REVISED
OKLAHOMA
MONTHLY SUMMARY
JULY 1998

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MONTHLY SUMMARY FOR JULY 1998

Blistering heat and sparse rainfall dominated the July weather picture over most of Oklahoma. Daily maximum temperatures exceeded 100 degrees somewhere in the state every day during the month, and the southern two-thirds of the state settled uncomfortably into a drought pattern reminiscent of the 1930s or 1950s. Rainfall was abundant in the state's northern third, enough so that the statewide-averaged monthly precipitation, based on preliminary data from the National Weather Service, of 2.54 inches was only 0.08 inch less than normal. This July ranks as the 47th driest July since 1892. Temperatures were higher than normal throughout the state, averaging 86.3 degrees, statewide. The July average temperature was 4.2 degrees higher than normal and ranks this as the 4th hottest July (trailing only 1954, 1934, and 1980 in that order) through the 107 years of record.

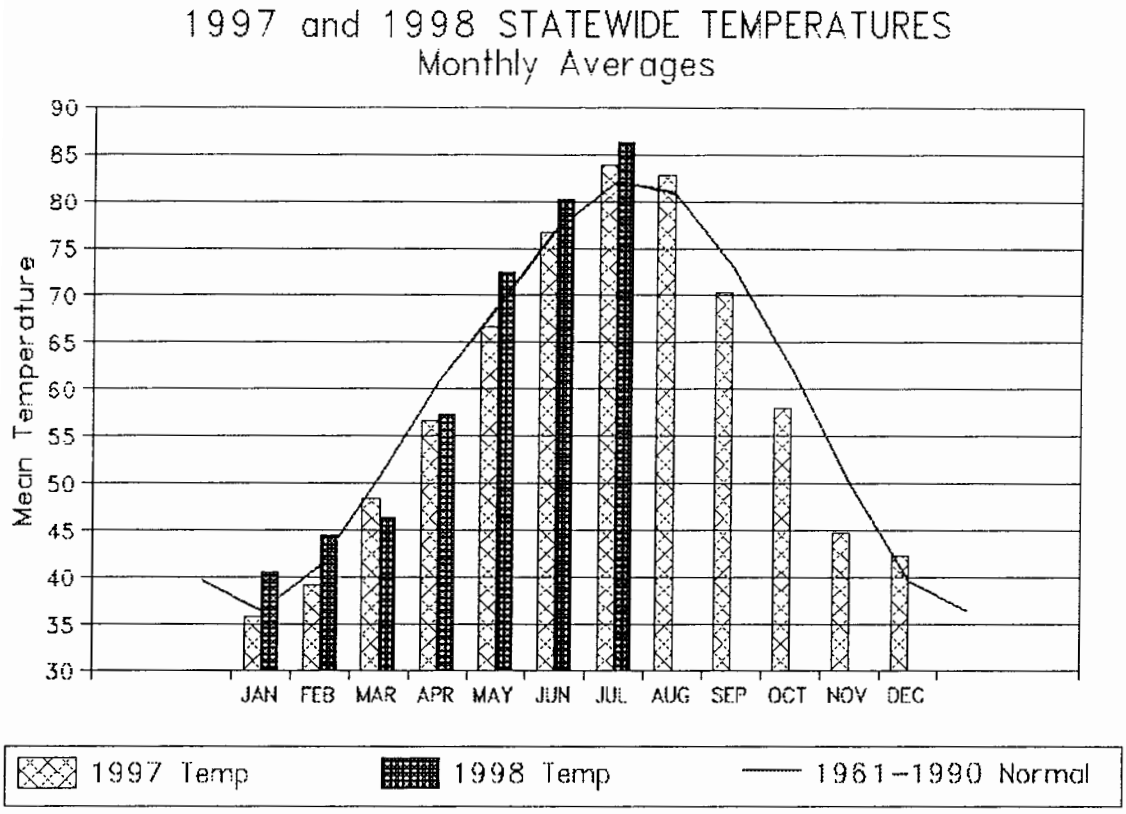
July fit only too well within the spring and early summer of 1998 context of much above average temperatures coupled with less than normal precipitation. January through July, with temperatures averaging 61.2 degrees across the state, was 1.5 degrees hotter than normal, to rank as the 22nd hottest such period on record. More startlingly, 1998 had the state's 11th warmest April- through-July, its 2nd hottest May-through-July (trailing only 1934), and its 5th warmest June and July combined. Concurrently, statewide precipitation for the year-to-date is 20.02 inches, only 0.30 inches below normal, to rank as the 52nd driest. However the April-through-July rainfall (9.54 inches, 4.58 inches less than normal) is the 3rd lowest on record, the May-through-July total (6.87 inches, 4.56 inches lower than normal) ranks as 5th lowest, and June-July precipitation (4.31 inches, 2.26 inches below normal) ranks as 15th lowest. The state's southwest and south central climate divisions each have suffered through the driest and hottest April through July period of the 104 years for which regional records are available.

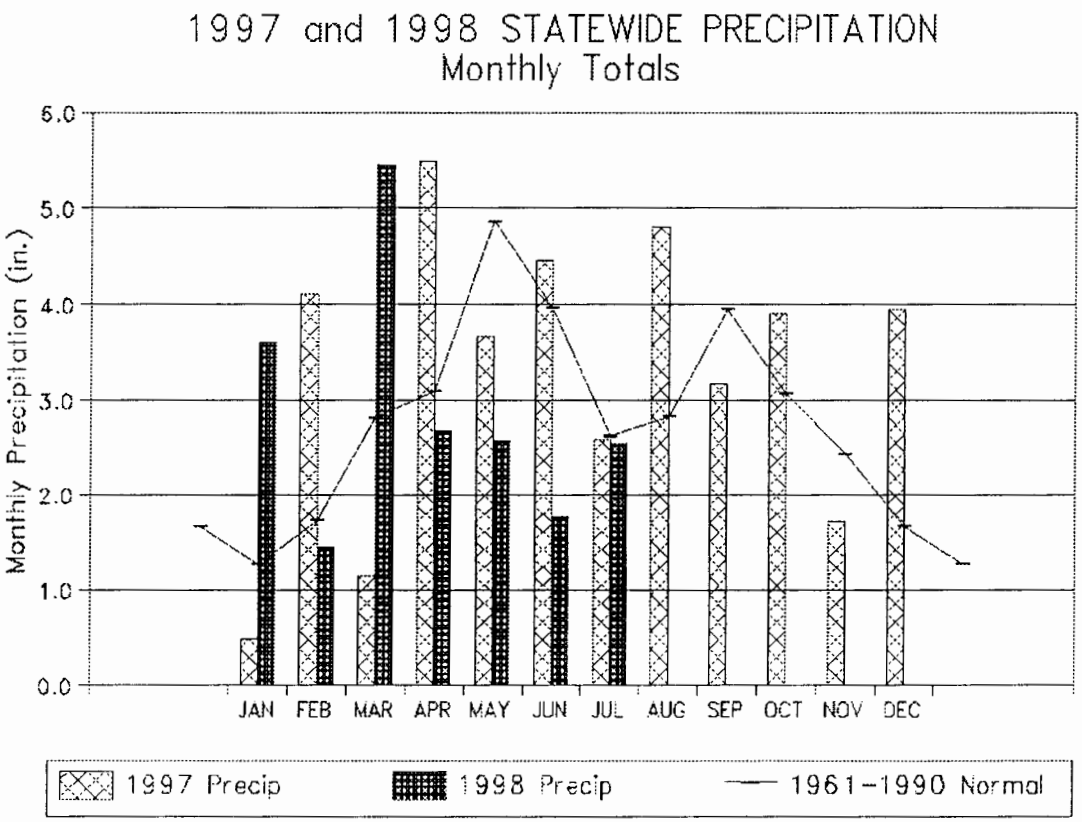
The month started with a state burn-ban declaration in force in 13 western counties and ended with 66 counties under a federally-declared drought and heat emergency. Fifteen people died from heat-related causes, raising the total for the heat wave that started in late June to 17. Wild fires of a magnitude unknown to Oklahoma plagued the heavily forested southeast. According to the Forestry Services Division of the Oklahoma Department of Agriculture, approximately 340 separate fires burned over 14,000 acres of timberland during July. The worst previous July during the last 25 years (1980) saw approximately 5,000 acres destroyed by about 270 fires. Many of this year's fires crowned (i.e., the fire spread mainly by way of the tops of the trees rather than through the underbrush as is usual in Oklahoma forest fires) making them impossible to fight from the ground. Unfortunately, it appears that many of the worst fires were set intentionally and others were caused by human activities despite the presence of a state-imposed ban on burning in the affected areas.

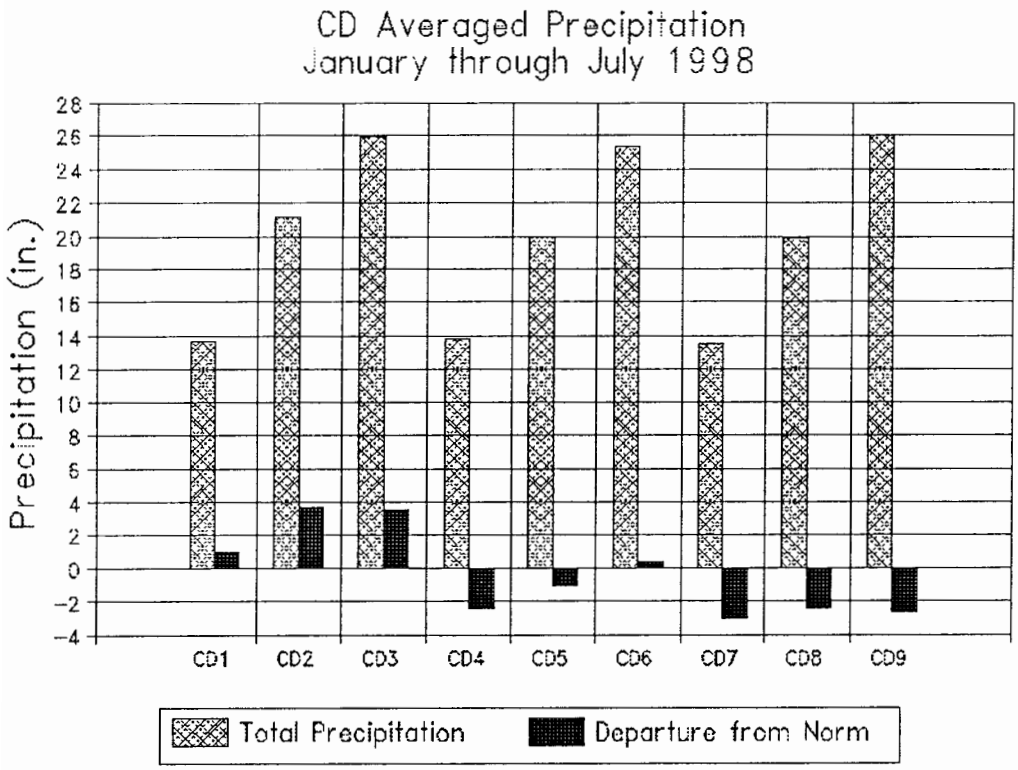
Summer-planted crops also suffered greatly. Oklahoma is expected to harvest its smallest cotton crop since 1895, although the irrigated fields (the only ones likely to be harvested) are producing record yields. Peanuts, hay, and other crops have been decimated in the drought-stricken areas. Many producers are reducing their cattle herds and hay is being shipped in to feed the remainder as pastures generally are unable to provide adequate nutrients. Many communities imposed water rationing as demand, frequently for lawn-watering, outstripped the abilities of the treatment and distribution systems to provide supplies of fresh water.

