OKLAHOMA
MONTHLY SUMMARY
REVISED
NOVEMBER 1998

TABLE OF CONTENTS

MONTHLY SUMMARY FOR NOVEMBER 1998

Oklahoma was warmer and wetter than normal during November, according to preliminary data provided by the National Weather Service. The statewide-averaged temperature of 52.6 degrees during November 1998 exceeded the normal by 2.8 degrees and to rank this as the 18th warmest November since 1892. Statewide-averaged precipitation for the month, inflated by flood-producing rains across much of western and north central Oklahoma that actually began at the end of October, totaled 3.35 inches, 0.93 inch greater than normal, to rank this as the 25th wettest November over the 107 years of records.

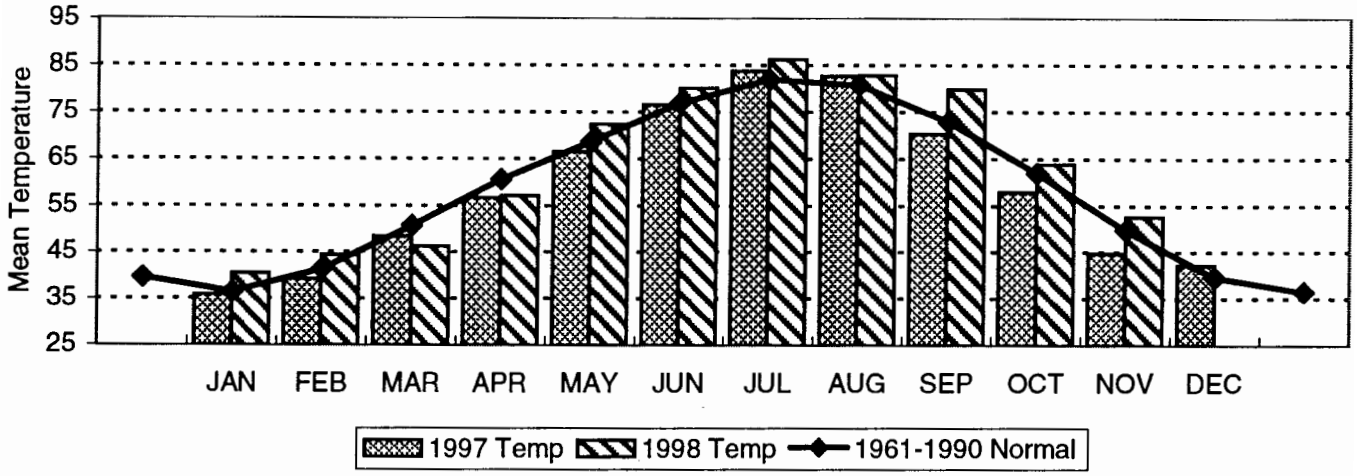
The mild, wet month capped off one of the warmest, wettest autumns yet recorded in the state. At month's end, many areas of Oklahoma were uncharacteristically awaiting their first freezing temperatures of the year, an event that usually occurs by mid-November. The average temperature during the season was 65.4 degrees, 3.8 degrees above normal, making autumn 1998 the 4th warmest in state history. Total precipitation averaged 13.22 inches across the state during the season, exceeding the normal by 3.79 inches to rank as the 9th greatest autumn precipitation on record. The year-to-date temperature of 64.4 degrees is 2.2 degrees higher than normal, giving 1998 the 10th warmest January-to-November period on record. Despite the severe drought of last summer, the year-to-date precipitation, averaged statewide, of 34.71 inches exceeds the normal by 2.13 inches, ranking 1998, thus far, as the 36th wettest year on record in Oklahoma.

The heavy rains that drenched much of western, central and north central Oklahoma began late on October 30 and continued through the first two days on November. An abundance of rain fell at several locations; the most notable reports being in Woods County where 8.45 inches fell at Waynoka and 7.95 inches fell at Alva. Other locations reporting more than seven inches of rain over the course of the storm included Fargo (Ellis County), Cedardale, Woodward, Fort Supply Dam (all in Woodward County), Helena (Alfalfa), Hardy (Kay), Colony (Washita), and Jefferson (Grant). Extensive flooding was reported along the Salt Fork of the Arkansas in Alfalfa, Grant, and Kay counties. Flooding of the Chikaskia River forced evacuation of over 100 people from residences in Blackwell (Kay). Localized flooding was reported in Woods, Garfield, Payne, Kingfisher, and Noble counties. A woman drowned near Aline (Alfalfa) after evacuating an automobile trapped in floodwaters across a state highway.

