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.410	31	*****	0.62	24
ROOSEVELT	7727	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.540	31	0.16	2.17	6
SEDAN	8016	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.790	31	*****	0.35	5
SNYDER	8299	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.030	27	*****	0.03	27
VINSON	9212	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.480	31	0.19	1.06	5
WALTERS	9278	7	87.8	31	4.6	108	11	64	20	0	0	708	144	0.680	31	-2.00	0.64	5
WICHITA MT	9629	7	84.7	31	3.9	109	23	60	20	0	0	612	122	0.051	31	-2.11	0.05	3
WILLOW	9668	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.070	31	*****	2.80	5

AUGUST 1999 SUMMARY FOR SOUTH CENTRAL DIVISION (CD8)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV		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		
ADA	17	8	83.8	31	2.5	103	26	59	20	0	0	584	79	4.020	31	1.09	1.32	6
ALLEN	147	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.820	31	*****	0.95	6
ARDMORE	292	8	87.2	31	3.8	107	12	63	21	0	0	690	120	1.670	31	-0.86	0.95	4
ATOKA DAM	394	8	86.4	22	*****	110	11	62	25	0	*****	471	*****	1.181	22	*****	0.53	27
BOKCHITO	917	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.800	31	*****	0.50	23
CANEY	1437	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.030	31	*****	0.56	24
CENTRAHOMA	1648	8	83.4	31	*****	105	27	60	17	0	*****	570	*****	3.150	31	*****	1.50	6
CHICKASAW	1745	8	84.0	31	2.4	104	27	59	20	0	0	589	74	1.880	31	-0.25	0.80	6
COMANCHE	2054	8	86.2	31	*****	105	10	68	20	0	*****	658	*****	0.680	31	-2.07	0.50	27
DAISY	2354	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.120	31	-2.08	0.62	3
DUNCAN	2660	8	86.0	31	3.9	105	12	67	20	0	0	653	123	0.461	31	-1.97	0.24	13
ELMORE CITY	2872	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.280	31	*****	1.17	5
GRADY	3688	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.820	31	*****	0.82	24
HEALDTON	4001	8	85.4	31	3.2	106	27	62	21	0	0	632	99	1.450	31	-0.99	1.02	4
HENNEPIN	4052	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.130	31	*****	0.65	6
KETCHUM RAN	4780	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.210	31	*****	1.52	5
KINGSTON	4865	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.980	31	-1.62	0.89	28
LEHIGH	5108	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.652	31	*****	1.20	24
LINDSAY	5216	8	84.0	30	2.4	105	12	56	20	0	0	571	56	0.790	31	-1.64	0.65	5
LOCO	5247	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.810	31	*****	0.80	5
MADILL	5468	8	86.2	31	3.4	108	11	64	18	0	0	656	104	2.500	31	-0.08	0.90	28
MARIETTA	5563	8	85.0	31	2.4	107	11	58	18	0	0	619	73	0.370	31	-2.30	0.37	28
MARLOW	5581	8	87.0	31	5.6	109	26	61	25	0	0	683	175	2.300	31	-0.30	1.20	5
MCGEE CREEK	5713	8	85.5	31	*****	107	12	63	25	0	*****	636	*****	1.880	31	*****	0.89	27
PAULS VALLEY	6926	8	83.9	31	1.5	105	27	55	21	0	0	585	46	2.702	31	0.50	1.60	5
PONTOTOC	7214	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.530	31	-1.20	0.53	23
TISHOMINGO	8884	8	86.3	17	*****	108	26	60	17	0	*****	363	*****	1.701	27	*****	1.24	5
TUSSY	9032	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.430	31	*****	1.80	3
WAURIKA	9395	8	88.6	31	5.3	109	18	66	21	0	0	731	164	1.230	31	-1.42	1.21	23

AUGUST 1999 SUMMARY FOR SOUTHEAST DIVISION (CD9)

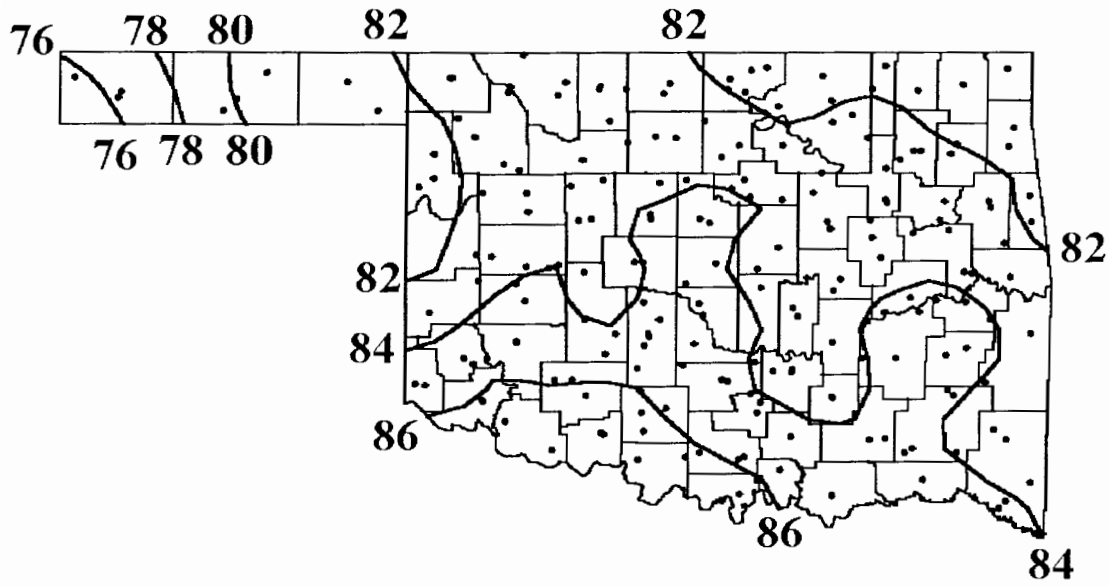
NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
ANTLERS	256	9	84.4	31	3.2	106	26	57	20	0	0	602	100	0.120	31	-2.67	0.12	27
BATTIEST	567	9	82.1	31	*****	107	27	57	18	0	*****	531	*****	1.450	31	*****	0.77	7
BENGAL	670	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.440	31	*****	0.40	27
BOSWELL	980	9	85.6	9	*****	104	9	71	8	0	*****	185	*****	0.000	9	*****	0.00	9
BROKEN BOW	1162	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.150	31	-2.78	0.12	11
CARNASAW	1499	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.450	31	-1.50	0.75	11
CARTER TWR	1544	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.240	31	-2.41	0.59	13
FANSHAWE	3065	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.890	31	-1.17	0.83	27
HEAVENER	4008	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.350	31	-1.99	0.81	2
IDABEL	4451	9	86.0	31	5.5	107	9	65	19	0	0	650	169	0.331	31	-2.23	0.25	11
PAGE	6842	9	81.5	29	*****	102	9	53	20	0	*****	478	*****	2.440	29	*****	0.99	24
POTEAU	7254	9	83.4	31	*****	105	26	59	24	0	*****	569	*****	1.201	31	*****	1.20	26
SMITHVILLE	8285	9	80.8	29	*****	105	27	55	26	0	*****	460	*****	2.170	29	*****	0.80	27
SPIRO	8416	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.090	31	-2.24	0.07	27
TUSKAHOMA	9023	9	84.6	31	3.5	108	26	55	20	0	0	609	110	1.192	31	-2.11	0.38	27
VALLIANT	9118	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.030	31	-0.43	1.02	6
WILBURTON	9634	9	84.2	31	3.8	109	26	56	25	0	0	594	117	0.520	31	-2.58	0.35	26
WISTER	9724	9	84.3	26	*****	108	11	57	26	0	*****	502	*****	1.260	26	*****	0.71	10

