

OKLAHOMA MONTHLY SUMMARY REVISED DECEMBER 1998

TABLE OF CONTENTS

December 1998 Oklahoma Summary.....	2
Table of December 1997/1998 Comparisons.....	5
December 1998 Data Summary Tables.....	6
December 1998 Mesonet Summary.....	11
December 1998 State Map Summary.....	12
December Climatological Normals.....	15
90 - Day National Weather Service Outlook.....	16
February Wind Roses – February 1999 Sunrise/Sunset Tables.....	17
Explanation of Tables.....	18
February Oklahoma City Climate Calendar.....	20
February Tulsa Climate Calendar.....	21

MONTHLY SUMMARY FOR DECEMBER 1998

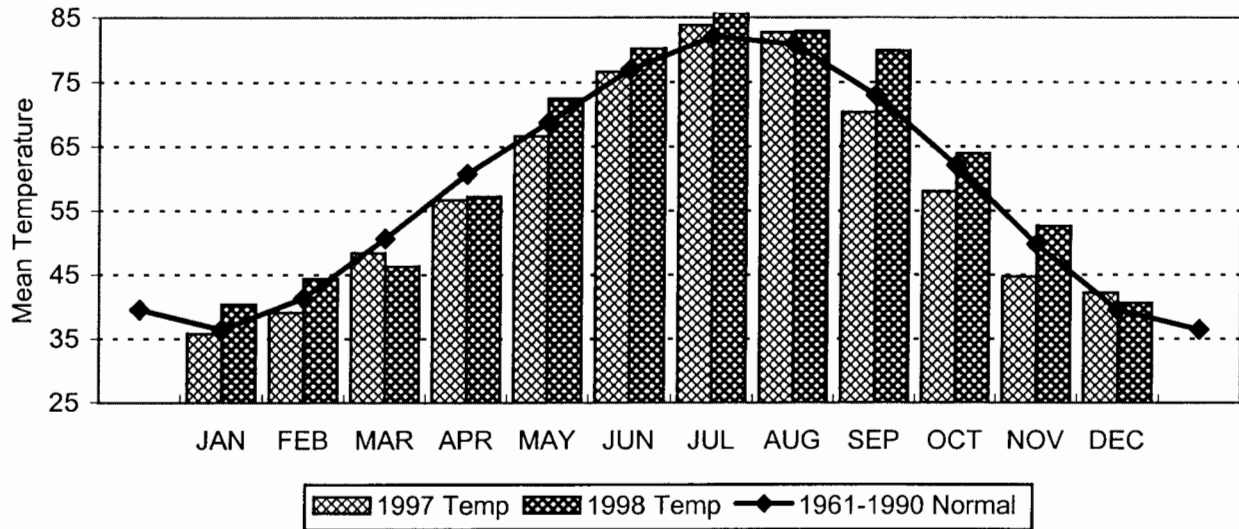
One of the strangest weather years in memory ended in rather pedestrian fashion as December 1998 rang out with slightly higher than normal temperature and precipitation. The statewide –averaged temperature of 40.6 degrees (1.1 degrees above normal) is the 51st highest December temperature in the 107 years for which such information is known. December's precipitation, averaged across the state was 1.89 inches (0.23 inches greater than normal) to rank the month as the 37th wettest December since 1892. Preliminary data indicate that 1998, with a statewide temperature of 62.3 degrees (2.1 degrees higher than normal), was the 10th warmest on record. Despite the drought that dominated large portions of the state during spring and summer, the year's annual precipitation of 36.60 inches was 2.36 inches greater than normal, making 1998 the state's 32nd wettest year since 1892.

Persistently mild weather dominated the early weeks of the month with Poteau (LeFlore County), Stilwell (Adair), and Broken Bow (McCurtain) all reporting daily maximum temperatures of 79 degrees on the 5th. Several southern and eastern Oklahoma sites collected more than two inches of rain, including 2.90 inches at Hugo (Choctaw), 2.36 inches at Daisy (Atoka), 2.33 inches at Clayton (Pushmataha) and 2.31 inches each at Marlow (Stephens) and at the Mesonet site near Broken Bow. An intrusion of cold air on the 8th brought snow and temperatures in the teens to the Panhandle and brought sub-freezing temperatures to Oklahoma City (Oklahoma) and Lawton (Comanche), establishing new records for the latest first freeze of autumn at both locations. Cimarron County snowfall reports included 4 inches at Regnier, 3.2 inches at Kenton, and 2 inches at Boise City. Hooker (Texas) also reported 2 inches of snow.

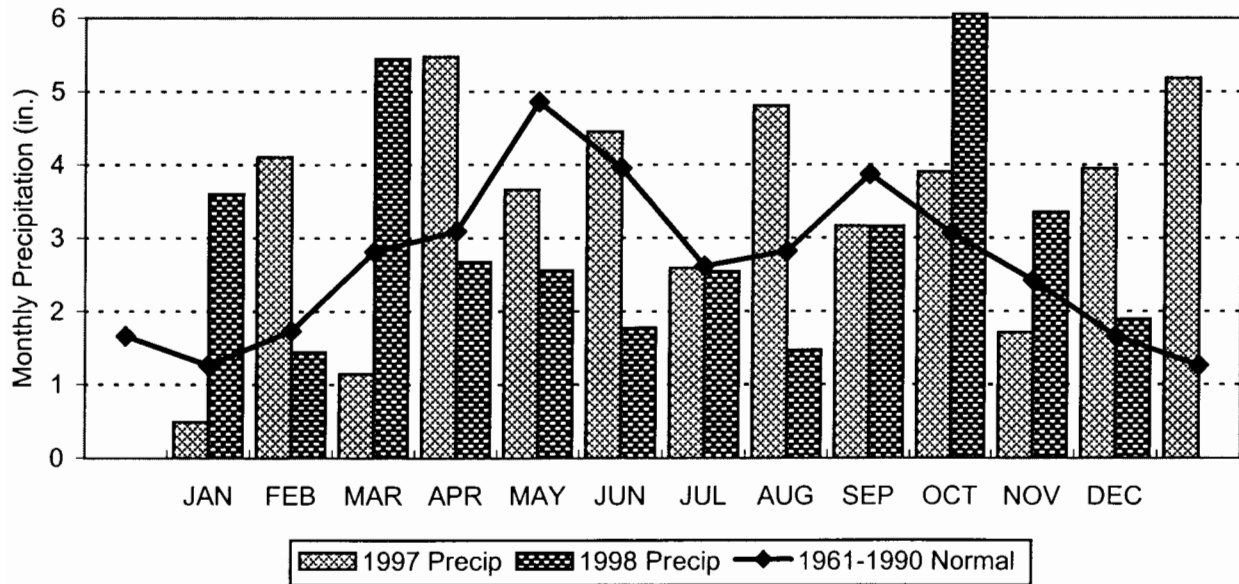
The last half of the month was notable for an outbreak of cold air during its third week that introduced sub-zero temperatures in some areas and treacherous freezing rain and drizzle in others. While some areas of the northwest reported light snow, including three inches at Fort Supply Dam (Woodward), 2.5 inches at Laverne (Harper) and Range (Texas), and two inches each at Kenton and Cherokee (Alfalfa), most areas of the state were subjected to freezing rain, drizzle, or fog on the 21st and again on the 23rd. Icy roadways led to five deaths in traffic accidents near Manitou (Tillman) and Atoka (Atoka). The temperature at the Kenton Mesonet site dropped to -8 on the 21st. Fort Supply Dam reported a low of -7 on the 21st and Boise City reported that same value on the 22nd. Mesonet data indicate that temperatures remained below freezing, statewide throughout the 22nd and 23rd with many areas not reaching 32 degrees again until Christmas Day. The recovery was rapid, however, as Kenton and the Boise City Mesonet site each recorded 70-degree temperatures on the 30th.

Howard L. Johnson

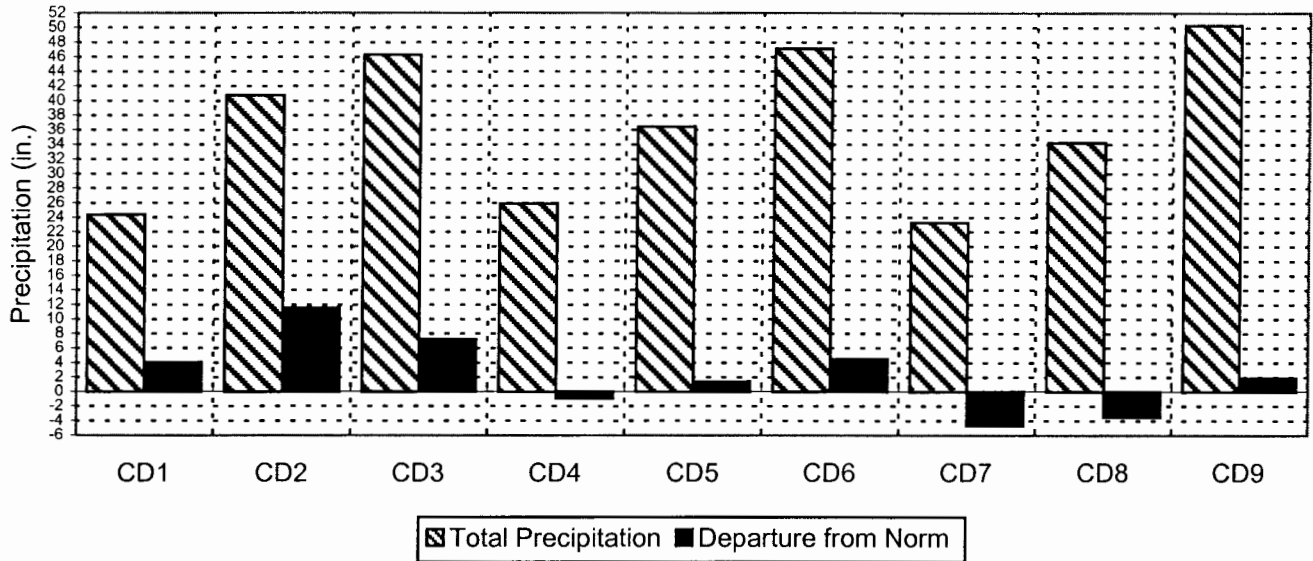
1997 and 1998 STATEWIDE TEMPERATURES Monthly Averages



