

OKLAHOMA MONTHLY SUMMARY REVISED JUNE 1999

TABLE OF CONTENTS

June 1999 Oklahoma Summary.....	2
Table of June1998/1999 Comparisons.....	5
June1999 Data Summary Tables.....	6
June1999 Mesonet Summary.....	11
June1999 State Map Summary.....	12
JuneClimatological Normals.....	15
90 - Day National Weather Service Outlook.....	16
August Wind Roses – August 1999 Sunrise/Sunset Tables.....	17
Explanation of Tables.....	18
August Oklahoma City Climate Calendar.....	20
August Tulsa Climate Calendar.....	21

MONTHLY SUMMARY FOR JUNE 1999

Oklahoma was generally wetter and cooler than normal during June 1999. The monthly statewide-averaged precipitation of 6.46 inches was 2.51 inches greater than normal, making this the state's 17th wettest June since records begin in 1892. The statewide-averaged monthly temperature was 75.5 degrees, 1.5 degrees less than normal and 28th lowest of the 108 years on record. The statewide-averaged total precipitation for the first six months of 1999 was 25.01 inches, 7.30 inches greater than normal, ranking as the 7th greatest January-through-June precipitation ever recorded in Oklahoma. Temperatures over the same period averaged 56.7 degrees, statewide, 0.8 degree greater than normal, giving 1999 the 36th warmest first half of a year on record.

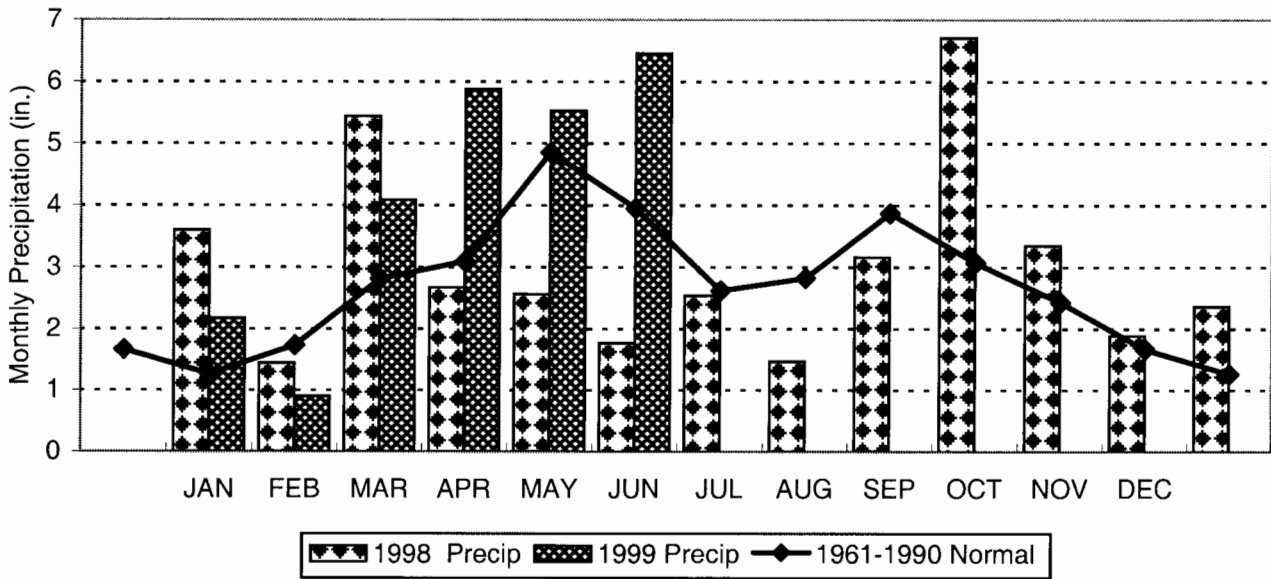
Most areas of the state recorded ample rainfall during the month, some of it decidedly more than ample for the conditions that existed at the time. Frequent and occasionally heavy rain caused significant delays in the wheat harvest, especially in north central Oklahoma. Several stations scattered about the west and south managed to miss enough significant events to finish the month with less than normal precipitation. Single-day precipitation reports of note included: 5.59 inches at Vinita (Craig County) reported on the 21st, 5.43 inches at Chelsea (Rogers) on the 20th, 5.27 inches at the Buffalo Mesonet site (Harper) on the 30th, 5.25 inches at Altus Dam (Kiowa) on the 23rd, and 5.12 inches at Vance Air Force Base (Garfield) on the 10th. Additionally, unofficial reports indicated that at least 8 inches of rain fell during a few hours at the Pollard community near Idabel in McCurtain County. Local flooding events were commonplace, especially on the 9th and 10th in north central Oklahoma, in many areas including Delaware, Grant, Comanche, Jackson, Sequoyah, McCurtain, and LeFlore counties from the 23rd through the 25th, and much of east central and southeastern Oklahoma on the 29th. Flash-flooding-related deaths were reported in Rogers County on the 20th and in Adair County on the 29th. Rescue workers in Oklahoma City successfully pulled two boys out of a swollen creek on the 10th.

A tornado that struck near Hulbert (Cherokee) on the 1st resulted in one death and several injuries. Other tornadoes were reported in Checotah (McIntosh) and near Muskogee (Muskogee) on the same evening. A brief tornado touchdown was reported near Hooker (Texas) on 4th and another west of Eva (Texas) on the 29th. Peak wind reports from stations of the Oklahoma Mesonet included: 87 miles per hour at Slapout and 77 miles per hour at Beaver (both in Beaver County) on the 2nd, 74 miles per hour at Goodwell (Texas) on the 10th, and 77 miles per hour at Sallisaw (Sequoyah) on the 29th. Damage from straight-line winds was frequently associated with the heavy precipitation events. Three-inch-diameter hail was reported at Stigler early on the morning of the 1st. Hail stones two and three-fourths inches in diameter were reported in Cimarron County on the 10th.

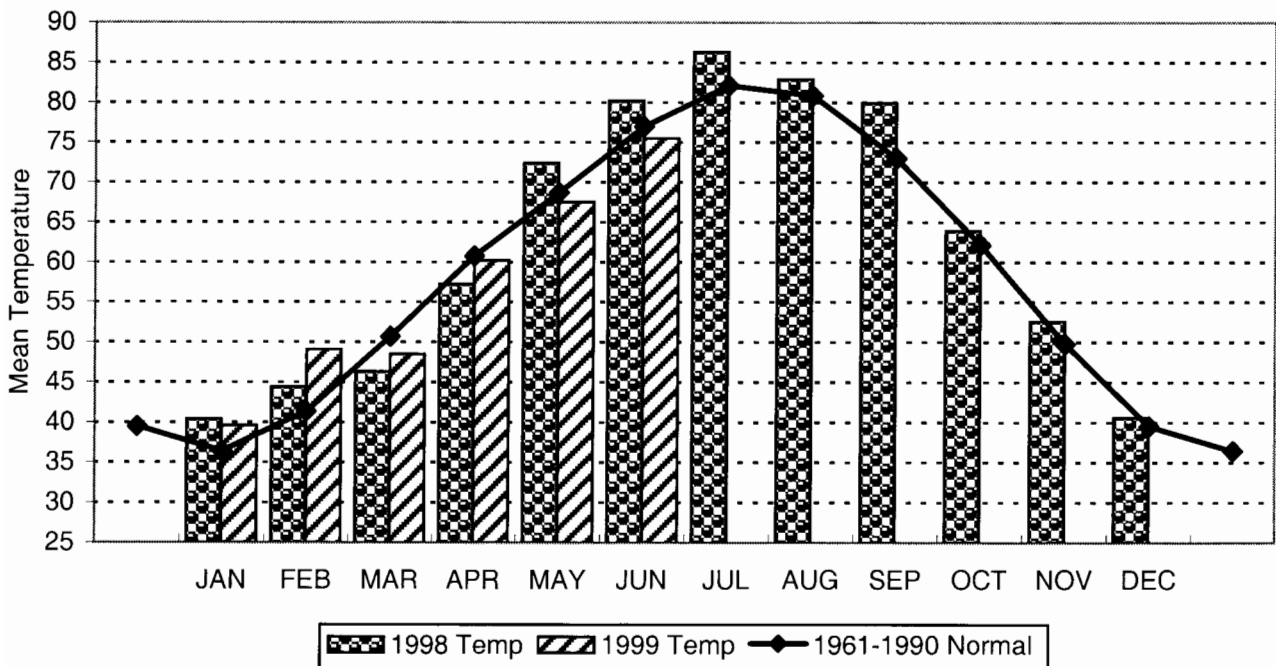
The state avoided triple-digit temperatures through most of the month, finally crashing that barrier on 26th at several far northwestern locations. Guymon (Texas) reported a daily maximum temperature of 103 degrees on the 27th. The only reporting station outside of the northwest with a daily maximum temperature of 100 degrees or more during the month was Tishomingo (Johnston) which recorded 101 degrees on the 27th.

Howard L. Johnson

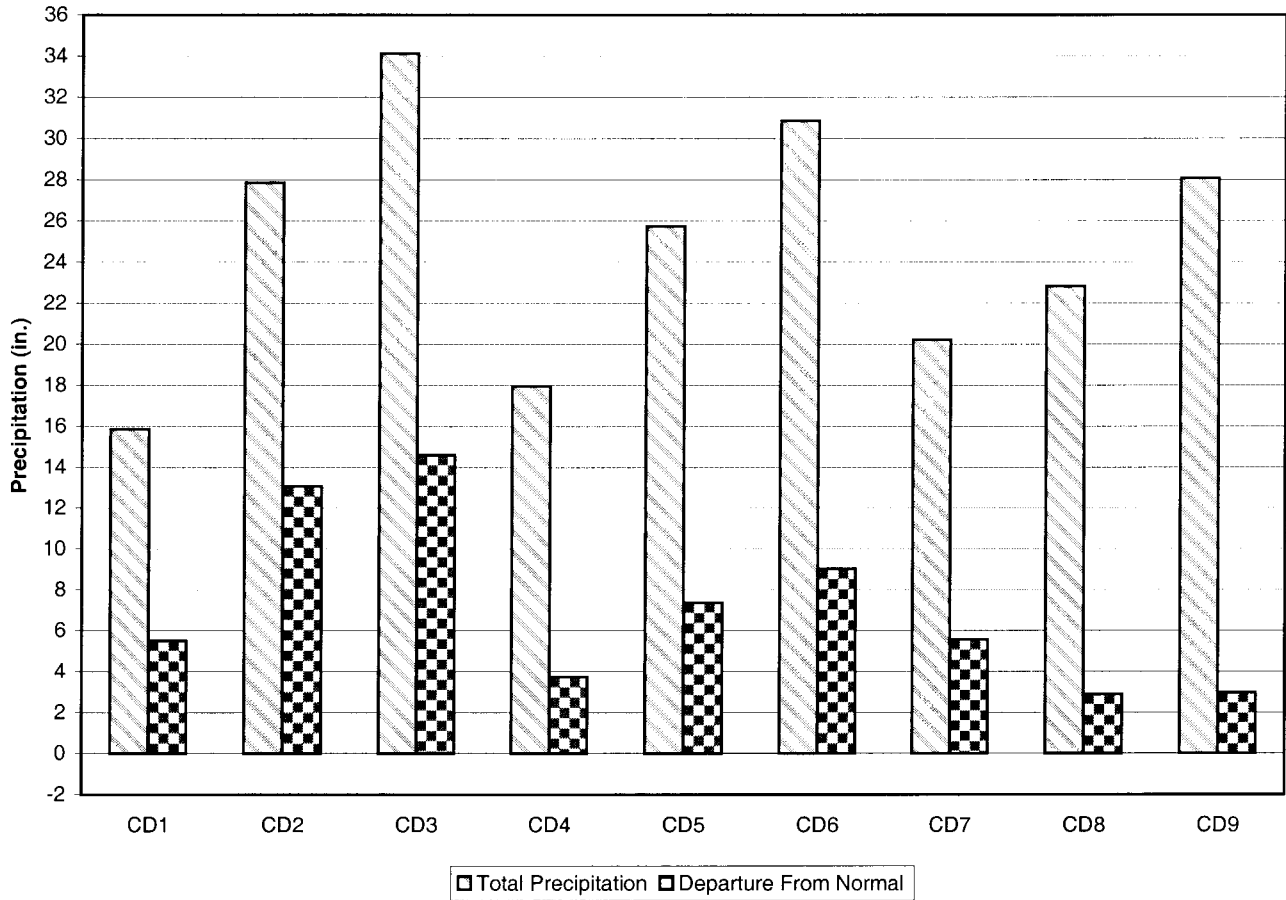
1998 and 1999 STATEWIDE PRECIPITATION Monthly Totals