AUGUST 1999 CLIMATE DIVISION SUMMARY

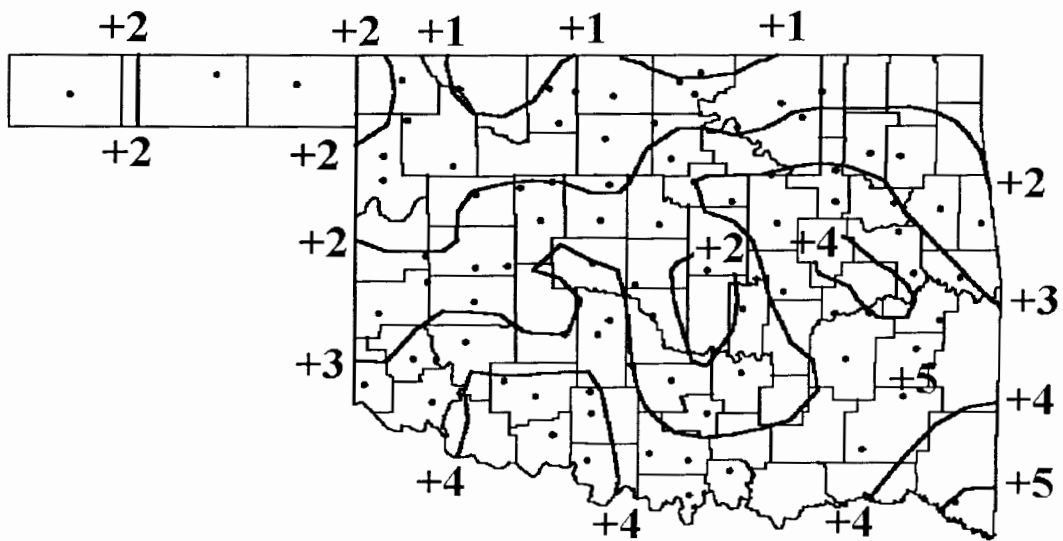
CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
1	80.8	7	2.6	109	16	51	14	0	0	486	79	2.420	11	-0.19	2.76	4
2	82.5	14	1.6	108	27	53	19	0	0	539	43	2.160	22	-0.86	3.25	3
3	82.9	12	2.7	109	26	55	19	0	0	552	82	1.450	22	-1.87	2.54	3
4	83.2	11	2.5	105	12	56	21	0	0	563	77	2.020	19	-0.58	2.78	3
5	84.2	15	2.9	111	27	54	21	0	0	594	89	0.980	35	-1.65	2.50	6
6	83.9	10	3.3	109	12	54	24	0	0	582	97	1.140	22	-1.77	1.60	28
7	86.0	9	3.7	109	23	54	20	0	0	648	112	0.870	17	-1.55	2.80	5
8	85.4	14	3.2	110	11	55	21	0	0	632	98	1.730	27	-0.86	1.80	3
9	84.1	6	3.6	109	26	53	20	0	0	592	111	0.960	14	-1.99	1.20	26

