

# REVISED OKLAHOMA MONTHLY SUMMARY SEPTEMBER 1998

## TABLE OF CONTENTS

September 1998 Oklahoma Summary.....	2
Table of September 1997/1998 Comparisons.....	5
September 1998 Data Summary Tables.....	6
September 1998 Mesonet Summary.....	11
September 1998 State Map Summary.....	12
September Climatological Normals.....	15
90 - Day National Weather Service Outlook.....	16
November Wind Roses - November 1998 Sunrise/Sunset Tables.....	17
Explanation of Tables.....	18
November Oklahoma City Climate Calendar.....	20
November Tulsa Climate Calendar.....	21

## MONTHLY SUMMARY FOR SEPTEMBER 1998

Tropical Storm Frances brought drought-relieving rain to eastern Oklahoma during September, but the west continued to suffer hot, dry weather. According to preliminary National weather Service data, this month tied with 1939 for the state's second warmest September since 1892, trailing only 1931's blistering 80.6 degree average temperature. This year's statewide-averaged temperature during September of 79.9 degrees, was 6.9 degrees greater than normal. While the eastern third of the state was receiving greater than normal precipitation, primarily thanks to Frances, many areas of the west were still reporting little or no precipitation. The statewide-averaged precipitation for the month was 3.16 inches, 0.71 inch less than normal, ranking 57<sup>th</sup> driest over the 107-year period of record. Year-to-date statistics for the state show that 1998, thus far, is the 13<sup>th</sup> warmest (65.7 degrees, 2.1 degrees above normal) and 40<sup>th</sup> driest year on record (24.65 inches of precipitation, 2.44 inches less than normal). Total precipitation since the beginning of April (the approximate date-of-onset of the current drought) is only 11.01 inches, averaged statewide, a deficit from normal of 6.33 inches. This ranks the six month period as the 4<sup>th</sup> driest April-to-September period on record for Oklahoma.

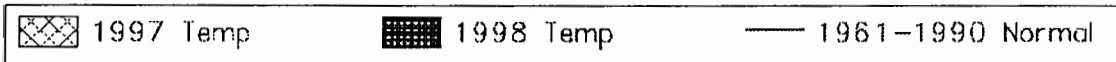
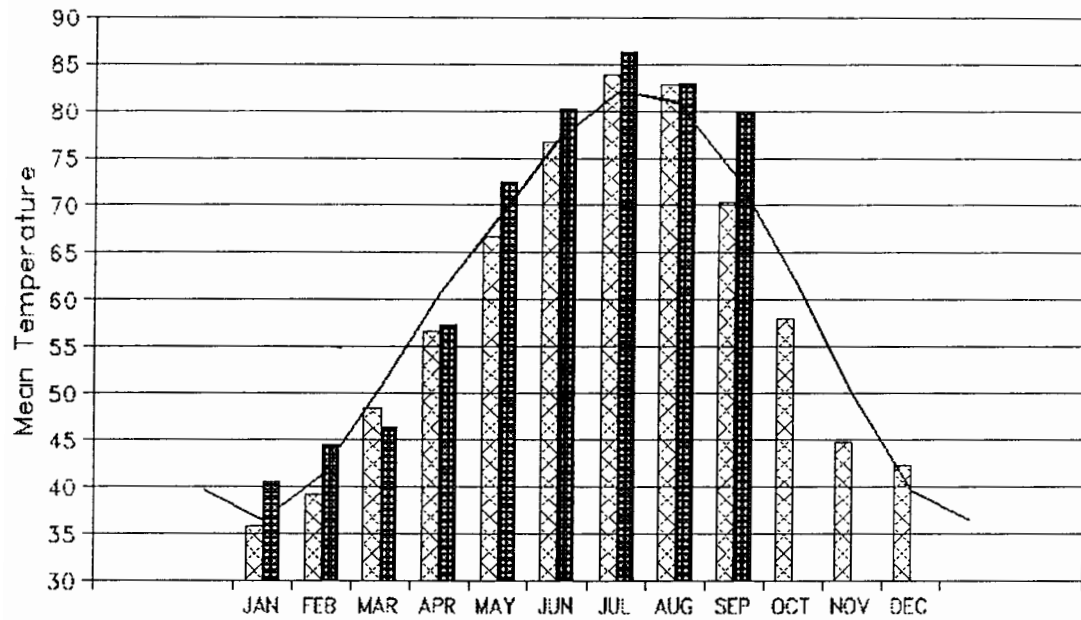
The month started hot and cooler weather appeared only during the relatively few precipitation episodes. A number of stations reported record-high temperatures for the month of September during the first week of the month, including reports of 114 degrees at Centrahoma (Coal County) on the 5<sup>th</sup> and 113 degrees at Wilburton (Latimer) and Marlow (Stephens) on the 4<sup>th</sup>. The lowest daily maximum temperature reported in the state on the 4<sup>th</sup> was 95 degrees at the Kenton Mesonet site (Cimarron). After a mid-month respite (90s in the west, rain-induced 70s in the east), 100 degree plus thermometer readings returned, mainly in the parched west during the last third of the month.

The remnants of Frances provided copious amounts of precipitation in southeastern Oklahoma, along with lesser, but just as welcome amounts into central and northeastern portions of the state. On the 14<sup>th</sup> Spavinaw (Mayes) reported 7.43 inches of rain and Eufaula (McIntosh) received 7.15 inches. Lake Eufaula (McIntosh) and Muskogee's ASOS station (Muskogee) each also recorded daily totals in excess of 6 inches. Valliant (McCurtain) reported a total precipitation of 11.02 inches from the 12<sup>th</sup> through the 17<sup>th</sup> and Carnasaw Tower (McCurtain) recorded 10.36 inches over the same period.

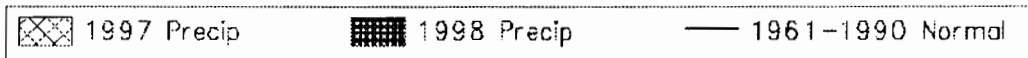
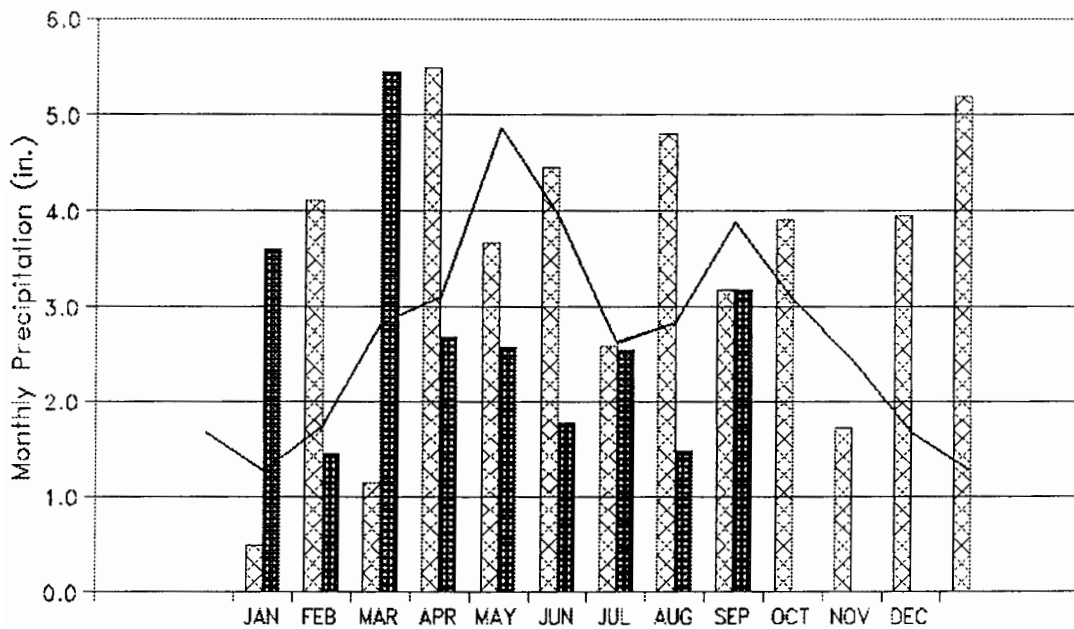
Severe thunderstorms on the 21<sup>st</sup> produced locally heavy rain, extensive wind damage, large hail, and a few weak tornadoes on the 21<sup>st</sup> and 22<sup>nd</sup> in northern and central Oklahoma. The Newkirk Mesonet site (Kay) reported 3.62 inches of rain on the 21<sup>st</sup> and Arcadia (Oklahoma) record 3.22 inches on the 22<sup>nd</sup>. Downburst winds associated with the thunderstorms destroyed 6 structures and damaged several others in the vicinity of Harrah, leaving one dead (a 2-year-old boy) and 8 injured in its wake. Tornadoes were reported near Crescent (Logan), near the Dewey/Blaine county line east of Hucmac, near Bison in Garfield County and south of Burbank (Osage). Reports to the National Weather Service indicated wind gusts as great as 100 miles per hour near Bison and a 2 ¾ diameter hail at Mulhall (Logan).

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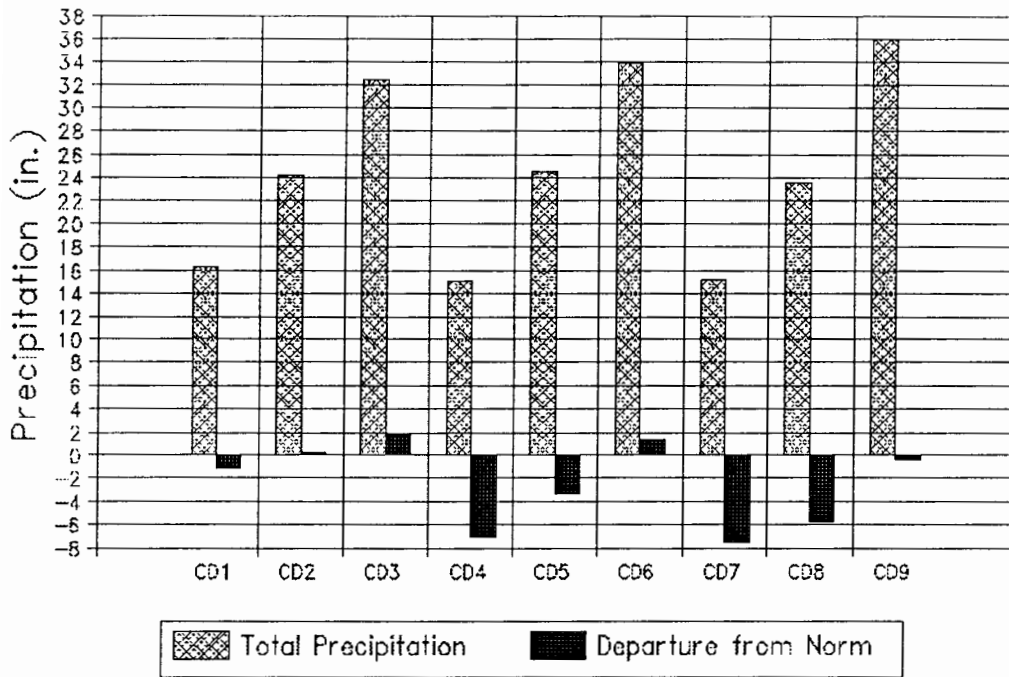
### 1997 and 1998 STATEWIDE TEMPERATURES Monthly Averages