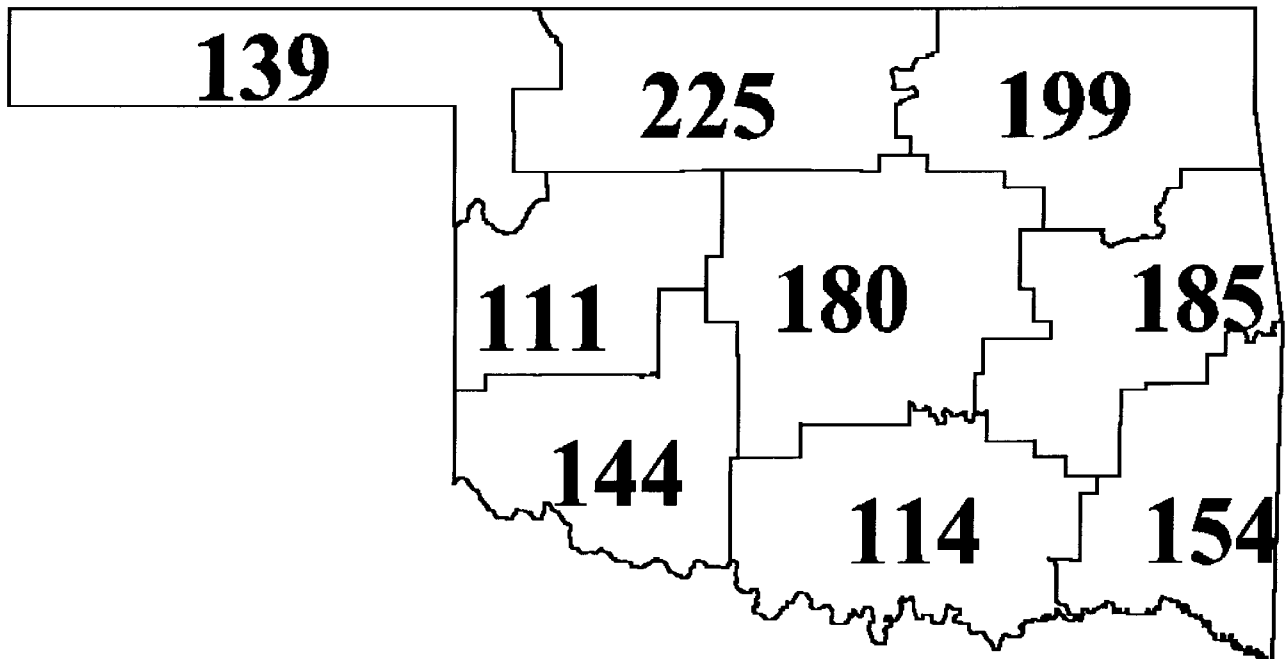
1998 and 1999 STATEWIDE TEMPERATURES Monthly Averages



CD Averaged Precipitation January through June 1999



CD PERCENT OF NORMAL PRECIPITATION May-1999



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

CD	MAX TEMP	DATE	LOCATION	MIN TEMP	DATE	LOCATION	24-HOUR PRECIP	DATE	LOCATION	MONTHLY PRECIP	LOCATION
1	103	27	GUYMON	45	17	BEAVER	3.75	29	BUFFALO	9.43	BUFFALO
2	100	27	FREEDOM	47	16	FREEDOM	5.12	10	VANCE AFB	12.75	RED ROCK
3	97	29	BIXBY	51	17	BIXBY	5.59	21	VINITA	14.76	CHELSEA
4	95	28	CANTON DAM	49	17	REYDON	3.95	10	OKEENE	6.86	OKEENE
	95	27	OKEENE	49	18	REYDON					
	95	27	WEATHERFORD								
5	96	26	HENNESSEY	51	17	HENNESSEY	3.73	21	KINGFISHER	10.66	CUSHING
6	95	16	HOLDENVILLE	50	24	OKMULGEE	3.75	30	CALVIN	11.15	DUSTIN
7	99	27	HOLLIS	42	18	WICHITA MT	5.25	23	ALTUS DAM	10.93	ALTUS DAM
8	101	27	TISHOMINGO	54	18	PAULS VALLEY	4.02	25	WAURIKA	8.73	ADA
9	93	7	POTEAU	55	18	POTEAU	2.55	30	CARTER	10.15	PAGE
	93	7	TUSKAHOMA								
	93	29	WISTER								

TABLE OF 1998/1999 COMPARISONS

**JUNE
Temperature (°F)**

**JUNE
Precipitation (in.)**

Station	1998	1999	1998	1999
Arnett	76.3	72.2	0.24	2.74
Enid	****	75.6	****	9.51
Tulsa	79.9	75.4	3.37	4.93
Elk City	79.3	74.2	0.07	4.38
Oklahoma City	81.1	75.7	2.68	8.61
McAlester	81.4	76.8	4.25	4.53
Altus Irr Station	85.3	77.9	0.10	5.66
Ardmore	84.5	78.5	2.63	2.32
Idabel	81.2	77.9	0.85	3.97

EXTREMES

VARIABLE	STATION	DIVISON	OBSERVATION	DATE
Minimum temperature (°F)	Wichita Mtn.	7	42	18
Maximum temperature (°F)	Guymon	1	103	27
Maximum 24-hour Precipitation	Vinita	3	5.59"	21

JUNE 1999 SUMMARY FOR PANHANDLE DIVISION (CD1)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV		MIN DAY	MIN TEMP	MIN DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV		MAX 24-HR	DAY
					FROM NORM	MAX TEMP										FROM NORM	MAX		
ARNETT	332	1	72.2	30	-2.5	94	28	49	17	12	12	228	-67	2.740	30	-0.96	0.66	30	
BEAVER	593	1	71.6	30	-3.3	97	28	45	17	16	8	215	-91	5.740	30	2.25	2.90	10	
BOISE CITY	908	1	71.0	30	-2.1	101	29	46	7	12	4	191	-60	2.206	30	-0.58	1.40	11	
BUFFALO	1243	1	75.1	30	-2.4	100	26	47	17	13	13	317	-59	9.430	30	5.44	3.75	29	
FARGO	3070	1	*****	0	*****	****	0	****	0	*****	*****	*****	*****	4.660	30	1.35	1.73	3	
GAGE	3407	1	73.9	27	*****	97	27	47	17	9	*****	248	*****	1.474	28	*****	1.00	10	
GATE	3489	1	71.9	30	-4.4	97	28	47	17	17	12	224	-120	6.032	30	3.12	1.82	19	
GOODWELL	3628	1	72.7	24	*****	101	27	50	17	9	*****	194	*****	1.950	24	*****	0.95	11	
GUYMON	3835	1	72.4	30	*****	103	27	50	18	13	*****	235	*****	2.290	30	*****	1.11	11	
HOOKER	4298	1	73.7	30	-1.2	102	26	49	17	0	-6	260	-41	4.550	30	1.61	1.91	30	
KENTON	4766	1	71.3	25	*****	100	29	49	6	11	*****	168	*****	1.630	30	-0.53	0.83	10	
LAVERNE	5045	1	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.881	30	2.81	1.73	10	
RANGE	7412	1	*****	0	*****	****	0	****	0	*****	*****	*****	*****	4.109	30	*****	2.00	30	
REGNIER	7534	1	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.970	30	-1.27	0.26	11	
TURPIN	9017	1	72.1	24	*****	97	28	49	17	12	*****	183	*****	4.350	24	*****	2.50	10	

JUNE 1999 SUMMARY FOR NORTH CENTRAL DIVISION (CD2)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV		MIN DAY	MIN TEMP	MIN DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV		MAX 24-HR	DAY
					FROM NORM	MAX TEMP										FROM NORM	MAX		
ALVA	193	2	74.6	29	*****	98	28	51	17	7	*****	287	*****	8.810	30	*****	1.84	3	
VANCE AFB	302	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	10.632	29	*****	5.12	10	
BILLINGS	755	2	74.2	30	-2.9	93	28	52	17	3	3	279	-84	7.282	30	3.13	2.10	25	
BLACKWELL 2E	818	2	73.7	29	-3.5	93	28	53	18	5	5	258	-108	10.014	30	6.10	2.66	19	
BRAMAN	1075	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	11.050	30	*****	3.61	19	
CEDARDALE	1620	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	6.280	30	*****	1.90	12	
CHEROKEE	1724	2	74.0	30	-4.7	97	28	50	17	6	6	276	-135	11.372	30	7.55	2.57	30	
ENID	2912	2	75.6	30	-2.5	96	27	54	17	3	3	319	-74	9.510	30	5.37	2.85	10	
FT SUPPLY	3304	2	74.1	17	*****	92	2	48	1	0	*****	154	*****	6.330	20	*****	2.09	29	
FREEDOM	3358	2	73.8	29	-3.8	100	27	47	16	12	12	267	-111	5.590	30	2.45	1.10	2	
GREAT SALT P	3740	2	74.9	30	-2.4	97	28	54	17	5	5	303	-66	11.081	30	7.58	2.71	10	
HARDY	3909	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	8.790	30	*****	1.36	10	
HELENA	4019	2	75.1	30	-1.3	96	28	52	18	0	0	302	-38	7.040	30	3.22	2.70	10	
JEFFERSON	4573	2	75.4	30	-3	96	27	54	17	0	0	312	-91	7.340	30	3.30	2.19	24	
LAMONT	5013	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	8.850	30	*****	2.08	25	
MEDFORD	5768	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	8.250	30	*****	2.17	24	
MORRISON	6065	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	6.880	30	*****	2.65	30	
MUTUAL	6139	2	73.8	30	-2.1	96	28	52	17	5	5	269	-62	4.181	30	0.87	0.95	23	
NEWKIRK	6278	2	72.9	30	-4.1	92	28	51	17	8	8	246	-114	9.421	30	4.97	2.55	25	
ORIENTA	6751	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.800	30	-1.91	1.14	23	
PERRY	7012	2	76.1	30	-1.6	94	29	54	17	0	0	332	-50	6.472	30	2.58	2.30	30	
PONCA CITY	7201	2	75.9	30	-1.1	95	27	54	17	0	0	327	-34	11.612	30	7.69	3.01	20	
RED ROCK	7505	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	12.751	30	8.66	3.92	29	
WAYNOKA	9404	2	75.7	30	-2.1	97	27	52	16	6	6	327	-58	8.161	30	4.67	2.00	9	
WOODWARD	9760	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	10.553	30	7.37	3.17	12	