The northern third of the state received several good rains during the first half of the month and again during the final week. Local flooding was reported in western Kay County and along the Neosho and Spring rivers in Ottawa County on the 1st. Severe weather was limited to some spotty wind damage and isolated hail storms on the 7th, 10th, 13th, and 15th, mostly in northwestern Oklahoma.

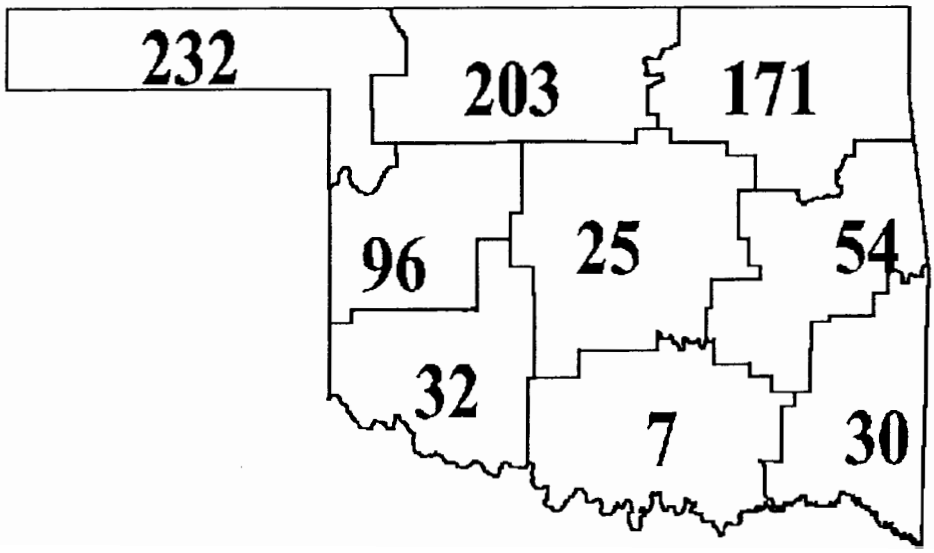
Howard L. Johnson


1997 and 1998 STATEWIDE TEMPERATURES
Monthly Averages
Mean Temperature
90
85
80
75
70
65
60
55
50
45
40
35
30
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1997 Temp
1998 Temp
1961-1990 Normal


1997 and 1998 STATEWIDE PRECIPITATION
Monthly Totals
Monthly Precipitation (in.)
6.0
5.0
4.0
3.0
2.0
1.0
0.0
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1997 Precip
1998 Precip
1961-1990 Normal



CD PERCENT OF NORMAL PRECIPITATION
JULY 1998



EXTREME VALUES OF TEMPERATURE AND PRECIPITATION IN EACH CLIMATE DIVISION JULY, 1998

CD	MAX TEMP	DATE	LOCATION	MIN TEMP	DATE	LOCATION	24-HOUR PRECIP	DATE	LOCATION	MONTHLY PRECIP	LOCATION
1	110	6	BUFFALO	56	9	KENTON	3.40	8	FARGO	7.79	GATE
	110	22	BUFFALO								
2	110	1	CHEROKEE	59	17	FT SUPPLY	3.90	8	CHEROKEE	9.98	BLACKWELL
				59	18	FT SUPPLY					
3	107	26	MANNFORD	65	1	CLEVELAND	3.68	1	SKIATOOK	7.80	PAWHUSKA
	107	30	MANNFORD	65	2	CLEVELAND					
	107	26	WAGONER	65	19	RALSTON					
4	108	8	CORDELL	60	3	GEARY	2.85	1	WATONGA	3.55	LEEDEY
	108	8	ERICK								
5	110	27	GUTHRIE	61	19	PURCELL	2.50	1	CUSHING	3.86	MARSHALL
6	109	25	EUFAULA	58	2	WEBBERS FALLS	3.03	2	WEBBERS FALLS	4.42	OKTAHA
	109	26	WEBBERS FALLS								
	109	27	WEBBERS FALLS								
7	110	7	ALTUS	65	16	ANADARKO	1.25	5	SNYDER	1.78	SNYDER
	110	11	ALTUS	65	17	ANADARKO					
	110	8	ALTUS DAM								
	110	7	HOLLIS								
8	110	26	MARLOW	63	15	LINDSAY	1.85	3	CANEY	1.85	CANEY
9	114	31	HUGO	62	18	SMITHVILLE	1.39	9	PAGE	3.71	PAGE

TABLE OF 1997/1998 COMPARISONS

	JUNE Temperature (°F)		JUNE Precipitation (in.)	
Station	**1997**	**1998**	**1997**	**1998**
Arnett	79.0	82.8	2.20	3.19
Enid	83.1	85.3	5.10	3.32
Tulsa	81.7	85.4	5.63	4.31
Elk City	80.4	85.6	2.28	1.12
Oklahoma City	81.5	88.0	3.41	0.02
McAlester	82.5	89.3	0.14	0.19
Altus Irr Station	83.2	89.1	2.93	0.34
Ardmore	85.3	90.3	0.00	0.00
Idabel	82.3	86.9	0.78	1.45

EXTREMES

VARIABLE	STATION	DIVISON	OBSERVATION	DATE
Minimum temperature (°F)	Kenton	1	56	9
Maximum temperature (°F)	Hugo	9	114	31
Maximum 24-hour precipitation	Cherokee	2	3.90"	8

JULY 1998 SUMMARY FOR PANHANDLE DIVISION (CD1)

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
ARNETT	332	1	82.8	31	2.4	102	7	65	31	0	0	552	75	3.191	31	1.30	1.55	8
BEAVER	593	1	82.3	31	1.6	104	21	64	31	0	0	535	48	6.460	31	3.60	1.52	31
BOISE CITY	908	1	79.2	31	1.3	104	6	61	26	0	0	440	40	7.324	31	4.57	2.25	26
BUFFALO	1243	1	86.3	31	3.1	110	22	63	18	0	0	660	96	3.730	31	0.74	1.50	31
FARGO	3070	1	*****	0 *	****	****	0	****	0	******	******	******	******	5.390	31	3.35	3.40	8
GAGE	3407	1	82.5	29 *	****	102	6	59	18	0	******	507	******	3.042	26	*****	1.67	1
GATE	3489	1	83.1	31	1.3	105	23	64	31	0	0	560	39	7.792	31	5.36	2.83	27
GOODWELL	3628	1	81.6	31	3.1	105	22	62	31	0	0	515	96	6.200	31	3.68	1.81	31
GUYMON	3835	1	81.5	31 *	****	105	21	60	31	0	******	511	******	5.920	31	*****	1.73	31
HOOKER	4298	1	81.9	31	1.9	106	6	62	31	0	0	525	60	6.660	31	4.37	1.31	31
KENTON	4766	1	77.6	25 *	****	101	5	56	9	0	******	316	******	6.487	31	3.15	1.76	8
LAVERNE	5045	1	*****	0 *	****	****	0	****	0	******	******	******	******	3.371	31	0.84	1.22	26
RANGE	7412	1	*****	0 *	****	****	0	****	0	******	******	******	******	4.155	31	*****	1.15	27
REGNIER	7534	1	*****	0 *	****	****	0	****	0	******	******	******	******	7.001	31	4.66	2.68	27
TURPIN	9017	1	81.3	29 *	****	104	7	63	31	0	******	473	******	6.380	29	*****	1.57	28

JULY 1998 SUMMARY FOR NORTH CENTRAL DIVISION (CD2)

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
ALVA	193	2	85.3	31 *	****	107	3	67	18	0	******	628	******	3.390	31	*****	1.04	16
VANCE AFB	302	2	*****	0 *	****	****	0	****	0	******	******	******	******	2.041	30	*****	0.79	8
BILLINGS	755	2	84.0	31	0.7	104	27	64	18	0	0	591	24	4.742	31	1.61	1.85	8
BLACKWELL 2E	818	2	82.8	31	0.2	101	27	66	2	0	0	553	7	9.981	31	6.84	3.80	1
CEDARDALE	1620	2	*****	0 *	****	****	0	****	0	******	******	******	******	2.620	31	*****	0.91	8
CHEROKEE	1724	2	86.3	31	2.2	110	1	68	19	0	0	662	70	7.671	31	4.93	3.90	8
ENID	2912	2	85.3	30	2	104	30	69	18	0	0	609	42	3.320	30	*****	1.14	1
FT SUPPLY	3304	2	83.0	30	2.3	103	26	59	18	0	0	539	52	3.460	31	1.27	2.14	8
FREEDOM	3358	2	84.6	30	1.6	106	22	64	17	0	0	588	30	3.660	30	*****	1.37	7
GREAT SALT P	3740	2	84.9	31	1.9	105	23	67	17	0	0	618	60	6.401	31	3.71	2.24	8
HARDY	3909	2	*****	0 *	****	****	0	****	0	******	******	******	******	7.830	31	*****	1.93	11
HELENA	4019	2	84.5	31	2.6	104	25	66	17	0	0	606	82	5.070	31	2.45	1.52	8
JEFFERSON	4573	2	84.8	31	1.3	105	22	64	18	0	0	615	41	5.450	31	2.12	2.68	7
LAMONT	5013	2	*****	0 *	****	****	0	****	0	******	******	******	******	6.670	31	*****	2.40	8
MEDFORD	5768	2	*****	0 *	****	****	0	****	0	******	******	******	******	5.562	31	*****	2.74	7
MORRISON	6065	2	*****	0 *	****	****	0	****	0	******	******	******	******	4.521	31	*****	1.90	2
MUTUAL	6139	2	84.1	31	2.3	106	26	64	17	0	0	593	72	4.340	31	1.99	2.10	8
NEWKIRK	6278	2	82.5	31	0	101	27	65	2	0	0	544	1	7.830	31	4.55	2.89	8
ORIENTA	6751	2	*****	0 *	****	****	0	****	0	******	******	******	******	4.421	31	1.82	2.75	24
PERRY	7012	2	86.7	31	4	106	27	68	3	0	0	672	123	4.591	31	1.50	1.55	2
PONCA CITY	7201	2	84.7	31	2.2	102	22	66	1	0	0	611	68	9.422	31	5.72	3.24	1
RED ROCK	7505	2	*****	0 *	****	****	0	****	0	******	******	******	******	4.850	31	1.96	2.00	8
WAYNOKA	9404	2	86.4	28 *	****	108	26	66	17	0	******	598	******	3.600	28	*****	2.35	7
WOODWARD	9760	2	*****	0 *	****	****	0	****	0	******	******	******	******	2.171	31	-0.42	0.86	28

JULY 1998 SUMMARY FOR NORTHEAST DIVISION (CD3)