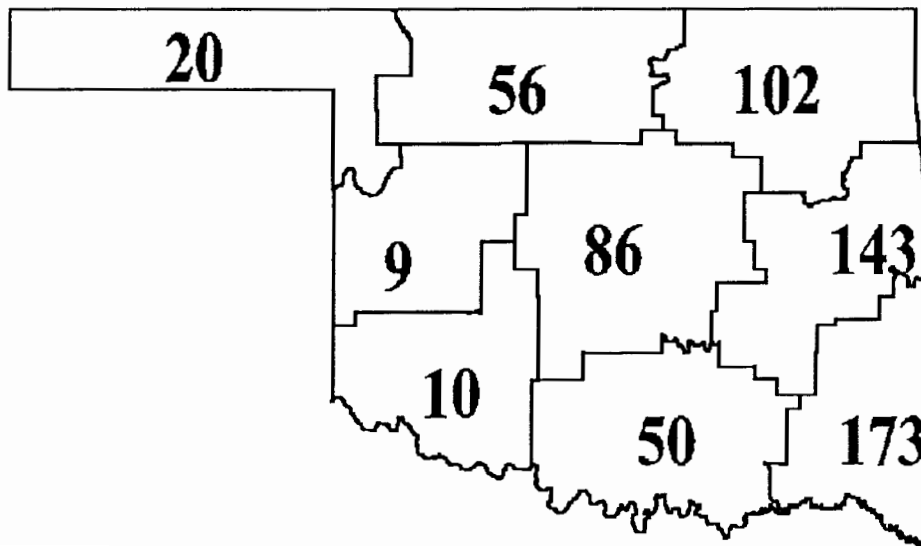
### 1997 and 1998 STATEWIDE PRECIPITATION Monthly Totals



### CD Averaged Precipitation January through September 1998



### CD PERCENT OF NORMAL PRECIPITATION SEPTEMBER 1998



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

CD	MAX TEMP	DATE	LOCATION	MIN TEMP	DATE	LOCATION	24-HOUR PRECIP	DATE	LOCATION	MONTHLY PRECIP	LOCATION
1	108	6	BUFFALO	45	29	KENTON	2.90	30	KENTON	3.23	KENTON
	108	7	BUFFALO								
2	108	7	JEFFERSON	47	10	FT SUPPLY	3.01	22	NEWKIRK	4.68	HARDY
	108	4	PERRY								
	108	5	PERRY								
	108	6	PERRY								
	108	7	PONCA CITY								
3	108	3	RALSTON	48	27	MANNFORD	7.43	14	SPAVINAW	8.99	SPAVINAW
	108	4	WAGONER								
4	107	6	CORDELL	50	22	REYDON	.67	22	CANTON DAM	1.16	WATONGA
				50	23	REYDON	.67	22	OKEENE		
5	112	2	GUTHRIE	49	10	BRISTOW	3.35	14	INGALLS	6.76	NORMAN
6	112	4	HOLDENVILLE	51	10	OKMULGEE	7.15	14	EUFAULA	9.57	OKTAHA
	112	5	WEBBERS FALL	51	11	STILWELL					
7	110	6	CHATTANOOGA	53	11	ANADARKO	2.47	16	WICHITA MT	3.33	WICHITA MT
8	114	5	CENTRAHOMA	50	10	COLEMAN	2.47	14	DAISY	8.33	DAISY
				50	10	TISHOMINGO					
9	113	4	WILBURTON	48	10	PAGE	5.20	13	CARNASAW	12.39	FANSHAWE
				48	11	PAGE					
				48	10	TUSKAHOMA					

**TABLE OF 1997/1998 COMPARISONS**

**SEPTEMBER  
Temperature (°F)**

**SEPTEMBER  
Precipitation (in.)**

Station	1997	1998	1997	1998
Arnett	71.1	77.0	4.67	0.19
Enid	72.4	81.0	4.81	2.34
Tulsa	73.9	80.8	3.06	5.13
Elk City	73.2	79.4	4.10	0.00
Oklahoma City	75.3	81.2	1.37	4.37
McAlester	74.3	80.8	0.30	2.38
Altus Irr Station	75.8	81.5	6.13	0.05
Ardmore	****	82.7	****	0.95
Idabel	75.9	79.2	2.48	8.02

**EXTREMES**

VARIABLE	STATION	DIVISON	OBSERVATION	DATE
Minimum temperature (°F)	Kenton	1	45	29
Maximum temperature (°F)	Centrahoma	8	114	5
Maximum 24-hour Precipitation	Spavinaw	3	7.43"	14

SEPTEMBER 1998 SUMMARY FOR PANHANDLE DIVISION (CD1)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV			MIN DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV			
					FROM NORM	MAX TEMP	DAY								FROM NORM	MAX 24-HR	DAY	
ARNETT	332	1	77.0	30	7	103	6	48	23	13	-12	373	198	0.191	30	-2.34	0.10	23
BEAVER	593	1	75.1	30	5.4	102	7	47	22	18	-13	321	149	0.140	30	-1.68	0.08	23
BOISE CITY	908	1	74.1	30	6.3	97	28	46	22	5	-28	277	161	0.654	30	-1.18	0.50	30
BUFFALO	1243	1	78.7	25	*****	108	7	51	22	6	*****	350	*****	0.010	26	*****	0.01	20
FARGO	3070	1	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.372	30	-1.90	0.32	22
GAGE	3407	1	76.1	28	*****	102	6	50	22	12	*****	323	*****	0.171	30	-1.82	0.12	23
GATE	3489	1	77.1	30	5.9	103	7	48	22	14	-4	376	173	0.055	30	-2.03	0.03	22
GOODWELL	3628	1	75.7	30	7.6	100	25	47	23	13	-26	333	201	0.081	30	-1.60	0.08	10
GUYMON	3835	1	75.4	30	*****	102	4	47	22	15	*****	327	*****	0.044	30	*****	0.04	14
HOOVER	4298	1	76.9	30	7.4	102	3	47	22	13	-21	370	201	0.370	30	-1.68	0.18	14
KENTON	4766	1	72.7	27	*****	96	4	45	29	4	*****	213	*****	3.234	30	1.38	2.90	30
LAVERNE	5045	1	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.151	30	-1.87	0.05	20
RANGE	7412	1	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.180	30	*****	0.18	1
REGNIER	7534	1	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.001	30	-1.70	0.00	26

SEPTEMBER 1998 SUMMARY FOR NORTH CENTRAL DIVISION (CD2)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV			MIN DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV			
					FROM NORM	MAX TEMP	DAY								FROM NORM	MAX 24-HR	DAY	
ALVA	193	2	80.6	30	*****	107	7	53	23	8	*****	476	*****	0.660	30	*****	0.32	22
VANCE AFB	302	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.990	30	*****	1.19	23
BILLINGS	755	2	80.0	30	7.6	107	4	59	23	4	-17	453	211	2.560	30	-1.98	1.55	23
BLACKWELL 2E	818	2	79.7	30	6.8	107	4	57	23	4	-13	444	193	4.430	30	0.35	2.58	22
BRAMAN	1075	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.990	30	*****	0.79	21
CEDARDALE	1620	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.151	30	*****	0.50	23
CHEROKEE	1724	2	79.0	30	5.2	106	7	54	23	7	-4	427	152	0.680	30	-2.38	0.65	23
ENID	2912	2	81.0	30	7.6	106	7	55	23	7	-7	487	222	2.340	30	-1.14	2.10	23
FT SUPPLY	3304	2	75.8	30	5.4	105	6	47	10	13	-10	336	152	1.582	30	-0.73	0.82	21
FREEDOM	3358	2	78.1	30	5.4	107	8	51	12	9	-5	403	158	0.320	30	-2.27	0.17	23
GREAT SALT P	3740	2	80.3	30	8.3	107	8	55	24	7	-11	467	237	0.680	30	-2.65	0.55	23
HARDY	3909	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	4.680	30	*****	1.84	21
HELENA	4019	2	80.0	30	8.5	105	7	55	23	7	-13	457	243	2.110	30	-1.12	1.75	23
JEFFERSON	4573	2	80.6	30	7.3	108	7	52	11	0	-11	469	209	1.470	30	-2.22	0.75	21
LAMONT	5013	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.110	30	*****	1.27	22
MEDFORD	5768	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.370	30	*****	2.40	16
MORRISON	6065	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.610	30	*****	0.67	14
MUTUAL	6139	2	78.1	30	6.9	105	8	51	23	10	-9	404	199	0.330	30	-2.32	0.23	23
NEWKIRK	6278	2	79.3	30	6.6	105	4	57	23	4	-11	432	187	4.540	30	0.27	3.01	22
ORIENTA	6751	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.060	30	-2.00	0.60	23
PERRY	7012	2	82.0	29	8.4	108	6	59	23	3	-11	495	223	1.194	29	*****	0.47	23
PONCA CITY	7201	2	81.1	29	9	108	7	58	22	2	-21	470	234	3.773	29	*****	1.97	22
RED ROCK	7505	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.131	30	-2.10	0.95	21
WAYNOKA	9404	2	79.9	30	7	108	6	53	30	6	-8	453	202	0.301	30	-2.27	0.30	30
WOODWARD	9760	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.002	30	-2.34	0.00	3