JUNE 1999 SUMMARY FOR NORTHEAST DIVISION (CD3)

NAME	ID	CD	MEAN		DEV		MIN	HEAT		DEV		COOL		DEV		TOT	NUM	DEV	
			TEMP	NUM	FROM	MAX		DEG	FROM	DEG	FROM	DEG	FROM	MAX	FROM			MAX	FROM
BARNSDALL	535	3	74.9	30	-1.9	91	27	53	18	2	2	298	-56	8.794	30	4.05	1.80	30	
BARTLESVILLE	548	3	75.3	30	-1.5	93	27	54	18	1	1	309	-45	7.280	30	3.23	0.99	19	
BIXBY	782	3	75.3	29	-0.6	97	29	51	17	3	3	303	-24	9.961	30	5.34	2.05	25	
BURBANK	1256	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	7.712	30	3.41	2.92	19	
CHELSEA	1717	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	14.760	30	*****	5.43	20	
CLAREMORE	1828	3	74.3	29	-1.3	90	28	54	18	2	2	271	-48	9.310	30	4.71	1.91	11	
CLEVELAND 2	1902	3	71.8	27	*****	89	28	52	17	8	*****	191	*****	8.400	28	*****	1.63	23	
FORAKER	3250	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.200	30	1.30	0.97	19	
HOLLOW	4258	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	8.913	30	4.24	2.07	20	
HOMINY	4289	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	9.114	30	5.22	2.75	30	
KANSAS	4672	3	73.5	27	*****	87	27	53	17	2	*****	231	*****	9.504	29	*****	2.15	20	
LENAPAH	5118	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	8.530	30	*****	2.18	19	
MANNFORD	5522	3	74.3	29	-2.3	91	27	53	18	3	3	273	-75	8.000	29	*****	2.68	30	
MARAMEC	5540	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	8.962	30	5.16	1.76	30	
NOWATA	6485	3	74.9	30	-1.5	91	28	54	21	0	0	297	-46	9.610	30	5.05	1.65	20	
PAWHUSKA	6935	3	74.6	30	-1.6	91	27	53	17	5	5	294	-43	9.951	30	5.41	1.22	28	
PAWNEE	6940	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	8.881	30	5.04	2.10	30	
PRYOR	7309	3	74.7	30	-0.6	93	2	54	18	2	2	294	-16	7.573	30	2.58	2.00	20	
RALSTON	7390	3	73.5	20	*****	92	27	54	18	3	*****	173	*****	6.510	20	*****	2.40	20	
SKIATOOK	8258	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	7.560	30	3.36	1.18	23	
SPAVINAW	8380	3	76.1	30	-0.5	90	27	55	17	0	0	334	-15	12.600	30	7.70	3.80	20	
TULSA	8992	3	75.4	30	-2.3	93	27	55	17	0	0	313	-68	4.933	30	0.49	1.24	19	
UPPER SPAV	9101	3	77.1	30	*****	94	8	57	18	0	*****	363	*****	8.711	30	*****	2.04	20	
VINITA	9203	3	74.2	18	*****	88	27	54	15	0	*****	166	*****	9.091	20	*****	5.59	21	
WAGONER	9247	3	76.2	30	-0.5	92	27	56	17	0	0	337	-14	6.311	30	0.89	1.56	30	
WANN	9298	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	7.653	30	*****	3.42	20	
WYNONA	9792	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	9.263	30	*****	2.42	30	

JUNE 1999 SUMMARY FOR WEST CENTRAL DIVISION (CD4)

NAME	ID	CD	MEAN		DEV		MIN	HEAT		DEV		COOL		DEV		TOT	NUM	DEV	
			TEMP	NUM	FROM	MAX		DEG	FROM	DEG	FROM	DEG	FROM	MAX	FROM			MAX	FROM
CANTON DAM	1445	4	75.2	30	-1.2	95	28	52	17	3	3	310	-32	6.321	30	2.50	3.43	10	
CLINTON	1909	4	74.7	29	-3.6	94	28	55	19	2	2	282	-118	3.252	29	*****	0.69	30	
COLONY	2039	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.140	30	*****	1.32	23	
CORDELL	2125	4	75.9	30	-2	94	20	54	15	0	0	329	-59	5.141	30	1.29	1.57	21	
ELK CITY	2849	4	74.2	29	-2.8	93	28	54	15	1	1	269	-91	4.380	29	*****	1.72	12	
ERICK	2944	4	75.2	30	-1.5	97	30	53	17	3	3	308	-44	3.491	30	-0.21	1.89	1	
GEARY	3497	4	73.4	16	*****	92	28	55	17	0	*****	134	*****	3.100	16	*****	1.50	23	
HAMMON	3871	4	74.1	28	*****	92	27	52	16	5	*****	260	*****	5.420	28	*****	1.74	24	
LEEDEY	5090	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.570	30	-0.95	0.68	25	
MACKIE	5463	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	4.810	30	*****	1.30	25	
MORAVIA	6035	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.590	30	-0.21	1.40	1	
OKEENE	6629	4	75.7	30	-2.6	95	27	52	17	0	0	321	-78	6.861	30	2.71	3.95	10	
RETROP	7565	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.710	30	*****	1.32	1	
REYDON	7579	4	73.9	25	*****	93	28	49	18	12	*****	235	*****	4.600	26	*****	1.72	3	
SAYRE	7952	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.050	30	-0.61	0.97	25	
SWEETWATER	8652	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.501	30	*****	1.48	3	
TALOGA	8708	4	74.4	30	-2.4	94	28	51	17	6	6	289	-66	5.423	30	1.71	2.35	21	
THOMAS	8815	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.750	30	*****	1.36	23	
VICI	9172	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.671	30	-0.87	1.09	24	
WATONGA	9364	4	75.5	30	-1.7	93	27	53	15	0	0	315	-52	3.740	30	-0.31	1.45	23	
WEATHERFORD	9422	4	75.0	29	-2.1	95	27	47	18	0	0	290	-74	3.500	29	*****	1.20	29	

JUNE 1999 SUMMARY FOR CENTRAL DIVISION (CD5)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV				HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV		DAY	
					FROM NORM	MAX TEMP	MIN TEMP	DAY							FROM NORM	MAX 24-HR		
AMBER	200	5	****	0	****	****	0	****	0	*****	*****	*****	5.150	30	****	2.04	24	
ARCADIA	288	5	****	0	****	****	0	****	0	*****	*****	*****	4.950	30	****	1.17	23	
BLANCHARD	830	5	76.2	30	-0.9	92	27	57	17	0	0	336	-28	5.182	30	1.17	2.45	24
BRISTOW	1144	5	74.8	28	****	91	28	55	18	0	*****	275	*****	10.090	30	6.22	2.90	13
CHANDLER	1684	5	74.2	27	****	90	29	57	18	0	*****	250	*****	8.330	30	4.30	2.00	30
CHICKASHA EXP	1750	5	77.4	30	-1	94	27	56	15	0	0	371	-31	5.610	30	1.90	1.03	20
COX CITY	2196	5	****	0	*****	****	0	****	0	*****	*****	*****	3.820	30	*****	1.07	1	
CRESCENT	2242	5	****	0	****	****	0	****	0	*****	*****	*****	5.610	30	****	1.50	23	
CUSHING	2318	5	74.0	30	-2.3	92	28	56	17	0	0	271	-69	10.662	30	6.39	3.50	20
EDMOND	2788	5	****	0	****	****	0	****	0	*****	*****	*****	5.051	30	*****	1.22	22	
EL RENO	2818	5	76.2	30	-0.8	93	29	56	16	0	0	335	-25	6.070	30	1.68	2.00	23
GUTHRIE	3821	5	74.3	29	-3.6	92	28	52	15	0	0	270	-117	5.092	30	0.86	2.23	21
HENNESSEY	4055	5	73.7	30	-4.1	96	26	51	17	3	3	263	-121	7.272	30	3.09	2.43	10
INGALLS	4489	5	****	0	****	****	0	****	0	*****	*****	*****	8.240	30	****	1.58	25	
KINGFISHER	4861	5	75.1	30	-3	93	28	53	16	0	0	304	-90	8.360	30	4.09	3.73	21
KONAWA	4915	5	****	0	****	****	0	****	0	*****	*****	*****	9.690	30	5.61	2.39	10	
MARSHALL	5589	5	****	0	****	****	0	****	0	*****	*****	*****	9.350	30	5.37	2.10	30	
MEEKER	5779	5	73.1	29	-3.6	88	28	55	15	0	0	234	-117	10.150	30	5.97	2.07	21
MULHALL	6110	5	****	0	****	****	0	****	0	*****	*****	*****	9.850	30	****	2.01	30	
NORMAN NWS	6386	5	74.9	30	-2.3	91	27	56	17	0	0	299	-68	4.993	30	0.90	1.74	23
OKEMAH	6638	5	77.3	30	0.6	93	28	58	17	0	0	368	17	6.653	30	2.46	1.44	1
OKLAHOMA CTY	6659	5	****	0	****	****	0	****	0	*****	*****	*****	8.392	30	*****	1.78	11	
OKLAHOMA CTY	6661	5	75.7	30	-1	91	27	58	17	0	0	320	-32	8.614	30	4.30	1.91	12
PERKINS	7003	5	****	0	****	****	0	****	0	*****	*****	*****	9.370	30	4.94	2.32	25	
PIEDMONT	7068	5	****	0	****	****	0	****	0	*****	*****	*****	6.430	30	*****	1.20	30	
PRAGUE	7264	5	****	0	****	****	0	****	0	*****	*****	*****	8.650	30	4.85	2.22	13	
PURCELL	7327	5	75.3	24	****	92	29	59	18	0	****	246	*****	10.310	30	6.08	2.20	20
SEMINOLE	8042	5	76.0	30	-2.3	92	28	59	16	0	0	330	-69	4.141	30	-0.07	1.02	23
SHAWNEE	8110	5	****	0	****	****	0	****	0	*****	*****	*****	7.460	30	3.14	1.96	30	
STELLA	8479	5	****	0	****	****	0	****	0	*****	*****	*****	8.160	30	****	2.07	11	
STILLWATER	8501	5	75.4	29	-0.8	92	9	54	17	0	0	301	-35	8.131	30	4.13	2.11	30
STROUD	8563	5	****	0	****	****	0	****	0	*****	*****	*****	9.480	30	****	2.22	20	
TECUMSEH	8751	5	****	0	****	****	0	****	0	*****	*****	*****	6.240	30	****	1.85	30	
TROUSDALE	8960	5	75.7	30	****	91	30	57	19	0	****	321	*****	6.910	30	****	2.06	30
UNION CITY	9086	5	****	0	****	****	0	****	0	*****	*****	*****	9.541	30	4.85	2.40	13	
WELTY	9479	5	****	0	****	****	0	****	0	*****	*****	*****	8.381	30	****	1.57	30	
WEWOKA	9575	5	****	0	****	****	0	****	0	*****	*****	*****	6.900	30	2.84	1.36	11	