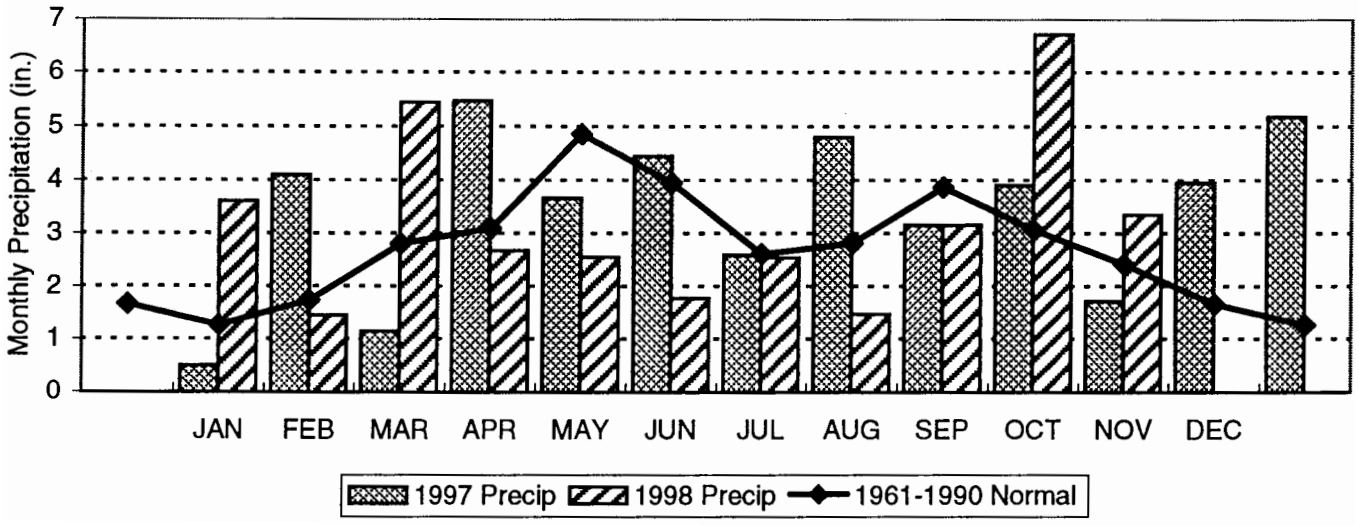
Strong thunderstorms ripped through the eastern two-thirds of the state on the 9th, continuing into early morning on the 10th. Wind damage was extensive, resulting in one death in Muskogee (Muskogee County) when wind-borne tree limbs crashed through the vehicle in which she was a passenger. Tornadoes were reported in Purcell (McClain) and near Dow (Pittsburg), Sallisaw (Sequoyah), and Pocola (LeFlore). Another round of thunderstorms on the 30th produced a small tornado near Cushing (Payne).

Howard L. Johnson

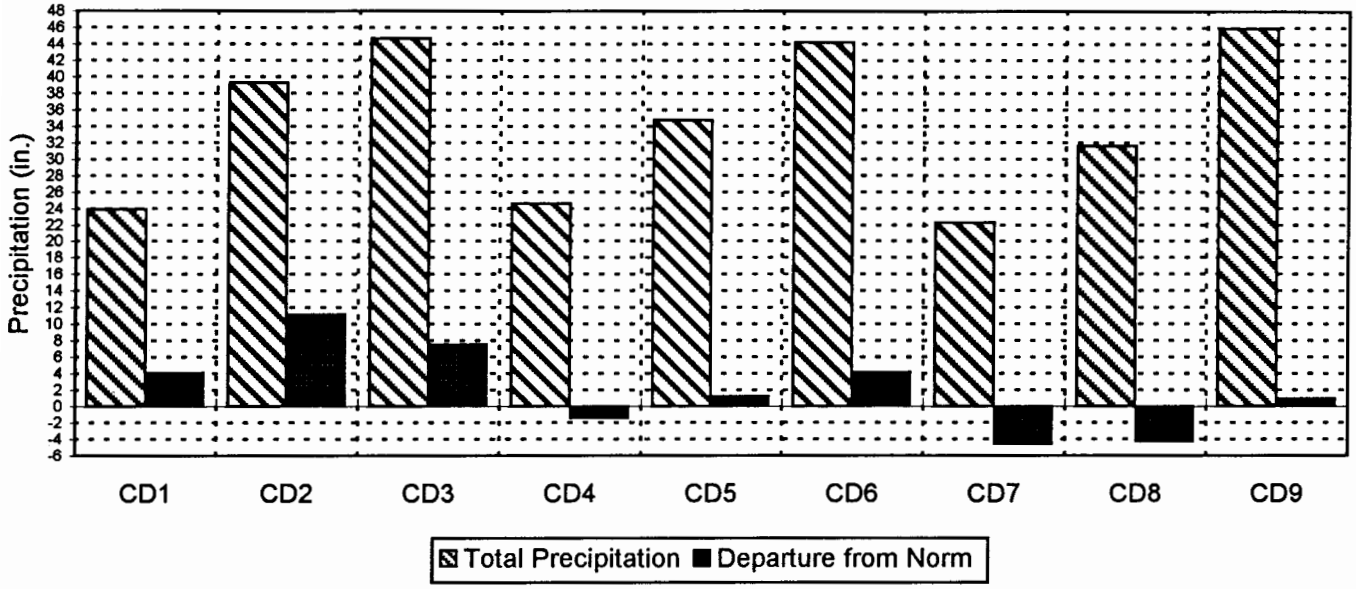
1997 and 1998 STATEWIDE TEMPERATURES
Monthly Averages