SEPTEMBER 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	79.3	30	6.4	105	7	49	10	0	-24	428	170	3.241	30	-2.37	1.10	14
BARTLESVILLE	548	3	80.1	30	7.3	106	7	50	10	0	-16	454	204	6.720	30	2.15	3.38	14
BURBANK	1256	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.802	30	1.14	2.51	21
CHELSEA	1717	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.010	30	*****	3.05	14
CLAREMORE	1828	3	79.2	27	*****	106	5	54	11	0	*****	384	*****	3.650	27	*****	2.58	14
CLEVELAND 2	1902	3	78.8	30	*****	105	4	55	10	0	*****	414	*****	2.531	30	*****	1.26	14
FORAKER	3250	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.070	30	0.23	3.10	14
HOLLOW	4258	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	6.351	30	1.32	5.15	14
HOMINY	4289	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.760	30	-1.36	2.48	14
KANSAS	4672	3	78.9	29	7.3	105	5	54	10	0	-21	404	185	5.754	29	*****	4.00	14
LENAPAH	5118	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	4.750	30	*****	3.10	14
MANNFORD	5522	3	79.7	30	7.1	105	4	48	27	0	-25	442	189	2.370	30	-2.19	1.12	14
MARAMEC	5540	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.290	30	-1.40	2.32	14
PAWHUSKA	6935	3	79.6	30	7.3	105	3	52	10	0	-21	438	198	5.910	30	0.98	3.05	14
PAWNEE	6940	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.380	30	-1.66	1.86	13
PRYOR	7309	3	79.1	29	7.9	105	5	51	11	0	-29	409	194	6.702	30	1.95	5.07	14
RALSTON	7390	3	79.9	30	7.1	108	3	51	10	0	-19	447	194	3.730	30	-0.94	2.15	14
SKIATOOK	8258	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.020	30	0.17	2.89	14
SPAVINAW	8380	3	81.1	30	7.4	105	5	55	10	0	-12	482	209	8.990	30	4.21	7.43	14
TULSA	8992	3	80.8	30	7.5	107	4	56	10	0	-20	474	205	5.132	30	0.43	2.34	13
UPPER SPAV	9101	3	79.0	30	*****	107	5	49	10	0	*****	421	*****	6.592	30	*****	5.56	14
VINITA	9203	3	78.2	26	*****	105	6	49	10	0	*****	342	*****	7.510	26	*****	5.81	14
WAGONER	9247	3	81.6	30	8.2	108	4	59	10	0	-14	499	233	6.660	30	2.10	4.23	14
WANN	9298	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.920	30	*****	2.60	13
WYRONA	9792	3	*****	0	*****	****	0	****	0	*****	*****	*****	*****	4.182	30	*****	2.23	14

SEPTEMBER 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	79.3	30	7.4	105	8	54	22	8	-9	438	215	0.890	30	-2.29	0.67	22
CLINTON	1909	4	81.6	30	7.7	106	5	54	22	0	-13	499	219	0.173	30	-3.56	0.14	17
COLONY	2039	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.291	30	*****	0.13	23
CORDELL	2125	4	80.5	30	7.1	107	6	55	23	8	-4	472	209	0.191	30	-3.42	0.10	14
ELK CITY	2849	4	79.4	30	7.2	106	6	52	23	10	-3	441	212	0.001	30	-3.28	0.00	13
ERICK	2944	4	79.0	30	6.6	105	6	52	23	10	-3	430	195	0.061	30	-3.16	0.06	23
GEARY	3497	4	75.9	27	*****	101	7	55	23	9	*****	305	*****	0.330	28	*****	0.20	13
HAMMON	3871	4	77.4	29	6.1	104	6	52	23	10	-14	370	157	0.150	29	*****	0.15	23
LEEDEY	5090	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.100	30	-2.61	0.10	21
MACKIE	5463	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.050	30	*****	0.05	20
MORAVIA	6035	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.382	30	-3.03	0.26	15
OKEENE	6629	4	81.7	30	8	106	7	55	22	0	-13	501	227	0.731	30	-2.96	0.67	22
RETROP	7565	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.620	30	*****	0.42	15
REYDON	7579	4	78.1	28	*****	104	6	50	23	12	*****	379	*****	0.050	28	*****	0.05	23
SAYRE	7952	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.440	30	-2.60	0.26	17
SWEETWATER	8652	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.000	30	*****	0.00	30
TALOGA	8708	4	78.7	30	6.6	105	7	53	23	9	-6	421	194	0.082	30	-2.89	0.08	23
THOMAS	8815	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.410	30	*****	0.11	21
VICI	9172	4	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.311	30	-2.33	0.14	22
WATONGA	9364	4	80.3	29	7.6	105	7	55	22	5	-11	448	201	1.160	29	*****	0.61	22
WEATHERFORD	9422	4	81.6	28	*****	104	5	56	22	0	*****	466	*****	0.360	29	*****	0.23	2

SEPTEMBER 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	*****	*****	*****	*****	2.290	30	*****	0.59	13
ARCADIA	288	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	4.460	30	*****	3.22	22
BLANCHARD	830	5	82.0	30	8	109	5	59	10	0	-11	509	228	3.171	30	-0.99	1.60	13
BRISTOW	1144	5	81.7	28	*****	110	4	49	10	0	*****	468	*****	1.560	29	*****	1.10	22
CHANDLER	1684	5	81.4	30	8.1	110	5	55	11	0	-17	491	225	1.470	30	-2.78	0.99	14
CHICKASHA EXP	1750	5	82.7	30	9.1	109	4	56	10	0	-12	530	260	0.741	30	-3.06	0.38	12
COX CITY	2196	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.970	30	*****	0.35	13
CRESCENT	2242	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.100	30	*****	2.10	22
CUSHING	2318	5	80.5	30	8	107	4	55	12	0	-15	465	225	4.750	30	0.64	1.67	22
EDMOND	2788	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	4.550	30	*****	2.25	21
EL RENO	2818	5	80.0	30	7.2	106	4	58	23	5	-8	456	209	1.350	30	-2.78	0.60	23
GUTHRIE	3821	5	80.5	30	6.3	112	2	54	11	0	-14	465	175	2.211	30	-2.10	1.03	22
HENNESSEY	4055	5	82.1	22	****	108	3	60	23	0	*****	377	*****	1.410	28	*****	1.12	23
INGALLS	4489	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.270	30	*****	3.35	14
KINGFISHER	4861	5	80.2	26	*****	108	6	57	10	4	*****	399	*****	0.980	26	*****	0.80	22
KONAWA	4915	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.700	30	-1.74	1.80	13
MARSHALL	5589	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.700	30	-0.13	1.59	23
MEEKER	5779	5	78.9	30	5.7	107	5	51	11	0	-14	417	157	3.150	30	-1.14	1.73	22
MULHALL	6110	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.730	30	*****	2.10	23
NORMAN NWS	6386	5	80.5	30	6.5	106	5	59	10	0	-10	465	185	6.761	30	2.67	2.95	13
OKEMAH	6638	5	82.2	30	8.9	109	4	58	10	0	-15	516	252	4.540	30	0.28	2.19	14
OKLAHOMA CTY F.	6659	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	4.210	30	*****	1.39	22
OKLAHOMA CTY	6661	5	81.2	30	8.2	107	4	57	10	0	-15	487	232	4.370	30	0.53	1.52	13
PERKINS	7003	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.750	30	1.35	2.08	23
PIEDMONT	7068	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.080	30	*****	0.96	22
PRAGUE	7264	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.541	30	-1.94	1.00	14
PURCELL	7327	5	80.9	30	6.7	111	5	51	11	0	-13	476	187	5.290	30	0.93	2.00	13
SEMINOLE	8042	5	80.4	30	5.6	108	4	54	10	0	-9	461	158	5.280	30	0.89	1.55	21
SHAWNEE	8110	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.370	30	-0.85	1.55	21
STELLA	8479	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.690	30	*****	1.75	22
STILLWATER	8501	5	80.3	30	8.2	108	5	53	10	3	-15	462	232	4.590	30	0.30	1.74	23
STROUD	8563	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.541	30	*****	0.96	14
TECUMSEH	8751	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.050	30	*****	2.00	22
TROUSDALE	8960	5	80.5	30	*****	109	5	52	11	0	*****	464	*****	3.140	30	*****	1.49	22
UNION CITY	9086	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.751	30	-1.48	1.06	16
WELTY	9479	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.160	30	*****	1.24	14
WEWOKA	9575	5	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.590	30	1.27	1.85	22

SEPTEMBER 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	*****	*****	*****	*****	3.920	30	*****	1.27	22
BEGGS	631	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.550	30	*****	2.29	14
CALVIN	1391	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.320	30	-2.12	0.94	14
CHECOTAH	1711	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	8.780	30	3.90	5.25	14
CLAYTON	1858	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	9.150	30	*****	3.52	14
DEWAR	2485	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.610	30	1.07	2.50	14
DUSTIN	2690	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.480	30	*****	2.11	12
EUFULA	2993	6	82.7	29	8	111	4	67	30	0	-10	514	213	7.950	29	*****	7.15	14
HANNA	3884	6	81.3	30	7.7	109	4	52	10	0	-12	488	218	5.700	30	1.12	1.92	13
HASKELL	3956	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	6.120	30	1.73	3.44	14
HOLDENVILLE	4235	6	82.0	30	8.2	112	4	55	10	0	-10	510	236	5.680	30	1.61	1.53	13
LAKE EUFAULA	4975	6	79.8	30	*****	107	5	58	10	0	*****	445	*****	9.150	30	*****	6.14	14
L.YONS	5437	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	7.801	30	2.98	5.05	14
MARBLE CITY	5546	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	8.380	30	*****	5.10	14
MCLESTER	5664	6	80.8	30	7.1	110	4	57	10	0	-16	474	197	2.382	30	-2.48	0.64	12
MCCURTAIN	5693	6	81.7	30	7.7	111	4	56	10	0	-14	500	216	9.250	30	4.49	3.15	14
MUSKOGEE	6130	6	81.0	30	7.5	109	4	58	10	0	-15	481	211	8.822	30	4.31	6.14	13
OKMULGEE	6670	6	79.6	27	*****	109	4	51	10	0	*****	393	*****	5.102	27	*****	3.32	13
OKTAHA	6678	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	9.570	30	*****	5.68	14
SALLISAW	7862	6	80.8	30	7	107	5	62	10	0	-11	475	200	5.830	30	1.32	2.40	14
SCIPIO	7979	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.870	30	*****	1.87	13
SHORT	8170	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	8.980	30	*****	2.55	15
STILWELL	8506	6	76.8	30	5.1	104	4	51	11	0	-20	353	132	5.780	30	1.06	3.50	14
TAHLEQUAH	8677	6	79.2	30	6.7	107	4	55	10	0	-27	427	175	6.122	30	1.13	3.40	14
WEBBERS FALL	9445	6	81.3	30	8.5	112	5	58	11	0	-16	488	238	7.940	30	3.33	3.90	14
WESTVILLE	9523	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.920	30	*****	2.78	14
WETUMKA	9571	6	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.352	30	0.77	2.37	14