JUNE 1999 SUMMARY FOR EAST CENTRAL DIVISION (CD6)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV				HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV		DAY	
					FROM NORM	MAX TEMP	MIN TEMP	DAY							FROM NORM	MAX 24-HR		
ASHLAND	364	6	****	0	****	****	0	****	0	*****	*****	*****	6.470	30	****	1.00	29	
BEGGS	631	6	****	0	****	****	0	****	0	*****	*****	*****	7.520	30	****	1.85	30	
CALVIN	1391	6	****	0	****	****	0	****	0	*****	*****	*****	8.910	30	4.38	3.75	30	
CHECOTAH	1711	6	****	0	****	****	0	****	0	*****	*****	*****	5.831	30	1.94	1.10	30	
CLAYTON	1858	6	****	0	****	****	0	****	0	*****	*****	*****	4.810	30	****	0.96	24	
DEWAR	2485	6	****	0	****	****	0	****	0	*****	*****	*****	7.608	30	3.66	1.60	25	
DUSTIN	2690	6	****	0	****	****	0	****	0	*****	*****	*****	11.151	30	****	3.11	30	
EUFAULA	2993	6	77.4	30	-0.6	94	7	59	18	0	0	372	-18	5.480	30	1.45	1.40	25
HANNA	3884	6	76.0	30	-1.2	91	28	58	18	0	0	331	-35	6.982	30	3.27	1.34	30
HASKELL	3956	6	****	0	****	****	0	****	0	*****	*****	*****	8.550	31	3.85	1.48	25	
HOLDENVILLE	4235	6	76.4	30	-0.4	95	16	58	17	0	0	341	-13	9.230	30	5.54	1.76	1
LAKE EUFAULA	4975	6	74.1	30	****	88	29	58	18	0	*****	273	*****	10.120	30	****	1.68	1
LYONS	5437	6	****	0	****	****	0	****	0	*****	*****	*****	6.551	30	2.09	3.22	30	
MARBLE CITY	5546	6	****	0	****	****	0	****	0	*****	*****	*****	3.210	22	****	1.02	1	
MCALESTER	5664	6	76.8	30	-0.4	91	27	61	18	0	0	354	-13	4.527	30	0.55	1.17	16
MCCURTAIN	5693	6	76.4	30	-1	92	27	58	18	0	0	343	-29	10.551	30	6.38	2.83	11
MUSKOGEE	6130	6	75.1	27	****	90	7	58	18	0	*****	272	*****	4.925	29	****	1.11	24
OKMULGEE	6670	6	74.0	27	****	92	27	50	24	0	*****	243	*****	7.052	30	2.82	1.40	16
OKTAHA	6678	6	****	0	****	****	0	****	0	*****	*****	*****	9.050	30	****	1.93	13	
SALLISAW	7862	6	76.1	30	-1	91	8	58	18	0	0	334	-29	7.920	30	4.36	1.72	30
SCPIO	7979	6	****	0	****	****	0	****	0	*****	*****	*****	9.550	30	****	1.50	30	
SHORT	8170	6	****	0	****	****	0	****	0	*****	*****	*****	6.350	30	****	1.06	13	
STILWELL	8506	6	73.6	30	-1.4	88	27	54	17	1	1	258	-42	6.550	30	2.33	1.60	28
TAHLEQUAH	8677	6	73.9	30	-1.7	88	27	55	18	0	0	266	-52	8.982	30	4.45	3.12	20
WEBBERS FALL	9445	6	76.5	28	****	93	28	58	18	0	*****	322	*****	8.234	30	4.56	2.00	2
WESTVILLE	9523	6	****	0	****	****	0	****	0	*****	*****	*****	3.450	30	****	1.10	20	
WETUMKA	9571	6	****	0	****	****	0	****	0	*****	*****	*****	5.765	30	1.67	0.94	24	

JUNE 1999 SUMMARY FOR SOUTHWEST DIVISION (CD7)

NAME	ID	CD	DEV				MIN	HEAT		DEV		COOL		TOT	NUM	DEV		DAY
			MEAN	NUM	FROM	MAX		DEG	FROM	DEG	FROM	DEG	FROM			FROM	MAX	
			TEMP	OBS	NORM	TEMP	DAY	TEMP	DAY	DAY	NORM	DAY	NORM	PPT	OBS	NORM	24-HR	
ALTUS	179	7	77.9	30	-2	98	19	57	15	0	0	389	-59	5.660	30	2.15	2.21	25
ALTUS DAM	184	7	77.9	30	-1	97	20	58	18	0	0	387	-30	10.930	30	7.22	5.25	23
ANADARKO	224	7	75.3	29	-2.2	91	28	52	15	0	0	298	-78	5.280	29	****	1.23	23
ALTUS AFB	447	7	****	0	****	****	0	****	0	****	****	****	****	3.652	29	****	0.96	20
APACHE	260	7	****	0	****	****	0	****	0	****	****	****	****	7.080	30	3.15	2.55	29
CHATTANOOGA	1706	7	78.6	25	****	98	28	58	15	0	****	339	****	5.090	26	****	1.10	13
DUNCAN 11 W	2668	7	****	0	****	****	0	****	0	****	****	****	****	4.400	30	****	2.34	21
FREDERICK	3353	7	77.4	28	****	96	28	59	19	0	****	348	****	3.110	28	****	1.63	21
HEADRICK	3998	7	****	0	****	****	0	****	0	****	****	****	****	7.640	30	****	2.43	21
HOBART	4204	7	77.4	29	-1.2	98	19	53	15	0	0	361	-47	3.245	29	****	1.03	1
HOLLIS	4249	7	78.0	30	-1.6	99	27	55	15	0	0	391	-47	2.160	30	-1.53	0.92	25
LAWTON	5063	7	77.7	30	-0.6	94	28	61	18	0	0	381	-19	10.280	30	6.66	2.12	24
LOOKEBA	5329	7	****	0	****	****	0	****	0	****	****	****	****	4.175	30	0.02	1.32	23
MANGUM	5509	7	76.7	30	-2.8	96	1	53	16	0	0	350	-86	4.601	30	0.83	1.80	23
RANDLETT	7403	7	****	0	****	****	0	****	0	****	****	****	****	1.416	30	****	0.41	7
ROOSEVELT	7727	7	****	0	****	****	0	****	0	****	****	****	****	5.530	30	1.87	1.87	1
SEDAN	8016	7	****	0	****	****	0	****	0	****	****	****	****	7.050	30	****	4.15	23
SNYDER	8299	7	****	0	****	****	0	****	0	****	****	****	****	8.660	30	5.20	2.06	11
VINSON	9212	7	****	0	****	****	0	****	0	****	****	****	****	3.770	30	0.31	1.30	21
WALTERS	9278	7	77.7	30	-1.6	95	28	59	16	0	0	382	-47	2.610	30	-1.53	0.62	11
WICHITA MT	9629	7	74.2	30	-2.5	92	28	42	18	6	6	281	-70	6.282	30	2.46	1.95	30
WILLOW	9668	7	****	0	****	****	0	****	0	****	****	****	****	2.670	30	****	1.27	23

JUNE 1999 SUMMARY FOR SOUTH CENTRAL DIVISION (CD8)

NAME	ID	CD	DEV				MIN	HEAT		DEV		COOL		TOT	NUM	DEV		DAY
			MEAN	NUM	FROM	MAX		DEG	FROM	DEG	FROM	DEG	FROM			FROM	MAX	
			TEMP	OBS	NORM	TEMP	DAY	TEMP	DAY	DAY	NORM	DAY	NORM	PPT	OBS	NORM	24-HR	
ADA	17	8	75.6	30	-1.3	92	28	58	17	0	0	318	-40	8.731	30	4.63	2.84	30
ALLEN	147	8	****	0	****	****	0	****	0	****	****	****	****	5.490	30	****	1.50	30
ARDMORE	292	8	78.5	30	-0.8	96	2	62	18	0	0	406	-24	2.321	30	-1.54	0.44	30
ATOKA DAM	394	8	78.3	22	****	96	29	61	18	0	****	292	****	7.731	22	****	2.24	1
BOKCHITO	917	8	****	0	****	****	0	****	0	****	****	****	****	5.510	30	****	2.50	30
CANEY	1437	8	****	0	****	****	0	****	0	****	****	****	****	8.200	30	****	3.87	3
CENTRAHOMA	1648	8	76.3	30	****	92	29	59	18	0	****	338	****	7.170	30	****	1.60	11
CHICKASAW	1745	8	76.2	29	-0.7	92	2	60	17	0	0	324	-33	4.590	29	****	1.54	25
COLEMAN	2011	8	****	0	****	****	0	****	0	****	****	****	****	5.430	30	****	2.00	11
COMANCHE	2054	8	76.9	30	****	91	27	61	17	0	****	356	****	4.780	30	0.96	1.16	26
DAISY	2354	8	****	0	****	****	0	****	0	****	****	****	****	4.673	30	0.41	1.51	24
DUNCAN	2660	8	76.6	30	-1.3	93	29	59	18	0	0	349	-38	5.690	30	1.71	2.11	13
ELMORE CITY	2872	8	****	0	****	****	0	****	0	****	****	****	****	4.430	30	****	1.26	22
GRADY	3688	8	****	0	****	****	0	****	0	****	****	****	****	1.390	30	****	0.50	29
HEALDTON	4001	8	77.5	28	****	94	29	60	20	0	****	350	****	4.440	28	****	1.50	13
HENNEPIN	4052	8	****	0	****	****	0	****	0	****	****	****	****	3.300	30	****	1.05	23
KETCHUM RAN	4780	8	****	0	****	****	0	****	0	****	****	****	****	4.930	30	****	1.20	25
KINGSTON	4865	8	****	0	****	****	0	****	0	****	****	****	****	3.520	30	-0.56	0.82	24
LEHIGH	5108	8	****	0	****	****	0	****	0	****	****	****	****	5.456	30	****	1.25	24
LINDSAY	5216	8	76.3	30	-1.2	92	28	58	17	0	0	339	-36	3.020	30	-1.00	0.61	6
LOCO	5247	8	****	0	****	****	0	****	0	****	****	****	****	1.710	30	****	0.63	7
MADILL	5468	8	79.1	30	0.7	98	29	62	18	0	0	422	20	3.070	30	-1.44	0.72	13
MARIETTA	5563	8	77.7	30	-0.4	93	29	60	3	0	0	380	-14	5.110	30	1.11	3.01	25
MARLOW	5581	8	77.3	30	0.2	95	28	59	15	0	0	369	6	5.160	30	0.98	1.48	13
MCGEE CREEK	5713	8	77.5	30	****	93	29	62	19	0	****	375	****	5.780	30	****	1.32	12
PAULS VALLEY	6926	8	75.6	30	-2.8	92	29	54	18	0	0	317	-83	6.221	30	2.32	1.75	24
PONTOTOC	7214	8	****	0	****	****	0	****	0	****	****	****	****	3.630	30	-0.48	0.78	10
TISHOMINGO	8884	8	78.0	30	-0.6	101	27	57	18	0	0	390	-19	2.130	30	-2.47	0.80	6
TUSSY	9032	8	****	0	****	****	0	****	0	****	****	****	****	3.140	30	****	1.50	24
WAURIKA	9395	8	79.6	30	0.3	96	27	62	18	0	0	439	10	7.231	30	3.50	4.02	25

JUNE 1999 SUMMARY FOR SOUTHEAST DIVISION (CD9)