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
BARNSDALL	535	3	84.2	31	2	106	26	66	18	0	0	595	62	5.324	31	2.39	2.00	1
BARTLESVILLE	548	3	84.1	31	2	103	26	67	18	0	0	592	62	5.890	31	3.29	1.60	11
BIXBY	782	3	84.8	29 *	****	105	31	68	17	0	******	575	******	7.180	31	4.31	3.00	2
BURBANK	1256	3	*****	0 *	****	****	0	****	0	******	******	******	******	4.820	31	1.58	1.61	1
CHELSEA	1717	3	*****	0 *	****	****	0	****	0	******	******	******	******	2.400	31	*****	0.80	12
CLAREMORE	1828	3	83.3	31	2.1	104	31	67	18	0	0	566	64	6.960	31	3.99	2.40	1
CLEVELAND 2	1902	3	80.7	18 *	****	103	26	65	2	0	******	283	******	3.930	18	*****	1.27	8
FORAKER	3250	3	*****	0 *	****	****	0	****	0	******	******	******	******	3.500	31	0.43	1.75	31
HOLLOW	4258	3	*****	0 *	****	****	0	****	0	******	******	******	******	6.554	31	3.39	1.87	8
HOMINY	4289	3	*****	0 *	****	****	0	****	0	******	******	******	******	5.480	31	2.41	2.96	8
KANSAS	4672	3	83.6	27 *	****	101	30	67	17	0	******	503	******	4.283	27	*****	1.90	12
LENAPAH	5118	3	*****	0 *	****	****	0	****	0	******	******	******	******	4.180	31	*****	2.05	11
MANNFORD	5522	3	84.8	31	2.8	107	30	68	18	0	0	613	86	4.900	31	2.13	1.98	2
MARAMEC	5540	3	*****	0 *	****	****	0	****	0	******	******	******	******	3.631	31	0.84	2.00	1
PAWHUSKA	6935	3	83.5	31	1.9	102	26	66	18	0	0	575	60	7.800	31	4.62	3.26	1
PAWNEE	6940	3	*****	0 *	****	****	0	****	0	******	******	******	******	6.140	31	3.41	3.10	8
PRYOR	7309	3	83.4	31	2.7	103	31	67	17	0	0	572	85	3.442	31	0.69	1.82	12
RALSTON	7390	3	84.3	31	2.4	105	27	65	19	0	0	600	76	3.730	31	0.79	1.52	2
SKIATOOK	8258	3	*****	0 *	****	****	0	****	0	******	******	******	******	6.650	31	3.51	3.68	1
SPAVINAW	8380	3	85.4	31	3.4	103	30	69	1	0	0	631	104	5.130	31	2.11	1.90	1
TULSA	8992	3	85.4	31	2.1	106	30	69	1	0	0	633	66	4.312	31	1.22	1.61	12
UPPER SPAV	9101	3	86.0	31 *	****	104	30	70	15	0	******	650	******	5.003	31	*****	2.44	1
VINITA	9203	3	83.5	25 *	****	101	26	66	18	0	******	464	******	3.852	26	*****	1.54	1
WAGONER	9247	3	86.5	31	4.6	107	26	67	1	0	0	667	143	2.060	31	-0.77	0.74	2
WANN	9298	3	*****	0 *	****	****	0	****	0	******	******	******	******	3.931	31	*****	1.80	8
WYNONA	9792	3	*****	0 *	****	****	0	****	0	******	******	******	******	6.402	31	*****	2.62	8

JULY 1998 SUMMARY FOR WEST CENTRAL DIVISION (CD4)

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
CANTON DAM	1445	4	86.2	31	4.1	105	27	63	17	0	0	659	129	0.950	31	-1.40	0.67	8
CLINTON	1909	4	87.8	31	4	106	26	67	17	0	0	707	124	1.762	31	-0.33	1.02	8
COLONY	2039	4	*****	0 *	****	****	0	****	0	******	******	******	******	0.830	31	*****	0.45	24
CORDELL	2125	4	87.9	31	4.7	108	8	70	18	0	0	709	145	0.260	31	-1.67	0.26	8
ELK CITY	2849	4	85.6	31	3.7	105	8	65	9	0	0	638	114	1.120	31	-0.77	0.87	8
ERICK	2944	4	86.6	31	4.9	108	8	65	24	0	0	671	153	0.310	31	-1.38	0.15	15
GEARY	3497	4	82.7	30	0.5	101	27	60	3	0	0	531	-3	0.030	30	*****	0.02	8
HAMMON	3871	4	86.2	15 *	****	104	27	70	31	0	******	319	******	2.041	17	*****	1.19	16
LEEDEY	5090	4	*****	0 *	****	****	0	****	0	******	******	******	******	3.550	31	1.77	2.07	15
MORAVIA	6035	4	*****	0 *	****	****	0	****	0	******	******	******	******	1.051	31	-0.71	0.53	16
OKEENE	6629	4	87.2	31	3.7	107	6	66	17	0	0	687	113	3.200	31	0.84	2.46	8
RETROP	7565	4	*****	0 *	****	****	0	****	0	******	******	******	******	0.150	31	*****	0.11	8
REYDON	7579	4	84.1	20 *	****	104	27	66	14	0	******	382	******	1.810	20	*****	1.00	8
SAYRE	7952	4	*****	0 *	****	****	0	****	0	******	******	******	******	0.391	31	-1.28	0.15	8
SWEETWATER	8652	4	*****	0 *	****	****	0	****	0	******	******	******	******	1.852	31	*****	0.97	8
TALOGA	8708	4	85.8	31	3.8	105	27	63	17	0	0	645	118	2.324	31	0.09	1.25	1
THOMAS	8815	4	*****	0 *	****	****	0	****	0	******	******	******	******	1.710	31	*****	1.38	1
VICI	9172	4	*****	0 *	****	****	0	****	0	******	******	******	******	3.240	31	1.08	2.10	7
WATONGA	9364	4	86.5	31	4.1	105	30	65	17	0	0	668	129	3.360	31	1.09	2.85	1
WEATHERFORD	9422	4	87.1	30	5	105	26	69	17	0	0	663	133	0.860	30	*****	0.82	7

JULY 1998 SUMMARY FOR CENTRAL DIVISION (CD5)

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
AMBER	200	5	*****	0 *	****	****	0	****	0	******	******	******	******	0.000	31	*****	0.00	31
ARCADIA	288	5	*****	0 *	****	****	0	****	0	******	******	******	******	0.761	31	*****	0.68	8
BLANCHARD	830	5	89.0	31	6.4	107	26	70	17	0	0	743	197	0.001	31	-2.57	0.00	6
BRISTOW	1144	5	86.6	31	4.6	108	27	66	18	0	0	669	142	1.451	31	-1.29	0.76	2
CHANDLER	1684	5	87.0	30	4.5	108	27	67	19	0	0	660	117	0.430	30	*****	0.43	8
CHICKASHA EX	P 1750	5	89.2	31	6.3	107	26	69	19	0	0	749	194	0.000	31	-2.09	0.00	31
COX CITY	2196	5	*****	0 *	****	****	0	****	0	******	******	******	******	0.000	31	*****	0.00	31
CRESCENT	2242	5	*****	0 *	****	****	0	****	0	******	******	******	******	0.820	31	*****	0.38	8
CUSHING	2318	5	85.3	30	3.4	106	31	66	3	0	0	610	86	3.770	31	0.65	2.50	1
EDMOND	2788	5	*****	0 *	****	****	0	****	0	******	******	******	******	0.240	31	*****	0.22	7
EL RENO	2818	5	87.0	28 *	****	106	29	66	17	0	******	617	******	0.000	28	*****	0.00	31
GUTHRIE	3821	5	88.2	31	4.9	110	27	70	8	0	0	720	153	0.460	31	-1.87	0.46	8
HENNESSEY	4055	5	87.2	30	3.9	109	26	67	18	0	0	665	98	1.340	31	-1.21	0.50	8
INGALLS	4489	5	*****	0 *	****	****	0	****	0	******	******	******	******	1.860	31	*****	0.90	1
KINGFISHER	4861	5	87.6	29 *	****	108	29	66	17	0	******	656	******	0.201	29	*****	0.14	2
KONAWA	4915	5	*****	0 *	****	****	0	****	0	******	******	******	******	0.001	31	-2.02	0.00	10
MARSHALL	5589	5	*****	0 *	****	****	0	****	0	******	******	******	******	3.860	31	1.59	2.01	2
MEEKER	5779	5	85.3	29 *	****	109	7	64	17	0	******	590	******	0.940	30	*****	0.50	2
NORMAN NWS	6386	5	87.2	31	5	105	26	69	17	0	0	689	156	0.332	31	-2.43	0.33	9
OKEMAH	6638	5	88.5	31	6.9	107	26	70	1	0	0	729	214	0.581	31	-2.58	0.30	2
OKLAHOMA CTY	F.6659	5	*****	0 *	****	****	0	****	0	******	******	******	******	0.042	31	*****	0.04	8
OKLAHOMA CTY	6661	5	88.0	31	6	107	26	71	22	0	0	713	186	0.021	31	-2.59	0.02	8
PERKINS	7003	5	*****	0 *	****	****	0	****	0	******	******	******	******	1.510	31	-1.15	0.60	8
PIEDMONT	7068	5	*****	0 *	****	****	0	****	0	******	******	******	******	0.130	31	*****	0.12	12
PRAGUE	7264	5	*****	0 *	****	****	0	****	0	******	******	******	******	1.110	31	-1.85	0.52	11
PURCELL	7327	5	86.9	29 *	****	107	27	61	19	0	******	635	******	0.040	30	*****	0.04	12
SEMINOLE	8042	5	88.0	31	4.6	106	26	70	1	0	0	713	143	0.110	31	-2.41	0.05	11
SHAWNEE	8110	5	*****	0 *	****	****	0	****	0	******	******	******	******	0.330	31	-1.84	0.24	8
STELLA	8479	5	*****	0 *	****	****	0	****	0	******	******	******	******	0.161	31	*****	0.14	8
STILLWATER	8501	5	85.7	31	4.1	107	27	67	18	0	0	641	126	1.802	31	-1.10	0.89	8
STROUD	8563	5	*****	0 *	****	****	0	****	0	******	******	******	******	2.571	31	*****	1.59	1
TECUMSEH	8751	5	*****	0 *	****	****	0	****	0	******	******	******	******	0.000	31	*****	0.00	31
TROUSDALE	8960	5	88.0	31 *	****	107	25	68	18	0	******	712	******	0.000	31	*****	0.00	31
UNION CITY	9086	5	*****	0 *	****	****	0	****	0	******	******	******	******	0.004	31	-2.30	0.00	12
WELTY	9479	5	*****	0 *	****	****	0	****	0	******	******	******	******	0.941	30	*****	0.43	8
WEWOKA	9575	5	*****	0 *	****	****	0	****	0	******	******	******	******	0.610	31	-1.76	0.50	3

JULY 1998 SUMMARY FOR EAST CENTRAL DIVISION (CD6)