SEPTEMBER 1998 SUMMARY FOR SOUTHWEST DIVISION (CD7)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV		MIN TEMP	DAY	HEAT		DEV		COOL		TOT PPT	NUM OBS	DEV		DAY
					FROM NORM	MAX TEMP			DEG DAY	FROM NORM	DEG DAY	FROM NORM	DEG DAY	FROM NORM			MAX 24-HR		
ALTUS	179	7	81.5	29	6.4	108	5	58	23	0	-6	479	170	0.050	30	-3.39	0.04	15	
ALTUS DAM	184	7	81.9	30	7.9	109	6	56	23	6	-2	514	236	0.500	30	-2.93	0.23	17	
ANADARKO	224	7	78.8	30	5.1	106	6	53	11	4	-10	418	144	0.160	30	-3.55	0.11	22	
APACHE	260	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.150	30	-3.60	0.10	22	
ALTUS AFB	447	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.204	30	*****	0.11	9	
CARNEGIE	1504	7	81.3	30	7.4	107	5	58	22	4	-9	494	215	0.240	30	-3.79	0.10	1	
CHATTANOOGA	1706	7	81.9	27	*****	110	6	57	11	0	*****	458	*****	0.790	27	*****	0.47	16	
DUNCAN 11 W	2668	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.200	30	*****	0.13	22	
FREDERICK	3353	7	81.8	29	7.3	108	4	59	22	4	-4	491	199	0.000	29	*****	0.00	30	
HEADRICK	3998	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.490	30	*****	0.40	16	
HOBART	4204	7	81.8	27	*****	108	5	57	22	3	*****	457	*****	0.083	29	*****	0.06	15	
HOLLIS	4249	7	82.0	30	7.5	108	5	55	22	0	-6	511	220	0.010	30	-3.12	0.01	23	
LAWTON	5063	7	82.3	30	8.3	108	6	62	23	2	-7	522	244	0.380	30	-3.28	0.27	18	
LOOKEBA	5329	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.480	30	-3.87	0.18	23	
MANGUM	5509	7	80.0	30	5.3	106	5	55	23	8	2	459	162	0.001	30	-3.38	0.00	9	
RANDLETT	7403	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.190	30	*****	0.17	23	
ROOSEVELT	7727	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.350	30	-2.98	0.17	22	
SEDAN	8016	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.940	30	*****	0.50	2	
SNYDER	8299	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.170	30	-1.40	1.78	16	
VINSON	9212	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.070	30	-3.13	0.05	23	
WALTERS	9278	7	82.7	30	7.2	109	6	62	11	0	-9	532	208	0.330	30	-3.92	0.20	9	
WICHITA MT	9629	7	79.8	29	7.4	106	6	58	23	6	-8	434	199	3.331	29	*****	2.47	16	
WILLOW	9668	7	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.030	30	*****	0.03	14	

SEPTEMBER 1998 SUMMARY FOR SOUTH CENTRAL DIVISION (CD8)

NAME	ID	CD	MEAN TEMP	NUM OBS	DEV		MIN TEMP	DAY	HEAT		DEV		COOL		TOT PPT	NUM OBS	DEV		DAY
					FROM NORM	MAX TEMP			DEG DAY	FROM NORM	DEG DAY	FROM NORM	DEG DAY	FROM NORM			MAX 24-HR		
ADA	17	8	80.8	30	7	108	4	55	10	0	-8	474	202	2.671	30	-1.79	1.09	13	
ALLEN	147	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	4.590	30	*****	1.47	14	
ARDMORE	292	8	82.7	30	6.5	105	4	63	10	0	-5	532	191	0.950	30	-3.22	0.55	22	
ATOKA DAM	394	8	81.1	20	*****	106	4	59	10	0	*****	323	*****	4.000	21	*****	1.12	15	
BOKCHITO	917	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.150	30	*****	0.98	14	
CANEY	1437	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.830	30	*****	0.83	14	
CENTRAHOMA	1648	8	81.4	30	*****	114	5	56	11	0	*****	492	*****	3.380	30	*****	1.15	14	
CHICKASAW	1745	8	81.3	30	7.7	109	5	62	10	0	-14	488	216	2.071	30	-2.57	1.27	22	
COLEMAN	2011	8	73.8	30	*****	105	4	50	10	2	*****	267	*****	1.630	30	*****	0.76	14	
COMANCHE	2054	8	82.2	30	*****	108	5	64	10	0	*****	515	*****	0.650	30	-3.83	0.30	13	
DAISY	2354	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	8.330	30	2.77	2.47	14	
DUNCAN	2660	8	81.8	30	7.6	106	7	62	11	0	-9	503	218	0.360	30	-4.05	0.16	14	
ELMORE CITY	2872	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.750	30	*****	0.63	23	
GRADY	3688	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.320	30	*****	0.27	22	
HEALDTON	4001	8	81.3	30	6.7	110	5	56	11	0	-8	491	192	3.520	30	-1.02	2.21	23	
HENNEPIN	4052	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.980	30	*****	0.30	14	
KETCHUM RAN	4780	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.710	30	*****	0.45	22	
KINGSTON	4865	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.321	30	-2.46	0.87	17	
LEHIGH	5108	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.101	30	*****	0.90	14	
LINDSAY	5216	8	80.7	30	7.1	108	4	54	10	0	-14	472	200	1.640	30	-2.67	0.62	13	
LOCO	5247	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.340	30	*****	0.95	23	
MADILL	5468	8	81.9	29	6.5	110	5	60	11	0	-8	491	171	2.100	29	*****	1.10	17	
MARIETTA	5563	8	80.5	28	*****	109	5	60	11	0	*****	434	*****	3.010	28	*****	1.80	17	
MARLOW	5581	8	83.3	29	9.6	113	4	58	10	0	-10	530	259	0.620	29	*****	0.26	23	
MCGEE CREEK	5713	8	80.6	30	*****	106	9	60	10	0	*****	467	*****	4.440	30	*****	1.61	14	
PAULS VALLEY	6926	8	81.2	30	6.6	109	6	58	11	0	-9	487	190	2.490	30	-1.56	1.13	22	
PONTOTOC	7214	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	3.130	30	-0.87	1.05	12	
TISHOMINGO	8884	8	73.8	30	-1.2	105	4	50	10	2	-6	267	-41	1.490	30	-3.42	0.73	14	
TUSSY	9032	8	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.760	30	*****	0.30	21	
WAURIKA	9395	8	83.3	30	7.6	109	5	65	23	0	0	549	223	0.541	30	-3.37	0.32	22	

SEPTEMBER 1998 SUMMARY FOR SOUTHEAST DIVISION (CD9)

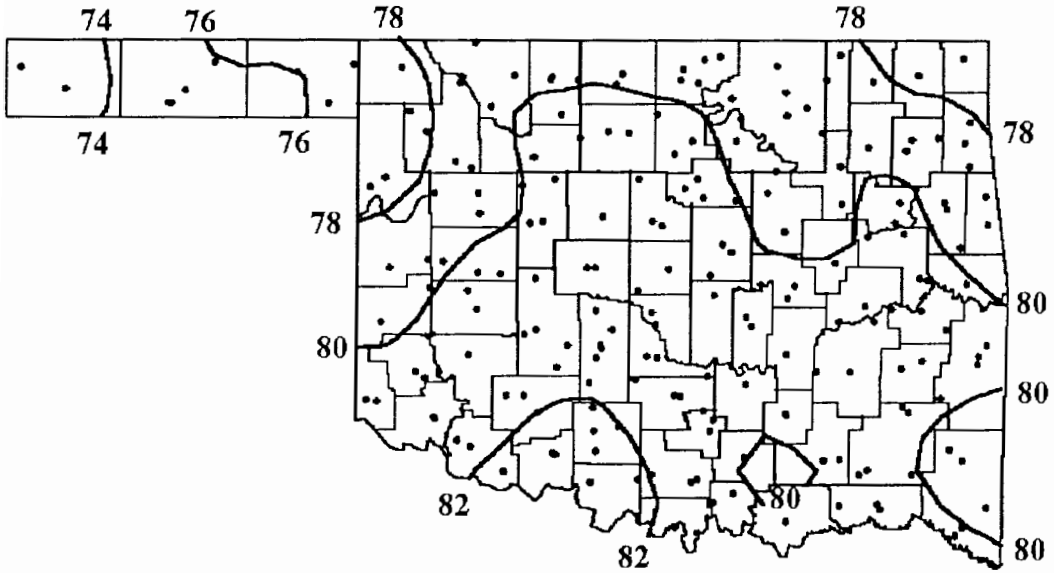
NAME	ID	CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
ANTLERS	256	9	81.0	30	6.9	110	4	56	10	0	-10	480	197	5.540	30	0.73	1.27	14
BATTIEST	567	9	77.8	30	*****	106	9	49	10	0	*****	383	*****	10.930	30	*****	3.07	13
BEAR MT	584	9	80.7	23	*****	110	5	62	17	0	*****	361	*****	6.650	30	1.47	2.49	14
BENGAL	670	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	5.730	30	*****	2.03	16
BOSWELL	980	9	79.2	30	4.7	109	5	56	28	0	-9	427	133	2.310	30	-2.16	0.90	13
BROKEN BOW	1162	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	10.330	30	5.79	4.08	13
CARNASAW	1499	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	10.801	30	6.21	5.20	13
CARTER TWR	1544	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	9.140	30	4.35	5.06	13
FANSHAWE	3065	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	12.390	30	7.71	3.80	15
HEAVENER	4008	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	7.250	30	2.68	1.88	12
HUGO	4384	9	82.1	29	6.9	110	5	63	12	0	-6	495	183	4.940	30	0.41	2.00	16
IDABEL	4451	9	79.2	30	5.3	109	5	59	10	0	-8	425	150	8.020	30	3.83	2.77	13
PAGE	6842	9	77.6	28	*****	102	4	48	11	0	*****	354	*****	5.620	28	*****	2.89	13
POTEAU	7254	9	80.7	30	*****	109	5	56	9	0	*****	470	*****	7.360	30	*****	2.25	12
SMITHVILLE	8285	9	76.9	27	*****	105	8	50	10	0	*****	322	*****	7.101	30	2.53	3.30	13
SPIRO	8416	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	7.510	30	3.47	3.26	14
TUSKAHOMA	9023	9	81.7	30	7.5	112	4	48	10	0	-13	502	213	8.920	30	3.74	2.47	14
VALLIANT	9118	9	*****	0	*****	****	0	****	0	*****	*****	*****	*****	11.840	30	6.87	4.85	14
WILBURTON	9634	9	80.4	30	7.5	113	4	55	10	0	-15	461	209	10.490	30	5.60	3.77	13
WISTER	9724	9	80.3	30	*****	108	5	51	11	0	*****	458	*****	6.060	30	*****	2.35	13