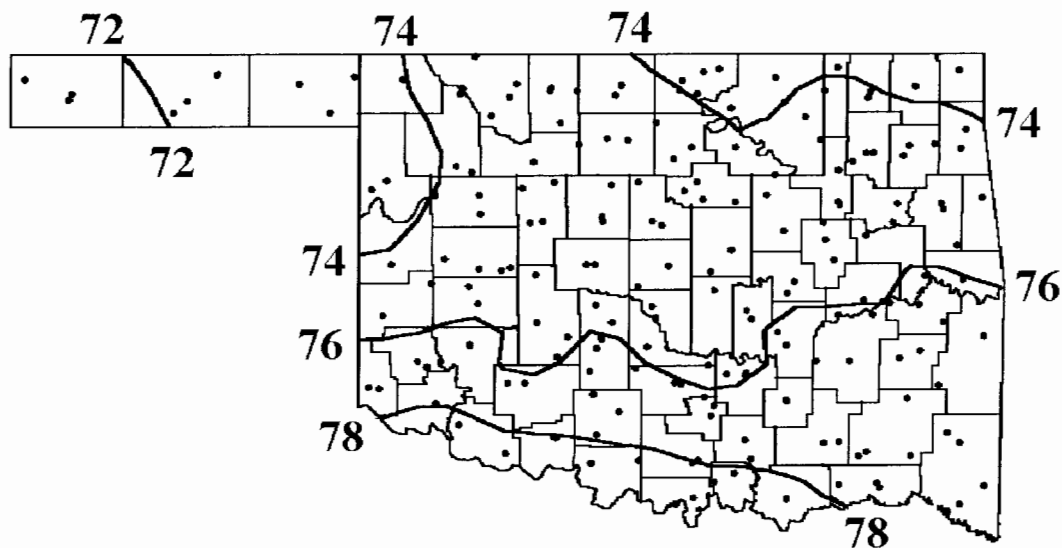
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			TEMP	NUM	FROM	MAX	DAY	TEMP	DAY	DEG	FROM	DEG	FROM	DEG	FROM	NUM	FROM		MAX	DAY
ANTLERS	256	9	76.4	29	-0.8	91	28	61	18	0	0	331	-35	4.580	30	0.10	1.45	13		
BATTIEST	567	9	75.8	30	****	91	28	58	19	0	****	325	****	6.410	30	****	1.45	11		
BENGAL	670	9	****	0	****	****	0	****	0	****	****	****	****	7.680	30	****	2.07	11		
BOSWELL	980	9	77.6	30	0.2	92	28	64	20	0	0	379	7	6.400	30	2.29	1.20	30		
BROKEN BOW	1162	9	****	0	****	****	0	****	0	****	****	****	****	3.751	30	-0.59	0.90	30		
CARNASAW	1499	9	****	0	****	****	0	****	0	****	****	****	****	5.060	30	0.51	2.20	30		
CARTER TWR	1544	9	****	0	****	****	0	****	0	****	****	****	****	9.800	30	5.53	2.55	30		
FANSHAWE	3065	9	****	0	****	****	0	****	0	****	****	****	****	7.240	30	3.01	2.30	30		
HEAVENER	4008	9	****	0	****	****	0	****	0	****	****	****	****	8.110	30	4.04	1.98	30		
HUGO	4384	9	76.9	29	-1.2	92	29	52	20	0	0	345	-48	6.400	30	1.65	1.73	23		
IDABEL	4451	9	77.9	30	0.9	92	7	59	18	0	0	387	27	3.971	30	-0.32	1.07	25		
PAGE	6842	9	75.0	26	****	90	8	56	18	0	****	260	****	10.151	26	****	2.02	2		
POTEAU	7254	9	77.3	30	****	93	7	55	18	0	****	370	****	9.584	30	****	2.24	30		
SPIRO	8416	9	****	0	****	****	0	****	0	****	****	****	****	8.050	30	4.52	1.22	2		
TUSKAHOMA	9023	9	77.6	30	0.5	93	7	60	18	0	0	378	15	7.711	30	2.93	2.19	11		
VALLIANT	9118	9	****	0	****	****	0	****	0	****	****	****	****	3.761	30	-0.23	0.85	12		
WILBURTON	9634	9	76.5	30	0.2	91	27	58	18	0	0	344	5	8.700	30	4.58	1.41	10		
WISTER	9724	9	78.8	15	****	93	29	61	3	0	****	207	****	5.470	30	****	1.08	11		

JUNE 1999 CLIMATE DIVISION SUMMARY

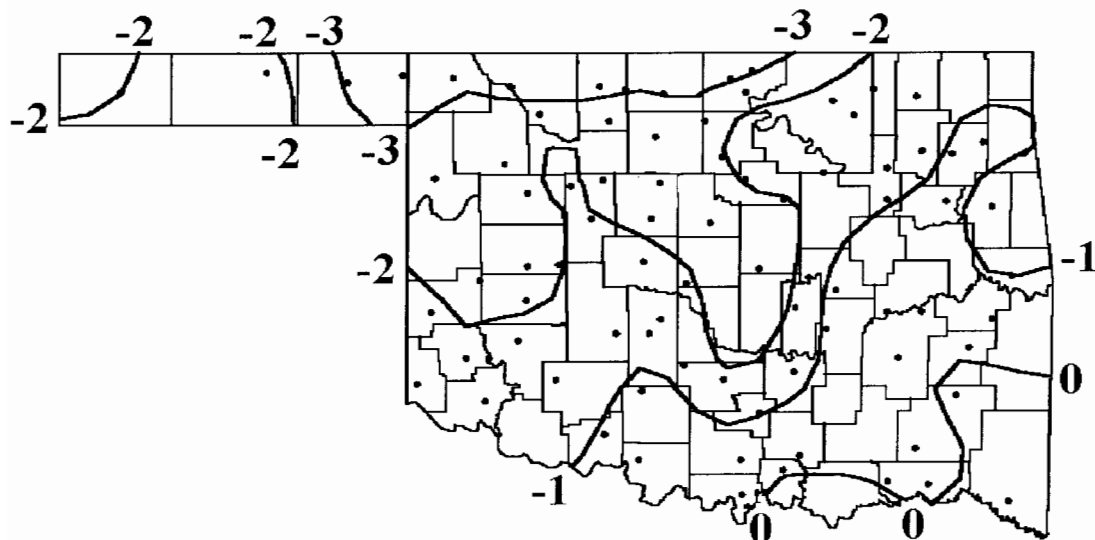
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	TEMP	NUM	FROM	MAX	DAY	TEMP	DAY	DEG	FROM	DEG	FROM	DEG	FROM	NUM	FROM		MAX	DAY
1	72.6	7	-2.2	103	27	45	17	12	6	238	-59	4.190	12	1.17	3.75	29		
2	74.7	14	-2.6	100	27	47	16	4	4	293	-75	8.400	23	4.66	5.12	10		
3	75.3	12	-1	97	29	51	17	1	1	307	-30	8.710	22	4.27	5.59	21		
4	75.1	9	-2	97	30	47	18	2	2	301	-61	4.250	15	0.41	3.95	10		
5	75.3	14	-1.8	96	26	51	17	0	0	309	-56	7.490	37	3.34	3.73	21		
6	75.6	9	-1.1	95	16	50	24	0	0	319	-33	7.490	25	3.39	3.75	30		
7	77.0	9	-1.8	99	27	42	18	1	1	358	-54	5.580	17	1.91	5.25	23		
8	77.2	14	-0.7	101	27	54	18	0	0	366	-23	4.710	27	0.62	4.02	25		
9	77.0	8	-0.2	93	29	52	20	0	0	357	-8	6.630	17	2.36	2.55	30		