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
ASHLAND	364	6	*****	0 *	****	****	0	****	0	******	******	******	******	0.002	31	*****	0.00	2
BEGGS	631	6	*****	0 *	****	****	0	****	0	******	******	******	******	1.460	31	*****	0.78	2
CALVIN	1391	6	*****	0 *	****	****	0	****	0	******	******	******	******	0.110	31	-2.96	0.11	8
CHECOTAH	1711	6	*****	0 *	****	****	0	****	0	******	******	******	******	2.980	31	-0.06	1.43	2
CLAYTON	1858	6	*****	0 *	****	****	0	****	0	******	******	******	******	1.801	31	*****	1.80	2
DEWAR	2485	6	*****	0 *	****	****	0	****	0	******	******	******	******	1.461	31	-1.92	0.65	2
DUSTIN	2690	6	*****	0 *	****	****	0	****	0	******	******	******	******	0.941	31	*****	0.55	10
EUFAULA	2993	6	89.5	30	6.2	109	25	67	2	0	0	736	169	0.370	30	*****	0.37	1
HANNA	3884	6	86.8	31	5	106	30	67	17	0	0	677	156	1.161	31	-1.65	0.61	8
HASKELL	3956	6	*****	0 *	****	****	0	****	0	******	******	******	******	2.440	31	-0.17	1.35	2
LAKE EUFAULA	4975	6	85.8	29 *	****	105	28	67	2	0	******	604	******	1.320	29	*****	1.20	2
LYONS	5437	6	*****	0 *	****	****	0	****	0	******	******	******	******	2.630	31	-0.28	0.89	12
MARBLE CITY	5546	6	*****	0 *	****	****	0	****	0	******	******	******	******	1.700	31	*****	1.10	2
MCALESTER	5664	6	89.3	31	7.4	107	28	70	17	0	0	754	230	0.190	31	-2.48	0.15	1
MCCURTAIN	5693	6	88.2	31	5.8	107	30	68	17	0	0	720	181	1.071	31	-2.10	0.75	2
MUSKOGEE	6130	6	86.7	29 *	****	107	30	67	17	0	******	630	******	0.980	29	*****	0.51	7
OKMULGEE	6670	6	85.5	29 *	****	108	27	65	17	0	******	595	******	1.810	31	-0.88	0.93	1
OKTAHA	6678	6	*****	0 *	****	****	0	****	0	******	******	******	******	4.421	31	*****	2.35	2
SALLISAW	7862	6	86.1	31	4.3	105	27	68	2	0	0	655	134	2.710	31	-0.29	1.70	2
SCIPIO	7979	6	*****	0 *	****	****	0	****	0	******	******	******	******	0.110	31	*****	0.06	8
SCRAPER	7993	6	*****	0 *	****	****	0	****	0	******	******	******	******	1.000	31	*****	0.60	18
SHORT	8170	6	*****	0 *	****	****	0	****	0	******	******	******	******	2.770	31	*****	1.10	2
STILWELL	8506	6	82.7	31	2.8	102	27	61	14	0	0	548	86	1.560	31	-1.49	0.75	12
WEBBERS FALL	9445	6	87.1	19 *	****	109	27	58	2	0	******	420	******	3.290	20	*****	3.03	2
WETUMKA	9571	6	*****	0 *	****	****	0	****	0	******	******	******	******	0.760	31	-2.16	0.34	7

JULY 1998 SUMMARY FOR SOUTHWEST DIVISION (CD7)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
ALTUS	179	7	89.1	31	4.6	110	11	70	11	0	0	749	144	0.340	31	-1.42	0.34	16
ALTUS DAM	184	7	90.8	31	6.6	110	8	73	18	0	0	799	204	0.350	31	-1.56	0.31	8
ANADARKO	224	7	86.3	30	3.5	104	25	65	17	0	0	640	88	0.120	30	*****	0.12	14
APACHE	260	7	*****	0 *	****	****	0	****	0	******	******	******	******	0.000	31	-2.03	0.00	31
CARNEGIE	1504	7	88.4	31	5	109	7	69	31	0	0	725	155	0.820	31	-1.18	0.80	7
CHATTANOOGA	1706	7	89.1	29 *	****	108	25	72	19	0	******	700	******	0.440	30	*****	0.16	6
DUNCAN 11 W	2668	7	*****	0 *	****	****	0	****	0	******	******	******	******	0.110	31	*****	0.09	5
FREDERICK	3353	7	88.6	30	4.2	106	25	73	31	0	0	708	107	1.270	30	*****	1.04	5
HEADRICK	3998	7	*****	0 *	****	****	0	****	0	******	******	******	******	0.810	31	*****	0.76	6
HOBART	4204	7	88.7	31	5	108	24	68	17	0	0	736	156	0.483	31	-1.60	0.47	8
HOLLIS	4249	7	89.0	31	4.8	110	7	69	3	0	0	745	150	0.320	31	-1.30	0.30	28
LAWTON	5063	7	88.8	28 *	****	106	8	74	16	0	******	668	******	0.130	28	*****	0.13	6
LOOKEBA	5329	7	*****	0 *	****	****	0	****	0	******	******	******	******	0.843	31	-1.05	0.68	8
MANGUM	5509	7	88.3	31	4.1	107	13	69	18	0	0	722	127	0.020	31	-2.01	0.02	8
RANDLETT	7403	7	*****	0 *	****	****	0	****	0	******	******	******	******	1.490	31	*****	1.15	6
ROOSEVELT	7727	7	*****	0 *	****	****	0	****	0	******	******	******	******	0.880	31	-1.18	0.44	8
SEDAN	8016	7	*****	0 *	****	****	0	****	0	******	******	******	******	0.740	31	*****	0.39	6
SNYDER	8299	7	*****	0 *	****	****	0	****	0	******	******	******	******	1.780	31	-0.28	1.25	5
VINSON	9212	7	*****	0 *	****	****	0	****	0	******	******	******	******	0.111	31	-1.52	0.08	16
WALTERS	9278	7	88.7	31	4.6	106	28	72	18	0	0	734	142	0.500	31	-1.86	0.30	14
WICHITA MT	9629	7	87.9	30	5.8	105	25	69	31	0	0	689	156	0.600	31	-1.71	0.35	8
WILLOW	9668	7	*****	0 *	****	****	0	****	0	******	******	******	******	0.130	31	*****	0.08	12

JULY 1998 SUMMARY FOR SOUTH CENTRAL DIVISION (CD8)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
ADA	17	8	89.0	31	6.8	106	24	70	17	0	0	745	212	0.020	31	-2.39	0.02	8
ALLEN	147	8	*****	0 *	****	****	0	****	0	******	******	******	******	0.400	31	*****	0.40	2
ARDMORE	292	8	90.3	31	6.3	106	8	74	3	0	0	784	195	0.000	31	-2.13	0.00	31
ATOKA DAM	394	8	91.2	22 *	****	109	28	72	6	0	******	577	******	0.000	22	*****	0.00	31
BOKCHITO	917	8	*****	0 *	****	****	0	****	0	******	******	******	******	0.000	31	*****	0.00	31
CANEY	1437	8	*****	0 *	****	****	0	****	0	******	******	******	******	1.850	31	*****	1.85	3
CHICKASAW	1745	8	87.7	31	5.6	106	26	69	16	0	0	703	173	0.131	31	-2.54	0.10	8
COLEMAN	2011	8	*****	0 *	****	****	0	****	0	******	******	******	******	0.000	31	*****	0.00	31
COMANCHE	2054	8	*****	0 *	****	****	0	****	0	******	******	******	******	0.000	31	-1.95	0.00	31
DAISY	2354	8	*****	0 *	****	****	0	****	0	******	******	******	******	0.420	31	-3.01	0.42	3
DUNCAN	2660	8	88.0	31	4.9	105	8	73	3	0	0	713	152	0.050	31	-2.20	0.05	5
ELMORE CITY	2872	8	*****	0 *	****	****	0	****	0	******	******	******	******	0.030	31	*****	0.03	4
GRADY	3688	8	*****	0 *	****	****	0	****	0	******	******	******	******	0.000	31	*****	0.00	31
HEALDTON	4001	8	88.5	31	5.6	106	27	71	16	0	0	730	175	0.010	31	-1.96	0.01	5
HENNEPIN	4052	8	*****	0 *	****	****	0	****	0	******	******	******	******	0.050	31	*****	0.03	8
KINGSTON	4865	8	*****	0 *	****	****	0	****	0	******	******	******	******	0.450	31	-1.66	0.45	5
LEHIGH	5108	8	*****	0 *	****	****	0	****	0	******	******	******	******	0.000	31	*****	0.00	31
LINDSAY	5216	8	87.5	30	4.8	106	24	63	15	0	0	676	127	0.000	30	*****	0.00	30
LOCO	5247	8	*****	0 *	****	****	0	****	0	******	******	******	******	0.120	31	*****	0.10	5
MADILL	5468	8	91.2	30	7.9	106	31	73	18	0	0	785	218	0.002	30	*****	0.00	8
MARLOW	5581	8	89.3	31	7	110	26	68	16	0	0	755	219	0.030	31	-2.29	0.03	6
MCGEE CREEK	5713	8	89.6	31 *	****	109	26	70	3	0	******	762	******	0.000	31	*****	0.00	31
PAULS VALLEY	6926	8	88.2	31	4.9	106	28	68	15	0	0	720	153	0.170	31	-2.09	0.17	6
PONTOTOC	7214	8	*****	0 *	****	****	0	****	0	******	******	******	******	0.040	31	-2.50	0.04	4
KETCHUM RAN	4780	8	*****	0 *	****	****	0	****	0	******	******	******	******	0.030	31	*****	0.02	5
TISHOMINGO	8884	8	87.5	31	4.2	107	7	65	31	0	0	696	129	0.130	31	-2.59	0.13	17
TUSSY	9032	8	*****	0 *	****	****	0	****	0	******	******	******	******	0.040	31	*****	0.04	5
WAURIKA	9395	8	90.6	31	6.3	108	7	74	18	0	0	794	196	0.360	31	-1.45	0.36	5

JULY 1998 SUMMARY FOR SOUTHEAST DIVISION (CD9)

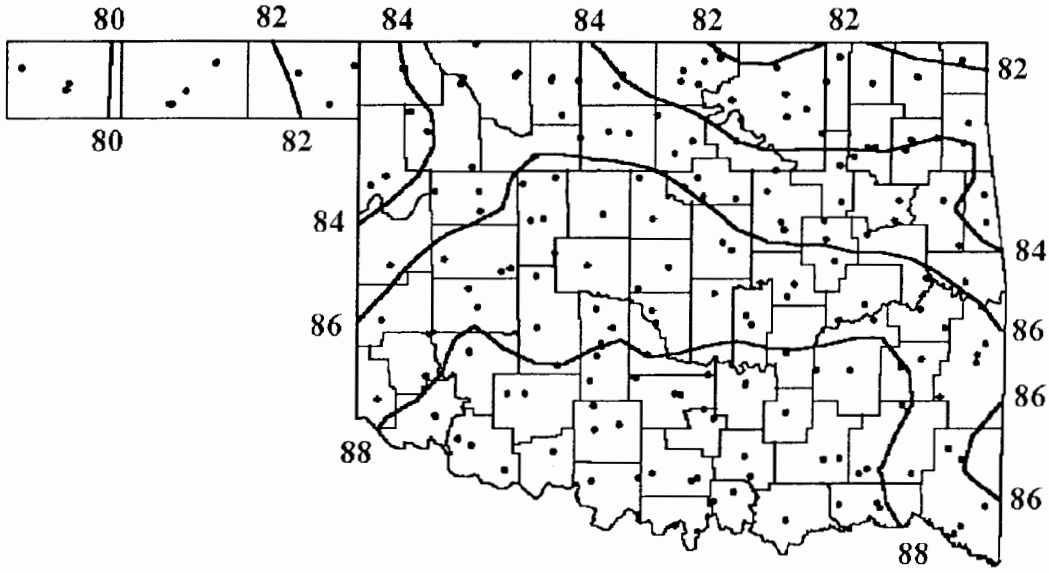
NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
ANTLERS	256	9	88.4	31	7.1	107	25	69	18	0	0	726	221	0.430	31	-2.84	0.43	2
BATTIEST	567	9	85.2	31 *	****	107	28	65	19	0	******	626	******	0.960	31	*****	0.45	2
BENGAL	670	9	*****	0 *	****	****	0	****	0	******	******	******	******	0.510	31	*****	0.42	12
BOSWELL	980	9	87.4	31	5.5	106	30	69	18	0	0	694	170	0.050	31	-2.47	0.05	3
BROKEN BOW	1162	9	*****	0 *	****	****	0	****	0	******	******	******	******	0.330	31	-3.20	0.14	10
CARNASAW	1499	9	*****	0 *	****	****	0	****	0	******	******	******	******	1.950	31	-2.06	0.90	13
CARTER TWR	1544	9	*****	0 *	****	****	0	****	0	******	******	******	******	2.110	31	-1.88	1.12	3
FANSHAWE	3065	9	*****	0 *	****	****	0	****	0	******	******	******	******	1.070	31	-2.54	0.56	12
HEAVENER	4008	9	*****	0 *	****	****	0	****	0	******	******	******	******	1.160	31	-2.28	0.49	12
HUGO	4384	9	89.2	30	6.9	114	31	71	4	0	0	726	190	1.100	31	-1.69	0.70	5
IDABEL	4451	9	86.9	31	6	108	28	66	18	0	0	679	186	1.450	31	-1.89	0.90	3
PAGE	6842	9	85.0	26 *	****	104	28	65	18	0	******	520	******	3.710	26	*****	1.39	9
POTEAU	7254	9	86.6	31 *	****	108	31	67	17	0	******	671	******	2.450	31	*****	1.03	1
SMITHVILLE	8285	9	85.3	21 *	****	107	27	62	18	0	******	426	******	1.205	30	*****	0.50	12
SPIRO	8416	9	*****	0 *	****	****	0	****	0	******	******	******	******	2.021	31	-1.22	1.17	2
TUSKAHOMA	9023	9	89.1	31	7.4	110	31	67	17	0	0	748	230	0.022	31	-3.69	0.02	3
VALLIANT	9118	9	*****	0 *	****	****	0	****	0	******	******	******	******	1.432	31	-2.03	1.18	3
WILBURTON	9634	9	87.1	31	5.9	111	31	66	19	0	0	686	184	0.170	31	-3.59	0.15	1
WISTER	9724	9	86.9	31 *	****	108	27	66	18	0	******	678	******	0.840	31	*****	0.33	13