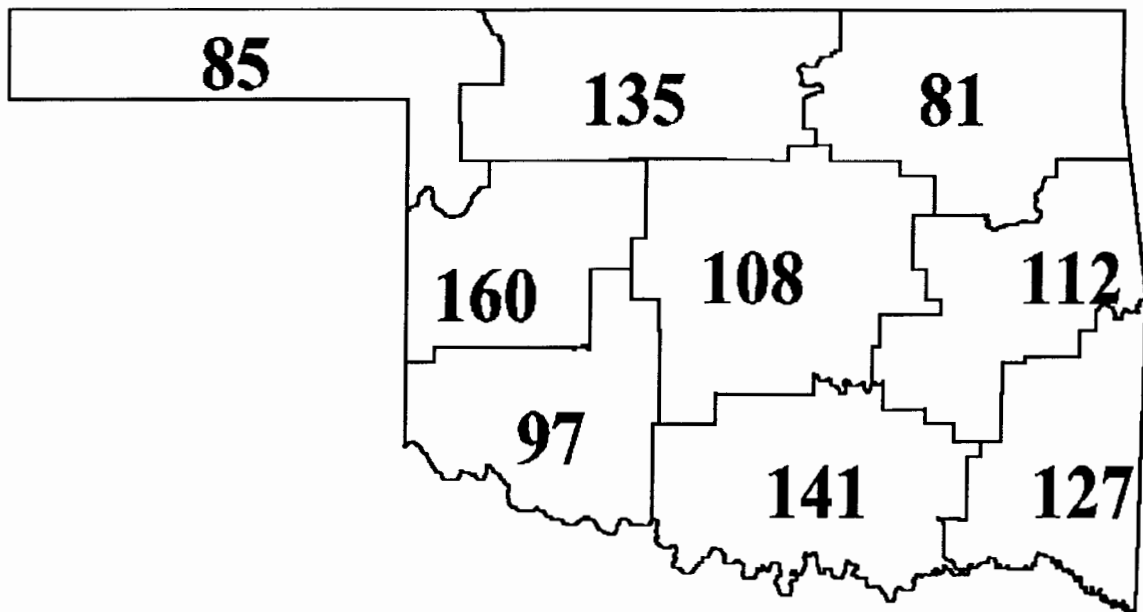
1997 and 1998 STATEWIDE PRECIPITATION Monthly Totals



CD Averaged Precipitation
January through November 1998



CD PERCENT OF NORMAL PRECIPITATION
December 1998



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

CD	MAX TEMP	DATE	LOCATION	MIN TEMP	DATE	LOCATION	24-HOUR PRECIP	DATE	LOCATION	MONTHLY PRECIP	LOCATION
1	75	3	GATE	-7	21	BEAVER	.65	4	ARNETT	1.06	RANGE
				-7	22	BOISE CITY					
2	76	6	FREEDOM	-7	21	FT SUPPLY	1.71	7	BRAMAN	2.18	VANCE AFB
3	79	5	CLEVELAND 2	5	22	CLEVELAND 2	1.90	4	BIXBY	3.22	MANNFORD
				5	22	PAWHUSKA					
4	76	6	ERICK	-1	22	REYDON	1.95	6	THOMAS	3.27	THOMAS
				-1	23	REYDON					
5	78	6	STILLWATER	6	22	HENNESSEY	1.97	4	WEWOKA	2.91	WEWOKA
				6	22	KINGFISHER					
6	79	5	STILWELL	8	22	STILWELL	2.33	4	CLAYTON	4.62	CLAYTON
				8	22	TAHLEQUAH					
7	76	6	MANGUM	7	21	CARNEGIE	1.23	4	LAWTON	2.00	RANDLETT
				7	22	CARNEGIE					
				7	22	HOBART					
				7	22	HOLLIS					
				7	23	MANGUM					
8	77	7	ATOKA DAM	8	22	MARLOW	2.36	4	DAISY	5.21	DAISY
9	79	5	POTEAU	12	25	PAGE	2.90	4	HUGO	6.41	HUGO
				12	25	SMITHVILLE					
				12	25	WILBURTON					

TABLE OF 1997/1998 COMPARISONS
JUNE
Temperature (°F) JUNE
Precipitation (in.)

Station	1997	1998	1997	1998
Arnett	33.4	36.4	1.45	0.80
Enid	36.7	39.1	1.40	1.92
Tulsa	39.3	40.8	1.60	1.57
Elk City	37.2	39.4	2.77	0.72
Oklahoma City	39.1	41.6	0.62	1.63
McAlester	42.1	42.5	1.01	2.38
Altus Irr Station	39.1	40.8	1.24	0.53
Ardmore	42.5	44.9	1.94	2.63
Idabel	41.8	44.8	2.00	5.65

EXTREMES
DIVISION

VARIABLE	STATION	DIVISION	OBSERVATION	DATE
Minimum temperature (°F)	Beaver	1	-7	21
	Boise City	1	-7	22
	Ft. Supply	2	-7	21
Maximum temperature (°F)	Cleveland	3	79	5
	Stilwell	6	79	5
	Poteau	9	79	5
Maximum 24-hour Precipitation	Hugo	9	2.90"	4

DECEMBER 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	36.4	31	1	72	6	-3	22	888	-31	0	0	0.801	31	0.03	0.65	4
BEAVER	593	1	34.5	31	0.5	72	2	-7	21	944	-17	0	0	0.350	31	-0.24	0.30	7
BOISE CITY	908	1	36.5	31	0.8	74	4	-7	22	883	-26	0	0	0.155	31	-0.22	0.15	7
BUFFALO	1243	1	39.4	30	2.3	73	2	-3	23	767	-98	0	0	0.050	31	-0.75	0.05	4
FARGO	3070	1	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.524	31	-0.25	0.51	4
GAGE	3407	1	39.0	29	*****	72	5	3	21	754	*****	0	*****	0.424	29	*****	0.37	4
GATE	3489	1	36.7	31	1.7	75	3	-5	22	878	-52	0	0	0.283	31	-0.42	0.11	7
GOODWELL	3628	1	39.1	20	*****	72	3	-4	22	519	*****	0	*****	0.370	23	*****	0.20	6
GUYMON	3835	1	36.1	31	*****	72	2	-5	22	895	*****	0	*****	0.601	31	*****	0.25	8
HOOKER	4298	1	36.3	30	1.3	71	2	-3	22	863	-68	0	0	0.590	31	0.18	0.28	6
KENTON	4766	1	34.9	28	*****	74	4	-5	22	842	*****	0	*****	0.680	29	*****	0.25	20
LAVERNE	5045	1	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.312	31	-0.42	0.09	22
RANGE	7412	1	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.064	31	*****	0.36	7
REGNIER	7534	1	*****	0	*****	****	0	****	0	*****	*****	*****	*****	0.352	31	0.02	0.15	7
TURPIN	9017	1	35.5	21	*****	70	3	-3	22	619	*****	0	*****	0.480	22	*****	0.48	7

DECEMBER 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	38.6	31	*****	72	4	-1	23	819	*****	0	*****	0.580	31	*****	0.34	4
VANCE AFB	302	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.181	30	*****	0.90	4
BILLINGS	755	2	38.8	31	2.8	73	4	4	23	812	-87	0	0	1.761	31	0.39	0.65	7
BLACKWELL 2E	818	2	38.7	31	2.2	73	4	5	23	815	-69	0	0	1.500	31	0.15	0.43	7
BRAMAN	1075	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	2.060	31	*****	1.71	7
CEDARDALE	1620	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.243	31	*****	0.88	4
CHEROKEE	1724	2	37.5	30	0.2	73	4	0	23	827	-33	0	0	1.250	31	0.12	0.75	6
ENID	2912	2	39.1	29	*****	72	6	2	23	751	*****	0	*****	1.920	29	*****	1.01	6
FT SUPPLY	3304	2	35.4	31	0.7	72	1	-7	21	917	-22	0	0	0.582	31	-0.14	0.45	3
FREEDOM	3358	2	36.5	30	0.1	76	6	-3	22	854	-34	0	0	0.800	31	-0.01	0.70	4
GREAT SALT P	3740	2	38.4	31	2.8	73	3	3	22	826	-86	0	0	1.550	31	0.73	0.78	3
HARDY	3909	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.442	31	*****	0.90	7
HELENA	4019	2	37.6	31	2.5	73	6	-3	22	851	-77	0	0	1.521	31	0.54	0.51	4
JEFFERSON	4573	2	40.1	31	3.1	74	3	2	22	774	-95	1	1	1.931	31	0.74	0.85	6
LAMONT	5013	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.830	31	*****	0.52	7
MEDFORD	5768	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.710	31	*****	1.14	7
MORRISON	6065	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.480	31	*****	0.66	4
MUTUAL	6139	2	37.2	31	1.7	72	6	-2	23	861	-55	0	0	0.951	31	0.21	0.73	4
NEWKIRK	6278	2	38.0	31	1.4	72	4	3	23	838	-43	0	0	1.544	31	0.11	0.72	7
ORIENTA	6751	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.150	31	0.34	0.52	7
PERRY	7012	2	41.3	31	2.5	75	7	7	23	735	-78	0	0	1.662	31	0.33	0.60	4
PONCA CITY	7201	2	41.3	30	5.5	75	3	7	22	712	-194	2	2	2.032	31	0.62	0.97	7
RED ROCK	7505	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.822	31	0.48	0.92	6
WAYNOKA	9404	2	43.1	18	*****	74	4	13	19	395	*****	0	*****	0.610	19	*****	0.46	2
WOODWARD	9760	2	*****	0	*****	****	0	****	0	*****	*****	*****	*****	1.014	31	0.17	0.87	4

DECEMBER 1998 SUMMARY FOR NORTHEAST DIVISION (CD3)

NAME	ID	CD	MEAN		DEV		DAY	MIN		HEAT	DEV	COOL	DEV	TOT	NUM	DEV		DAY
			TEMP	OBS	FROM	MAX		DEG	FROM	DEG	FROM	FROM	24-HR					
BARNSDALL	535	3	40.7	30	2.6	77	5	7	22	732	-103	3	3	1.972	30	****	1.10	19
BARTLESVILLE	548	3	39.7	31	1.6	78	5	6	22	787	-47	3	3	1.652	31	0.02	0.68	7
BIXBY	782	3	40.3	31	2.1	77	7	10	23	768	-63	3	3	2.630	31	0.67	1.90	4
BURBANK	1256	3	****	0	****	****	0	****	0	*****	*****	*****	*****	1.540	31	0.04	0.67	6
CHELSEA	1717	3	****	0	****	****	0	****	0	*****	*****	*****	*****	1.270	31	****	0.65	19
CLAREMORE	1828	3	41.3	30	3.9	76	7	10	22	713	-143	3	3	1.460	31	-0.72	0.74	4
CLEVELAND 2	1902	3	39.5	30	****	79	5	5	22	766	*****	2	*****	1.682	30	****	0.74	7
FORAKER	3250	3	****	0	****	****	0	****	0	*****	*****	*****	*****	1.400	31	-0.10	0.63	19
HOLLOW	4258	3	****	0	****	****	0	****	0	*****	*****	*****	*****	1.111	31	-0.92	0.53	19
HOMINY	4289	3	****	0	****	****	0	****	0	*****	*****	*****	*****	1.590	31	0.02	0.58	7
KANSAS	4672	3	42.8	26	****	75	5	7	22	577	*****	1	*****	2.084	27	****	0.43	13
LENAPAH	5118	3	****	0	****	****	0	****	0	*****	*****	*****	*****	1.300	31	****	0.65	19
MANNFORD	5522	3	41.6	30	2.7	76	5	8	22	704	-105	3	3	3.222	30	****	1.61	13
MARAMEC	5540	3	****	0	****	****	0	****	0	*****	*****	*****	*****	1.800	31	0.32	0.66	7
NOWATA	6485	3	40.7	29	****	76	5	8	22	705	*****	1	*****	1.220	31	-0.80	0.67	19
PAWHUSKA	6935	3	39.9	31	2.3	76	5	5	22	781	-69	2	2	1.930	31	0.26	0.82	7
PAWNEE	6940	3	****	0	****	****	0	****	0	*****	*****	*****	*****	1.550	31	0.02	0.62	4
PRYOR	7309	3	40.7	29	****	75	6	7	22	705	*****	1	*****	0.982	31	-1.42	0.55	4
RALSTON	7390	3	40.6	31	2.7	76	5	7	22	758	-83	2	2	1.591	31	0.03	0.60	19
SKIATOOK	8258	3	****	0	****	****	0	****	0	*****	*****	*****	*****	1.640	31	-0.02	0.68	19
SPAVINAW	8380	3	43.0	31	2.6	76	5	9	22	686	-78	4	4	1.460	31	-1.04	0.55	19
TULSA	8992	3	40.8	31	1.9	75	5	9	22	752	-57	2	2	1.572	31	-0.59	0.54	3
UPPER SPAV	9101	3	43.0	28	****	76	5	9	22	622	*****	7	*****	2.232	30	****	0.91	13
VINITA	9203	3	39.5	31	2	75	5	7	22	794	-60	2	2	1.060	31	-1.47	0.52	19
WAGONER	9247	3	41.8	31	1.2	76	5	10	22	722	-35	3	3	2.572	31	0.13	0.90	2
WANN	9298	3	****	0	****	****	0	****	0	*****	*****	*****	*****	1.691	31	****	0.88	7
WYNONA	9792	3	****	0	****	****	0	****	0	*****	*****	*****	*****	1.802	31	****	0.67	7