MESONET MONTHLY SUMMARY FOR JUNE 1999

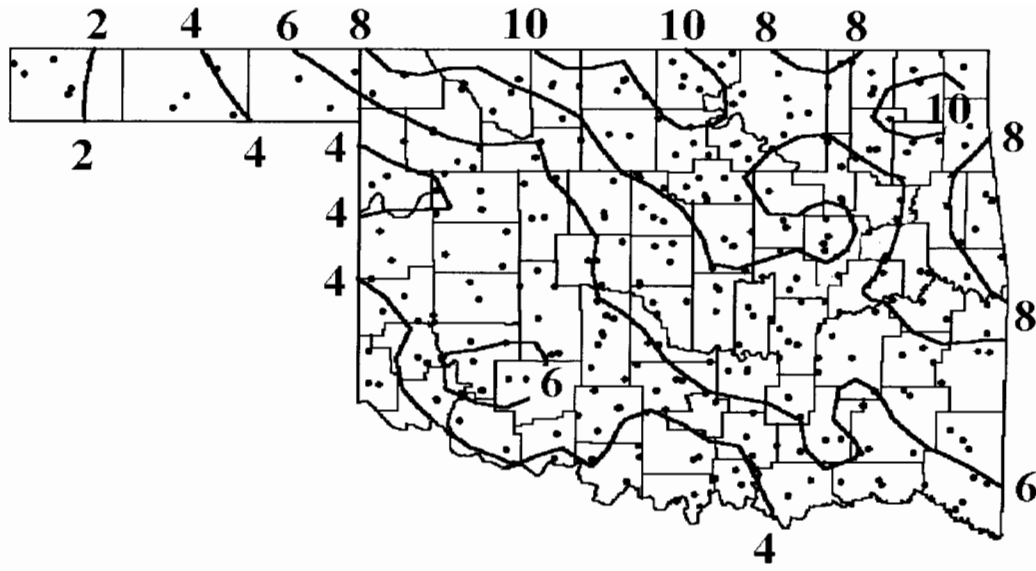
NAME	MEAN MAX			MIN		HDD	CDD	TOT MAX			NAME	MEAN MAX			MIN		HDD	CDD	TOT MAX													
	TEMP	TEMP	DAY	TEMP	DAY			PPT	24-HR	DAY		TEMP	TEMP	DAY	TEMP	DAY			PPT	24-HR	DAY											
PANHANDLE																																
Arnett	73.5	95	27	50	17	7	262	3.15	.96	24	Goodwell	72.0	102	26	49	17	12	222	2.85	1.26	29											
Beaver	73.1	98	27	45	17	12	254	5.41	2.82	10	Hooker	73.6	102	26	48	17	9	266	4.19	1.64	30											
Boise City	69.7	99	29	44	6	20	161	1.89	1.26	10	Kenton	70.2	100	29	47	2	16	171	1.04	.69	10											
Buffalo	74.6	101	27	48	17	8	296	12.36	5.27	30	Slapout	72.9	100	27	47	17	11	247	4.48	2.42	10											
NORTH CENTRAL																																
Alva	74.4	96	27	50	17	4	287	6.87	1.76	3	Lahoma	74.9	96	27	52	17	1	299	7.23	2.61	9											
Blackwell	74.3	94	27	52	17	4	281	16.38	4.60	19	May Ranch	****	****	***	***	***	****	****	4.90	1.11	10											
Breckenridge	74.5	94	27	53	17	1	287	10.98	4.45	9	Medford	74.9	97	27	52	17	3	299	8.40	2.20	16											
Cherokee	75.7	98	27	50	17	2	323	7.87	1.67	3	Newkirk	72.3	91	27	51	17	11	231	8.36	1.20	24											
Fairview	76.1	97	27	51	17	1	333	7.73	3.24	9	Red Rock	74.0	93	27	53	17	2	272	8.72	4.11	30											
Freedom	74.2	99	27	49	17	7	284	10.42	3.21	30	Seiling	74.8	95	27	53	15	4	299	3.36	.81	23											
NORTHEAST																																
Bixby	75.3	91	27	57	15	0	307	9.83	2.72	30	Miami	74.0	90	27	53	18	4	273	10.69	2.02	30											
Burbank	73.2	92	27	51	17	5	250	11.51	3.43	19	Nowata	73.8	90	27	53	15	2	266	9.74	2.01	19											
Catoosa	75.1	92	27	54	17	0	304	6.50	1.58	20	Pawnee	74.0	92	27	55	17	1	272	8.76	1.68	30											
Claremore	74.8	91	27	55	17	0	292	6.89	1.51	20	Pryor	74.4	90	26	55	15	0	282	9.68	2.80	20											
Copan	73.8	92	27	53	17	2	267	7.38	1.65	19	Skiatook	73.9	90	27	55	17	3	270	7.86	1.21	19											
Foraker	72.7	91	27	52	17	9	239	7.84	1.61	23	Tulahassee	76.1	92	7	56	15	0	333	7.73	1.56	10											
Jay	73.2	89	7	52	17	5	252	9.38	2.14	30	Vinita	73.4	89	27	53	17	3	239	9.48	2.54	20											
WEST CENTRAL																																
Bessie	76.0	94	19	56	15	0	329	3.51	.92	11	Putnam	74.6	93	27	52	17	4	291	4.37	1.72	12											
Butler	75.3	93	27	52	15	0	309	7.33	3.35	24	Retrop	75.8	95	19	53	15	0	325	2.49	.87	21											
Camargo	74.5	94	27	50	15	3	288	2.39	1.11	24	Watonga	75.2	95	27	52	17	2	306	3.36	1.01	23											
Cheyenne	73.7	91	27	53	17	3	265	9.16	2.96	30	Weatherford	75.4	94	27	53	15	0	312	4.84	.89	29											
Erick	75.1	95	27	50	15	1	304	2.26	1.31	24																						
CENTRAL																																
Acme	76.3	92	24	56	15	0	304	2.99	1.19	6	Minco	75.6	91	27	57	15	0	275	5.95	1.57	23											
Bowlegs	75.7	93	28	58	17	0	320	7.84	1.61	29	Nirnekah	76.8	94	27	59	18	0	330	2.99	.78	6											
Bristow	73.9	92	27	54	15	0	268	8.75	1.97	30	Norman	75.2	90	26	57	17	0	286	6.11	2.12	23											
Chandler	74.1	90	27	57	17	0	274	9.08	2.05	19	Oilton	73.6	90	27	52	15	2	261	2.80	.44	24											
Chickasha	76.7	93	27	56	15	0	350	4.66	.87	23	Okenah	74.4	90	28	57	17	0	253	6.29	1.32	30											
El Reno	73.9	92	27	49	15	0	267	4.98	1.86	23	Perkins	75.3	93	27	55	17	0	308	9.09	2.08	24											
Guthrie	74.8	92	27	56	17	0	292	7.00	1.68	20	Shawnee	74.9	90	27	56	17	0	298	9.14	1.93	10											
Kingfisher	76.1	94	9	52	15	0	331	6.78	1.20	20	Spencer	73.9	89	26	54	15	0	257	4.83	.92	23											
Marena	74.1	92	27	54	17	1	272	11.37	3.28	24	Stillwater	74.7	92	27	53	15	1	291	8.02	2.12	30											
Marshall	74.7	92	28	54	15	0	282	7.93	2.14	30	Washington	75.6	90	26	58	17	0	306	5.17	1.68	23											
EAST CENTRAL																																
Calvin	76.5	93	28	58	17	0	346	7.31	1.56	29	Preston	75.0	91	27	56	17	0	300	8.64	1.60	7											
Cookson	74.7	89	27	56	15	0	290	10.27	2.33	30	Sallisaw	76.7	92	27	56	18	0	349	9.36	1.68	10											
Eufaula	76.2	90	7	60	17	0	337	8.33	1.94	29	Stigler	76.6	91	7	60	17	0	347	8.64	2.17	1											
Haskell	75.4	91	27	57	17	0	312	6.81	1.38	30	Stuart	75.9	90	27	58	17	0	326	8.97	1.86	19											
Hectorville	74.9	90	27	57	17	0	298	10.19	2.71	30	Tahlequah	73.9	89	27	54	18	1	267	9.06	2.91	20											
McAlester	76.4	91	7	60	17	0	343	5.89	1.28	16	Webbers Falls	77.6	94	7	61	15	0	378	9.28	2.51	1											
Okmulgee	75.4	91	27	57	17	0	311	9.29	1.59	24	Westville	73.6	88	7	54	17	2	260	4.84	.93	10											
SOUTHWEST																																
Altus	78.6	97	19	57	15	0	407	5.33	1.96	24	Hollis	77.1	97	7	54	15	0	361	2.51	.76	19											
Apache	75.7	92	27	58	15	0	311	5.80	1.24	20	Mangum	76.7	96	19	55	15	0	351	7.08	4.79	22											
Fort Cobb	76.2	93	27	59	15	0	325	5.47	1.80	19	Medicine Park	75.2	91	27	59	17	0	304	8.60	2.56	20											
Grandfield	78.8	96	19	58	15	0	401	5.90	2.16	19	Tipton	79.6	98	27	59	15	0	436	2.75	.62	29											
Hinton	75.8	93	27	53	15	0	323	4.24	.75	21	Walters	79.0	96	26	59	15	0	391	*****	***												
Hobart	76.7	95	27	53	15	0	350	3.51	1.33	30																						
SOUTH CENTRAL																																
Ada	75.7	92	28	58	17	0	319	7.96	2.13	30	Madill	78.5	93	26	63	17	0	404	3.02	.97	19											
Ardmore	77.9	95	1	61	15	0	386	4.03	.89	15	Pauls Valley	76.6	93	28	59	18	0	348	4.05	.96	23											
Burneyville	78.7	95	1	60	15	0	410	3.54	1.09	15	Ringling	78.9	96	28	62	17	0	416	2.84	1.42	12											
Byars	75.2	91	28	58	17	0	294	7.15	2.11	19	Sulphur	76.6	94	28	60	17	0	347	8.16	2.96	24											
Centrahoma	76.1	91	28	59	17	0	331	8.38	1.63	10	Tishomingo	77.0	93	28	61	17	0	335	2.86	1.16	24											
Durant	78.5	93	26	63	17	0	404	3.57	1.27	29	Vanoss	76.0	92	28	58	17	0	308	5.19	1.23	19											
Ketchum Ranch	77.1	93	28	60	15	0	338	4.06	1.46	25	Waurika	78.6	95	28	61	18	0	409	8.76	4.26	25											
Lane	77.4	92	28	62	17	0	371	7.87	2.34	11																						
SOUTHEAST																																
Antlers	77.2	92	7	60	19	0	367	7.03	2.48	29	Idabel	78.8	93	7	61	19	0	413	3.14	.90	13											
Broken Bow	77.3	92	27	56	18	0	368	5.89	1.60	29	Mt Herman	75.5	88	7	59	18	0	314	6.05	2.04	10											
Clayton	****	***	***	***	***	****	****	8.76	2.50	13	Talihina	77.4	92	7	59	18	0	373	5.78	1.49	29											
Cloudy	76.8	90	28	59	18	0	354	6.02	1.86	10	Wilburton	77.3	93	7	59	17	0	370	6.84	2.31	10											
Hugo	77.8	92	26	62	19	0	385	5.02	1.12	1																						



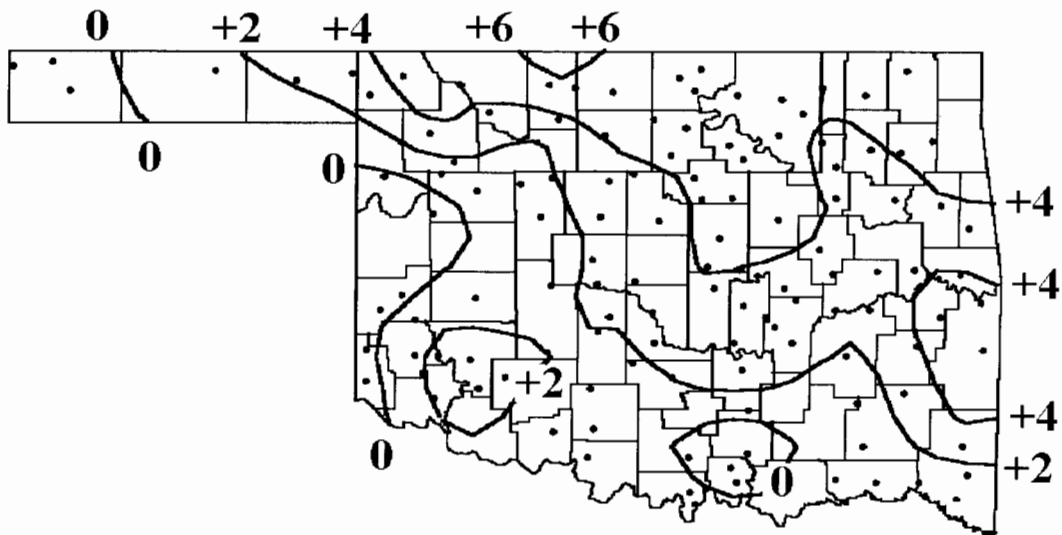
JUNE 1999 AVERAGE MONTHLY TEMPERATURE (F)



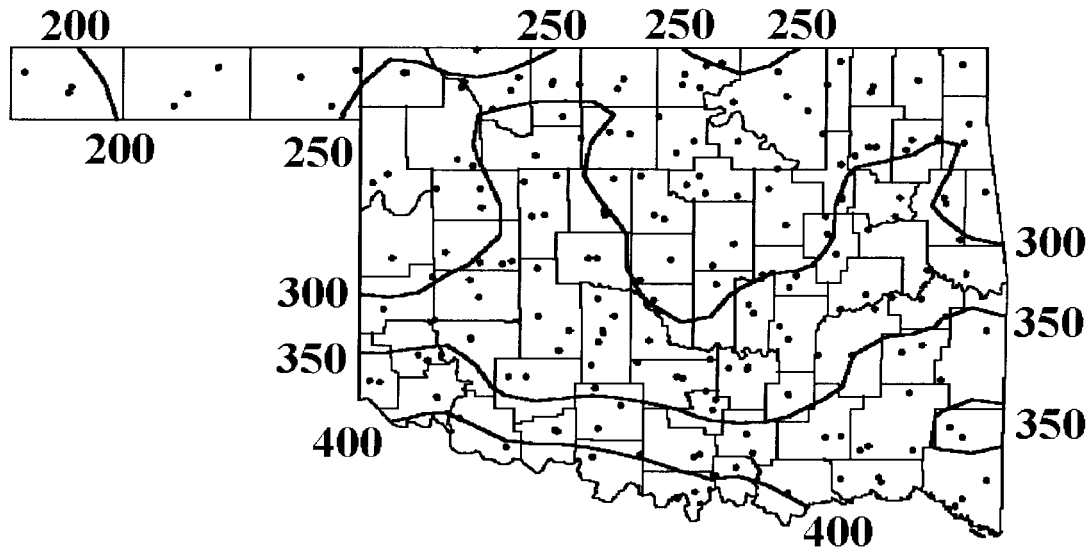
JUNE 1999 DEPARTURE FROM NORMAL TEMPERATURE (F)