JULY 1998 CLIMATE DIVISION SUMMARY

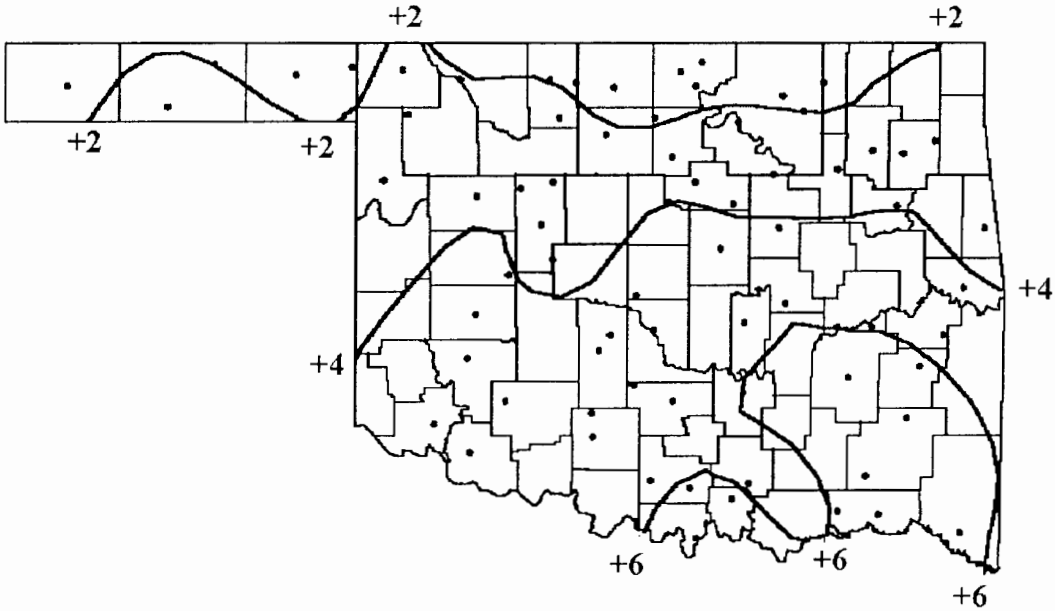
CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
1	82.3	8	2.1	110	22	56	9	0	0	537	66	5.670	13	3.18	3.40	8
2	84.6	14	1.9	110	1	59	18	0	0	602	53	5.550	20	2.73	3.90	8
3	84.6	11	3.1	107	26	65	19	0	0	608	95	5.020	23	2.08	3.68	1
4	86.3	10	4	108	8	60	3	0	0	658	120	1.630	16	-0.38	2.85	1
5	87.5	13	5.2	110	27	61	19	0	0	693	155	0.800	30	-1.73	2.50	1
6	87.1	6	5.4	109	27	58	2	0	0	682	163	1.580	21	-1.34	3.03	2
7	88.6	10	4.8	110	7	65	17	0	0	724	144	0.570	18	-1.42	1.25	5
8	88.9	12	6	110	26	63	15	0	0	738	181	0.170	25	-2.16	1.85	3
9	87.4	9	6.2	114	31	62	18	0	0	692	190	1.060	17	-2.44	1.39	9

MESONET MONTHLY SUMMARY FOR JULY 1998

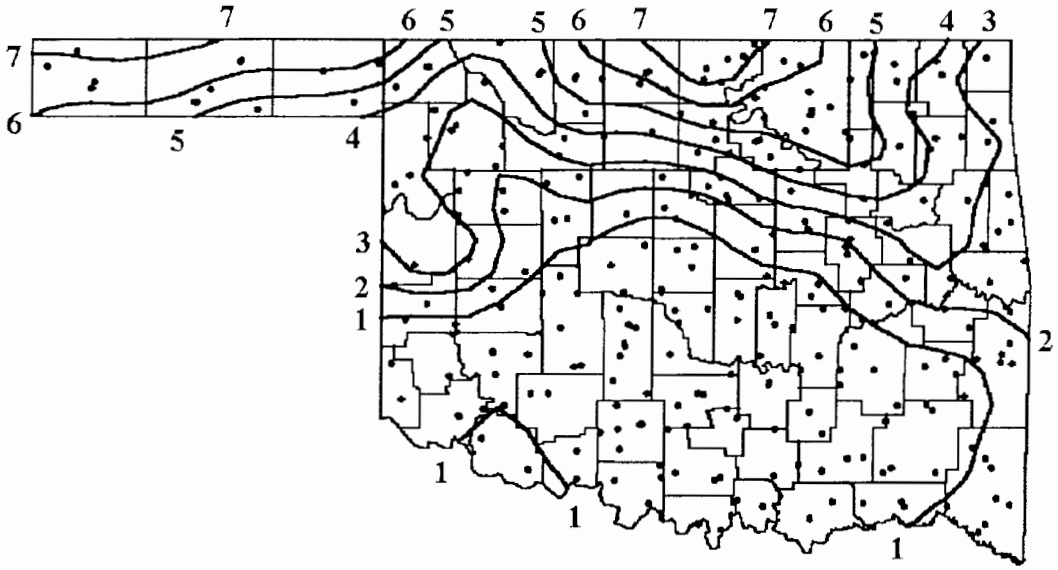
NAME	MEAN TEMP	MAX TEMP	MAX DAY	MIN TEMP	MIN DAY	HDD	CDD	TOT PPT	MAX 24-HR	MAX DAY	NAME	MEAN TEMP	MAX TEMP	MAX DAY	MIN TEMP	MIN DAY	HDD	CDD	TOT PPT	MAX 24-HR	MAX DAY
PANHANDLE																					
Arnett	83.4	102	19	65	16	0	571	2.61	.68	6	Goodwell	80.6	104	6	61	16	0	483	4.11	1.71	31
Beaver	81.7	103	20	63	18	0	518	6.23	1.57	31	Hooker	81.0	107	6	61	15	0	496	6.38	1.51	8
Boise City	78.3	101	6	61	4	0	412	5.40	1.80	26	Kenton	78.0	103	6	59	2	0	402	7.17	1.90	7
Buffalo	84.4	106	6	63	17	0	600	4.46	1.54	31	Slapout	81.9	102	6	63	13	0	524	3.61	1.57	26
NORTH CENTRAL																					
Alva	84.6	105	6	68	18	0	607	4.32	1.11	15	May Ranch	83.1	103	6	67	27	0	560	4.00	1.07	28
Blackwell	83.4	102	19	67	1	0	570	8.69	3.13	8	Medford	83.6	103	19	66	17	0	577	4.78	1.89	8
Breckenridge	85.1	106	26	65	17	0	623	3.54	1.37	1	Newkirk	81.8	98	26	65	1	0	520	7.33	2.13	8
Cherokee	84.8	106	19	67	17	0	613	6.19	1.86	1	Red Rock	84.4	107	26	67	1	0	601	3.58	1.42	8
Fairview	87.0	106	6	66	17	0	683	2.93	2.63	8	Seiling	84.9	105	6	63	17	0	617	.95	.33	27
Freedom	84.5	106	6	65	17	0	605	3.79	1.07	8	Woodward	83.6	104	6	66	17	0	578	1.24	.64	7
Lahoma	85.0	104	6	67	18	0	618	3.51	1.44	8											
NORTHEAST																					
Bixby	84.5	104	26	67	17	0	606	3.33	1.69	2	Nowata	82.8	103	26	65	17	0	552	4.14	1.73	8
Burbank	82.3	101	26	65	18	0	537	5.49	1.60	1	Pawnee	83.4	104	26	67	1	0	569	5.88	3.43	8
Catoosa	84.5	105	26	67	17	0	606	*****	*****	**	Pryor	83.5	105	30	65	17	0	574	2.90	1.11	8
Claremore	83.4	104	26	66	17	0	569	*****	*****	**	Skiatook	82.6	100	26	67	1	0	545	4.40	1.95	1
Copan	82.5	102	26	67	2	0	543	5.07	2.16	11	Tullahassee	86.0	107	26	65	17	0	651	*****	*****	**
Foraker	81.1	98	22	66	1	0	500	7.14	2.33	8	Vinita	82.0	101	26	65	17	0	526	2.51	1.14	11
Jay	82.7	102	26	64	17	0	549	2.67	1.00	11	Wynona	82.9	103	26	67	1	0	554	5.90	2.28	8
Miami	81.9	97	20	66	17	0	525	1.38	.94	11											
WEST CENTRAL																					
Bessie	88.4	108	7	68	17	0	726	.98	.29	27	Putnam	85.3	105	25	65	17	0	630	.59	.48	8
Butler	87.2	108	7	67	17	0	687	5.58	4.07	7	Retrop	88.2	107	7	69	17	0	718	.04	.04	7
Camargo	84.9	105	25	64	17	0	616	.21	.07	27	Watonga	86.5	106	26	67	17	0	668	.65	.27	23
Cheyenne	85.2	103	7	68	1	0	625	4.90	3.04	7	Weatherford	87.0	106	7	68	17	0	683	1.09	.92	7
Erick	86.4	106	7	65	18	0	662	.24	.10	15											
CENTRAL																					
Acme	88.2	106	7	66	16	0	718	.01	.01	13	Minco	87.0	106	7	67	17	0	683	.82	.80	7
Bowlegs	87.1	106	24	66	17	0	685	.35	.16	8	Ninnekah	88.5	107	7	68	16	0	729	.01	.01	5
Bristow	84.8	106	26	64	17	0	615	1.19	.70	1	Norman	87.4	105	24	69	15	0	693	.32	.32	8
Chandler	85.7	105	26	68	1	0	642	.38	.18	1	Oilton	83.7	104	26	64	18	0	580	4.01	2.28	1
Chickasha	88.0	107	7	67	16	0	712	.00	.00	1	Okemah	87.2	107	26	68	1	0	689	.46	.29	1
El Reno	85.4	105	26	63	17	0	631	.01	.01	8	Perkins	86.2	109	26	67	18	0	656	2.19	1.04	1
Guthrie	87.4	108	26	69	17	0	695	.37	.31	8	Shawnee	87.6	106	26	67	17	0	699	.28	.16	1
Kingfisher	87.6	108	25	64	17	0	701	.27	.11	11	Spencer	87.3	107	26	66	17	0	648	.81	.81	8
Marena	85.2	107	26	68	1	0	627	1.52	.51	8	Stillwater	85.7	106	26	65	18	0	641	1.74	.81	8
Marshall	86.4	108	25	65	17	0	663	3.01	1.14	2	Washington	88.0	107	7	69	18	0	713	.07	.07	11
EAST CENTRAL																					
Calvin	87.7	107	24	68	17	0	702	*****	*****	**	Preston	86.3	107	26	68	1	0	661	.82	.40	1
Cookson	84.2	104	26	62	17	0	596	1.89	.94	1	Sallisaw	85.7	106	26	66	17	0	640	2.13	1.77	1
Eufaula	86.8	106	25	68	1	0	676	1.28	1.04	1	Stigler	86.0	106	25	65	17	0	650	1.95	1.45	1
Haskell	85.0	106	26	68	1	0	621	*****	*****	**	Stuart	88.4	107	27	69	16	0	726	.02	.02	8
Hectorville	86.3	107	26	68	1	0	661	1.95	1.53	1	Tahlequah	83.0	102	30	65	17	0	559	4.79	1.84	8
McAlester	88.4	106	24	69	16	0	725	.27	.18	1	Webbers Falls	87.3	109	25	67	17	0	691	3.70	2.86	1
Okmulgee	86.1	106	25	64	17	0	654	*****	*****	**	Westville	83.6	104	30	64	17	0	576	2.24	.93	12
SOUTHWEST																					
Altus	88.0	107	7	70	16	0	712	.28	.26	15	Hollis	88.2	109	7	69	17	0	720	.00	.00	1
Apache	87.2	105	7	68	16	0	687	.01	.01	11	Mangum	87.4	108	7	69	13	0	695	.07	.07	8
Fort Cobb	87.5	106	7	69	16	0	697	.15	.15	8	Medicine Park	88.9	106	7	72	5	0	740	.25	.22	5
Grandfield	88.9	107	23	70	15	0	741	1.16	1.13	5	Tipton	88.4	105	23	67	16	0	724	1.95	1.46	5
Hinton	87.0	106	7	66	17	0	683	.22	.10	7	Walters	90.1	109	7	72	15	0	777	.15	.08	5
Hobart	88.6	107	7	69	17	0	731	.53	.51	8											
SOUTH CENTRAL																					
Ada	89.2	106	24	69	16	0	749	.07	.07	8	Lane	88.1	104	12	70	18	0	717	.08	.08	2
Ardmore	89.6	105	7	72	15	0	761	.01	.01	5	Madill	89.5	105	28	73	18	0	758	.09	.09	4
Burneyville	89.5	107	7	70	15	0	759	.00	.00	1	Pauls Valley	89.3	107	24	72	15	0	753	.01	.01	8
Byars	88.4	104	7	70	16	0	725	.05	.03	5	Ringling	88.9	105	7	73	3	0	740	.05	.05	4
Centrahoma	88.0	105	24	68	16	0	714	.01	.01	8	Sulphur	88.1	105	24	70	18	0	715	.24	.22	5
Durant	89.1	105	30	73	3	0	748	.00	.00	1	Tishomingo	87.2	105	7	68	3	0	687	*****	*****	**
Ketchum Ranch	88.5	106	7	71	15	0	730	.01	.01	5	Waurika	90.1	108	7	72	5	0	778	.21	.21	5
SOUTHEAST																					
Antlers	87.3	106	25	65	18	0	691	.53	.52	2	Idabel	87.0	105	27	68	18	0	683	1.86	1.62	2
Broken Bow	86.1	107	31	66	18	0	654	.80	.40	4	Mt Herman	85.3	104	27	67	18	0	628	1.83	1.50	2
Clayton	88.6	107	24	68	17	0	731	.03	.03	2	Talihina	87.6	108	31	66	17	0	700	.37	.31	2
Cloudy	86.8	104	19	67	18	0	676	.02	.02	2	Wilburton	88.0	107	24	67	17	0	712	1.04	1.04	2
Hugo	88.7	105	25	71	3	0	736	.50	.47	2	Wister	86.7	108	25	65	17	0	671	.59	.27	1