DECEMBER 1998 SUMMARY FOR WEST CENTRAL DIVISION (CD4)

NAME	ID	CD	MEAN		DEV		DAY	MIN		HEAT	DEV	COOL	DEV	TOT	NUM	DEV		DAY
			TEMP	OBS	FROM	MAX		DEG	FROM	DEG	FROM	FROM	24-HR					
CANTON DAM	1445	4	37.8	31	1.6	72	6	1	23	844	-49	0	0	1.731	31	0.91	0.93	6
CLINTON	1909	4	40.0	31	0.7	72	5	3	22	775	-22	0	0	1.592	31	0.60	0.79	4
COLONY	2039	4	****	0	****	****	0	****	0	*****	*****	*****	*****	1.722	31	****	0.91	4
CORDELL	2125	4	39.5	31	0.4	70	4	6	23	790	-13	0	0	1.612	31	0.71	0.87	4
ELK CITY	2849	4	39.4	31	0.7	72	1	3	23	793	-22	0	0	0.720	31	-0.05	0.31	4
ERICK	2944	4	38.9	31	-0.1	76	6	2	23	811	5	0	0	0.475	31	-0.23	0.35	4
GEARY	3497	4	47.0	28	****	73	6	22	22	505	*****	0	*****	1.270	28	****	0.71	4
HAMMON	3871	4	37.6	31	1.4	75	6	2	23	849	-44	0	0	1.050	31	0.29	0.44	6
LEEDEY	5090	4	****	0	****	****	0	****	0	*****	*****	*****	*****	1.120	31	0.48	0.89	4
MORAVIA	6035	4	****	0	****	****	0	****	0	*****	*****	*****	*****	0.301	31	-0.52	0.20	4
OKEENE	6629	4	40.5	31	1.6	74	5	3	22	761	-48	0	0	1.330	31	0.28	0.63	6
RETROP	7565	4	****	0	****	****	0	****	0	*****	*****	*****	*****	0.840	31	****	0.47	6
REYDON	7579	4	36.8	26	****	71	1	-1	23	732	*****	0	*****	0.281	26	****	0.28	4
SAYRE	7952	4	****	0	****	****	0	****	0	*****	*****	*****	*****	1.091	31	0.50	0.66	6
SWEETWATER	8652	4	****	0	****	****	0	****	0	*****	*****	*****	*****	0.352	31	****	0.35	4
TALOGA	8708	4	38.5	31	1.2	72	6	1	23	823	-36	0	0	1.671	31	0.99	1.03	4
THOMAS	8815	4	****	0	****	****	0	****	0	*****	*****	*****	*****	3.270	31	****	1.95	6
VICI	9172	4	****	0	****	****	0	****	0	*****	*****	*****	*****	1.430	31	0.57	1.14	3
WATONGA	9364	4	39.5	31	1.4	74	5	3	22	790	-45	0	0	1.552	31	0.49	0.70	7
WEATHERFORD	9422	4	38.6	31	1.5	69	5	6	21	818	-48	0	0	1.750	31	0.86	0.95	3

DECEMBER 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	*****	*****	*****	*****	1.420	31	****	1.20	4
ARCADIA	288	5	****	0	****	****	0	****	0	*****	*****	*****	*****	1.252	31	****	0.50	4
BLANCHARD	830	5	42.5	31	1.2	74	5	9	22	699	-36	1	1	2.054	31	0.46	1.60	4
BRISTOW	1144	5	42.3	30	2.2	77	5	9	22	685	-87	3	3	2.230	31	0.16	1.55	4
CHANDLER	1684	5	41.4	31	1	76	6	9	23	734	-30	1	1	1.891	31	0.36	1.40	4
CHICKASHA EXP	1750	5	42.1	31	1.6	73	5	10	22	711	-50	0	0	1.742	31	0.48	1.41	4
COX CITY	2196	5	****	0	****	****	0	****	0	*****	*****	*****	*****	1.660	31	****	1.17	4
CRESCENT	2242	5	****	0	****	****	0	****	0	*****	*****	*****	*****	1.430	31	****	0.83	5
CUSHING	2318	5	42.1	30	3.9	75	6	8	23	687	-145	1	1	1.751	30	****	1.15	4
EDMOND	2788	5	****	0	****	****	0	****	0	*****	*****	*****	*****	0.641	31	****	0.45	6
EL RENO	2818	5	41.2	31	2.4	72	4	11	23	737	-75	0	0	1.100	31	0.06	0.60	4
GUTHRIE	3821	5	40.8	31	0.9	76	6	7	23	753	-26	3	3	1.181	31	-0.32	0.82	4
HENNESSEY	4055	5	39.4	31	1.3	70	5	6	22	795	-39	0	0	2.390	31	1.35	0.98	4
INGALLS	4489	5	****	0	****	****	0	****	0	*****	*****	*****	*****	1.850	31	****	0.79	4
KINGFISHER	4861	5	39.1	29	****	74	6	6	22	750	****	0	****	1.981	31	0.79	1.21	4
KONAWA	4915	5	****	0	****	****	0	****	0	*****	*****	*****	*****	2.170	31	0.29	1.78	3
MARSHALL	5589	5	****	0	****	****	0	****	0	*****	*****	*****	*****	1.290	31	0.14	0.66	4
MEEKER	5779	5	40.4	30	0.2	74	6	8	23	737	-32	0	0	1.661	30	****	1.15	4
MULHALL	6110	5	****	0	****	****	0	****	0	*****	*****	*****	*****	1.220	31	****	0.59	4
NORMAN NWS	6386	5	40.8	31	-0.2	74	5	8	22	750	6	0	0	1.125	31	-0.46	0.87	3
OKEMAH	6638	5	44.4	31	3.6	76	5	13	22	643	-107	4	4	2.191	31	0.19	1.20	4
OKLAHOMA CTY	6659	5	****	0	****	****	0	****	0	*****	*****	*****	*****	1.795	31	****	1.25	4
OKLAHOMA CTY	6661	5	41.6	31	****	73	5	10	22	727	****	0	****	1.628	31	****	1.19	3
PERKINS	7003	5	****	0	****	****	0	****	0	*****	*****	*****	*****	1.620	31	0.09	0.73	4
PIEDMONT	7068	5	****	0	****	****	0	****	0	*****	*****	*****	*****	0.580	31	****	0.40	7
PRAGUE	7264	5	****	0	****	****	0	****	0	*****	*****	*****	*****	1.962	31	0.14	1.32	4
PURCELL	7327	5	40.5	31	0	77	6	10	26	761	1	0	0	1.931	31	0.10	1.00	4
SEMINOLE	8042	5	40.2	31	-1.8	75	5	9	22	770	57	0	0	1.871	31	0.05	0.96	3
SHAWNEE	8110	5	****	0	****	****	0	****	0	*****	*****	*****	*****	1.703	31	-0.18	1.30	4
STELLA	8479	5	****	0	****	****	0	****	0	*****	*****	*****	*****	1.282	31	****	0.81	4
STILLWATER	8501	5	41.8	27	****	78	6	8	26	628	****	2	****	1.533	28	****	0.76	4
STROUD	8563	5	****	0	****	****	0	****	0	*****	*****	*****	*****	1.931	31	****	1.23	4
TECUMSEH	8751	5	****	0	****	****	0	****	0	*****	*****	*****	*****	0.500	31	****	0.50	6
TROUSDALE	8960	5	41.4	31	****	76	6	10	23	732	****	0	****	1.630	31	****	1.01	4
UNION CITY	9086	5	****	0	****	****	0	****	0	*****	*****	*****	*****	1.344	31	-0.01	0.95	4
WELTY	9479	5	****	0	****	****	0	****	0	*****	*****	*****	*****	1.691	31	****	1.22	4
WEWOKA	9575	5	****	0	****	****	0	****	0	*****	*****	*****	*****	2.910	31	1.01	1.97	4

DECEMBER 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	*****	*****	*****	*****	3.344	31	****	1.13	4
BEGGS	631	6	****	0	****	****	0	****	0	*****	*****	*****	*****	1.660	31	****	1.38	4
CALVIN	1391	6	****	0	****	****	0	****	0	*****	*****	*****	*****	2.820	31	0.63	1.01	2
CHECOTAH	1711	6	****	0	****	****	0	****	0	*****	*****	*****	*****	2.803	31	0.35	1.02	4
CLAYTON	1858	6	****	0	****	****	0	****	0	*****	*****	*****	*****	4.620	31	****	2.33	4
DEWAR	2485	6	****	0	****	****	0	****	0	*****	*****	*****	*****	2.592	31	0.50	1.12	4
DUSTIN	2690	6	****	0	****	****	0	****	0	*****	*****	*****	*****	2.891	31	****	1.47	4
EUFULA	2993	6	43.1	27	****	75	5	12	22	591	****	0	****	3.550	28	****	1.35	11
HANNA	3884	6	42.2	31	0.7	75	3	10	22	711	-19	3	3	3.052	31	0.61	1.12	4
HASKELL	3956	6	****	0	****	****	0	****	0	*****	*****	*****	*****	2.420	31	0.14	1.06	4
HOLDENVILLE	4235	6	42.4	31	0.6	76	7	11	23	701	-19	0	0	2.620	31	0.67	1.46	4
LAKE EUFULA	4975	6	47.4	23	****	74	6	10	25	408	****	4	****	2.860	23	****	1.29	4
LYONS	5437	6	****	0	****	****	0	****	0	*****	*****	*****	*****	2.910	31	0.16	0.96	13
MARBLE CITY	5546	6	****	0	****	****	0	****	0	*****	*****	*****	*****	2.680	31	****	1.25	4
MCALESTER	5664	6	42.5	31	1.3	76	5	13	22	703	-35	7	7	2.378	31	-0.24	0.84	4
MCCURTAIN	5693	6	43.6	31	1.1	78	5	13	22	666	-33	4	4	4.033	31	1.21	1.25	4
MUSKOGEE	6130	6	42.0	31	1.4	77	5	13	22	716	-40	3	3	2.813	31	-0.09	1.08	4
OKMULGEE	6670	6	42.3	30	2.9	77	6	12	23	684	-111	2	2	2.561	30	****	1.50	4
OKTAHA	6678	6	****	0	****	****	0	****	0	*****	*****	*****	*****	2.700	31	****	0.97	4
SALLISAW	7862	6	43.2	31	1.9	77	6	13	22	680	-55	4	4	3.191	31	0.38	1.22	4
SCIPIO	7979	6	****	0	****	****	0	****	0	*****	*****	*****	*****	3.120	31	****	1.14	4
SHORT	8170	6	****	0	****	****	0	****	0	*****	*****	*****	*****	2.610	31	****	0.72	4
STILWELL	8506	6	40.3	31	0.3	79	5	8	22	766	-9	2	2	3.081	31	-0.08	1.07	13
TAHLEQUAH	8677	6	41.4	31	1.7	77	5	8	22	732	-52	2	2	2.381	31	-0.62	0.70	4
WEBBERS FALL	9445	6	42.3	31	2.9	77	6	12	23	707	-87	2	2	3.190	31	0.48	1.25	4
WESTVILLE	9523	6	****	0	****	****	0	****	0	*****	*****	*****	*****	2.400	31	****	0.76	13
WETUMKA	9571	6	****	0	****	****	0	****	0	*****	*****	*****	*****	2.896	31	0.78	1.63	4