MESONET MONTHLY SUMMARY FOR AUGUST 1999

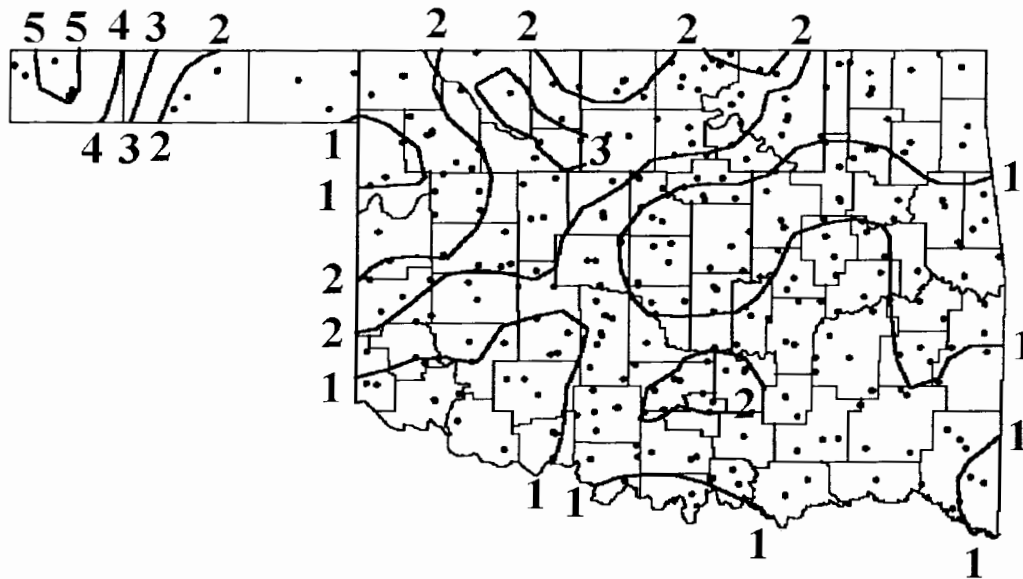
NAME	MEAN TEMP	MAX TEMP	MIN DAY	MIN TEMP	MIN DAY	HDD	CDD	TOT PPT	MAX 24-HR	DAY	NAME	MEAN TEMP	MAX TEMP	MIN DAY	MIN TEMP	MIN DAY	HDD	CDD	TOT PPT	MAX 24-HR	DAY
PANHANDLE																					
Arnett	82.3	105	16	59	14	0	535	0.53	0.29	3	Goodwell	79.4	102	16	54	14	0	433	0.75	0.28	29
Beaver	81.4	105	16	56	14	0	509	1.85	1.30	1	Hooker	80.9	106	17	57	14	0	492	1.21	0.43	3
Boise City	74.7	95	16	57	13	0	301	6.05	2.03	4	Kenton	75.6	96	31	56	13	0	328	3.98	1.73	4
Buffalo	82.9	108	16	56	14	0	555	1.24	0.85	4	Slapout	81.7	106	16	59	14	0	518	1.07	0.39	29
NORTH CENTRAL																					
Alva	82.1	104	26	61	14	0	496	6.05	2.63	10	May Ranch	81.7	104	26	60	14	0	501	2.55	1.43	5
Blackwell	81.9	106	26	58	20	0	523	2.26	1.40	2	Medford	83.0	106	26	60	24	0	556	2.00	1.02	3
Breckenridge	82.8	106	26	58	20	0	532	2.17	1.20	2	Newkirk	80.6	105	26	59	14	0	468	1.89	0.79	3
Cherokee	83.7	106	11	57	20	0	560	*****	*****	**	Red Rock	82.3	107	26	58	20	0	518	2.04	1.15	3
Fairview	84.2	106	16	58	20	0	575	3.12	1.31	5	Seiling	82.8	105	16	56	20	0	535	1.88	0.95	5
Freedom	82.1	105	26	59	20	0	529	2.43	0.90	10	Woodward	83.3	106	16	59	14	0	548	0.39	0.15	5
Lahoma	82.4	104	26	59	20	0	521	4.72	1.80	3											
NORTHEAST																					
Bixby	83.0	105	26	61	15	0	539	0.30	0.27	27	Nowata	80.9	106	12	56	15	0	491	1.13	0.34	4
Burbank	81.4	107	26	58	14	0	491	1.13	0.47	2	Pawnee	82.2	106	26	58	20	0	532	0.58	0.30	26
Catoosa	84.6	109	26	61	14	0	589	0.64	0.26	27	Pryor	81.7	106	11	58	15	0	518	0.77	0.35	27
Claremore	83.3	108	11	60	14	0	566	0.98	0.68	27	Skiatook	83.5	106	26	61	14	0	573	0.55	0.23	21
Copan	81.6	105	11	60	14	0	513	1.56	0.83	4	Tulahassee	83.7	105	11	58	20	0	580	1.08	0.43	23
Foraker	80.0	105	26	57	14	0	420	2.24	1.05	2	Vinita	80.5	104	11	58	20	0	388	*****	*****	**
Jay	80.9	106	11	56	20	0	492	1.22	0.54	26	Wynona	82.4	106	26	59	14	0	538	0.96	0.26	4
Miami	79.7	102	11	57	14	0	455	1.44	0.68	3											
WEST CENTRAL																					
Bessie	85.0	105	11	63	20	0	500	0.89	0.51	3	Putnam	83.8	107	27	60	14	0	565	0.89	0.42	2
Butler	84.3	107	27	58	20	0	522	2.86	1.92	5	Retrop	85.0	106	11	63	20	0	461	0.40	0.15	2
Camargo	82.5	105	16	56	20	0	544	1.34	0.62	4	Watonga	83.6	104	26	60	20	0	558	2.46	1.23	3
Cheyenne	82.5	102	12	61	14	0	420	2.45	1.52	27	Weatherford	84.6	105	11	63	20	0	607	0.88	0.56	5
Erick	81.6	106	27	57	20	0	415	3.72	2.19	9											
CENTRAL																					
Acme	85.3	105	10	57	20	0	629	1.45	0.84	4	Minco	84.0	103	26	61	20	0	589	1.90	1.49	5
Bowlegs	82.9	106	26	56	20	0	553	1.66	1.12	27	Ninnekah	85.6	106	12	60	20	0	639	1.81	1.64	3
Bristow	81.4	106	26	55	20	0	477	1.59	1.08	2	Norman	84.8	105	11	62	20	0	614	0.52	0.52	5
Chandler	83.5	105	26	62	14	0	572	0.16	0.15	26	Oilton	81.8	106	26	54	20	0	521	0.43	0.18	26
Chickasha	83.8	103	11	57	20	0	583	1.98	1.58	3	Okemah	83.2	105	11	60	20	0	564	0.88	0.42	6
El Reno	82.7	104	12	53	20	0	529	1.44	0.79	27	Perkins	84.8	107	11	62	14	0	594	0.65	0.48	4
Guthrie	85.0	107	12	62	20	0	620	0.66	0.32	4	Shawnee	84.7	106	26	59	20	0	591	0.13	0.13	27
Kingfisher	85.0	106	26	55	20	0	599	1.21	0.82	5	Spencer	84.8	106	26	57	20	0	614	0.25	0.23	5
Marena	83.5	107	26	61	14	0	574	0.54	0.24	2	Stillwater	83.4	107	26	56	20	0	553	0.86	0.58	4
Marshall	84.5	108	11	58	20	0	564	1.18	0.57	4	Washington	85.3	107	12	61	20	0	630	0.94	0.91	5
EAST CENTRAL																					
Calvin	82.9	106	26	58	20	0	554	0.54	0.31	4	Preston	84.6	107	26	63	14	0	588	1.43	1.25	2
Cookson	82.4	105	11	57	20	0	434	0.24	0.16	23	Sallisaw	83.6	106	26	58	20	0	575	0.19	0.15	26
Eufaula	84.5	106	11	62	20	0	586	2.09	1.65	27	Stigler	83.0	105	11	57	25	0	557	0.62	0.62	27
Haskell	83.1	106	11	61	18	0	541	2.05	1.16	27	Stuart	84.2	106	26	63	17	0	576	0.06	0.06	26
Hectorville	85.3	108	26	63	14	0	608	0.11	0.04	27	Tahlequah	82.6	105	11	58	17	0	545	0.94	0.48	27
McAlester	84.1	106	26	58	20	0	592	1.05	0.88	2	Webbers Falls	84.2	108	11	58	25	0	575	0.00	0.00	1
Okmulgee	83.1	105	11	58	20	0	560	1.69	1.22	23	Westville	82.1	104	11	60	25	0	529	0.48	0.36	23
SOUTHWEST																					
Altus	85.5	106	10	65	21	0	636	0.45	0.40	2	Hollis	85.6	107	27	64	21	0	618	0.21	0.11	2
Apache	84.3	105	12	62	20	0	597	0.31	0.22	4	Mangum	83.7	105	16	61	21	0	581	0.61	0.56	2
Fort Cobb	83.7	105	12	63	20	0	578	0.20	0.09	5	Medicine Park	86.1	104	12	68	20	0	632	0.29	0.28	4
Grandfield	87.3	109	10	62	20	0	646	0.37	0.21	12	Tipton	87.5	107	12	61	20	0	676	0.22	0.22	2
Hinton	83.9	103	22	61	20	0	473	4.80	2.98	5	Walters	87.9	109	10	63	20	0	686	1.64	1.12	4
Hobart	85.3	105	11	61	20	0	529	0.92	0.89	5											
SOUTH CENTRAL																					
Ada	83.1	105	26	57	20	0	561	1.99	1.33	27	Madill	86.6	107	10	62	17	0	668	1.10	0.63	27
Ardmore	86.2	106	10	64	20	0	658	1.56	0.73	27	Pauls Valley	85.8	106	12	64	20	0	625	1.44	1.05	5
Burneyville	86.6	109	8	59	17	0	646	0.33	0.31	27	Ringling	87.0	108	10	64	17	0	681	0.90	0.37	23
Byars	83.8	103	26	59	20	0	563	3.72	1.50	5	Sulphur	83.9	104	10	61	20	0	585	3.36	2.62	5
Centrahoma	82.8	105	11	56	17	0	553	1.64	1.03	23	Tishomingo	84.4	106	10	57	17	0	601	1.17	0.76	5
Durant	85.7	106	10	63	17	0	620	1.41	0.66	6	Vanoss	84.2	105	26	59	20	0	575	2.30	0.72	27
Ketchum Ranch	85.8	105	10	62	20	0	643	3.15	1.36	5	Waurika	87.6	109	10	63	17	0	677	1.38	1.12	23
Lane	83.7	105	26	58	17	0	562	0.78	0.48	26											
SOUTHEAST																					
Antlers	82.9	107	26	53	17	0	554	*****	*****	**	Idabel	84.2	106	26	59	17	0	576	1.38	0.90	10
Broken Bow	82.9	106	26	57	16	0	556	0.39	0.25	10	Mt Herman	82.5	102	26	61	16	0	543	1.96	1.41	6
Clayton	84.2	107	10	58	17	0	596	0.76	0.40	6	Talihina	84.4	108	26	56	25	0	581	0.46	0.31	6
Cloudy	83.6	105	10	58	17	0	576	1.71	1.18	13	Wilburton	84.7	108	10	57	20	0	591	1.06	0.73	10
Hugo	85.4	106	10	63	17	0	633	1.50	0.72	27	Wister	82.2	107	26	55	16	0	500	0.26	0.24	26