1997 and 1998 STATEWIDE PRECIPITATION
Monthly Totals

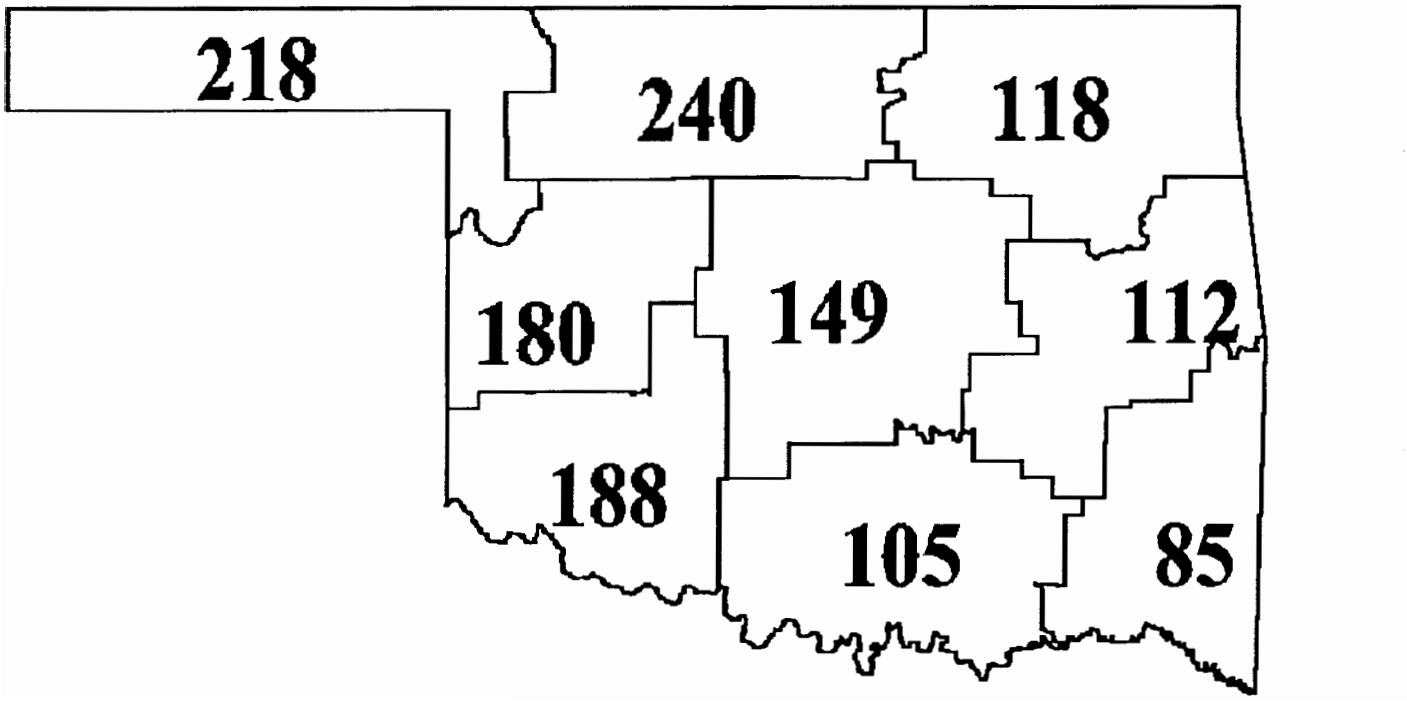


CD Averaged Precipitation
January through November 1998



CD PERCENT OF NORMAL PRECIPITATION

November 1998



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

CD	MAX TEMP	DATE	LOCATION	MIN TEMP	DATE	LOCATION	24-HOUR PRECIP	DATE	LOCATION	MONTHLY PRECIP	LOCATION
1	87	22	HOOKER	19	11	KENTON	3.70	1	FARGO	3.99	FARGO
2	80	27	FT SUPPLY	19	10	FT SUPPLY	4.85	1	HARDY	7.59	HARDY
3	81	1	BIXBY	27	11	BARNSDALL	2.23	1	BURBANK	4.70	KANSAS
				27	11	PAWHUSKA					
				27	6	PRYOR					
4	77	23	ERICK	26	11	TALOGA	3.63	1	COLONY	4.65	GEARY
	77	10	HAMMON								
	77	23	REYDON								
5	80	1	PURCELL	28	20	GUTHRIE	4.69	1	UNION CITY	6.58	PIEDMONT
	80	1	TROUSDALE								
6	85	2	HOLDENVILLE	26	7	STILWELL	2.57	2	WETUMKA	5.62	WETUMKA
7	80	9	FREDERICK	30	21	WICHITA MT	4.10	1	ANADARKO	5.64	ANADARKO
	80	22	HOLLIS								
	80	10	MANGUM								
	80	23	MANGUM								
8	82	2	ATOKA DAM	30	6	CHICKASAW	2.62	2	DAISY	4.45	DAISY
	82	1	MADILL	30	6	MARIETTA					
				30	7	MARIETTA					
9	83	2	HUGO	27	11	SMITHVILLE	2.47	3	HUGO	5.09	HUGO
				27	12	SMITHVILLE					

TABLE OF 1997/1998 COMPARISONS

	JUNE Temperature (°F)		JUNE Precipitation (in.)	
Station	**1997**	**1998**	**1997**	**1998**
Arnett	42.6	48.7	2.76	3.38
Enid	****	50.6	****	4.86
Tulsa	46.0	53.4	7.21	1.72
Elk City	44.6	50.9	3.30	2.89
Oklahoma City	46.6	53.2	3.37	3.09
McAlester	47.9	54.8	1.39	3.04
Altus Irr Station	45.9	52.3	1.42	2.30
Ardmore	49.5	55.1	6.69	1.16
Idabel	49.6	54.1	9.99	3.75

VARIABLE	STATION	EXTREMES DIVISON	OBSERVATION	DATE
Minimum temperature (°F)	Kenton	1	19	11
	Ft. Supply	2	19	10