DECEMBER 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	40.8	29	****	74	5	10	22	701	*****	0	*****	0.530	31	-0.38	0.34	4
ALTUS DAM	184	7	40.6	31	0.9	74	6	8	23	757	-28	0	0	1.210	31	0.35	0.63	6
ANADARKO	224	7	39.1	31	-0.5	71	6	8	25	804	17	0	0	1.160	31	-0.04	0.72	4
APACHE	260	7	****	0	****	****	0	****	0	*****	*****	*****	*****	1.400	31	0.24	1.10	4
ALTUS AFB	447	7	****	0	****	****	0	****	0	*****	*****	*****	*****	0.674	30	****	0.53	4
CARNEGIE	1504	7	39.0	31	-0.9	70	5	7	22	805	27	0	0	0.962	31	-0.10	0.74	3
CHATTANOOGA	1706	7	42.4	24	****	75	1	11	23	544	****	0	*****	0.831	25	****	0.72	4
DUNCAN 11 W	2668	7	****	0	****	****	0	****	0	*****	*****	*****	*****	1.085	31	****	0.93	4
FREDERICK	3353	7	41.9	27	****	74	5	10	21	625	****	0	*****	0.280	28	****	0.11	19
HEADRICK	3998	7	****	0	****	****	0	****	0	*****	*****	*****	*****	0.000	31	****	0.00	31
HOBART	4204	7	39.8	31	-0.1	68	5	7	22	780	2	0	0	0.810	31	-0.03	0.62	4
HOLLIS	4249	7	41.0	31	0.2	75	5	7	22	745	-5	0	0	0.810	31	0.13	0.62	4
LAWTON	5063	7	41.7	31	1.8	74	6	10	23	723	-55	0	0	1.551	31	0.30	1.23	4
LOOKEBA	5329	7	****	0	****	****	0	****	0	*****	*****	*****	*****	1.532	31	0.51	1.00	4
MANGUM	5509	7	40.9	31	0.1	76	6	7	23	747	-4	0	0	0.300	31	-0.49	0.22	4
RANDLETT	7403	7	****	0	****	****	0	****	0	*****	*****	*****	*****	1.995	31	****	1.19	5
ROOSEVELT	7727	7	****	0	****	****	0	****	0	*****	*****	*****	*****	0.920	31	-0.05	0.58	4
SEDAN	8016	7	****	0	****	****	0	****	0	*****	*****	*****	*****	0.800	31	****	0.60	4
SNYDER	8299	7	****	0	****	****	0	****	0	*****	*****	*****	*****	0.591	31	-0.39	0.42	4
VINSON	9212	7	****	0	****	****	0	****	0	*****	*****	*****	*****	1.060	31	0.36	0.71	6
WALTERS	9278	7	42.3	31	-0.2	73	6	11	23	707	9	3	3	1.700	31	0.30	1.14	4
WICHITA MT	9629	7	38.5	31	0	73	6	7	25	821	-2	0	0	0.822	31	-0.44	0.72	4
WILLOW	9668	7	****	0	****	****	0	****	0	*****	*****	*****	*****	0.560	31	****	0.26	6

DECEMBER 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	41.7	31	-0.5	73	6	10	23	721	14	0	0	2.532	31	0.55	1.35	4
ALLEN	147	8	****	0	****	****	0	****	0	*****	*****	*****	*****	3.000	31	****	1.04	2
ARDMORE	292	8	44.9	31	0.2	75	6	13	23	622	-7	0	0	2.632	31	0.78	1.08	4
ATOKA DAM	394	8	45.3	21	****	77	7	16	23	414	****	1	*****	4.400	21	****	1.93	4
BOKCHITO	917	8	****	0	****	****	0	****	0	*****	*****	*****	*****	2.820	31	****	1.77	12
CANEY	1437	8	****	0	****	****	0	****	0	*****	*****	*****	*****	4.650	31	****	1.95	4
CENTRAHOMA	1648	8	43.7	31	****	75	7	14	23	663	****	4	*****	4.250	31	****	1.25	4
CHICKASAW	1745	8	41.7	29	****	74	6	11	25	682	****	6	*****	2.250	30	****	0.98	4
COLEMAN	2011	8	****	0	****	****	0	****	0	*****	*****	*****	*****	3.520	31	****	1.47	4
COMANCHE	2054	8	42.8	31	****	73	3	12	22	690	****	2	*****	2.670	31	1.07	1.14	3
DAISY	2354	8	****	0	****	****	0	****	0	*****	*****	*****	*****	5.210	31	2.30	2.36	4
DUNCAN	2660	8	42.0	31	0.7	74	1	11	23	713	-22	1	1	1.581	31	0.09	1.11	4
ELMORE CITY	2872	8	****	0	****	****	0	****	0	*****	*****	*****	*****	1.620	31	****	0.78	4
GRADY	3688	8	****	0	****	****	0	****	0	*****	*****	*****	*****	1.760	31	****	0.85	19
HEALDTON	4001	8	42.9	31	0.6	76	6	12	22	688	-16	3	3	2.250	31	0.60	0.93	12
HENNEPIN	4052	8	****	0	****	****	0	****	0	*****	*****	*****	*****	1.690	31	****	0.82	4
KETCHUM RAN	4780	8	****	0	****	****	0	****	0	*****	*****	*****	*****	2.140	31	****	0.83	4
KINGSTON	4865	8	****	0	****	****	0	****	0	*****	*****	*****	*****	4.081	31	1.96	2.24	4
LEHIGH	5108	8	****	0	****	****	0	****	0	*****	*****	*****	*****	2.554	31	****	1.10	4
LINDSAY	5216	8	40.1	31	-1.1	74	5	11	25	771	33	0	0	1.700	31	0.01	1.40	4
LOCO	5247	8	****	0	****	****	0	****	0	*****	*****	*****	*****	1.610	31	****	0.63	4
MADILL	5468	8	45.1	31	1.3	76	7	14	22	623	-35	6	6	3.730	31	1.72	2.00	4
MARIETTA	5563	8	43.7	31	-0.1	76	6	14	26	665	8	4	4	1.510	31	-0.34	0.71	12
MARLOW	5581	8	41.9	31	0.4	73	5	8	22	718	-12	0	0	2.602	31	1.21	2.31	4
MCGEE CREEK	5713	8	44.5	31	****	76	6	13	22	642	*****	5	*****	5.101	31	****	2.14	4
PAULS VALLEY	6926	8	40.8	31	-1	76	6	11	25	751	32	0	0	1.452	31	-0.35	0.71	4
PONTOTOC	7214	8	****	0	****	****	0	****	0	*****	*****	*****	*****	3.050	31	1.19	1.46	3
TISHOMINGO	8884	8	45.5	27	****	76	5	16	25	531	*****	6	*****	3.270	29	****	1.80	3
TUSSY	9032	8	****	0	****	****	0	****	0	*****	*****	*****	*****	1.990	31	****	0.98	3
WAURIKA	9395	8	44.0	31	0.6	76	5	13	22	653	-18	1	1	0.720	31	-0.83	0.45	12

DECEMBER 1998 SUMMARY FOR SOUTHEAST DIVISION (CD9)

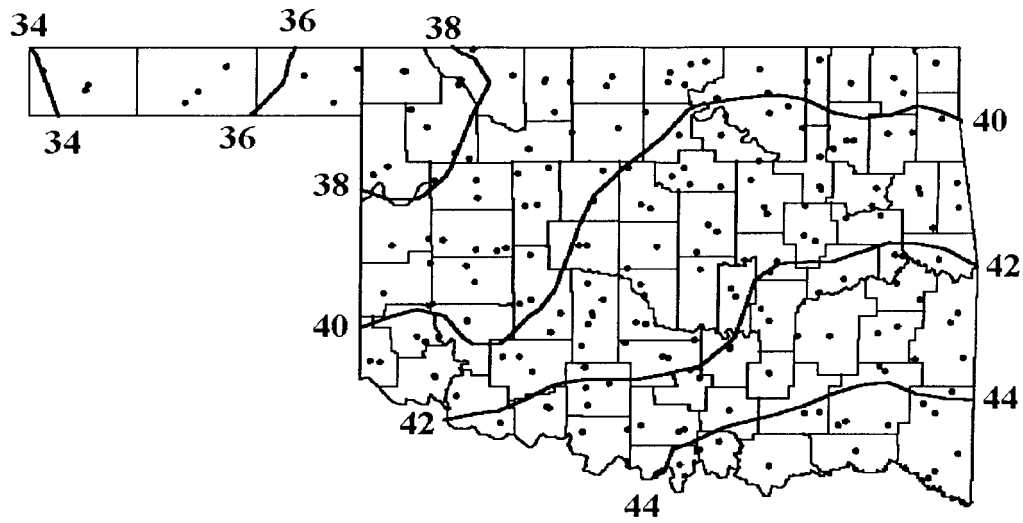
NAME	ID	CD	MEAN TEMP	NUM OBS	DEV		DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV		DAY
					FROM NORM	MAX TEMP										FROM NORM	MAX 24-HR	
ANTLERS	256	9	44.8	31	1.7	76	5	15	25	632	-47	7	7	4.280	31	1.40	1.00	4
BATTIEST	567	9	43.4	31	****	76	6	13	26	676	*****	6	*****	4.750	31	****	1.40	19
BENGAL	670	9	****	0	****	****	0	****	0	*****	*****	*****	*****	4.181	31	****	1.63	4
BOSWELL	980	9	39.8	23	****	64	17	16	26	581	*****	0	*****	4.440	31	1.66	1.58	4
BROKEN BOW	1162	9	****	0	****	****	0	****	0	*****	*****	*****	*****	5.630	31	1.65	2.17	4
CARNASAW	1499	9	****	0	****	****	0	****	0	*****	*****	*****	*****	5.032	31	0.92	1.98	4
CARTER TWR	1544	9	****	0	****	****	0	****	0	*****	*****	*****	*****	4.401	31	0.28	1.75	4
FANSHAWE	3065	9	****	0	****	****	0	****	0	*****	*****	*****	*****	2.850	31	-0.36	1.27	4
HUGO	4384	9	46.2	19	****	78	5	16	26	367	*****	10	*****	6.410	30	****	2.90	4
IDABEL	4451	9	44.8	31	1.5	78	6	14	26	632	-42	6	6	5.650	31	1.97	1.70	4
PAGE	6842	9	41.6	31	****	76	6	12	25	728	*****	4	*****	4.401	31	****	1.80	4
POTEAU	7254	9	42.9	31	****	79	5	14	25	686	*****	1	*****	3.503	31	****	1.25	11
SMITHVILLE	8285	9	44.0	31	2.3	77	6	12	25	658	-65	7	7	4.356	31	0.01	1.35	19
SPIRO	8416	9	****	0	****	****	0	****	0	*****	*****	*****	*****	3.520	31	0.46	0.82	4
TUSKAHOMA	9023	9	44.8	31	1.6	75	5	13	25	631	-46	5	5	4.164	31	1.34	1.68	4
VALLIANT	9118	9	****	0	****	****	0	****	0	*****	*****	*****	*****	5.300	31	1.59	2.12	4
WILBURTON	9634	9	43.0	31	1.2	77	5	12	25	683	-37	2	2	3.892	31	0.90	1.40	3