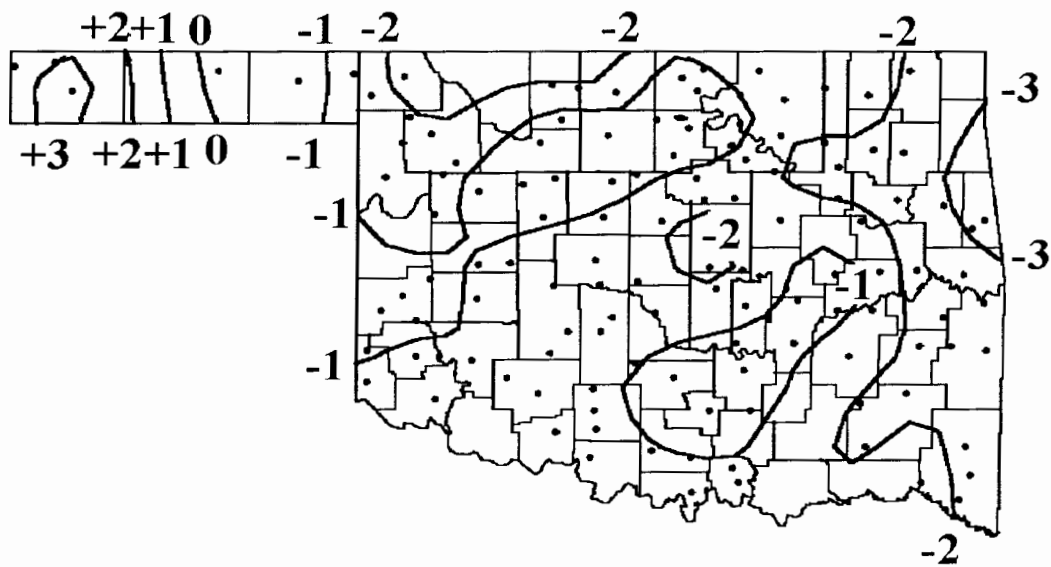
AUGUST 1999 AVERAGE MONTHLY TEMPERATURE (F)