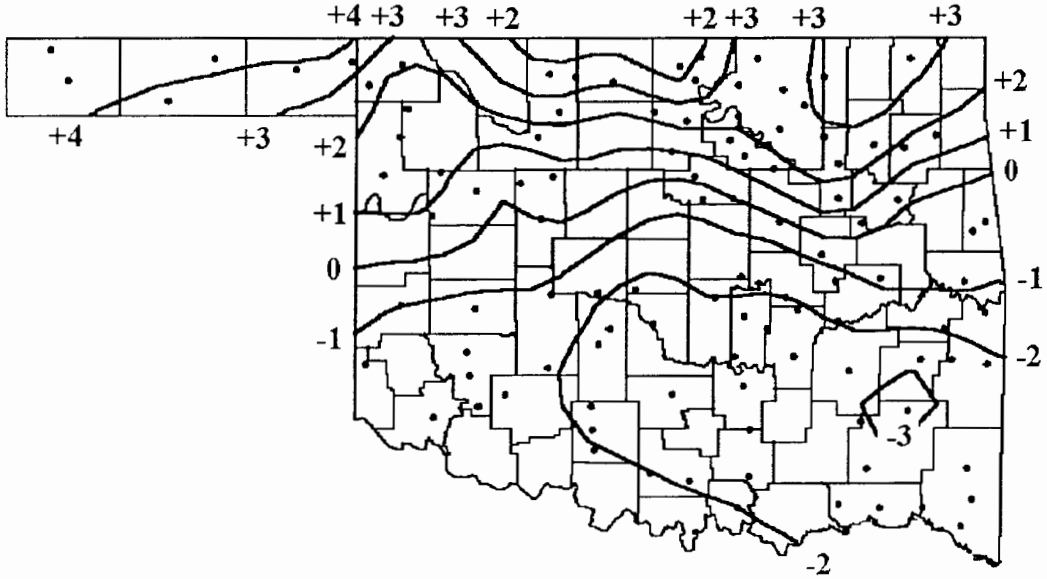
JULY 1998 AVERAGE MONTHLY TEMPERATURE (°F)



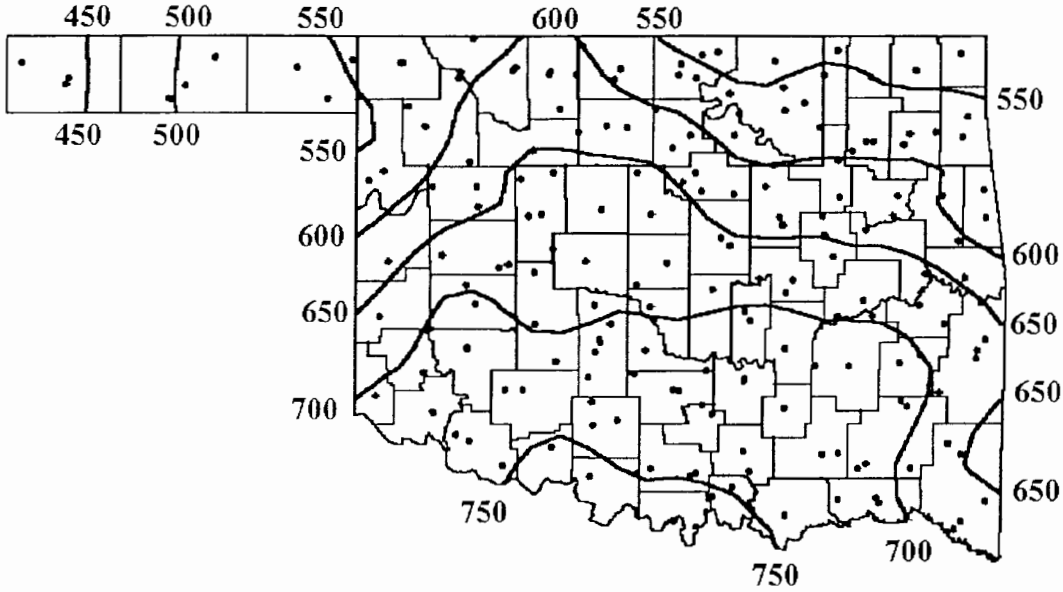
JULY 1998 DEPARTURE FROM NORMAL TEMPERATURE (°F)



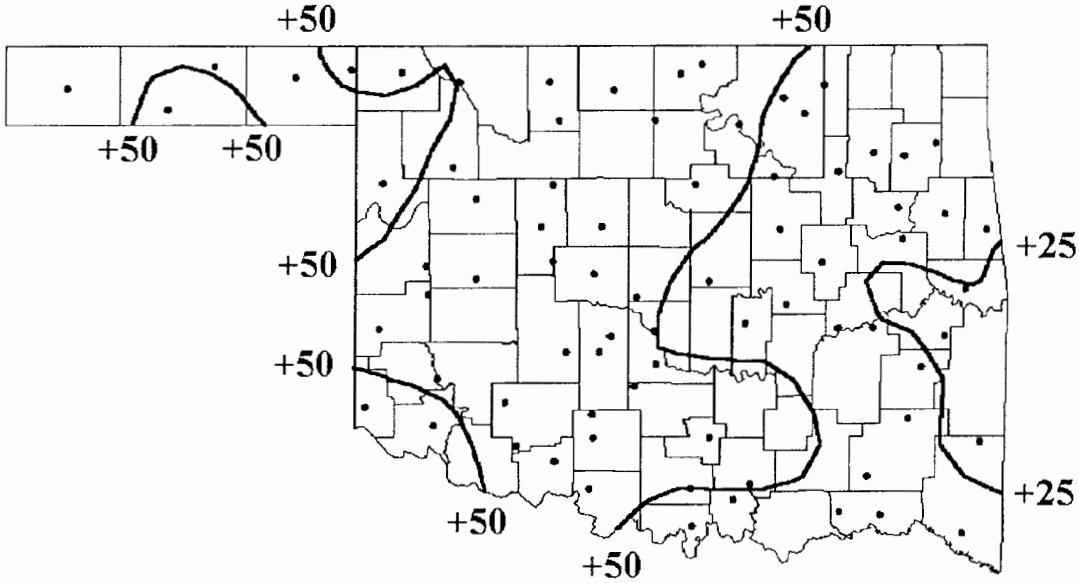
JULY 1998 TOTAL PRECIPITATION
(INCHES)