DECEMBER 1998 CLIMATE DIVISION SUMMARY

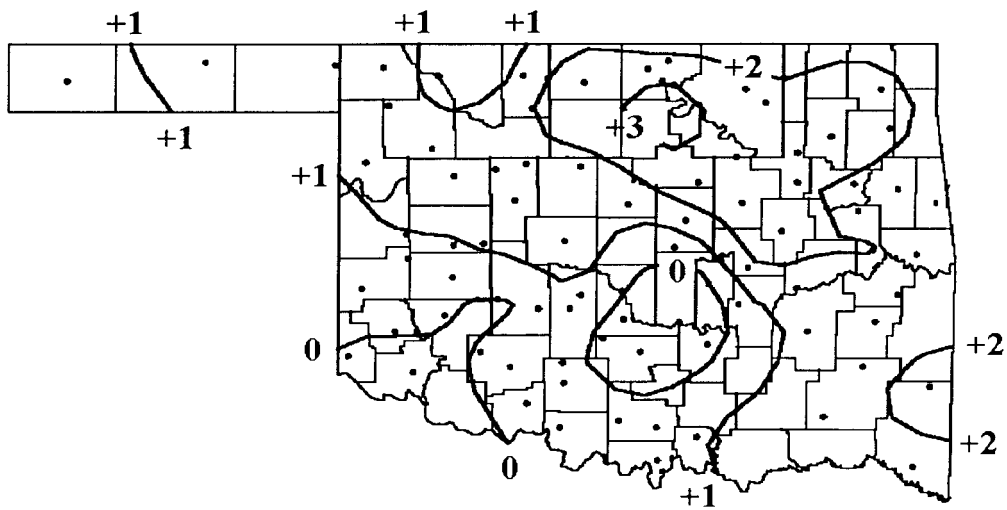
CD	MEAN TEMP	NUM OBS	DEV		DAY	MIN TEMP	DAY	HEAT DEG DAY	DEV FROM NORM	COOL DEG DAY	DEV FROM NORM	TOT PPT	NUM OBS	DEV		DAY
			FROM NORM	MAX TEMP										FROM NORM	MAX 24-HR	
1	36.6	7	1.4	75	3	-7	22	874	-51	0	0	0.460	11	-0.10	0.65	4
2	38.4	13	1.9	76	6	-7	21	818	-64	0	0	1.430	22	0.35	1.71	7
3	40.7	12	2.3	79	5	5	22	747	-77	2	2	1.580	22	-0.38	1.90	4
4	39.0	10	1	76	6	-1	23	805	-30	0	0	1.310	18	0.49	1.95	6
5	41.4	15	1.4	78	6	6	22	728	-47	1	1	1.620	34	0.07	1.97	4
6	42.2	10	1.3	79	5	8	22	706	-40	3	3	2.880	24	0.34	2.33	4
7	40.3	9	-0.2	76	6	7	25	765	5	0	0	0.990	20	-0.03	1.23	4
8	42.9	13	0.5	77	7	8	22	686	-14	2	2	2.680	27	0.80	2.36	4
9	43.7	8	0.6	79	5	12	25	665	-13	5	5	4.400	16	0.93	2.90	4

MESONET MONTHLY SUMMARY FOR DECEMBER 1998

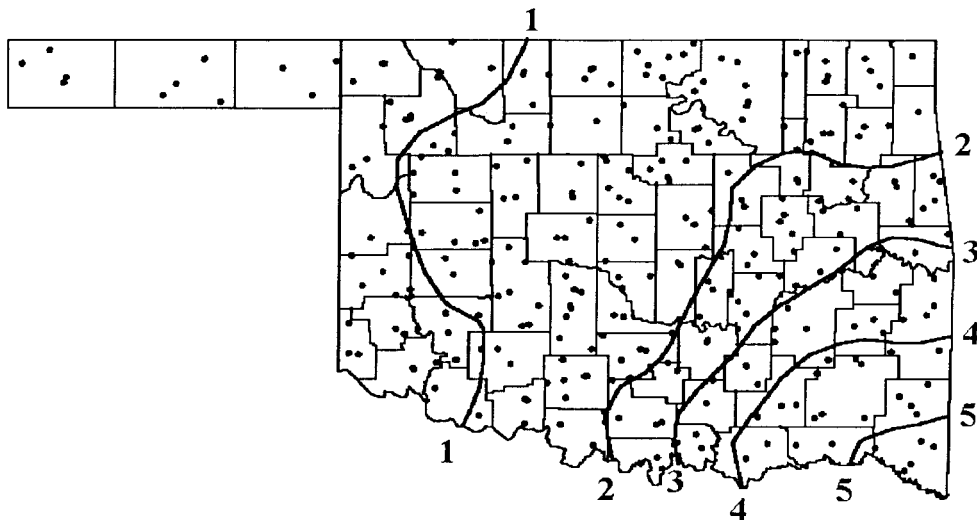
NAME	MEAN MAX			MIN		HDD	CDD	TOT MAX			NAME	MEAN MAX			MIN		HDD	CDD	TOT MAX		
	TEMP	TEMP	DAY	TEMP	DAY			PPT	24-HR	DAY		TEMP	TEMP	DAY	TEMP	DAY			PPT	24-HR	DAY
PANHANDLE																					
Arnett	38.0	76	5	-2	22	837	0	.63	.48	3	Goodwell	35.1	69	1	-4	22	928	0	.47	.19	6
Beaver	35.4	73	2	-5	22	918	0	.50	.28	6	Hooker	34.5	71	1	-5	22	944	0	.55	.27	6
Boise City	34.2	74	4	-7	22	954	0	.29	.18	8	Kenton	33.4	76	4	-8	21	979	0	.29	.10	11
Buffalo	37.3	73	1	-4	22	859	0	.17	.13	3	Slapout	38.0	74	2	3	24	810	0	.40	.22	3
NORTH CENTRAL																					
Blackwell	39.4	74	3	6	22	794	0	1.27	.51	6	May Ranch	38.1	71	1	-1	22	834	0	.08	.05	3
Breckenridge	39.3	72	3	2	22	797	0	1.87	1.05	6	Medford	38.7	71	3	3	22	815	0	1.69	1.14	6
Cherokee	38.4	72	3	2	22	826	0	1.12	.65	3	Newkirk	38.6	72	3	2	22	818	0	1.82	1.17	6
Fairview	39.3	72	3	0	22	797	0	1.31	.70	6	Red Rock	40.1	75	5	5	22	773	1	1.45	.56	6
Freedom	37.7	71	1	-3	22	845	0	.45	.39	3	Seiling	38.5	73	5	0	22	823	0	1.63	1.25	3
Lahoma	38.7	71	5	2	22	816	0	1.99	1.00	6	Woodward	38.7	72	5	-3	22	816	0	1.25	1.19	3
NORTHEAST																					
Bixby	41.0	77	5	11	22	747	2	1.73	.54	3	Nowata	38.7	75	5	7	22	816	1	.55	.32	18
Burbank	39.7	76	5	5	22	785	1	1.69	.68	6	Pawnee	40.6	76	5	7	22	758	2	1.39	.47	3
Catoosa	40.8	76	5	8	22	754	3	2.99	1.14	4	Pryor	39.3	75	5	9	22	797	2	1.49	.52	18
Claremore	40.5	77	5	8	22	763	2	1.65	.60	4	Skiatook	40.8	76	5	6	22	751	1	.85	.67	18
Copan	39.3	76	5	6	22	797	1	2.01	1.20	6	Tulahassee	41.7	76	5	10	22	725	3	2.14	.94	4
Foraker	39.5	76	5	4	22	792	1	1.66	.70	6	Vinita	38.4	74	5	6	22	825	0	.89	.52	18
Jay	39.6	76	5	7	22	788	2	1.46	.53	18	Wynona	40.4	77	5	7	22	764	2	1.76	.70	6
Miami	39.1	74	5	7	22	803	0	.91	.56	18											
WEST CENTRAL																					
Bessie	40.0	71	5	5	22	773	0	1.23	.58	3	Putnam	38.6	71	5	0	22	819	0	1.43	.83	3
Butler	39.4	73	5	3	22	792	0	.63	.41	3	Retrop	40.1	71	5	6	22	772	0	.70	.32	3
Camargo	37.9	75	5	-2	22	839	0	1.08	.91	3	Watonga	39.3	70	5	2	22	796	0	1.49	.84	6
Cheyenne	39.6	76	5	0	22	787	0	.59	.45	3	Weatherford	39.1	68	5	4	22	803	0	1.33	.68	3
Erick	****	***	**	***	***	*****	*****	.53	.30	6											
CENTRAL																					
Acme	41.2	73	5	9	25	738	0	1.64	1.48	3	Minco	40.6	72	5	8	22	756	0	1.58	.89	3
Bowlegs	41.8	75	2	9	22	721	1	2.03	1.25	3	Ninnekah	40.9	73	5	10	22	747	0	1.74	1.54	3
Bristow	40.8	76	5	10	22	754	2	1.91	1.20	3	Norman	41.1	74	5	9	22	740	0	1.07	.83	3
Chandler	41.6	75	5	9	22	726	0	1.67	1.14	3	Oilton	40.1	75	5	8	22	774	1	1.66	.92	3
Chickasha	40.5	72	5	10	25	759	0	1.58	1.32	3	Okemah	41.2	75	5	9	22	738	1	2.36	1.24	3
El Reno	38.8	71	5	4	22	813	0	1.15	.74	3	Perkins	41.3	74	5	9	22	737	1	1.39	.58	3
Guthrie	41.1	73	3	8	22	743	1	1.47	.95	3	Shawnee	41.4	74	5	9	22	733	0	1.70	1.29	3
Kingfisher	39.9	71	3	7	22	779	0	1.85	1.20	3	Spencer	41.4	74	5	7	22	733	0	.87	.44	3
Marena	41.0	76	5	6	22	747	2	1.37	.79	3	Stillwater	40.6	76	5	8	22	759	2	1.54	.77	3
Marshall	40.2	73	3	7	22	769	1	1.36	.66	3	Washington	42.1	75	5	10	22	710	0	1.42	1.12	3
EAST CENTRAL																					
Calvin	41.8	75	5	12	22	720	2	2.69	1.02	3	Preston	****	***	**	***	**	*****	*****	4.41	1.46	4
Cookson	40.9	76	5	9	22	750	3	2.95	1.46	12	Sallisaw	42.4	78	5	13	22	702	2	3.03	1.34	12
Eufaula	42.7	75	5	12	22	696	4	3.05	1.24	12	Stigler	42.6	77	5	13	22	698	3	2.86	1.21	4
Haskell	40.9	75	5	10	22	748	1	2.30	.97	4	Stuart	42.6	74	5	12	22	696	1	3.03	1.11	12
Hectorville	42.1	76	5	10	22	712	2	3.43	1.37	4	Tahlequah	40.3	75	5	9	22	767	1	1.85	.65	12
McAlester	42.6	76	5	13	22	702	7	3.59	1.03	4	Webbers Falls	42.5	77	5	13	22	701	2	3.33	1.40	4
Okmulgee	41.1	76	5	11	22	741	1	2.16	.96	3	Westville	40.9	74	5	9	22	749	1	2.40	1.06	12
SOUTHWEST																					
Altus	41.5	74	5	10	22	728	0	.44	.29	3	Hollis	40.9	76	5	8	22	746	0	.32	.13	6
Apache	40.9	71	5	9	22	748	0	1.14	.78	3	Mangum	39.9	74	5	7	22	777	0	.29	.16	3
Fort Cobb	40.5	72	5	8	22	759	0	.97	.63	3	Medicine Park	41.9	73	5	8	22	717	0	1.14	.68	3
Grandfield	42.4	76	5	12	22	700	0	.93	.69	3	Tipton	42.2	74	5	11	22	707	0	.65	.53	3
Hinton	39.6	70	5	5	22	788	0	1.29	.66	6	Walters	42.3	74	5	11	22	705	0	1.56	1.05	3
Hobart	39.7	69	5	7	22	785	0	.90	.65	3											
SOUTH CENTRAL																					
Ada	42.1	74	2	11	22	711	2	2.39	1.34	3	Lane	44.0	76	5	15	22	655	5	4.82	1.27	3
Ardmore	44.2	74	5	13	22	646	2	2.90	1.27	3	Madill	44.0	75	5	14	22	652	2	3.09	1.54	3
Burneyville	43.8	75	2	14	25	659	3	2.32	.96	3	Pauls Valley	42.7	76	2	11	22	691	1	1.62	.78	3
Byars	42.1	74	5	9	22	710	1	1.90	1.21	3	Ringling	44.1	76	2	14	22	646	0	1.81	.62	3
Centrahoma	42.5	75	5	12	25	701	4	3.40	1.20	12	Sulphur	41.9	74	5	11	22	717	1	2.32	1.19	3
Durant	45.0	77	5	16	22	627	6	4.56	1.44	3	Tishomingo	43.3	76	5	13	22	677	3	3.72	1.89	3
Ketchum Ranch	42.3	75	5	11	22	703	0	1.82	.99	3	Waurika	43.4	77	5	13	22	669	0	1.92	.86	3
SOUTHEAST																					
Antlers	43.7	77	5	11	25	666	5	4.38	1.45	4	Idabel	45.8	78	5	18	25	606	10	5.25	2.07	4
Broken Bow	45.8	79	5	17	25	602	7	5.89	2.31	4	Mt Herman	43.9	74	5	15	25	658	4	4.65	1.69	4
Clayton	43.9	78	5	13	25	664	8	4.75	1.70	4	Talihina	43.8	77	5	15	22	661	5	4.18	1.41	4
Cloudy	44.4	76	5	16	25	643	3	4.67	1.78	4	Wilburton	42.9	77	5	14	22	693	7	3.75	1.75	4
Hugo	45.4	76	5	17	22	616	9	5.16	1.98	4	Wister	42.9	78	5	14	25	687	0	3.48	1.40	12