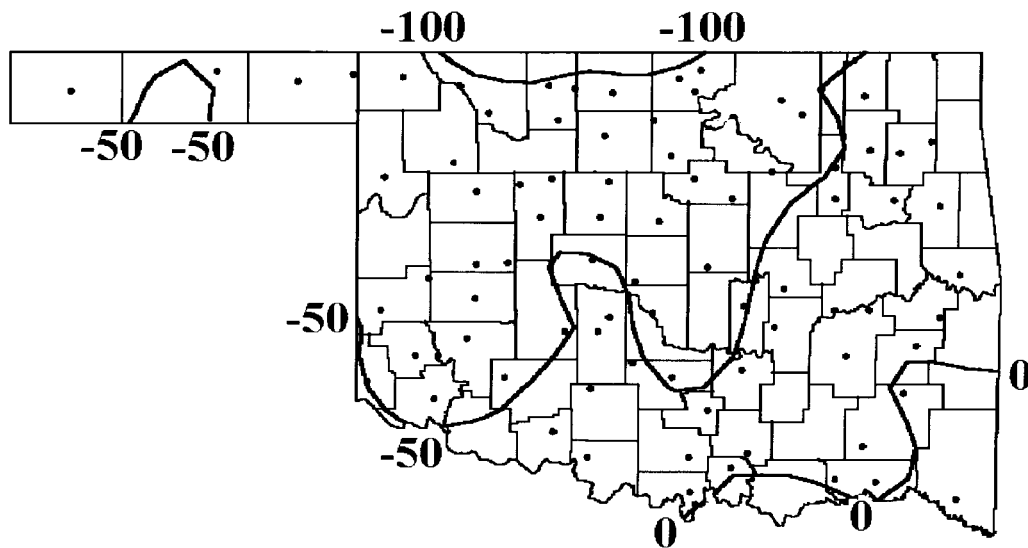
JUNE 1999 TOTAL PRECIPITATION (INCHES)



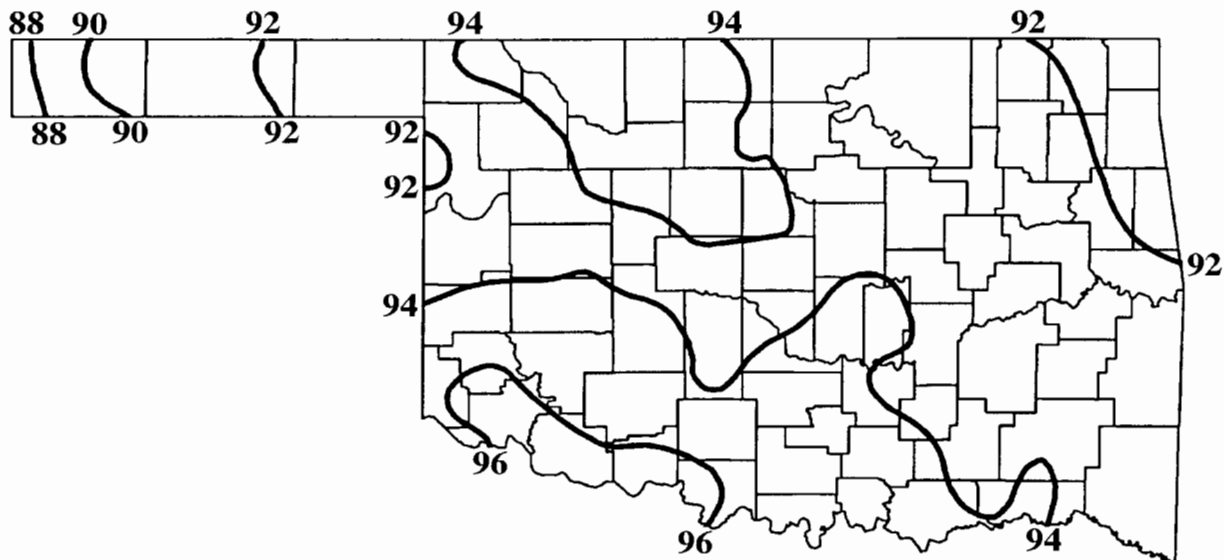
JUNE 1999 DEPARTURE FROM NORMAL PRECIPITATION (INCHES)



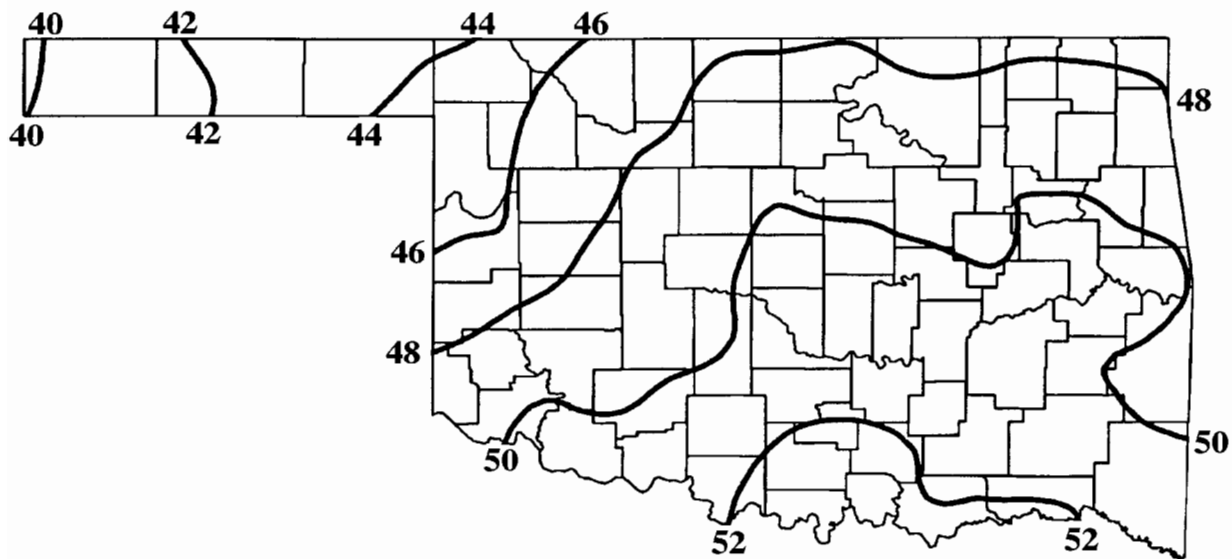
JUNE 1999 ACCUMULATED COOLING DEGREE DAYS (F)



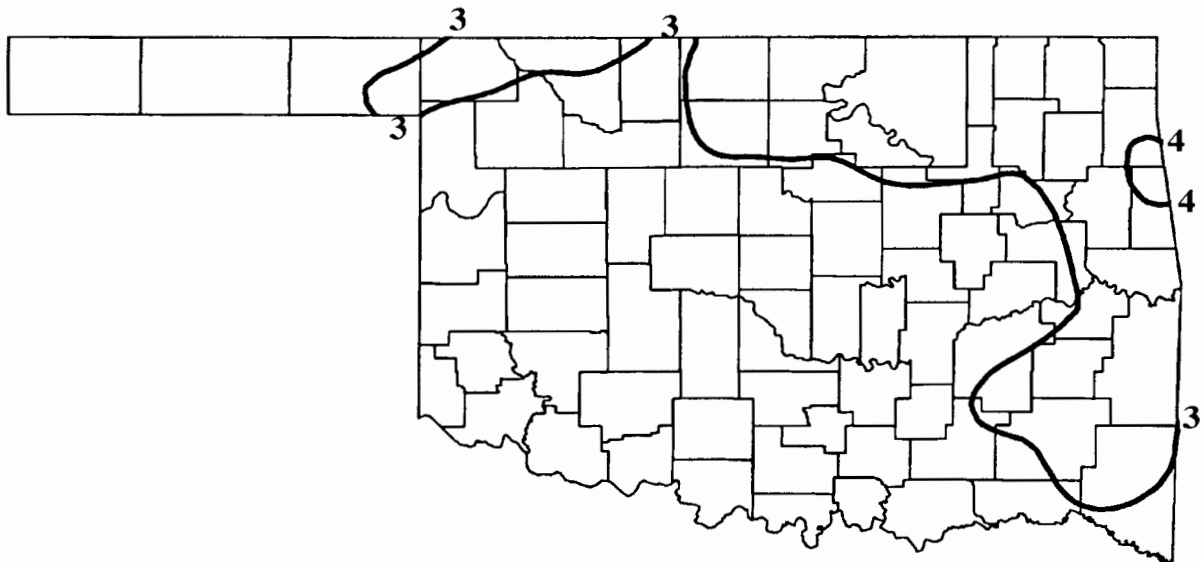
JUNE 1999 DEPARTURE FROM NORMAL COOLING DEGREE DAYS (F)



AUGUST NORMAL DAILY MAXIMUM TEMPERATURE (F)



AUGUST NORMAL DAILY MINIMUM TEMPERATURE (F)

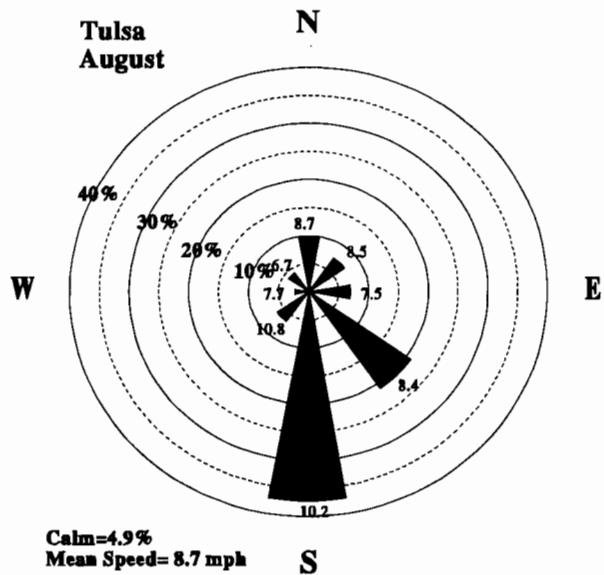
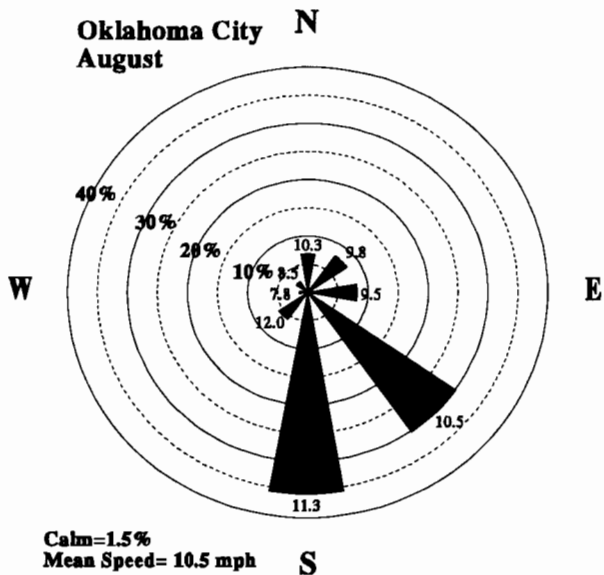


AUGUST NORMAL MONTHLY PRECIPITATION (INCHES)

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

**TEMPERATURE: BELOW NORMAL TEMPERATURE NORTH
 NORMAL TEMPERATURE ELSEWHERE**

PRECIPITATION: NORMAL PRECIPITATION STATEWIDE



August 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.