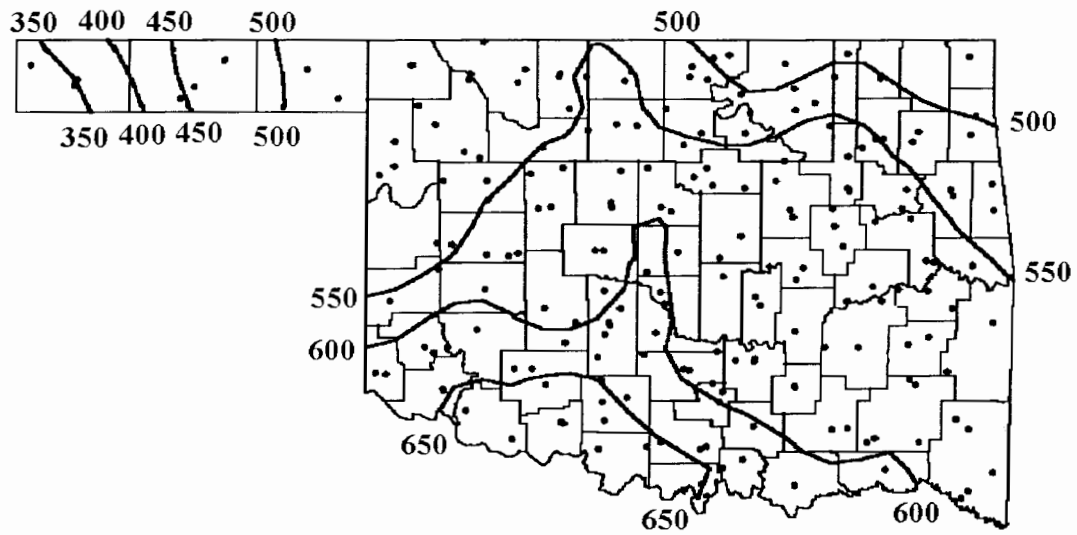
AUGUST 1999 DEPARTURE FROM NORMAL TEMPERATURE (F)



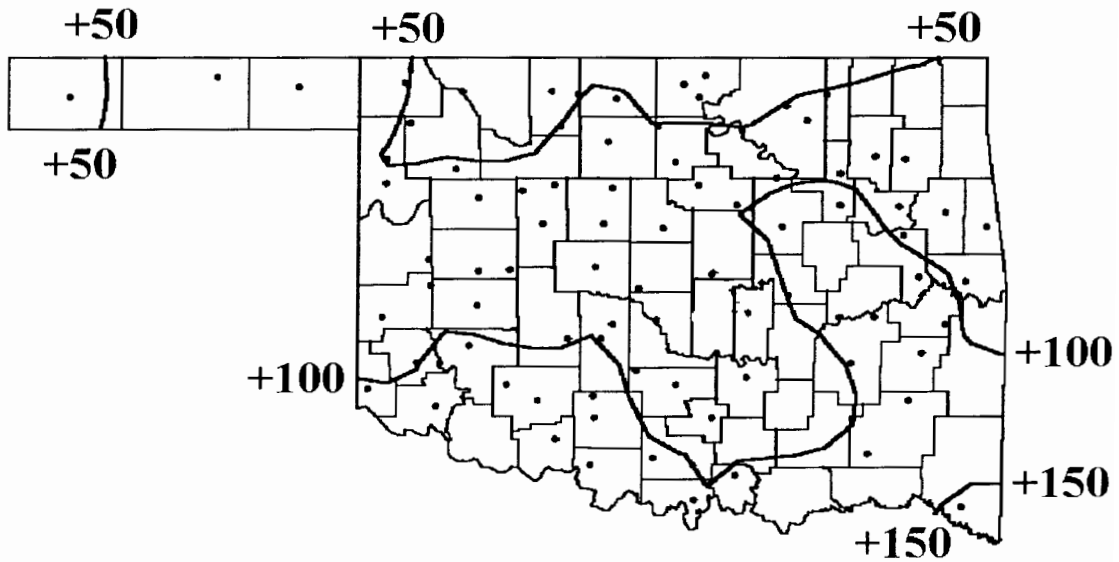
AUGUST TOTAL PRECIPITATION (INCHES)



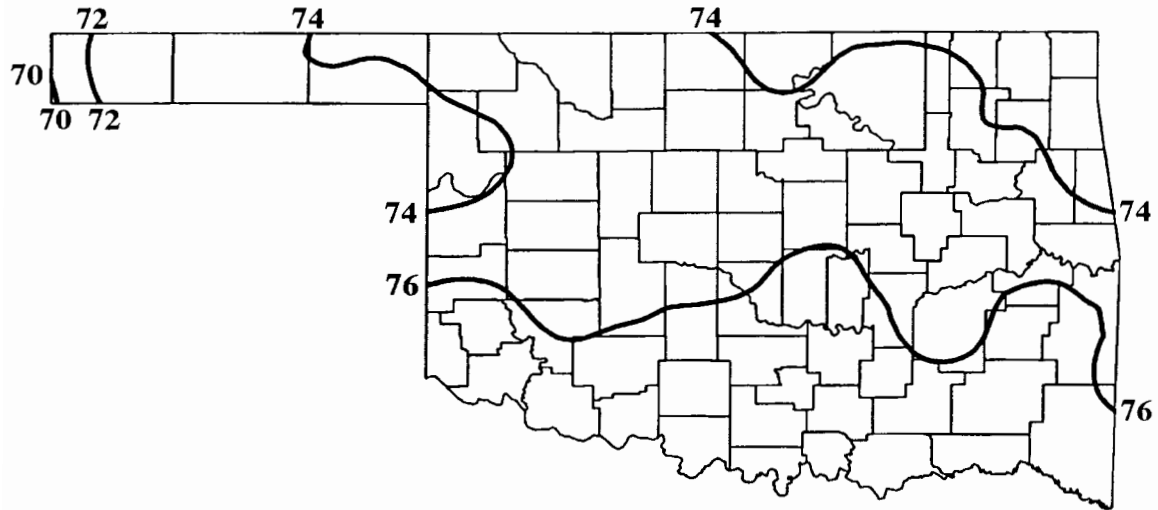
AUGUST 1999 DEPARTURE FROM NORMAL PRECIPITATION (INCHES)