SEPTEMBER 1998 CLIMATE DIVISION SUMMARY

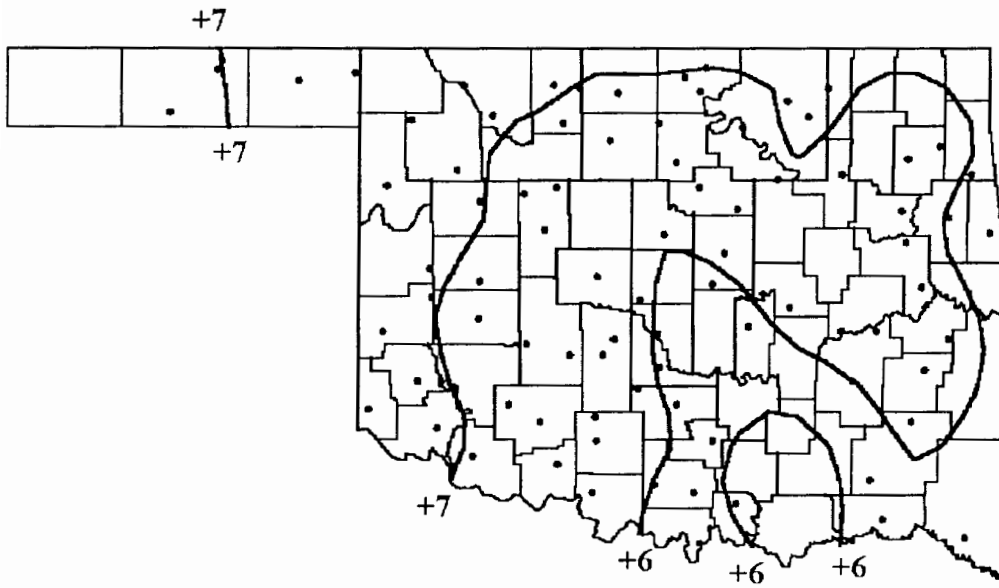
CD	MEAN TEMP	NUM OBS	DEV FROM NORM	MAX TEMP	DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV FROM NORM	MAX 24-HR	DAY
1	75.9	7	6.2	108	7	45	29	13	-16	339	169	0.430	13	-1.64	2.90	30
2	79.7	15	7.2	108	6	47	10	6	-10	445	204	1.870	23	-1.55	3.01	22
3	79.8	12	7.3	108	4	48	27	0	-21	442	197	4.960	22	0.10	7.43	14
4	79.8	9	7.3	107	6	50	23	7	-9	446	207	0.300	16	-2.99	0.67	22
5	80.8	14	7.4	112	2	49	10	1	-13	476	209	3.660	34	-0.56	3.35	14
6	80.7	11	7.4	112	5	51	11	0	-16	468	205	6.540	25	1.97	7.15	14
7	81.2	10	7	110	6	53	11	3	-6	485	198	0.370	19	-3.29	2.47	16
8	80.7	15	6	114	5	50	10	0	-8	468	170	2.200	26	-2.30	2.47	14
9	80.2	9	6.4	113	4	48	10	0	-11	456	178	8.070	19	3.40	5.20	13

MESONET MONTHLY SUMMARY FOE SEPTEMBER 1998

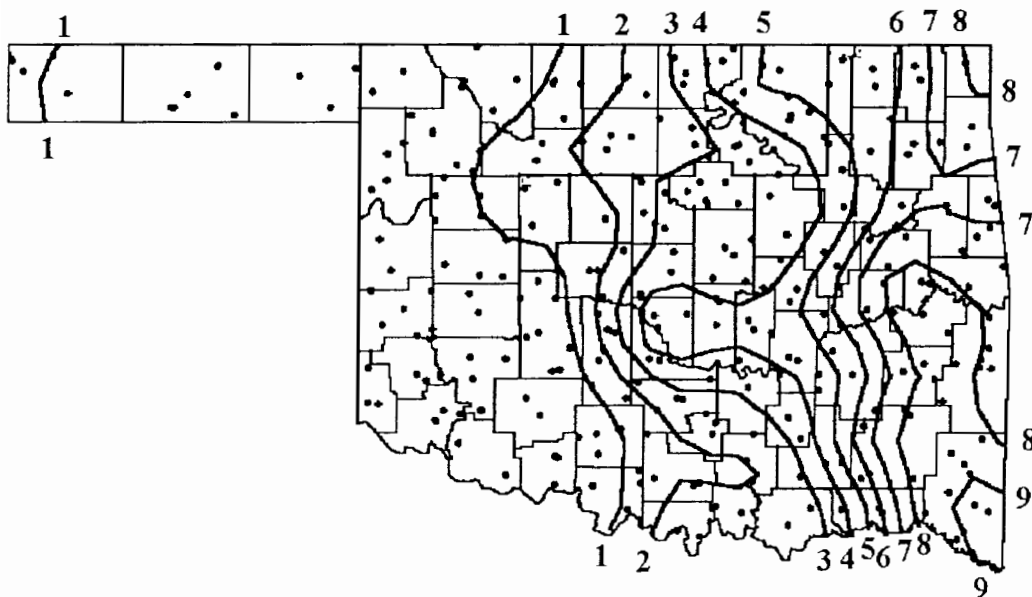
NAME	MEAN MAX		MIN		HDD		TOT MAX		NAME	MEAN MAX		MIN		HDD		TOT MAX					
	TEMP	TEMP	DAY	TEMP	DAY		CDD	PPT		24-HR	DAY	TEMP	TEMP	DAY	TEMP	DAY	HDD	CDD	PPT	24-HR	DAY
<b>PANHANDLE</b>																					
Arnett	77.6	103	5	49	22	12	391	.24	.10	24	Goodwell	75.1	100	4	47	22	15	318	.24	.12	9
Beaver	75.5	101	5	48	22	17	333	.57	.53	30	Hooker	75.7	102	3	47	22	15	335	.55	.31	30
Boise City	72.5	97	24	47	22	12	237	1.14	.75	30	Kenton	72.5	96	24	48	22	11	235	.06	.02	2
Buffalo	78.3	105	6	51	22	10	410	.15	.06	15	Slapout	76.1	102	5	48	22	14	347	1.26	1.14	30
<b>NORTH CENTRAL</b>																					
Alva	80.2	107	6	53	22	8	465	1.10	.81	22	May Ranch	78.7	104	6	51	22	10	421	.44	.22	2
Blackwell	79.7	106	3	58	10	2	444	3.41	2.01	21	Medford	79.4	106	7	57	10	4	438	2.22	1.39	16
Breckenridge	80.3	107	3	57	10	3	463	2.53	1.71	22	Newkirk	78.5	105	3	56	10	2	406	6.10	3.62	21
Cherokee	80.1	106	6	55	11	6	459	.58	.52	22	Red Rock	80.0	108	3	54	10	1	450	.96	.37	13
Fairview	80.9	107	6	55	22	6	485	1.05	.60	21	Seiling	79.2	106	5	53	22	9	434	.70	.48	21
Freedom	79.3	106	6	51	22	10	437	.45	.45	22	Woodward	78.5	103	5	50	22	11	417	*****	*****	***
Lahoma	79.9	106	5	55	22	5	452	3.27	1.46	22											
<b>NORTHEAST</b>																					
Bixby	79.4	106	4	56	10	0	432	3.32	2.32	13	Nowata	78.1	105	7	49	10	0	392	4.91	3.98	13
Burbank	79.1	108	3	57	10	1	425	4.24	2.44	13	Pawnee	79.8	107	3	56	10	0	443	3.02	2.44	13
Claremore	79.6	108	4	51	10	0	439	5.00	3.67	13	Pryor	78.4	107	4	48	10	0	402	7.36	5.26	13
Copan	78.6	105	7	54	10	0	409	4.06	3.40	13	Skiatook	79.1	105	4	59	10	0	422	5.99	4.63	13
Foraker	78.1	105	3	56	9	2	395	5.58	3.73	13	Tullahassee	80.7	108	4	53	10	0	470	7.28	5.69	13
Jay	77.9	105	4	47	10	0	386	7.55	3.62	14	Vinita	77.1	105	5	49	10	0	361	6.53	3.48	13
Miami	77.1	104	5	49	10	0	363	9.00	3.54	13	Wynona	79.1	105	3	53	10	0	422	4.71	3.04	13
<b>WEST CENTRAL</b>																					
Bessie	81.4	107	4	55	22	6	499	.05	.03	22	Putnam	79.3	104	5	53	22	9	438	1.04	.68	1
Butler	80.3	108	4	54	22	7	466	.36	.32	1	Retrop	80.9	106	4	55	22	6	482	.44	.43	14
Camargo	78.6	106	5	52	22	10	418	.15	.10	22	Watonga	80.3	105	3	55	22	6	466	1.48	1.31	21
Cheyenne	79.6	104	4	51	22	10	447	.13	.05	1	Weatherford	80.6	106	5	55	22	6	473	.71	.55	16
Erick	79.1	106	4	53	22	8	431	.11	.08	14											
<b>CENTRAL</b>																					
Acme	81.6	107	4	54	10	0	499	1.14	.42	13	Minco	80.7	106	3	60	22	0	470	1.93	1.20	13
Bowlegs	79.4	109	4	50	10	0	432	4.87	1.86	21	Ninnekah	81.6	108	5	58	10	0	496	1.73	1.33	13
Bristow	79.2	108	4	47	10	0	426	3.95	1.71	13	Norman	80.8	108	5	57	10	0	472	6.27	2.93	13
Chandler	80.2	107	4	57	10	0	456	1.87	1.19	13	Oilton	78.8	106	4	48	10	0	415	3.28	1.12	13
Chickasha	80.6	107	4	52	10	0	469	.92	.82	13	Okemah	80.6	110	4	55	10	0	467	5.06	2.53	13
El Reno	79.3	105	3	56	10	2	431	1.66	.63	22	Perkins	80.6	108	3	58	10	0	466	4.79	1.74	22
Guthrie	81.4	108	3	58	10	0	493	2.58	1.95	21	Shawnee	80.7	107	4	58	10	0	470	2.85	1.06	21
Kingfisher	81.3	108	3	54	10	0	489	.53	.30	21	Spencer	80.9	109	4	53	10	0	477	3.36	1.69	13
Marena	80.1	108	3	58	10	0	451	3.57	1.67	22	Stillwater	80.0	106	3	52	10	0	450	4.56	1.75	21
Marshall	81.4	108	3	58	10	1	494	2.91	1.54	22	Washington	81.2	109	4	57	10	0	487	4.42	2.73	13
<b>EAST CENTRAL</b>																					
Calvin	80.3	110	4	51	10	0	459	3.83	1.66	21	Sallisaw	80.5	109	4	56	10	0	465	7.43	3.40	14
Cookson	79.7	108	4	62	10	0	441	7.65	2.76	13	Stigler	80.0	109	4	52	10	0	449	8.49	4.35	13
Eufaula	81.1	108	4	57	10	0	481	7.90	2.89	13	Stuart	80.7	110	4	55	10	0	470	4.17	1.04	16
Haskell	79.9	108	4	55	10	0	448	6.32	4.72	13	Tahlequah	78.7	106	4	53	10	0	411	7.09	3.49	13
McAlester	80.9	110	4	56	10	0	477	4.19	1.08	12	Webbers Falls	80.6	106	4	58	10	0	469	8.71	4.70	13
Okmulgee	79.7	109	4	48	10	0	440	7.31	3.46	13	Westville	78.6	105	4	52	10	0	409	6.27	2.22	13
<b>SOUTHWEST</b>																					
Altus	80.9	107	5	59	22	0	476	.03	.03	14	Hollis	80.7	107	5	55	22	4	474	.00	.00	1
Apache	80.9	106	4	56	10	0	476	.23	.09	21	Mangum	80.1	108	4	56	22	3	456	.23	.13	14
Fort Cobb	80.4	106	4	59	10	1	463	.27	.16	13	Medicine Park	82.3	106	4	60	22	0	518	.45	.19	17
Grandfield	82.3	108	4	59	10	0	520	.06	.04	22	Tipton	81.6	107	5	59	22	0	499	.18	.13	15
Hinton	80.5	106	4	56	22	5	469	.18	.09	13	Walters	83.7	110	4	60	10	0	559	.28	.18	8
Hobart	81.1	106	4	57	22	3	484	.11	.06	14											
<b>SOUTH CENTRAL</b>																					
Ada	80.3	109	4	50	10	0	458	2.47	.92	13	Lane	80.8	109	4	56	10	0	473	4.52	1.19	15
Ardmore	82.0	109	4	55	10	0	511	1.18	.66	22	Madill	81.5	108	4	63	10	0	494	2.97	2.00	16
Burneyville	81.4	109	4	55	10	0	492	3.37	2.03	22	Pauls Valley	82.1	109	4	63	10	0	513	3.91	1.52	22
Byars	81.1	108	4	55	10	0	483	1.98	.62	13	Ringling	82.7	108	4	59	10	0	530	.60	.29	22
Centrahoma	80.7	110	4	51	10	0	471	3.69	1.25	13	Sulphur	81.0	108	4	61	10	0	479	2.64	.92	21
Durant	81.7	109	4	62	10	0	500	2.23	.72	13	Tishomingo	80.2	109	4	55	10	0	454	*****	*****	***
Ketchum Ranch	82.2	108	4	61	10	0	515	.75	.43	22	Waurika	82.9	109	4	55	10	0	537	.63	.41	22
<b>SOUTHEAST</b>																					
Antlers	79.9	109	4	50	10	0	446	5.72	1.35	15	Idabel	80.5	107	4	63	10	0	464	8.33	2.79	15
Broken Bow	79.7	107	4	60	10	0	440	10.08	3.85	12	Mt Herman	78.7	103	4	59	10	0	410	9.07	3.80	12
Clayton	80.3	109	4	51	10	0	458	6.68	1.95	16	Talihina	80.7	108	4	52	10	0	472	9.65	3.19	12
Cloudy	80.0	107	4	62	10	0	450	8.24	3.44	13	Wilburton	80.7	110	4	54	10	0	472	6.66	1.84	13
Hugo	81.3	109	4	59	10	0	490	4.94	1.74	15	Wister	79.9	110	4	50	10	0	447	7.34	1.69	14