AUGUST SUNRISE/SUNSET TIMES FOR 1999

ALL TIMES ARE CENTRAL STANDARD TIME

OKLAHOMA CITY

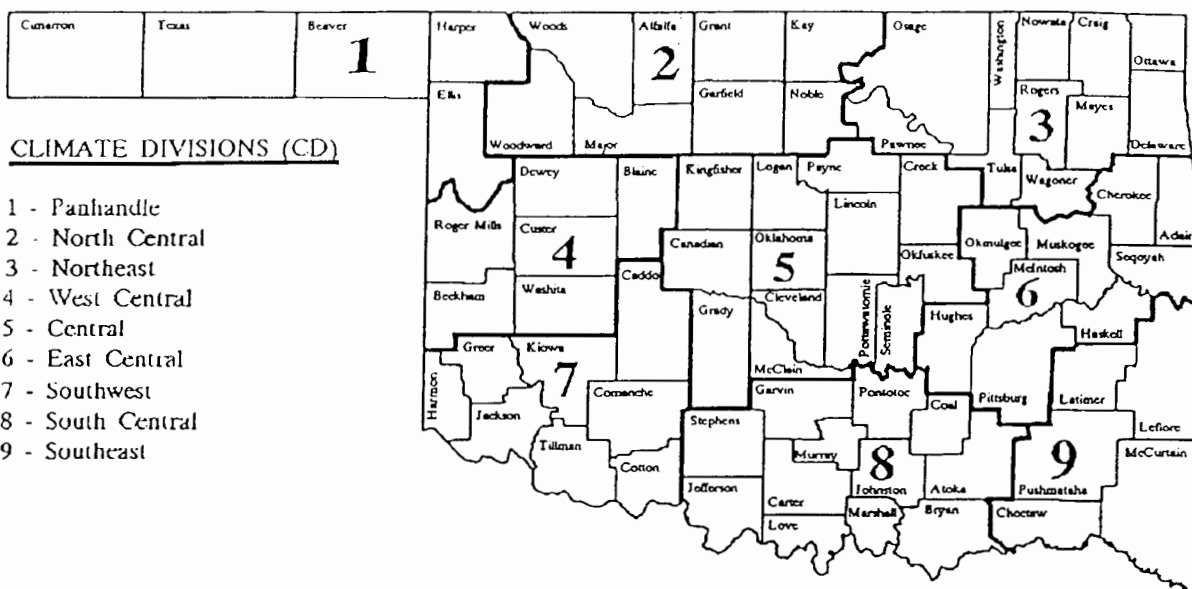
TULSA

DATE	SUNRISE	SUNSET
8/1/99	538	1934
8/2/99	539	1933
8/3/99	540	1932
8/4/99	541	1931
8/5/99	541	1930
8/6/99	542	1929
8/7/99	543	1928
8/8/99	544	1927
8/9/99	544	1926
8/10/99	545	1925
8/11/99	546	1924
8/12/99	547	1923
8/13/99	548	1922
8/14/99	548	1921
8/15/99	549	1920
8/16/99	550	1918
8/17/99	551	1917
8/18/99	551	1916
8/19/99	552	1915
8/20/99	553	1913
8/21/99	554	1912
8/22/99	555	1911
8/23/99	555	1910
8/24/99	556	1908
8/25/99	557	1907
8/26/99	558	1906
8/27/99	558	1904
8/28/99	559	1903
8/29/99	600	1902
8/30/99	601	1900
8/31/99	601	1859

DATE	SUNRISE	SUNSET
8/1/99	531	1929
8/2/99	531	1928
8/3/99	532	1927
8/4/99	533	1926
8/5/99	534	1925
8/6/99	535	1924
8/7/99	535	1923
8/8/99	536	1922
8/9/99	537	1921
8/10/99	538	1920
8/11/99	539	1919
8/12/99	539	1918
8/13/99	540	1917
8/14/99	541	1915
8/15/99	542	1914
8/16/99	543	1913
8/17/99	543	1912
8/18/99	544	1911
8/19/99	545	1909
8/20/99	546	1908
8/21/99	547	1907
8/22/99	547	1905
8/23/99	548	1904
8/24/99	549	1903
8/25/99	550	1902
8/26/99	550	1900
8/27/99	551	1859
8/28/99	552	1857
8/29/99	553	1856
8/30/99	554	1855
8/31/99	554	1853

ADD ONE HOUR FOR CENTRAL DAYLIGHT TIME

OKLAHOMA



EXPLANATION OF TABLES

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

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

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

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

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

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

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

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

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

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

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

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

OKLAHOMA CITY CLIMATE CALENDAR
 DATA COURTESY OF NATIONAL WEATHER SERVICE NORMAN

AUGUST

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

Day	Avg. Temp	Avg. High	Record High Year	Lowest Max Year	1999	Avg. Low	Highest Min Year	Record Low Year	1999	Avg. Ppt.	Greatest Ppt. Year	1999	
1	81.9	93.3	1980	72	1950	70.5	83	1934	58	1971	0.07	2.38	1995
2	81.7	93.0	1980	80	1898	70.3	81	1932	57	1971	0.03	1.41	1894
3	82.3	93.9	1930	72	1907	70.7	80	1944	59	1973	0.06	1.82	1990
4	81.5	92.5	1918	75	1978	70.6	82	1980	58	1973	0.09	1.32	1985
5	82.3	94.0	1964	76	1920	70.6	80	1923	55	1894	0.04	0.60	1976
6	83.0	94.6	1951	76	1971	71.5	80	1980	56	1894	0.11	1.38	1965
7	82.2	93.8	1946	69	1997	70.7	82	1951	57	1993	0.13	2.15	1939
8	81.6	93.1	1970	75	1997	70.1	82	1951	54	1989	0.10	2.60	1912
9	81.3	93.0	1936	75	1927	69.5	80	1970	58	1908	0.15	1.83	1915
10	81.4	92.6	1936	71	1989	70.1	81	1937	62	1917	0.09	1.18	1977
11	81.1	92.5	1936	73	1968	69.7	82	1936	58	1931	0.02	2.86	1892
12	81.0	92.8	1936	72	1920	69.2	83	1936	56	1967	0.04	1.85	1901
13	81.6	93.0	1936	73	1989	70.2	83	1936	54	1967	0.11	1.67	1989
14	81.6	92.4	1956	68	1989	70.8	79	1943	60	1967	0.14	1.93	1989
15	81.6	92.6	1956	77	1942	70.7	81	1954	59	1992	0.20	2.69	1945
16	82.4	93.6	1956	79	1964	71.2	81	1934	53	1994	0.05	1.32	1981
17	81.9	93.1	1909	76	1932	70.8	82	1934	59	1994	0.03	0.93	1932
18	81.1	92.3	1918	68	1992	69.9	81	1934	57	1943	0.13	2.87	1966
19	80.0	90.9	1934	72	1915	69.2	80	1954	56	1932	0.10	0.87	1977
20	80.4	91.7	1911	65	1950	69.0	81	1934	56	1950	0.08	1.83	1983
21	80.8	92.6	1911	74	1920	69.0	81	1934	51	1956	0.10	1.20	1979
22	80.4	91.7	1922	72	1920	69.1	80	1922	56	1956	0.03	3.17	1934
23	79.9	91.4	1980	70	1966	68.4	80	1988	49	1891	0.06	2.27	1924
24	80.3	92.1	1922	73	1966	68.5	78	1936	50	1891	0.06	1.11	1918
25	80.3	91.9	1988	72	1934	68.6	78	1936	58	1966	0.02	1.81	1934
26	80.3	92.3	1901	68	1992	68.2	78	1936	53	1910	0.06	1.16	1896
27	80.3	91.7	1982	69	1987	68.9	78	1963	52	1906	0.07	1.53	1941
28	79.3	90.4	1984	68	1988	68.1	80	1951	56	1906	0.07	1.44	1900
29	79.4	90.8	1984	70	1968	68.0	79	1951	50	1893	0.07	2.33	1935
30	79.9	91.5	1947	70	1915	68.3	78	1947	49	1915	0.04	1.32	1928
31	78.6	89.6	1990	67	1993	67.7	79	1980	51	1915	0.16	2.35	1966
MONTH	81.0	92.4	1936	65	1950	69.6	83	1936	49	1915	2.51	3.17	1934

*The most tornadoes reported in August for Oklahoma was 13 in 1979.

TULSA CLIMATE CALENDAR
 DATA COURTESY OF NATIONAL WEATHER SERVICE TULSA

AUGUST

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

Day	Avg. Temp	Avg. High	Record High	Year	Lowest Max	Year	1999	Avg. Low	Highest Min	Year	Record Low	Year	1999	Avg. Ppt.	Greatest Ppt.	Year	1999
1	84	95	110	1923	59	1925		73	86	1980	76	1950		0.09	1.62	1915	
2	84	95	108	1980	57	1971		73	84	1980	82	1976		0.09	1.55	1917	
3	84	95	110	1923	57	1976		73	81	1987	80	1927		0.09	1.82	1911	
4	83	94	111	1923	52	1920		72	84	1980	72	1978		0.08	2.25	1928	
5	83	94	110	1964	57	1920		72	82	1980	72	1993		0.09	1.64	1906	
6	83	94	109	1956	60	1997		72	82	1980	70	1948		0.09	1.82	1944	
7	83	94	109	1935	58	1993		72	81	1980	78	1989		0.09	2.25	1905	
8	83	94	111	1935	57	1989		72	84	1936	72	1997		0.09	2.43	1973	
9	83	94	114	1936	59	1989		72	82	1936	75	1917		0.09	2.65	1974	
10	83	94	115	1936	55	1920		72	83	1934	77	1996		0.09	2.19	1979	
11	83	94	114	1936	58	1931		72	81	1936	74	1968		0.09	2.00	1902	
12	82	94	113	1936	52	1967		71	83	1936	75	1920		0.09	1.35	1941	
13	82	93	114	1936	54	1967		71	84	1980	74	1961		0.09	1.37	1949	
14	82	93	110	1923	53	1920		71	83	1980	70	1961		0.09	3.39	1942	
15	82	93	109	1936	53	1994		71	84	1909	72	1961		0.09	2.19	1969	
16	82	93	109	1956	57	1992		71	86	1909	77	1964		0.09	5.12	1938	
17	82	93	109	1909	53	1920		71	84	1956	74	1957		0.10	2.04	1938	
18	81	93	109	1918	54	1943		70	84	1934	76	1992		0.10	1.82	1928	
19	81	92	108	1934	56	1932		70	82	1936	74	1915		0.10	1.60	1915	
20	81	92	106	1935	53	1967		70	82	1936	66	1950		0.10	5.37	1989	
21	81	92	106	1936	54	1950		70	80	1987	75	1907		0.10	3.21	1937	
22	81	92	106	1936	50	1920		70	80	1936	72	1961		0.11	1.14	1971	
23	80	91	108	1936	51	1920		70	78	1998	68	1966		0.11	1.32	1930	
24	80	91	107	1936	53	1920		69	80	1983	69	1911		0.11	2.23	1911	
25	80	91	105	1978	57	1966		69	80	1998	73	1942		0.11	2.05	1946	
26	80	90	104	1978	52	1910		69	81	1978	74	1946		0.12	1.91	1987	
27	79	90	105	1913	50	1910		69	80	1983	70	1987		0.12	1.42	1927	
28	79	90	104	1963	53	1967		68	79	1954	67	1917		0.12	3.74	1927	
29	79	89	107	1984	51	1931		68	79	1984	70	1974		0.13	2.36	1955	
30	79	89	107	1947	50	1915		68	79	1983	72	1968		0.13	0.95	1928	
31	78	89	106	1951	48	1915		68	84	1980	72	1993		0.13	1.86	1962	
MONTH	81.5	92.5	115	1936	48	1915		70.6	86	1980	67	1917		3.46	5.37	1989	

*The average number of tornadoes reported in August for Oklahoma is 1.6.