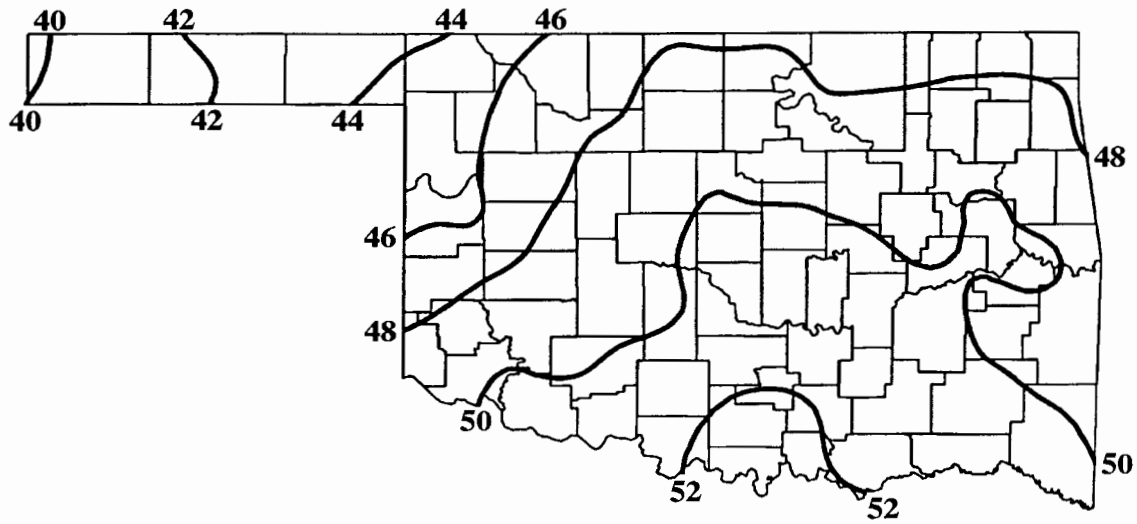
AUGUST 1999 ACCUMULATED COOLING DEGREE DAYS (F)



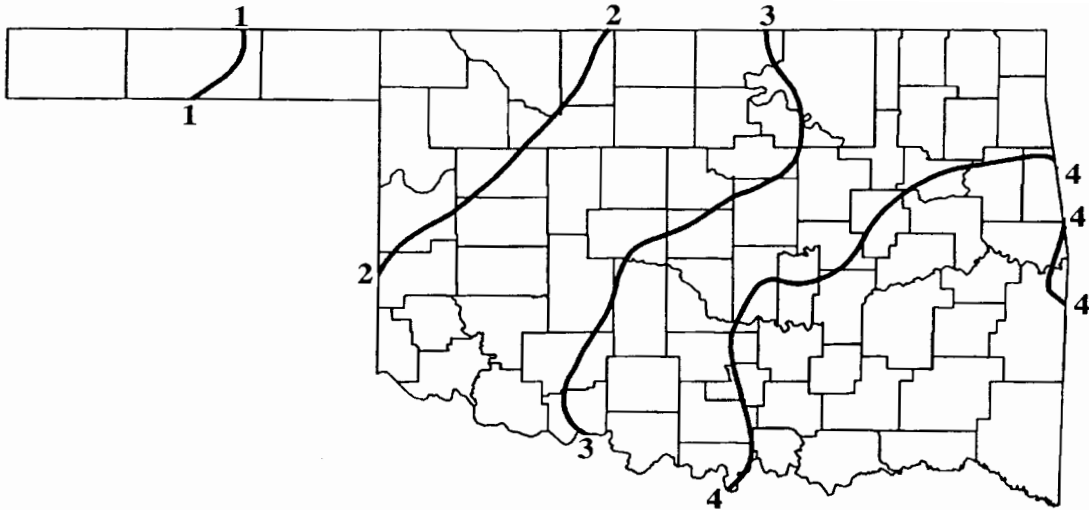
AUGUST 1999 DEPARTURE FROM NORMAL COOLING DEGREE DAYS (F)



OCTOBER NORMAL DAILY MAXIMUM TEMPERATURE (F)



OCTOBER NORMAL DAILY MINIMUM TEMPERATURE (F)



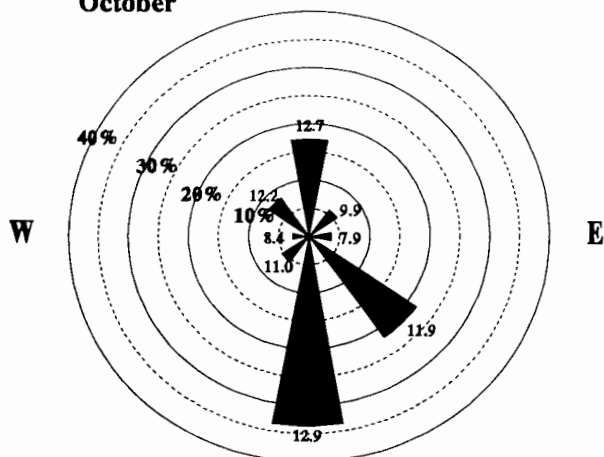
OCTOBER NORMAL MONTHLY PRECIPITATION (INCHES)

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

TEMPERATURE: TEMPERATURE NORMAL FOR ENTIRE STATE

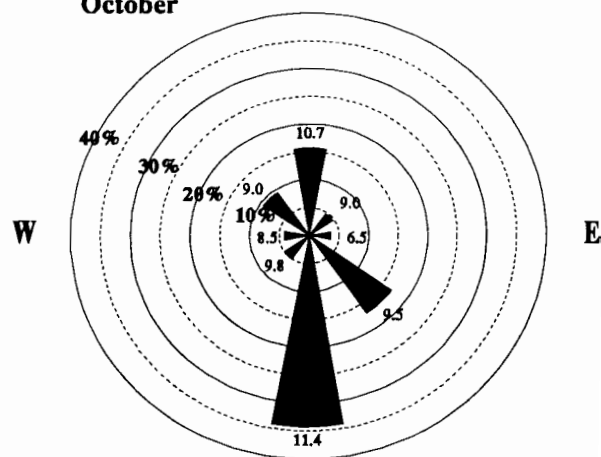
PRECIPITATION: PRECIPITATION NORMAL FOR ENTIRE STATE

Oklahoma City N
October



Calm=1.6%
Mean Speed= 11.8 mph S

Tulsa N
October



Calm=6.0%
Mean Speed= 9.6 mph S

October 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.