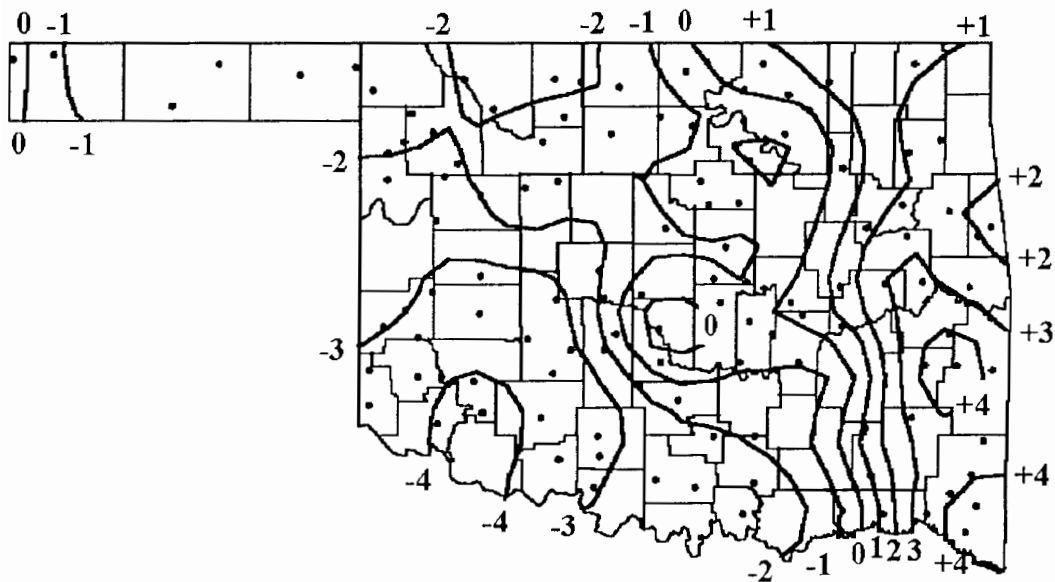
SEPTEMBER 1998 AVERAGE MONTHLY TEMPERATURE (°F)



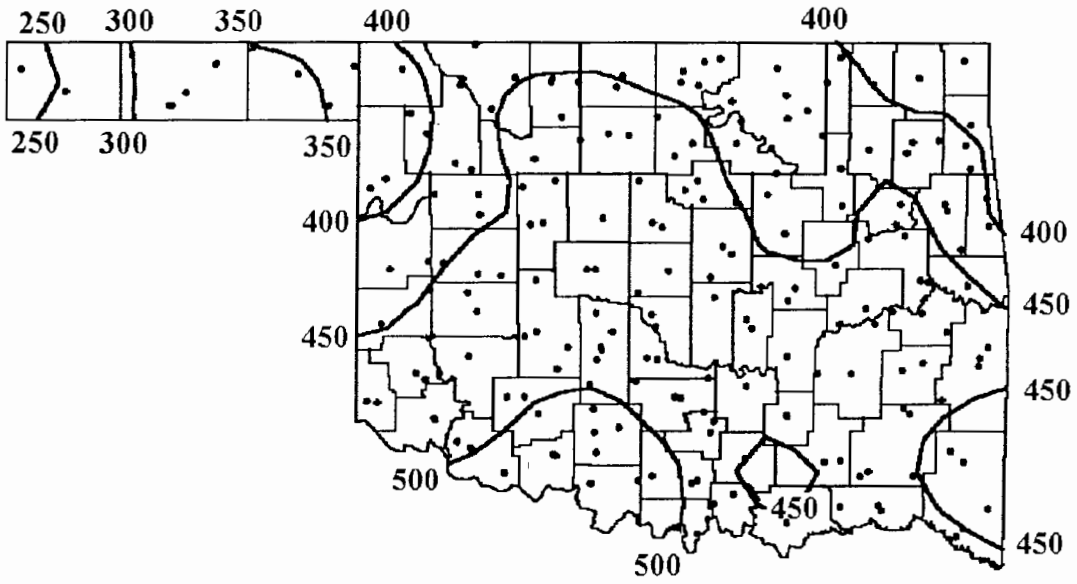
SEPTEMBER 1998 DEPARTURE FROM NORMAL TEMPERATURE (°F)



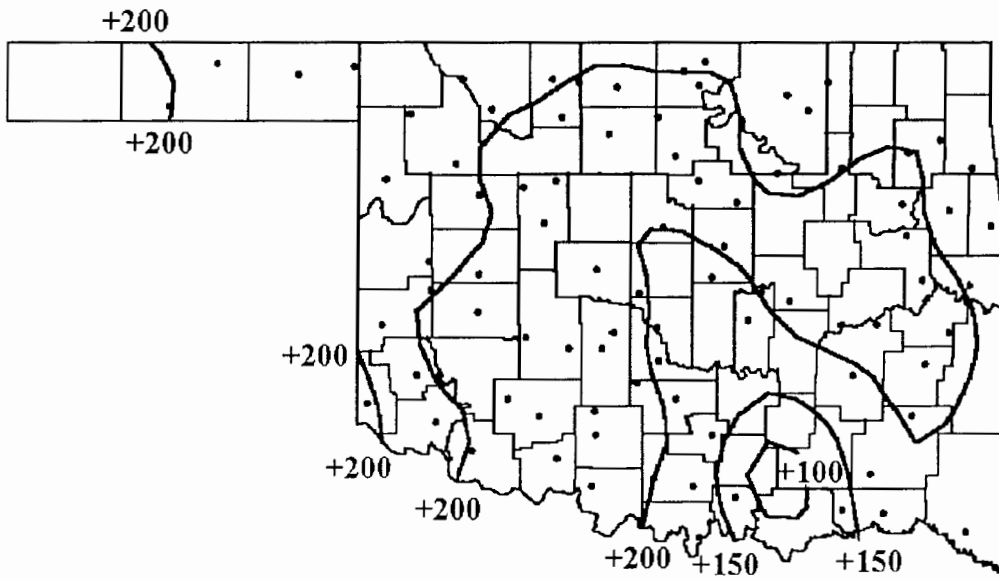
SEPTEMBER 1998 TOTAL PRECIPITATION  
(INCHES)



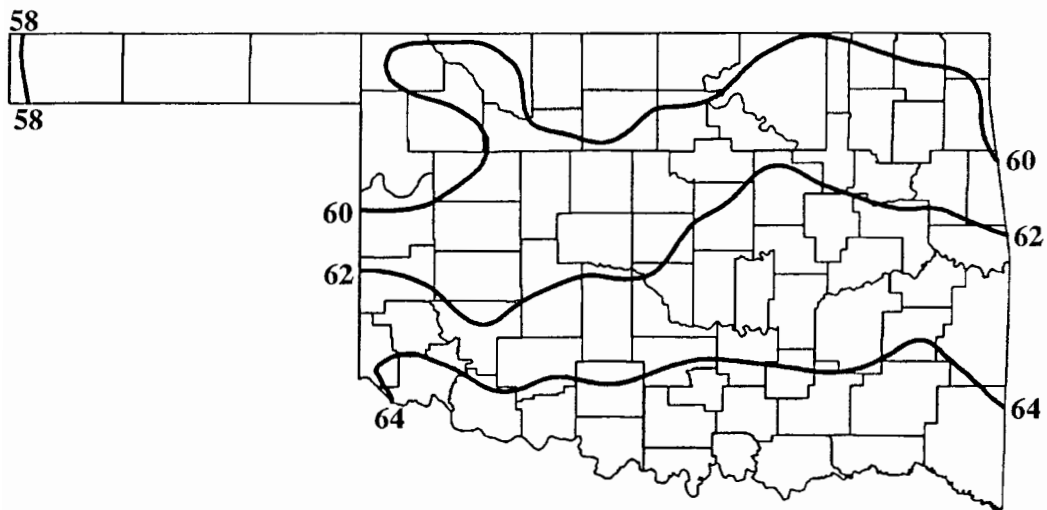
SEPTEMBER 1998 DEPARTURE FROM NORMAL PRECIPITATION  
(INCHES)