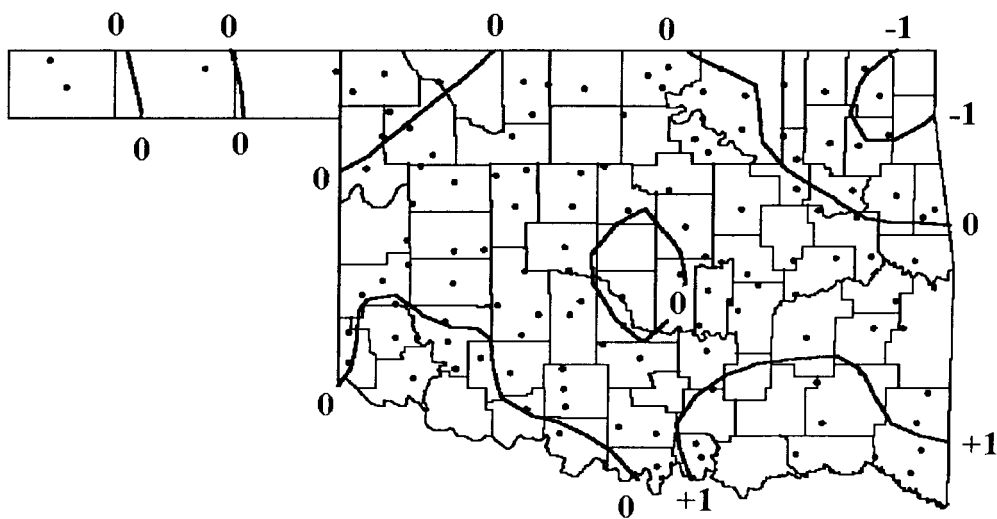
DECEMBER 1998 AVERAGE MONTHLY TEMPERATURE (F)



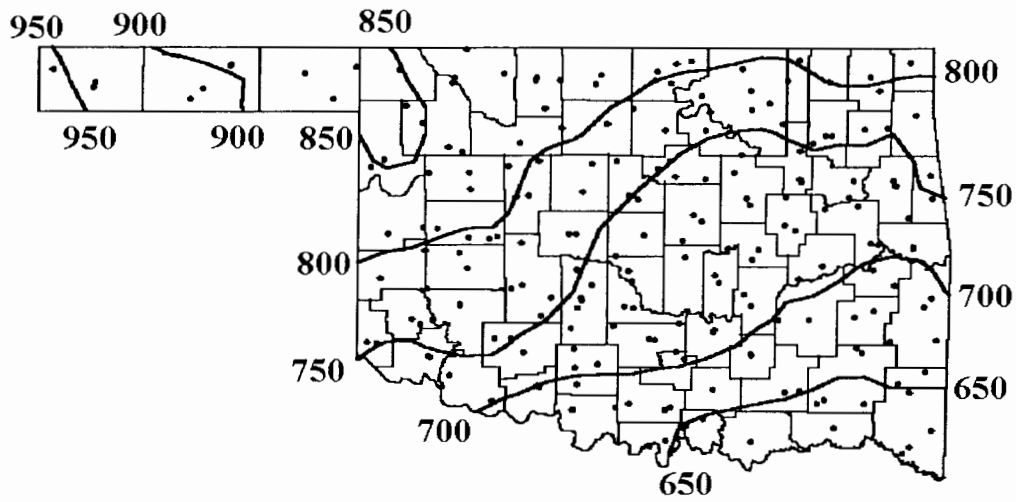
DECEMBER 1998 DEPARTURE FROM NORMAL TEMPERATURE (F)



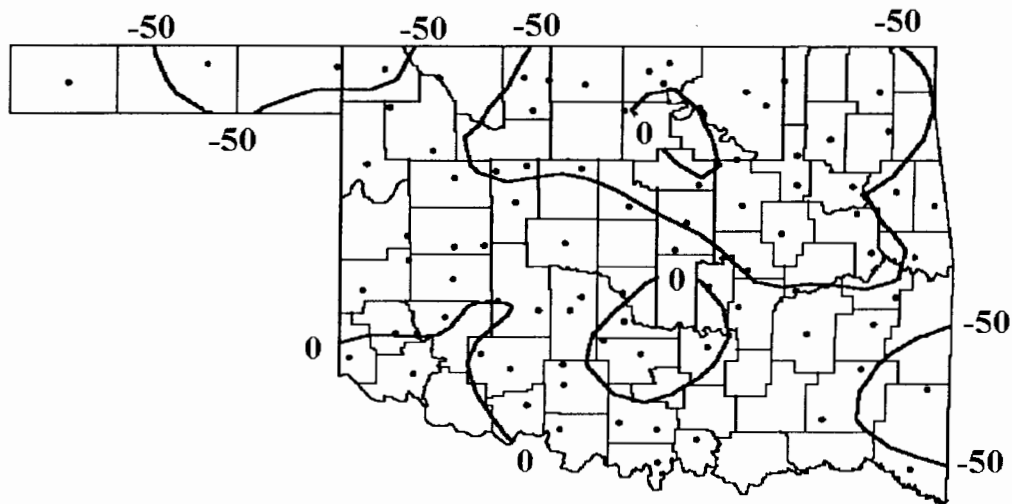
DECEMBER 1998 TOTAL PRECIPITATION (INCHES)



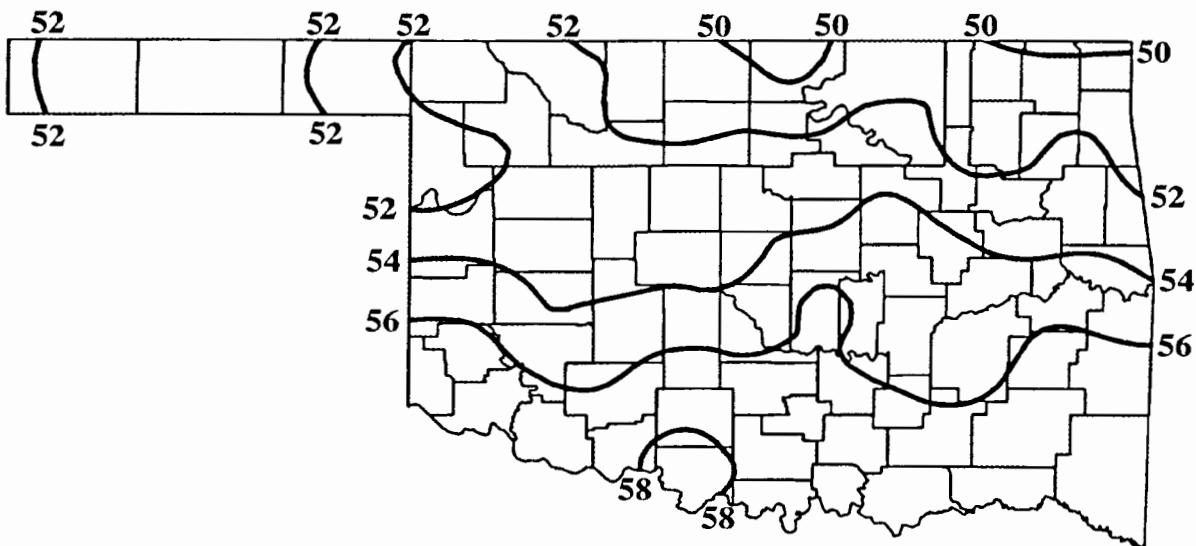
DECEMBER 1998 DEPARTURE FROM NORMAL PRECIPITATION (INCHES)