OCTOBER SUNRISE/SUNSET TIMES FOR 1999

ALL TIMES ARE CENTRAL STANDARD TIME

OKLAHOMA CITY

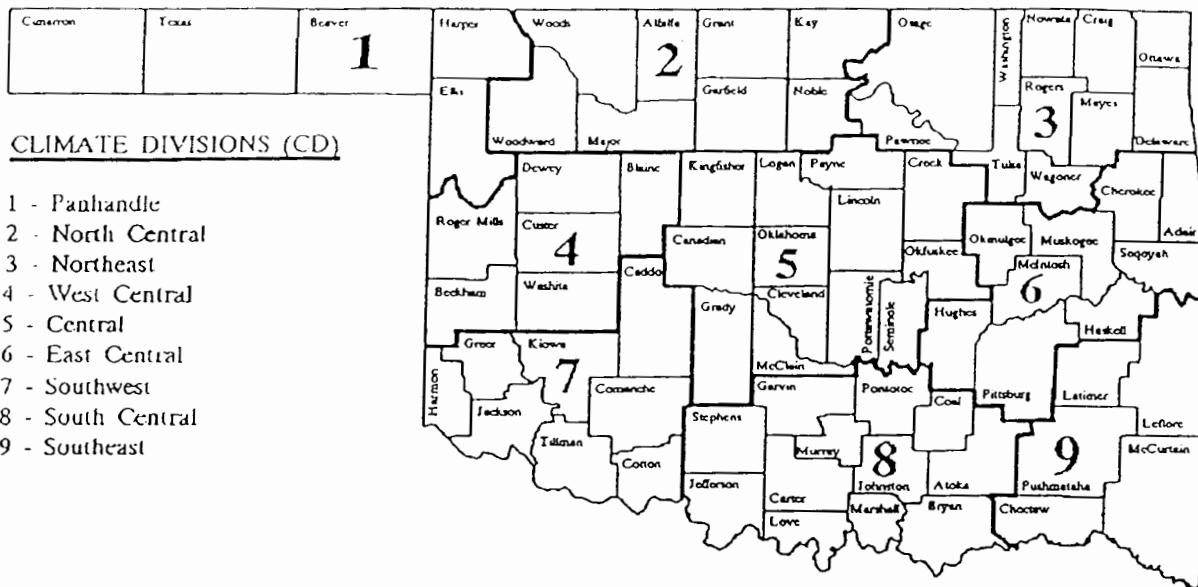
TULSA

DATE	SUNRISE	SUNSET
10/1/99	625	1814
10/2/99	626	1813
10/3/99	626	1812
10/4/99	627	1810
10/5/99	628	1809
10/6/99	629	1807
10/7/99	630	1806
10/8/99	630	1805
10/9/99	631	1803
10/10/99	632	1802
10/11/99	633	1800
10/12/99	634	1759
10/13/99	635	1758
10/14/99	635	1756
10/15/99	636	1755
10/16/99	637	1754
10/17/99	638	1753
10/18/99	639	1751
10/19/99	640	1750
10/20/99	641	1749
10/21/99	641	1748
10/22/99	642	1746
10/23/99	643	1745
10/24/99	644	1744
10/25/99	645	1743
10/26/99	646	1742
10/27/99	647	1741
10/28/99	648	1740
10/29/99	649	1739
10/30/99	650	1737
10/31/99	651	1736

DATE	SUNRISE	SUNSET
10/1/99	619	1808
10/2/99	619	1806
10/3/99	620	1805
10/4/99	621	1803
10/5/99	622	1802
10/6/99	623	1801
10/7/99	624	1759
10/8/99	624	1758
10/9/99	625	1756
10/10/99	626	1755
10/11/99	627	1754
10/12/99	628	1752
10/13/99	629	1751
10/14/99	630	1750
10/15/99	630	1748
10/16/99	631	1747
10/17/99	632	1746
10/18/99	633	1744
10/19/99	634	1743
10/20/99	635	1742
10/21/99	636	1741
10/22/99	637	1739
10/23/99	638	1738
10/24/99	639	1737
10/25/99	640	1736
10/26/99	640	1735
10/27/99	641	1733
10/28/99	642	1732
10/29/99	643	1731
10/30/99	644	1730
10/31/99	645	1729

ADD ONE HOUR FOR CENTRAL DAYLIGHT TIME

OKLAHOMA



CLIMATE DIVISIONS (CD)

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

EXPLANATION OF TABLES

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

- Station Name:
- Station Identification Number: These are usually assigned by the National Climatic Data Center.
- Climate Division: See the figure above.
- Number of Temperature Observations: These are the actual number of temperature reports recorded at the station during the current month. Missing observations may result in artificially high or low mean monthly temperatures.
- Deviation from Normal: The deviation of the observed mean monthly temperature from the monthly station normal. A positive value indicates the month was warmer than normal. A negative value indicates the month was cooler than normal. Normal monthly temperatures may be calculated by subtracting the deviation from the observed temperature.
- Maximum Daily Maximum: The maximum daily maximum temperature observed during the current month and year and the day which it occurred.
- Minimum Daily Minimum: The minimum daily minimum temperature observed during the current month and year and the day which it occurred.
- Heating Degree Days: HDD are calculated each day of the month for which there is a temperature report and 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.