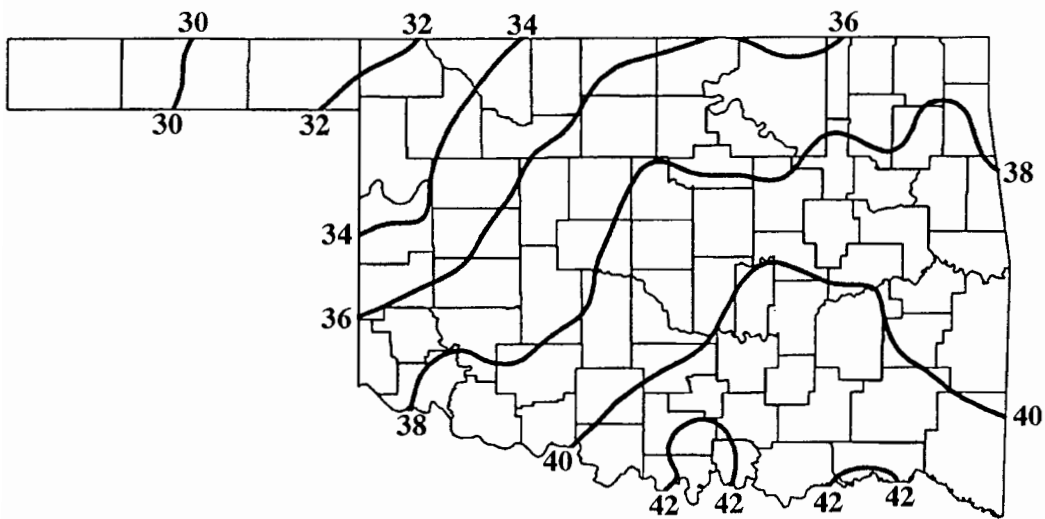
SEPTEMBER 1998 ACCUMULATED COOLING DEGREE DAYS (°F)



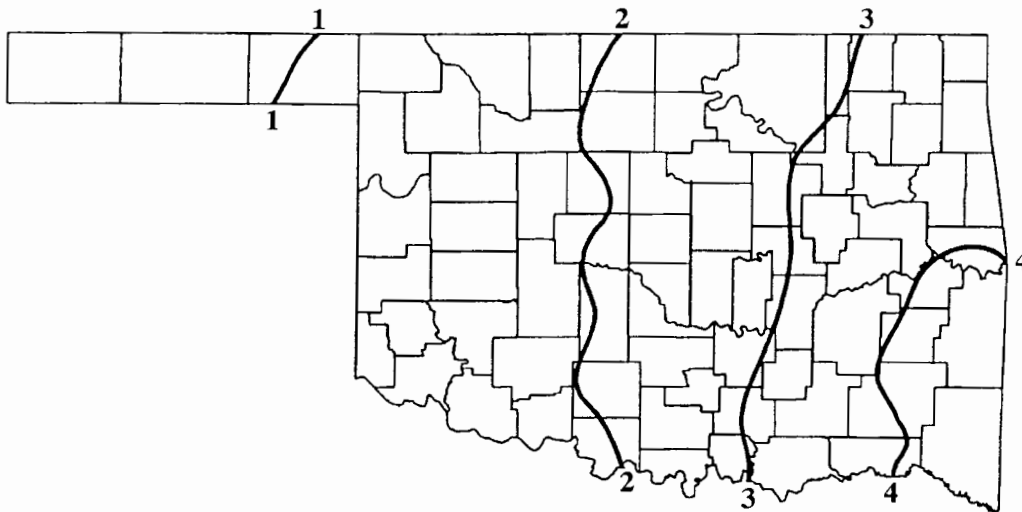
SEPTEMBER 1998 DEPARTURE FROM NORMAL COOLING DEGREE DAYS (°F)



NOVEMBER NORMAL DAILY MAXIMUM TEMPERATURE (°F)



NOVEMBER NORMAL DAILY MINIMUM TEMPERATURE (°F)



**NOVEMBER NORMAL MONTHLY PRECIPITATION (inches)**

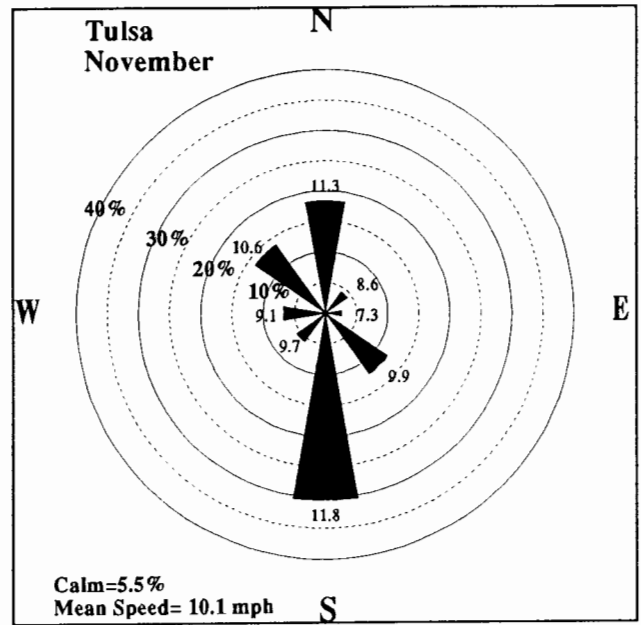
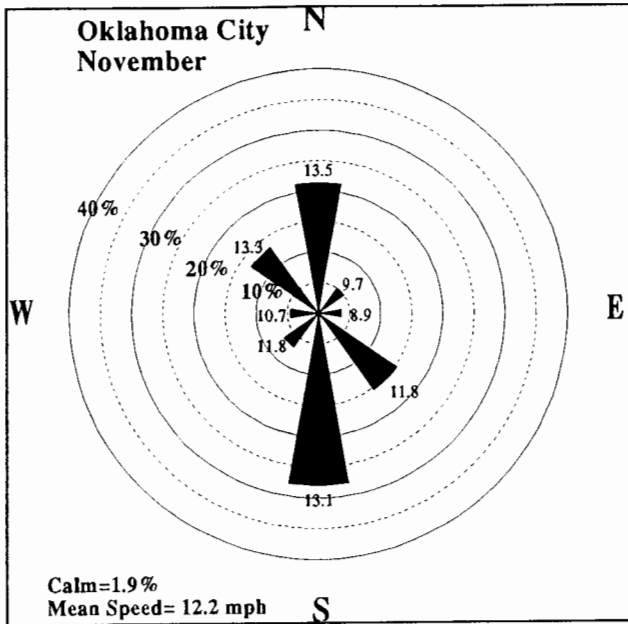
**OUTLOOK FOR NOVEMBER 1998 THROUGH JANUARY 1999**

BASED ON SEASONAL OUTLOOKS PROVIDED BY THE CLIMATE PREDICTION CENTER

**TEMPERATURE:** Above Normal Southwestern One-half  
Near Normal Elsewhere

**PRECIPITATION:** Less Than Normal Southeastern One-third  
Near Normal Elsewhere



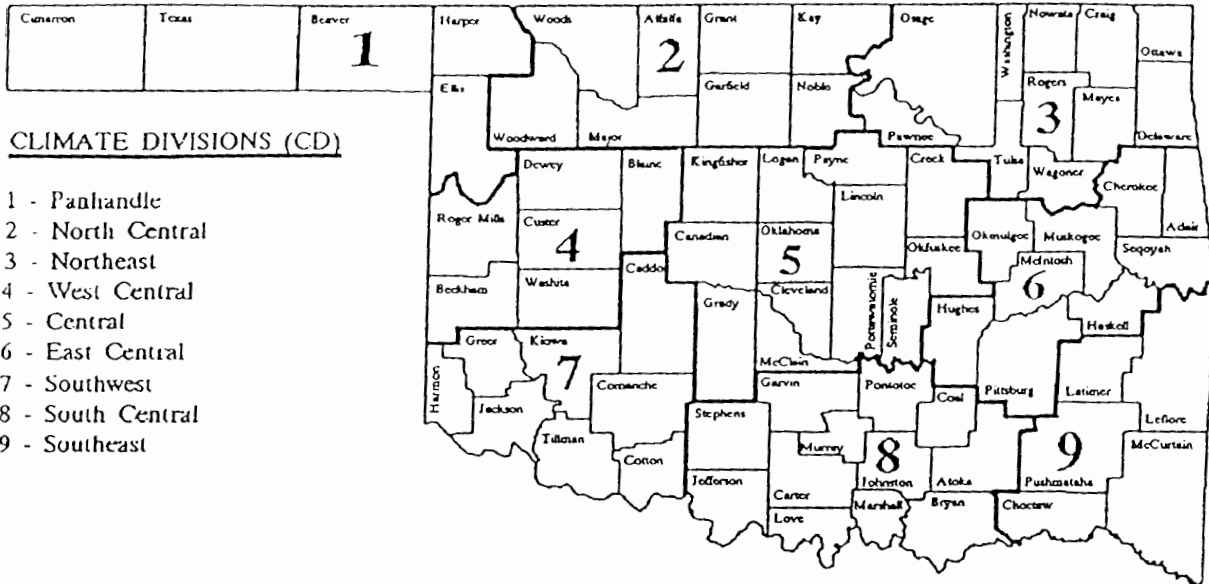


**November Wind Roses for Oklahoma City and Tulsa.** The frequency (percent) of winds from each direction is represented by length of its bar. The numbers at the ends of the bars indicate the average wind speed from that direction in miles per hour.