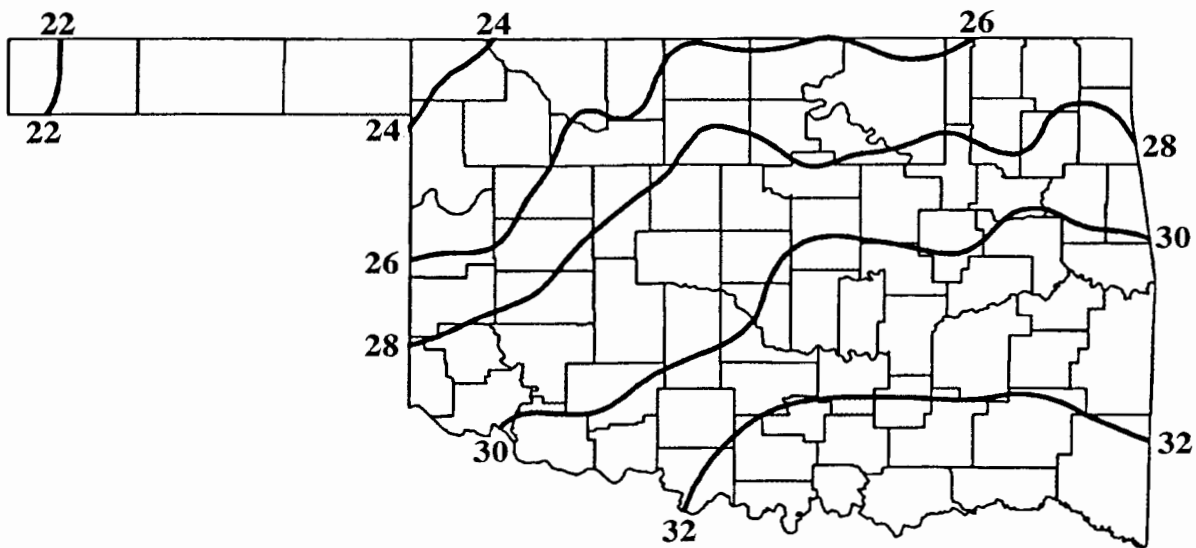
DECEMBER 1998 ACCUMULATED HEATING DEGREE DAYS (F)



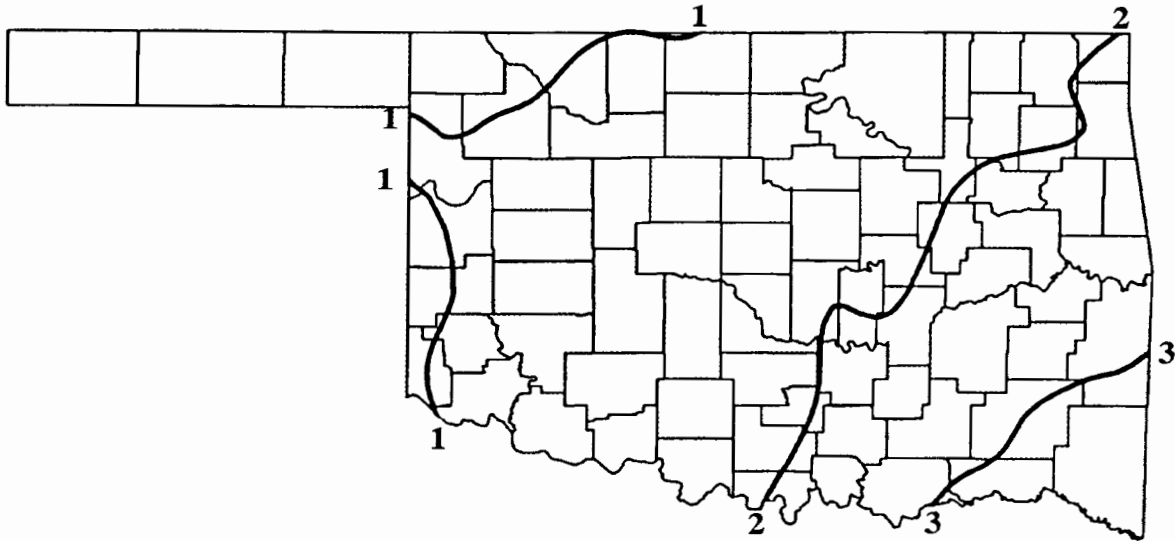
DECEMBER 1998 DEPARTURE FROM NORMAL HEATING DEGREE DAYS (F)



FEBRUARY NORMAL DAILY MAXIMUM TEMPERATURE (F)



FEBRUARY NORMAL DAILY MINIMUM TEMPERATURE (F)



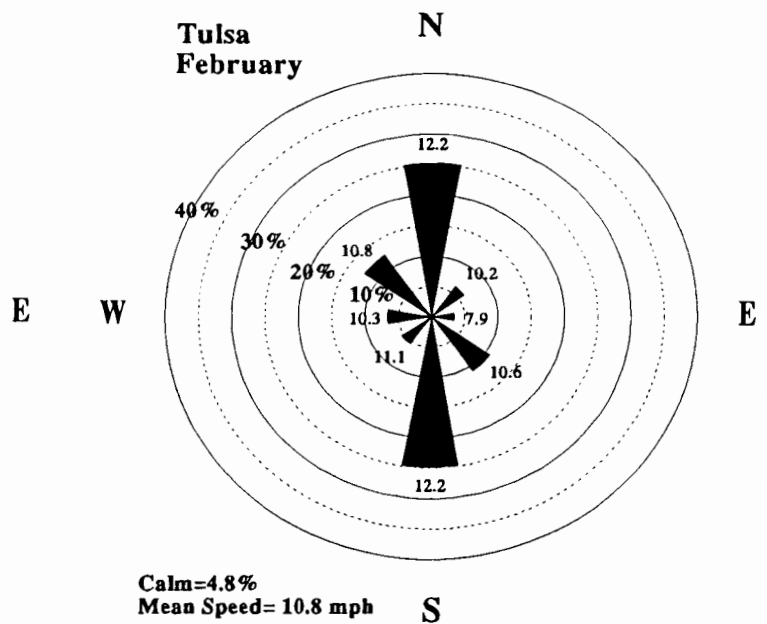
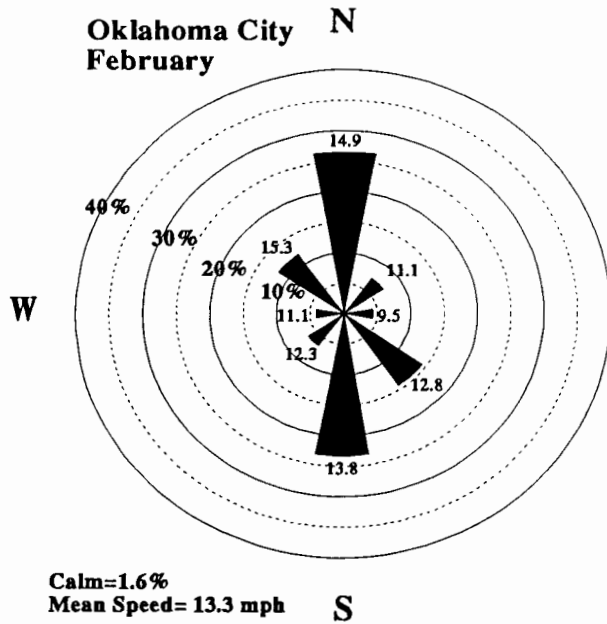
FEBRUARY NORMAL MONTHLY PRECIPITATION (INCHES)

OUTLOOK FOR FEBRUARY 1999 THROUGH APRIL 1999

BASED ON SEASONAL OUTLOOK PROVIDED BY THE CLIMATE PREDICTION CENTER

TEMPERATURE: ABOVE NORMAL TEMPERATURE STATEWIDE

PRECIPITATION: BELOW NORMAL PRECIPITATION STATEWIDE

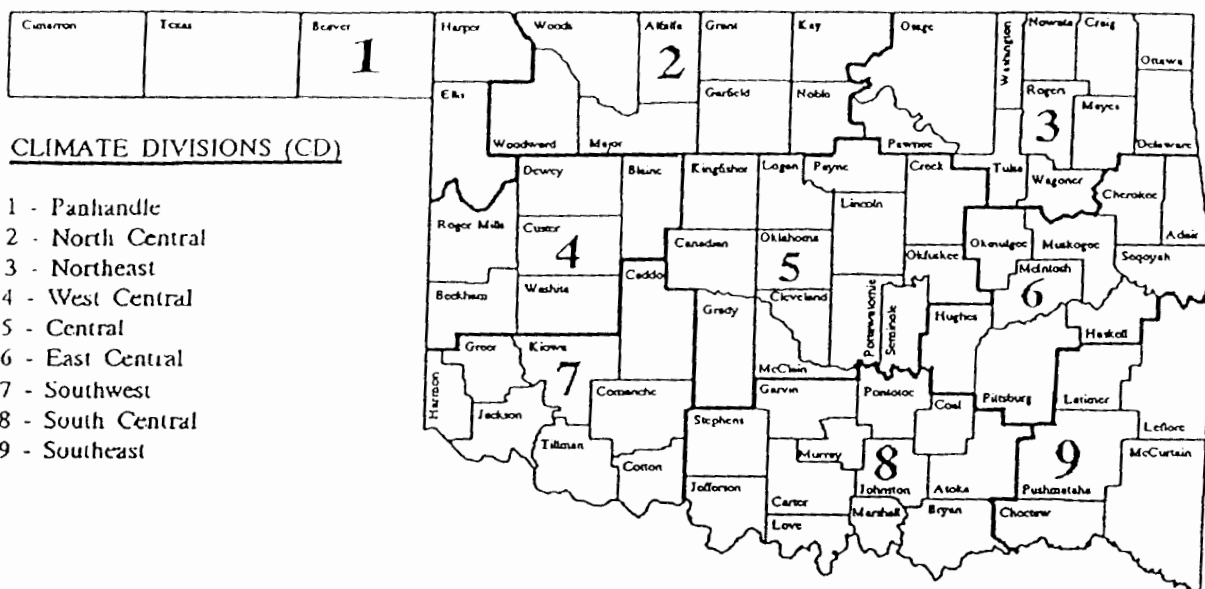


Wind Roses for Oklahoma City and Tulsa. The frequency (percent) of winds from each direction is represented by length of its bar. The numbers at the ends of the bars indicate the average wind speed from that direction in miles per hour.