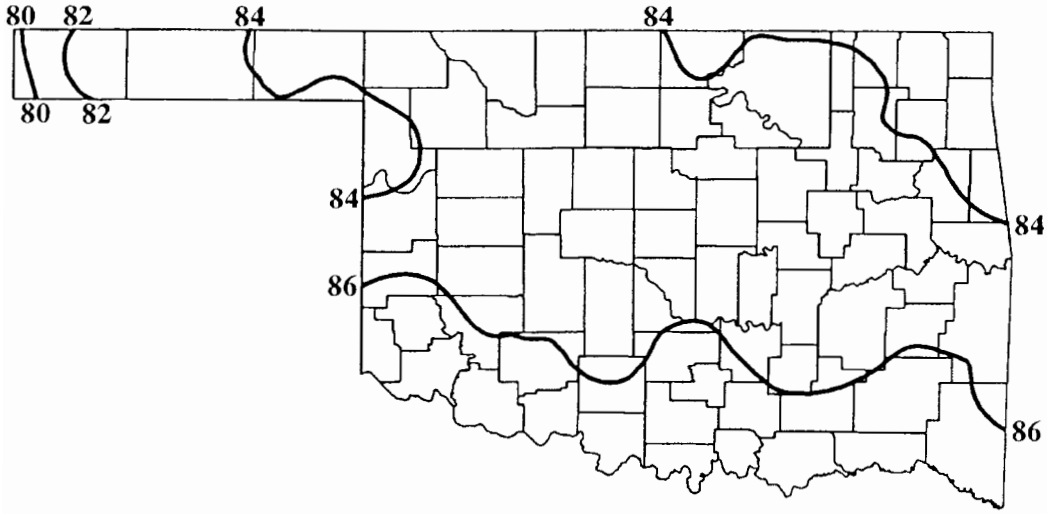
JULY 1998 DEPARTURE FROM NORMAL PRECIPITATION
(INCHES)



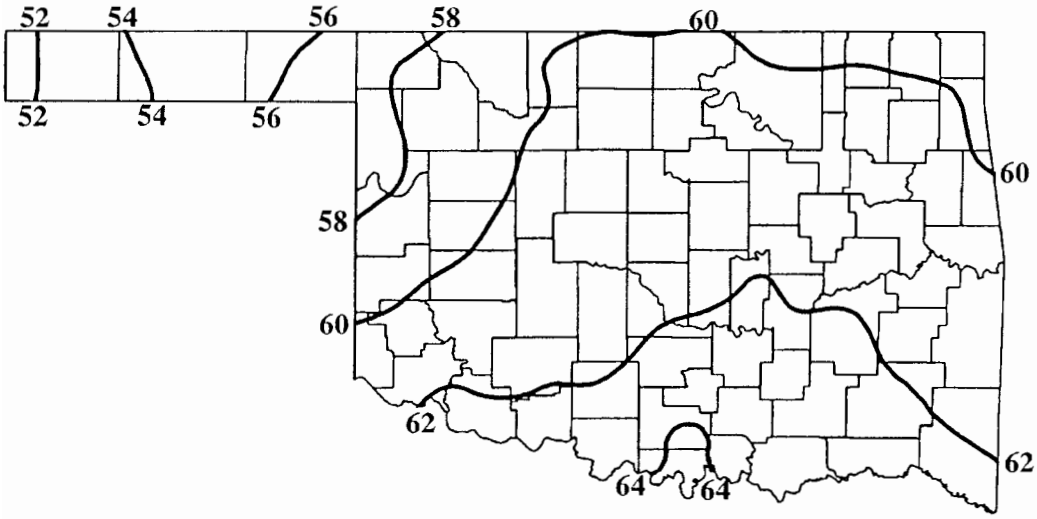
JULY 1998 ACCUMULATED COOLING DEGREE DAYS (°F)



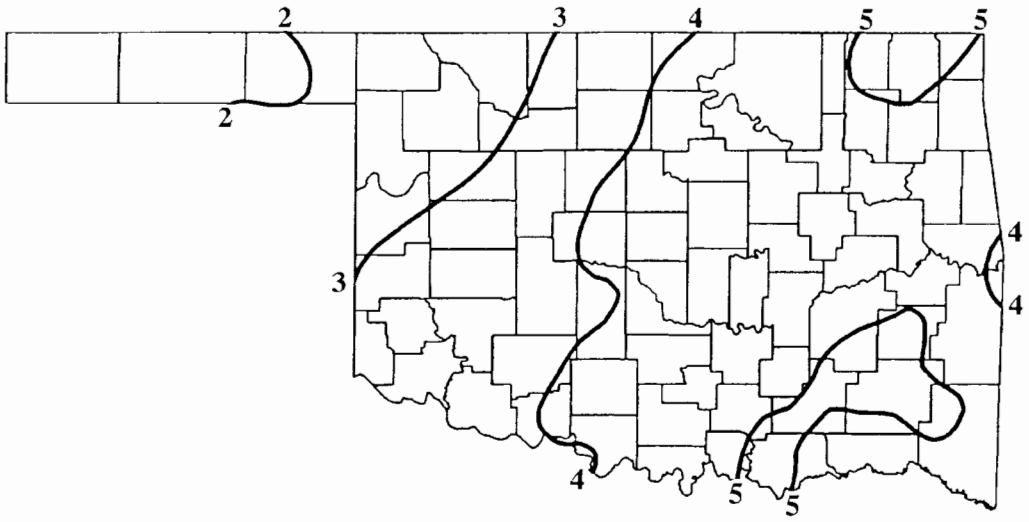
JULY 1998 DEPARTURE FROM NORMAL COOLING DEGREE DAYS (°F)



SEPTEMBER NORMAL DAILY MAXIMUM TEMPERATURE (°F)



SEPTEMBER NORMAL DAILY MINIMUM TEMPERATURE (°F)



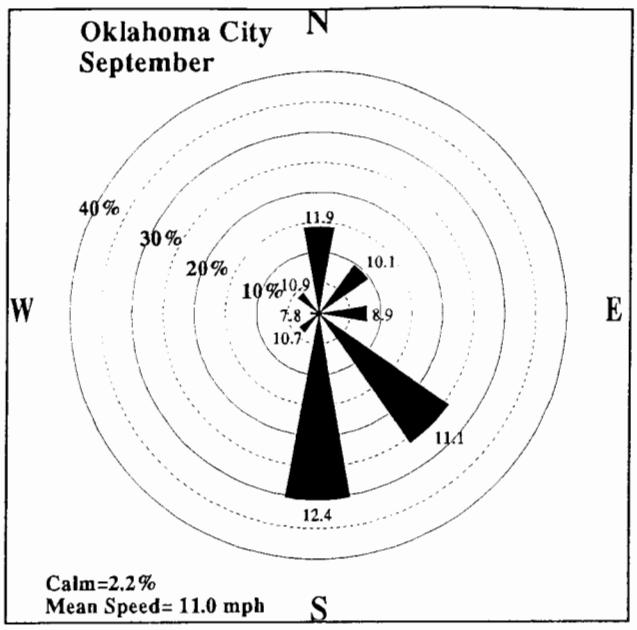
SEPTEMBER NORMAL MONTHLY PRECIPITATION (inches)

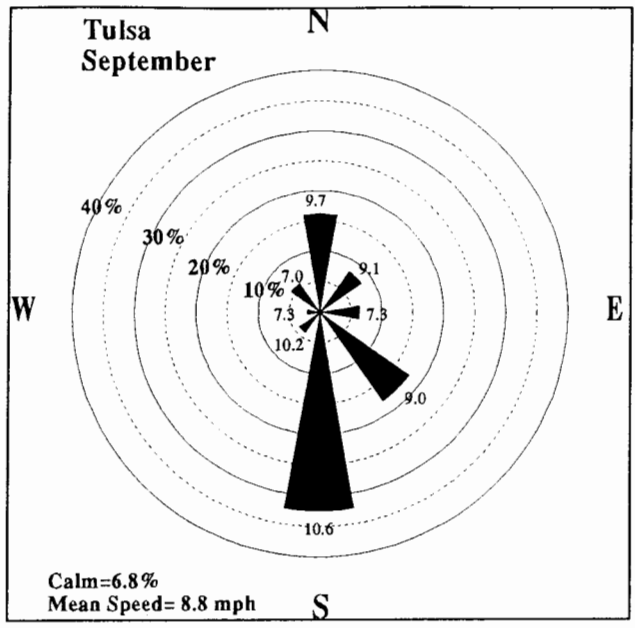
OUTLOOK FOR SEPTEMBER THROUGH NOVEMBER 1998

BASED ON SEASONAL OUTLOOKS PROVIDED BY THE CLIMATE PREDICTION CENTER

TEMPERATURE: **Near Normal Statewide**

PRECIPITATION: **Near Normal Panhandle**
Less Than Normal Elsewhere





September 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.

SUNRISE/SUNSET TIMES FOR SEPTEMBER 1998

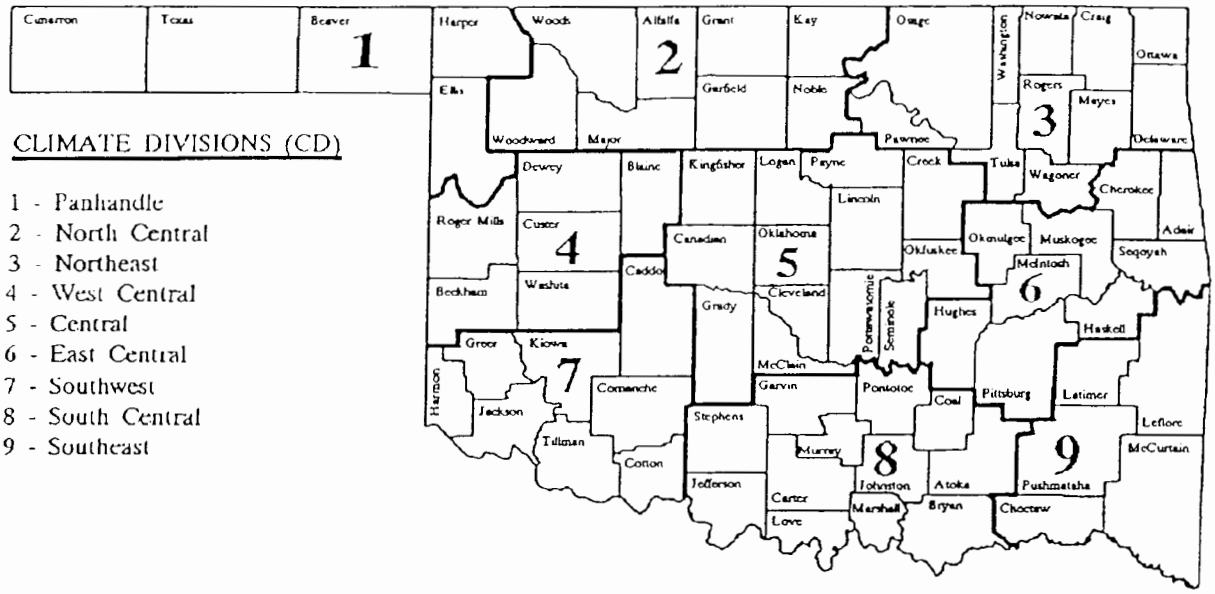
OKLAHOMA CITY

DATE	SUNRISE	SUNSET	DAYLIGHT
98 9 1	6: 2AM	6:59PM CST	12 hrs 58 mins
98 9 2	6: 2AM	6:58PM CST	12 hrs 56 mins
98 9 3	6: 3AM	6:56PM CST	12 hrs 53 mins
98 9 4	6: 4AM	6:55PM CST	12 hrs 51 mins
98 9 5	6: 4AM	6:54PM CST	12 hrs 49 mins
98 9 6	6: 5AM	6:52PM CST	12 hrs 47 mins
98 9 7	6: 6AM	6:51PM CST	12 hrs 45 mins
98 9 8	6: 7AM	6:49PM CST	12 hrs 43 mins
98 9 9	6: 7AM	6:48PM CST	12 hrs 41 mins
98 910	6: 8AM	6:46PM CST	12 hrs 38 mins
98 911	6: 9AM	6:45PM CST	12 hrs 36 mins
98 912	6: 9AM	6:44PM CST	12 hrs 34 mins
98 913	6:10AM	6:42PM CST	12 hrs 32 mins
98 914	6:11AM	6:41PM CST	12 hrs 30 mins
98 915	6:12AM	6:39PM CST	12 hrs 28 mins
98 916	6:12AM	6:38PM CST	12 hrs 25 mins
98 917	6:13AM	6:36PM CST	12 hrs 23 mins
98 918	6:14AM	6:35PM CST	12 hrs 21 mins
98 919	6:15AM	6:33PM CST	12 hrs 19 mins
98 920	6:15AM	6:32PM CST	12 hrs 16 mins
98 921	6:16AM	6:30PM CST	12 hrs 14 mins
98 922	6:17AM	6:29PM CST	12 hrs 12 mins
98 923	6:18AM	6:27PM CST	12 hrs 10 mins
98 924	6:18AM	6:26PM CST	12 hrs 8 mins
98 925	6:19AM	6:24PM CST	12 hrs 5 mins
98 926	6:20AM	6:23PM CST	12 hrs 3 mins
98 927	6:21AM	6:21PM CST	12 hrs 1 mins
98 928	6:21AM	6:20PM CST	11 hrs 59 mins
98 929	6:22AM	6:19PM CST	11 hrs 57 mins
98 930	6:23AM	6:17PM CST	11 hrs 54 mins