OCTOBER

Day	Avg. Temp	Avg. High	Record High	Lowest Max	1999	Avg. Low	Highest Min	Year	Record Low	Year	1999	Avg. Ppt.	Greatest Ppt.	Year	1999
1	67.4	80.2	97	61	1985	54.6	74	1911	38	1958		0.08	2.28	1959	
2	68.0	80.3	96	57	1902	55.6	73	1911	41	1975		0.26	4.52	1955	
3	67.5	79.2	97	56	1959	55.9	73	1954	40	1975		0.18	1.59	1981	
4	66.9	77.8	96	51	1902	55.9	75	1911	40	1891		0.10	2.22	1955	
5	66.5	77.7	95	53	1988	55.3	69	1981	38	1932		0.10	1.74	1970	
6	64.3	74.8	94	55	1891	53.8	72	1931	40	1976		0.08	1.38	1989	
7	63.9	75.5	94	50	1976	52.2	73	1939	32	1952		0.08	1.41	1967	
8	64.7	76.0	94	50	1970	53.5	71	1949	35	1976		0.05	0.90	1978	
9	65.0	77.1	96	52	1909	52.8	72	1949	34	1892		0.08	2.09	1961	
10	64.7	76.9	95	49	1985	52.4	71	1973	35	1979		0.04	0.94	1985	
11	64.0	76.5	94	51	1987	51.5	69	1962	35	1896		0.11	1.88	1981	
12	65.0	76.6	94	47	1986	53.4	70	1928	34	1987		0.05	2.45	1923	
13	65.6	77.4	90	52	1969	53.8	72	1899	36	1893		0.06	1.44	1923	
14	64.5	76.2	91	47	1923	52.9	70	1899	32	1969		0.08	2.45	1956	
15	63.3	74.2	92	54	1914	52.4	68	1968	38	1974		0.09	1.46	1953	
16	62.3	74.6	95	54	1941	50.0	67	1965	31	1977		0.06	1.08	1981	
17	61.5	73.2	96	51	1925	49.8	68	1934	33	1976		0.07	1.43	1942	
18	60.6	72.1	91	50	1989	49.1	67	1934	33	1898		0.15	2.34	1960	
19	59.5	71.6	92	46	1925	47.3	69	1979	25	1917		0.14	4.98	1983	
20	60.2	72.0	93	42	1910	48.4	72	1979	26	1976		0.23	5.45	1983	
21	60.3	71.8	90	46	1930	48.8	66	1941	30	1917		0.15	3.70	1972	
22	60.2	71.3	87	42	1936	49.2	65	1941	31	1898		0.13	1.87	1953	
23	59.2	69.6	89	45	1895	48.7	67	1934	26	1917		0.06	1.58	1920	
24	57.6	69.0	88	48	1949	46.3	68	1939	30	1995		0.05	1.44	1920	
25	57.4	68.7	87	43	1957	46.0	68	1939	29	1957		0.06	1.65	1899	
26	58.3	70.4	92	42	1936	46.3	71	1939	26	1957		0.04	3.76	1918	
27	57.9	69.3	86	43	1919	46.4	66	1940	22	1957		0.09	3.19	1984	
28	56.7	67.7	89	34	1925	45.6	65	1961	22	1925		0.07	1.38	1991	
29	58.1	69.4	89	34	1925	46.8	67	1961	22	1917		0.08	1.61	1941	
30	57.8	69.1	87	39	1993	46.4	67	1946	16	1917		0.19	2.84	1974	
31	57.3	67.8	86	36	1991	46.7	65	1982	25	1925		0.12	1.82	1972	
MONTH	62.1	73.7	97	34	1925	50.6	75	1911	16	1993		2.71	5.45	1983	

*The most tornadoes reported in October for Oklahoma was 8 in 1970.

TULSA CLIMATE CALENDAR
DATA COURTESY OF NATIONAL WEATHER SERVICE TULSA

OCTOBER

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	Lowest Max	1999	Avg. Low	Highest Min	Year	Record Low	Year	1999	Avg. Ppt.	Greatest Ppt.	Year	1999
1	68	79	97	38	1910	57	71	1927	62	1985		0.14	2.95	1986	
2	68	79	96	39	1978	57	73	1954	59	1908		0.14	5.45	1959	
3	67	78	95	39	1963	56	74	1983	63	1959		0.14	1.74	1926	
4	67	78	97	39	1931	56	70	1954	58	1945		0.13	3.79	1941	
5	66	78	95	37	1947	55	73	1981	50	1988		0.13	4.80	1998	
6	66	78	98	35	1939	55	75	1941	57	1988		0.13	3.24	1951	
7	66	77	98	33	1979	54	75	1939	52	1988		0.13	2.07	1928	
8	65	77	97	32	1979	54	73	1939	57	1988		0.13	4.71	1936	
9	65	77	97	32	1963	53	70	1973	54	1993		0.12	0.98	1937	
10	65	76	95	30	1963	53	73	1913	57	1993		0.12	0.95	1929	
11	64	76	94	30	1979	53	71	1912	50	1987		0.12	2.20	1973	
12	64	76	94	32	1978	52	71	1962	49	1986		0.12	3.37	1969	
13	63	75	92	32	1963	52	71	1956	54	1986		0.12	3.50	1923	
14	63	75	92	34	1963	51	69	1968	50	1923		0.12	1.85	1984	
15	63	74	91	38	1963	51	69	1968	55	1943		0.11	2.12	1941	
16	62	74	93	32	1917	51	69	1965	57	1943		0.11	1.92	1923	
17	61	73	90	30	1947	50	73	1998	52	1966		0.11	1.32	1998	
18	61	73	91	29	1932	50	69	1938	51	1989		0.11	1.94	1960	
19	61	73	89	27	1940	49	73	1979	41	1916		0.11	1.73	1983	
20	61	72	91	30	1979	49	76	1979	47	1910		0.11	4.96	1971	
21	60	72	92	30	1978	49	66	1963	50	1930		0.11	2.98	1972	
22	60	72	88	31	1963	48	66	1941	44	1936		0.11	4.05	1920	
23	60	71	92	26	1939	48	70	1991	41	1908		0.11	2.40	1908	
24	60	71	88	24	1921	48	71	1939	50	1972		0.11	0.74	1920	
25	59	70	91	31	1939	47	71	1939	48	1957		0.11	1.53	1932	
26	58	70	90	27	1950	47	71	1939	40	1913		0.11	2.48	1919	
27	58	69	88	27	1922	46	64	1989	46	1936		0.11	2.23	1918	
28	57	69	86	23	1922	46	62	1998	43	1980		0.11	2.45	1974	
29	57	69	90	23	1950	46	66	1961	37	1925		0.11	2.08	1941	
30	57	68	90	15	1937	45	71	1946	41	1993		0.11	1.86	1941	
31	56	68	87	18	1950	45	68	1982	41	1991		0.11	3.12	1981	
MONTH	62	74	98	15	1979	51	76	1979	37	1925		0.12	5.45	1959	

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