SUNRISE/SUNSET TIMES FOR FEBRUARY 1999

DATE	SUNRISE	SUNSET	DAYLIGHT
2/1/99	7:30AM	5:58PM	10 hrs 28 mins
2/2/99	7:29AM	5:59PM	10 hrs 29 mins
2/3/99	7:28AM	6:00PM	10 hrs 31 mins
2/4/99	7:28AM	6:01PM	10 hrs 33 mins
2/5/99	7:27AM	6:02PM	10 hrs 35 mins
2/6/99	7:26AM	6:03PM	10 hrs 36 mins
2/7/99	7:25AM	6:04PM	10 hrs 38 mins
2/8/99	7:24AM	6:05PM	10 hrs 40 mins
2/9/99	7:24AM	6:06PM	10 hrs 42 mins
2/10/99	7:23AM	6:07PM	10 hrs 44 mins
2/11/99	7:22AM	6:08PM	10 hrs 46 mins
2/12/99	7:21AM	6:09PM	10 hrs 48 mins
2/13/99	7:20AM	6:10PM	10 hrs 50 mins
2/14/99	7:19AM	6:11PM	10 hrs 52 mins
2/15/99	7:18AM	6:12PM	10 hrs 54 mins
2/16/99	7:17AM	6:13PM	10 hrs 56 mins
2/17/99	7:16AM	6:13PM	10 hrs 58 mins
2/18/99	7:15AM	6:14PM	11 hrs 00 mins
2/19/99	7:14AM	6:15PM	11 hrs 02 mins
2/20/99	7:13AM	6:16PM	11 hrs 04 mins
2/21/99	7:11AM	6:17PM	11 hrs 06 mins
2/22/99	7:10AM	6:18PM	11 hrs 08 mins
2/23/99	7:09AM	6:19PM	11 hrs 10 mins
2/24/99	7:08AM	6:20PM	11 hrs 12 mins
2/25/99	7:07AM	6:21PM	11 hrs 14 mins
2/26/99	7:05AM	6:22PM	11 hrs 16 mins
2/27/99	7:04AM	6:23PM	11 hrs 19 mins
2/28/99	7:03AM	6:24PM	11 hrs 21 mins

DATE	SUNRISE	SUNSET	DAYLIGHT
2/1/99	7:25AM	5:49PM	10 hrs 25 mins
2/2/99	7:24AM	5:50PM	10 hrs 27 mins
2/3/99	7:23AM	5:51PM	10 hrs 28 mins
2/4/99	7:22AM	5:52PM	10 hrs 30 mins
2/5/99	7:21AM	5:53PM	10 hrs 32 mins
2/6/99	7:21AM	5:54PM	10 hrs 34 mins
2/7/99	7:20AM	5:55PM	10 hrs 36 mins
2/8/99	7:19AM	5:56PM	10 hrs 38 mins
2/9/99	7:18AM	5:58PM	10 hrs 40 mins
2/10/99	7:17AM	5:59PM	10 hrs 41 mins
2/11/99	7:16AM	6:00PM	10 hrs 43 mins
2/12/99	7:15AM	6:01PM	10 hrs 45 mins
2/13/99	7:14AM	6:02PM	10 hrs 47 mins
2/14/99	7:13AM	6:03PM	10 hrs 49 mins
2/15/99	7:12AM	6:04PM	10 hrs 51 mins
2/16/99	7:11AM	6:05PM	10 hrs 54 mins
2/17/99	7:10AM	6:06PM	10 hrs 56 mins
2/18/99	7:09AM	6:07PM	10 hrs 58 mins
2/19/99	7:08AM	6:08PM	11 hrs 00 mins
2/20/99	7:07AM	6:09PM	11 hrs 02 mins
2/21/99	7:05AM	6:10PM	11 hrs 04 mins
2/22/99	7:04AM	6:11PM	11 hrs 06 mins
2/23/99	7:03AM	6:11PM	11 hrs 08 mins
2/24/99	7:02AM	6:12PM	11 hrs 11 mins
2/25/99	7:01AM	6:13PM	11 hrs 13 mins
2/26/99	6:59AM	6:14PM	11 hrs 15 mins
2/27/99	6:58AM	6:15PM	11 hrs 17 mins
2/28/99	6:57AM	6:16PM	11 hrs 19 mins



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

FEBRUARY

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	1999	Avg. Low	Highest Min	Year	Record Low	Year	1999	Avg. Ppt.	Greatest Ppt.	Year	1999
1	38.0	48.4	90	1911	14	1918		27.5	59	1986	-2	1951		0.04	0.71	1990	
2	35.7	45.2	77	1995	10	1905		26.1	58	1986	-4	1895		0.03	0.88	1943	
3	36.8	47.1	78	1962	7	1905		26.6	58	1986	0	1996		0.06	1.13	1960	
4	39.1	49.6	77	1962	15	1989		28.5	58	1927	-3	1996		0.07	1.32	1964	
5	37.9	47.5	77	1942	16	1982		28.3	57	1938	3	1989		0.09	1.05	1987	
6	35.6	45.0	73	1904	16	1905		26.3	54	1931	3	1895		0.02	1.38	1892	
7	36.1	47.3	76	1937	6	1933		24.9	50	1931	-8	1894		0.05	0.84	1980	
8	38.5	48.8	73	1943	12	1929		28.1	53	1966	-5	1895		0.06	0.62	1966	
9	39.3	50.8	84	1932	16	1899		27.8	51	1932	-3	1933		0.04	2.10	1898	
10	40.1	53.1	79	1922	16	1933		27.1	52	1932	4	1929		0.03	0.50	1953	
11	38.8	49.4	82	1962	15	1899		28.1	57	1938	-12	1899		0.06	1.12	1977	
12	40.5	52.2	84	1962	2	1905		28.9	57	1962	-17	1899		0.08	2.21	1978	
13	41.9	53.5	82	1962	21	1905		30.3	54	1976	-11	1905		0.04	0.76	1908	
14	42.2	52.4	81	1954	18	1951		31.9	55	1954	1	1936		0.10	0.89	1938	
15	40.4	50.4	81	1954	17	1909		30.5	53	1976	7	1909		0.06	0.93	1938	
16	40.6	51.3	81	1927	15	1903		29.8	63	1911	4	1903		0.02	2.15	1940	
17	41.9	53.8	79	1991	17	1936		30.0	50	1926	5	1900		0.04	0.88	1961	
18	43.5	54.6	78	1986	24	1936		32.4	53	1971	-1	1978		0.04	0.88	1946	
19	42.9	53.9	83	1986	21	1929		32.0	54	1997	7	1903		0.05	0.69	1994	
20	43.2	54.7	84	1981	25	1918		31.7	55	1894	9	1918		0.08	1.55	1997	
21	41.0	51.3	82	1996	25	1911		30.6	58	1922	9	1939		0.10	1.63	1971	
22	42.8	54.0	92	1996	24	1968		31.6	55	1985	11	1963		0.07	1.15	1985	
23	43.5	54.4	88	1918	21	1914		32.6	52	1956	7	1910		0.03	0.81	1985	
24	43.0	53.9	87	1918	19	1960		32.0	58	1930	7	1965		0.05	0.94	1952	
25	45.8	57.8	84	1917	27	1960		33.9	56	1944	10	1960		0.02	0.74	1936	
26	46.5	58.6	82	1996	21	1934		34.4	59	1981	10	1891		0.03	1.34	1903	
27	46.4	58.3	83	1918	25	1962		34.4	56	1981	12	1962		0.08	1.32	1966	
28	45.6	56.9	90	1904	19	1922		34.3	62	1904	7	1962		0.07	0.98	1990	
MONTH	41.0	52.0	92	1996	2	1905		30.0	63	1911	-17	1899		1.51	2.21	1978	

*The most tornadoes reported in February for Oklahoma was 6 in 1975.

TULSA CLIMATE CALENDAR
 DATA COURTESY OF NATIONAL WEATHER SERVICE TULSA
FEBRUARY

The data on this calendar is for Tulsa.
 Normal values are calculated for the period 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	1999	Avg. Low	Highest Min	Year	Record Low	Year	1999	Avg. Ppt.	Greatest Ppt.	Year	1999
1	37.0	47.0	#90	1911	15	1951		26.0	53	1986	-7	1979		0.05	0.78	1923	
2	37.0	47.0	77	1995	16	1917		26.0	56	1986	0	1917		0.05	0.69	1943	
3	37.0	48.0	79	1934	8	1996		27.0	59	1986	-5	1996		0.06	0.53	1960	
4	37.0	48.0	77	1962	11	1905		27.0	57	1927	-11	1996		0.06	2.27	1971	
5	38.0	48.0	75	1942	16	1905		27.0	60	1938	4	1979		0.06	1.36	1964	
6	38.0	48.0	73	1925	21	1989		27.0	59	1928	4	1985		0.06	0.48	1928	
7	38.0	49.0	78	1909	27	1985		28.0	68	1927	0	1933		0.06	0.76	1980	
8	38.0	49.0	75	1957	11	1933		28.0	58	1966	-5	1933		0.06	1.32	1944	
9	39.0	49.0	82	1932	20	1994		28.0	55	1938	-3	1979		0.06	0.79	1908	
10	39.0	49.0	81	1922	23	1986		28.0	63	1932	-3	1929		0.06	0.80	1905	
11	39.0	50.0	77	1951	21	1981		28.0	54	1915	-3	1981		0.06	1.18	1977	
12	39.0	50.0	86	1962	10	1905		29.0	57	1938	0	1905		0.07	1.78	1978	
13	40.0	50.0	84	1962	18	1905		29.0	59	1938	-15	1905		0.07	0.70	1946	
14	40.0	51.0	80	1910	23	1951		29.0	59	1954	-10	1905		0.07	1.01	1951	
15	40.0	51.0	80	1976	17	1909		29.0	60	1976	3	1920		0.07	1.74	1938	
16	41.0	51.0	78	1976	16	1979		30.0	51	1927	3	1993		0.07	1.03	1938	
17	41.0	52.0	79	1907	18	1936		30.0	63	1911	9	1978		0.07	1.37	1961	
18	41.0	52.0	78	1930	26	1978		30.0	60	1971	2	1936		0.07	1.35	1974	
19	41.0	52.0	77	1981	24	1929		31.0	54	1997	9	1918		0.08	1.94	1997	
20	42.0	53.0	83	1981	21	1918		31.0	55	1997	7	1939		0.08	1.43	1985	
21	42.0	53.0	82	1996	28	1968		31.0	55	1922	1	1963		0.08	2.99	1985	
22	42.0	53.0	#90	1996	28	1968		32.0	57	1985	1	1910		0.08	1.40	1985	
23	43.0	54.0	81	1982	15	1910		32.0	51	1992	10	1965		0.08	0.86	1952	
24	43.0	54.0	85	1918	24	1965		32.0	64	1930	8	1965		0.08	0.94	1908	
25	43.0	54.0	82	1917	31	1960		32.0	60	1944	10	1965		0.09	1.25	1984	
26	44.0	55.0	79	1996	20	1934		33.0	61	1996	11	1960		0.09	1.12	1950	
27	44.0	55.0	81	1976	23	1962		33.0	59	1981	13	1962		0.09	2.00	1987	
28	45.0	56.0	82	1972	22	1962		33.0	53	1976	6	1962		0.09	2.99	1985	
MONTH	40.4	51.2	See # above		8	1996		29.6	68	1927	-15	1905		2.06			

*The average number of tornadoes reported in February for Oklahoma is 4.1.