**SUNRISE/SUNSET TIMES FOR NOVEMBER 1998**

OKLAHOMA CITY				TULSA			
DATE	SUNRISE	SUNSET	DAYLIGHT	DATE	SUNRISE	SUNSET	DAYLIGHT
9811 1	6:52AM	5:36PM cst	10 hrs 44 mins	9811 1	6:45AM	5:30PM cst	10 hrs 45 mins
9811 2	6:53AM	5:35PM cst	10 hrs 42 mins	9811 2	6:46AM	5:29PM cst	10 hrs 43 mins
9811 3	6:54AM	5:34PM cst	10 hrs 40 mins	9811 3	6:47AM	5:28PM cst	10 hrs 41 mins
9811 4	6:55AM	5:33PM cst	10 hrs 38 mins	9811 4	6:48AM	5:27PM cst	10 hrs 39 mins
9811 5	6:56AM	5:32PM cst	10 hrs 36 mins	9811 5	6:49AM	5:26PM cst	10 hrs 37 mins
9811 6	6:57AM	5:31PM cst	10 hrs 34 mins	9811 6	6:50AM	5:25PM cst	10 hrs 35 mins
9811 7	6:58AM	5:31PM cst	10 hrs 32 mins	9811 7	6:51AM	5:24PM cst	10 hrs 33 mins
9811 8	6:59AM	5:30PM cst	10 hrs 31 mins	9811 8	6:52AM	5:23PM cst	10 hrs 31 mins
9811 9	7: 0AM	5:29PM cst	10 hrs 29 mins	9811 9	6:53AM	5:23PM cst	10 hrs 30 mins
981110	7: 1AM	5:28PM cst	10 hrs 27 mins	981110	6:54AM	5:22PM cst	10 hrs 28 mins
981111	7: 2AM	5:27PM cst	10 hrs 25 mins	981111	6:55AM	5:21PM cst	10 hrs 26 mins
981112	7: 3AM	5:27PM cst	10 hrs 24 mins	981112	6:56AM	5:20PM cst	10 hrs 24 mins
981113	7: 4AM	5:26PM cst	10 hrs 22 mins	981113	6:57AM	5:20PM cst	10 hrs 23 mins
981114	7: 5AM	5:25PM cst	10 hrs 20 mins	981114	6:58AM	5:19PM cst	10 hrs 21 mins
981115	7: 6AM	5:25PM cst	10 hrs 18 mins	981115	6:59AM	5:18PM cst	10 hrs 19 mins
981116	7: 7AM	5:24PM cst	10 hrs 17 mins	981116	7: 0AM	5:18PM cst	10 hrs 18 mins
981117	7: 8AM	5:23PM cst	10 hrs 15 mins	981117	7: 1AM	5:17PM cst	10 hrs 16 mins
981118	7: 9AM	5:23PM cst	10 hrs 14 mins	981118	7: 2AM	5:17PM cst	10 hrs 15 mins
981119	7:10AM	5:22PM cst	10 hrs 12 mins	981119	7: 3AM	5:16PM cst	10 hrs 13 mins
981120	7:11AM	5:22PM cst	10 hrs 11 mins	981120	7: 4AM	5:16PM cst	10 hrs 12 mins
981121	7:12AM	5:21PM cst	10 hrs 9 mins	981121	7: 5AM	5:15PM cst	10 hrs 10 mins
981122	7:13AM	5:21PM cst	10 hrs 8 mins	981122	7: 6AM	5:15PM cst	10 hrs 9 mins
981123	7:14AM	5:21PM cst	10 hrs 6 mins	981123	7: 7AM	5:14PM cst	10 hrs 7 mins
981124	7:15AM	5:20PM cst	10 hrs 5 mins	981124	7: 8AM	5:14PM cst	10 hrs 6 mins
981125	7:16AM	5:20PM cst	10 hrs 4 mins	981125	7: 9AM	5:14PM cst	10 hrs 5 mins
981126	7:17AM	5:20PM cst	10 hrs 2 mins	981126	7:10AM	5:13PM cst	10 hrs 3 mins
981127	7:18AM	5:19PM cst	10 hrs 1 mins	981127	7:11AM	5:13PM cst	10 hrs 2 mins
981128	7:19AM	5:19PM cst	10 hrs 0 mins	981128	7:12AM	5:13PM cst	10 hrs 1 mins
981129	7:20AM	5:19PM cst	9 hrs 59 mins	981129	7:13AM	5:12PM cst	10 hrs 0 mins
981130	7:21AM	5:19PM cst	9 hrs 58 mins	981130	7:13AM	5:12PM cst	9 hrs 59 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 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

NOVEMBER

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

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	56.3	67.4	83	1916	34	1951		45.3	65	1936	25	1991		0.05	1.05	1981	
2	53	63.4	83	1924	26	1991		42.6	66	1938	19	1991		0.09	1.51	1974	
3	51.4	62.1	84	1909	36	1991		40.8	63	1994	11	1991		0.1	1.51	1964	
4	52.2	63.2	83	1921	40	1990		41.1	58	1916	23	1936		0.1	2.17	1986	
5	51.6	62	87	1891	34	1951		41.3	64	1924	23	1951		0.05	1.23	1994	
6	52.4	63.4	85	1980	39	1959		41.4	63	1945	20	1959		0.04	2.14	1895	
7	52.3	63.4	86	1980	41	1953		41.3	62	1916	23	1993		0.02	1.71	1920	
8	52.5	63.7	87	1980	39	1936		41.4	66	1966	19	1991		0.08	1.42	1895	
9	51.3	62.7	82	1988	37	1950		39.8	61	1939	25	1955		0.02	1.15	1977	
10	50.6	62.7	83	1995	33	1950		38.6	60	1982	20	1950		0.02	1.17	1937	
11	51.5	63.7	83	1911	33	1935		39.4	61	1922	17	1911		0.03	1.1	1988	
12	51.8	63.9	79	1910	29	1940		39.7	62	1902	14	1911		0.06	1.18	1922	
13	52.4	64.4	80	1967	28	1986		40.3	61	1989	12	1940		0.06	3.22	1909	
14	51.7	62.1	79	1973	29	1940		41.3	65	1897	14	1916		0.05	1.56	1924	
15	51	61.8	84	1903	32	1932		40.2	61	1971	15	1940		0.11	2.43	1890	
16	48.7	58.5	82	1941	31	1937		38.9	64	1958	14	1932		0.03	3.94	1931	
17	47.8	59	80	1896	30	1903		36.6	61	1896	9	1894		0.08	1.7	1984	
18	48.3	58.4	80	1930	35	1903		38.1	64	1934	13	1903		0.06	2.14	1899	
19	48.4	59.7	82	1898	31	1937		37.1	63	1913	18	1937		0.11	4.46	1899	
20	47.2	59	78	1989	25	1906		35.5	60	1990	19	1937		0.05	2.17	1994	
21	47.3	58.8	80	1927	29	1926		35.7	58	1902	14	1898		0.02	1.48	1916	
22	47.5	59.1	78	1982	27	1898		35.8	60	1966	15	1898		0.04	1.54	1931	
23	46.1	57.6	79	1973	29	1895		34.6	60	1966	19	1950		0.03	1.62	1931	
24	45.6	56.2	76	1990	32	1918		35.1	60	1966	15	1950		0.08	1.14	1973	
25	49.1	60.5	84	1965	28	1993		37.7	62	1966	15	1993		0.07	2.01	1940	
26	47	57.9	81	1910	31	1992		36	62	1990	13	1993		0.13	1.8	1982	
27	41.8	51.6	82	1905	25	1896		32	63	1927	16	1976		0.06	1.3	1908	
28	39.7	49.5	81	1949	26	1911		29.9	58	1927	14	1896		0.01	1.44	1908	
29	41.5	53	80	1927	28	1897		30	64	1933	11	1911		0.01	0.67	1996	
30	43.2	54.5	74	1946	32	1896		31.9	60	1933	13	1976		0.02	0.72	1909	
MONTH	49	60.1	87	1980	25	1906		38	66	1966	9	1894		15	0.72		

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

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

**NOVEMBER**

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	Year
1	56	67	85	1916	37	1951		45	64	1987	25	1991		0.11	2.1	1901	
2	55	67	89	1909	27	1991		44	65	1983	20	1966		0.11	2.82	1974	
3	55	66	88	1909	36	1991		44	67	1983	16	1991		0.11	3.2	1974	
4	55	66	86	1914	39	1951		44	62	1909	21	1991		0.11	2.49	1994	
5	54	65	87	1914	34	1951		43	61	1924	25	1976		0.11	1.39	1994	
6	54	65	87	1945	39	1959		43	70	1924	20	1959		0.11	3.49	1996	
7	53	64	85	1980	41	1991		43	65	1945	22	1991		0.11	3.67	1918	
8	53	64	84	1980	41	1991		42	67	1966	16	1991		0.11	1.45	1977	
9	52	63	82	1934	42	1950		42	60	1931	23	1955		0.11	0.95	1916	
10	52	63	83	1995	37	1950		42	62	1949	21	1950		0.11	1.31	1937	
11	52	62	85	1989	31	1986		41	60	1949	17	1950		0.11	1.57	1992	
12	51	62	80	1989	31	1986		41	67	1931	15	1911		0.11	2.64	1972	
13	51	61	84	1910	30	1986		40	62	1989	12	1940		0.11	1.8	1985	
14	51	61	79	1989	30	1940		40	64	1913	13	1916		0.11	1.72	1909	
15	50	60	82	1950	38	1976		40	63	1964	11	1940		0.11	2.5	1964	
16	50	60	83	1963	28	1932		39	65	1958	14	1932		0.11	1.85	1996	
17	49	59	80	1969	31	1937		39	58	1941	11	1959		0.11	1.24	1952	
18	49	59	82	1930	32	1937		39	63	1934	19	1951		0.1	1.26	1964	
19	48	59	81	1908	29	1906		38	64	1913	14	1937		0.1	1.7	1900	
20	48	58	81	1989	28	1906		38	64	1913	16	1937		0.1	4.59	1979	
21	48	58	79	1927	30	1937		38	58	1913	18	1964		0.1	1.76	1934	
22	47	57	79	1966	33	1937		37	64	1913	16	1929		0.1	2.34	1931	
23	47	57	78	1974	33	1970		37	63	1966	17	1970		0.1	0.8	1931	
24	46	56	80	1965	35	1918		36	61	1966	14	1950		0.1	2.54	1973	
25	46	56	84	1965	31	1993		36	62	1915	17	1950		0.1	1.5	1940	
26	46	56	83	1965	30	1975		36	61	1927	14	1993		0.1	1.56	1982	
27	45	55	77	1927	35	1985		35	62	1927	16	1938		0.09	1.13	1982	
28	45	55	81	1949	26	1911		35	61	1927	13	1976		0.09	2.6	1908	
29	44	54	82	1927	32	1911		34	63	1933	10	1976		0.09	2.8	1908	
30	44	54	76	1933	32	1944		34	56	1933	13	1964		0.09	0.73	1981	
<b>MONTH</b>	<b>49.9</b>	<b>60.3</b>	<b>89</b>	<b>1909</b>	<b>26</b>	<b>1911</b>		<b>39.5</b>	<b>70</b>	<b>1924</b>	<b>10</b>	<b>1976</b>		<b>3.13</b>	<b>4.59</b>	<b>1979</b>	

\* The average number of Tornadoes in November for Oklahoma is 0.4.