TULSA

DATE	SUNRISE	SUNSET	DAYLIGHT
98 9 1	5:54AM	6:53PM CST	12 hrs 59 mins
98 9 2	5:55AM	6:52PM CST	12 hrs 57 mins
98 9 3	5:56AM	6:50PM CST	12 hrs 55 mins
98 9 4	5:56AM	6:49PM CST	12 hrs 53 mins
98 9 5	5:57AM	6:48PM CST	12 hrs 50 mins
98 9 6	5:58AM	6:46PM CST	12 hrs 48 mins
98 9 7	5:59AM	6:45PM CST	12 hrs 46 mins
98 9 8	5:59AM	6:43PM CST	12 hrs 44 mins
98 9 9	6: 0AM	6:42PM CST	12 hrs 42 mins
98 910	6: 1AM	6:40PM CST	12 hrs 39 mins
98 911	6: 2AM	6:39PM CST	12 hrs 37 mins
98 912	6: 2AM	6:37PM CST	12 hrs 35 mins
98 913	6: 3AM	6:36PM CST	12 hrs 33 mins
98 914	6: 4AM	6:34PM CST	12 hrs 30 mins
98 915	6: 5AM	6:33PM CST	12 hrs 28 mins
98 916	6: 5AM	6:31PM CST	12 hrs 26 mins
98 917	6: 6AM	6:30PM CST	12 hrs 24 mins
98 918	6: 7AM	6:28PM CST	12 hrs 21 mins
98 919	6: 8AM	6:27PM CST	12 hrs 19 mins
98 920	6: 8AM	6:25PM CST	12 hrs 17 mins
98 921	6: 9AM	6:24PM CST	12 hrs 15 mins
98 922	6:10AM	6:22PM CST	12 hrs 12 mins
98 923	6:11AM	6:21PM CST	12 hrs 10 mins
98 924	6:11AM	6:19PM CST	12 hrs 8 mins
98 925	6:12AM	6:18PM CST	12 hrs 5 mins
98 926	6:13AM	6:16PM CST	12 hrs 3 mins
98 927	6:14AM	6:15PM CST	12 hrs 1 mins
98 928	6:15AM	6:13PM CST	11 hrs 59 mins
98 929	6:15AM	6:12PM CST	11 hrs 56 mins
98 930	6:16AM	6:10PM CST	11 hrs 54 mins

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 that 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

SEPTEMBER

Day	Avg. Temp	Avg. High	Record High	Year	Lowest Max	Year	1998	Avg. Low	Highest Min	Year	Record Low	Year	1998	Avg. Ppt.	Greatest ppt.	Year	1998
1	78.1	89.8	105	1951	69	1994		66.4	80	1951	53	1956		0.15	2.53	1974	
2	77.4	88.5	105	1951	68	1967		66.4	78	1961	52	1974		0.12	4.08	1991	
3	77.8	89.8	105	1947	71	1974		65.8	80	1939	47	1974		0.25	3.16	1926	
4	77.5	88.7	106	1947	66	1961		66.4	79	1970	46	1974		0.07	1.74	1940	
5	77.3	88.5	103	1931	64	1962		66.1	77	1939	47	1974		0.05	1.65	1992	
6	77.6	89.2	106	1947	71	1918		66.0	76	1970	51	1974		0.03	2.20	1895	
7	77.1	88.2	102	1936	66	1962		66.0	77	1936	49	1898		0.07	1.37	1905	
8	76.5	88.1	101	1922	73	1995		65.0	80	1896	48	1957		0.03	3.16	1993	
9	76.0	87.5	99	1970	67	1929		64.6	77	1896	51	1962		0.06	1.88	1891	
10	74.9	86.3	101	1936	64	1929		63.6	77	1938	47	1962		0.09	2.40	1925	
11	75.2	87.0	100	1909	60	1898		63.4	77	1936	48	1940		0.04	2.36	1906	
12	74.3	85.2	102	1930	64	1989		63.3	78	1930	45	1898		0.22	3.03	1961	
13	72.8	83.9	102	1965	53	1989		61.8	78	1978	45	1902		0.18	1.88	1985	
14	72.7	83.3	102	1965	58	1975		62.1	77	1965	47	1993		0.20	3.61	1957	
15	72.8	83.2	100	1965	57	1903		62.5	76	1956	44	1993		0.12	2.35	1925	
16	72.9	83.6	101	1978	59	1903		62.2	76	1965	44	1993		0.12	1.97	1991	
17	72.2	82.3	99	1972	58	1973		62.2	78	1978	44	1903		0.14	1.42	1936	
18	73.2	84.5	99	1952	53	1971		62.0	78	1978	42	1981		0.09	3.10	1923	
19	73.2	83.9	98	1954	56	1971		62.5	76	1978	44	1971		0.07	1.81	1942	
20	72.5	83.8	100	1954	52	1896		61.1	76	1954	41	1971		0.17	3.82	1990	
21	71.1	81.6	97	1980	59	1995		60.7	76	1931	39	1983		0.14	2.04	1990	
22	71.0	82.3	96	1956	58	1995		59.8	76	1931	41	1995		0.27	7.53	1970	
23	70.0	81.1	97	1931	58	1925		59.0	75	1931	38	1995		0.06	1.47	1988	
24	69.4	80.4	98	1939	56	1974		58.3	74	1958	36	1989		0.17	3.87	1959	
25	69.8	80.9	97	1939	53	1926		58.7	74	1933	41	1989		0.06	1.41	1893	
26	69.3	80.3	98	1977	46	1926		58.2	72	1923	35	1912		0.15	1.74	1973	
27	69.5	80.5	96	1953	47	1927		58.5	72	1923	38	1942		0.11	1.75	1936	
28	69.0	80.0	104	1953	53	1984		58.0	73	1977	37	1896		0.05	2.88	1945	
29	68.3	79.8	98	1953	47	1945		56.9	71	1933	39	1916		0.10	2.90	1986	
30	67.2	79.2	100	1977	54	1985		55.1	72	1977	36	1895		0.09	1.79	1986	
MONTH	73.2	84.4	106	1947	46	1926		62.1	80	1951	35	1912		0.12	7.53	1970	

* The most tornadoes reported in September for Oklahoma was 16 in 1992.

TULSA CLIMATE CALENDAR
DATA COURTESY OF NATIONAL WEATHER SERVICE TULSA.

SEPTEMBER

The data on this calendar is for Tulsa.
Normal values are calculated for the period of 1961-1990.
Temperature extremes are for the period 1905-1997.
Precipitation extremes are for the period 1888-1997.

Day	Avg. Temp	Avg. High	Record High	Year	Lowest Max	Year	1998	Avg. Low	Highest Min	Year	Record Low	Year	1998	Avg. Ppt.	Greatest Ppt.	Year	1998
1	78	88	105	1985	69	1994		68	79	1936	48	1967		0.14	2.24	1974	
2	78	88	109	1939	68	1974		67	82	1936	51	1974		0.14	2.38	1934	
3	77	88	109	1939	70	1974		67	82	1995	47	1974		0.14	3.27	1962	
4	77	87	107	1947	66	1967		67	79	1947	46	1974		0.15	6.39	1940	
5	77	87	107	1913	70	1962		67	79	1985	49	1974		0.15	1.62	1926	
6	76	87	107	1907	69	1962		66	78	1985	52	1974		0.15	4.05	1971	
7	76	86	106	1936	65	1986		66	79	1985	50	1918		0.16	1.90	1905	
8	76	86	103	1925	66	1995		66	78	1983	50	1956		0.16	2.26	1941	
9	75	86	102	1909	70	1941		65	76	1991	51	1943		0.16	2.67	1951	
10	75	85	105	1936	72	1940		65	75	1991	48	1968		0.16	1.40	1905	
11	75	85	103	1909	72	1940		65	79	1936	45	1940		0.16	2.18	1925	
12	75	85	102	1930	68	1989		65	78	1936	48	1959		0.16	1.75	1989	
13	74	84	103	1965	55	1989		64	78	1936	49	1960		0.16	2.45	1993	
14	74	84	103	1965	57	1989		64	78	1931	46	1961		0.16	2.15	1957	
15	74	84	103	1956	60	1949		63	79	1956	42	1993		0.16	2.87	1962	
16	73	83	103	1956	66	1996		63	77	1956	44	1993		0.17	5.78	1971	
17	73	83	104	1931	61	1971		63	79	1978	44	1981		0.17	1.76	1923	
18	73	83	100	1952	56	1971		62	80	1978	42	1981		0.17	2.39	1971	
19	72	83	100	1954	58	1971		62	79	1954	45	1991		0.17	4.30	1974	
20	72	82	102	1954	64	1995		62	81	1910	39	1938		0.16	1.98	1915	
21	72	82	98	1980	57	1995		61	78	1980	38	1918		0.16	3.50	1902	
22	71	81	99	1921	58	1995		61	75	1931	37	1995		0.16	3.78	1970	
23	71	81	101	1931	60	1994		60	74	1931	37	1995		0.16	2.25	1997	
24	70	81	99	1931	58	1974		60	76	1958	37	1989		0.16	2.33	1945	
25	70	81	99	1939	58	1913		60	75	1986	43	1926		0.16	2.07	1959	
26	70	80	96	1938	48	1926		59	73	1981	37	1912		0.16	2.37	1996	
27	70	80	96	1954	51	1926		59	73	1977	35	1942		0.15	2.94	1920	
28	69	80	102	1953	55	1984		58	73	1986	38	1908		0.15	1.93	1945	
29	68	79	98	1953	55	1945		58	73	1955	37	1916		0.15	4.45	1986	
30	68	79	99	1979	59	1959		57	72	1977	35	1984		0.15	1.85	1959	
MONTH	73.3	83.6	109	1939	48	1926		63	82	1995	35	1984		0.16	6.39	1940	

* The average number of Tornadoes in September for Oklahoma is 2.1.