Maximum temperature (°F)	Hooker	1	87	22
Maximum 24-hour Precipitation	Hardy	2	4.85"	1

NOVEMBER 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	48.7	30	3	75	28	30	20	490	-90	0	0	3.381	30	1.95	2.67	1
BEAVER	593	1	47.8	30	3.6	82	23	23	21	517	-107	0	0	1.830	30	0.81	1.50	1
BOISE CITY	908	1	48.3	30	3.6	84	28	21	11	500	-110	0	0	0.615	30	-0.11	0.61	1
BUFFALO	1243	1	52.0	30	5	80	27	25	11	389	-149	0	0	3.400	30	1.78	2.90	1
FARGO	3070	1	*****	0	*****	****	0	****	0	******	******	******	******	3.992	30	2.69	3.70	1
GAGE	3407	1	50.9	30	4.1	78	27	26	20	424	-122	0	0	2.723	30	1.65	2.42	1
GATE	3489	1	49.7	30	4.2	82	23	28	20	459	-127	0	0	2.504	30	1.40	1.85	1
GOODWELL	3628	1	40.8	5	*****	49	2	27	5	121	******	0	******	0.000	5	*****	0.00	5
GUYMON	3835	1	48.4	29	*****	86	21	23	11	482	******	1	******	0.974	29	*****	0.97	1
HOOKER	4298	1	48.8	30	4.2	87	22	27	20	486	-126	0	0	1.040	30	0.26	0.85	1
KENTON	4766	1	47.3	27	*****	82	22	19	11	478	******	0	******	3.952	28	*****	3.20	8
LAVERNE	5045	1	*****	0	*****	****	0	****	0	******	******	******	******	2.011	30	0.84	1.60	1
RANGE	7412	1	*****	0	*****	****	0	****	0	******	******	******	******	1.850	30	*****	1.52	1
REGNIER	7534	1	*****	0	*****	****	0	****	0	******	******	******	******	1.270	30	0.71	1.20	1
TURPIN	9017	1	47.9	30	*****	84	23	26	11	514	******	0	******	1.750	30	*****	1.36	1

NOVEMBER 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	50.0	30	*****	75	28	29	11	451	******	0	******	4.520	30	*****	3.24	1
VANCE AFB	302	2	*****	0	*****	****	0	****	0	******	******	******	******	6.043	29	*****	3.38	1
BILLINGS	755	2	51.4	30	4	74	28	30	20	409	-119	0	0	5.362	30	3.09	3.35	1
BLACKWELL 2E	818	2	51.0	30	3.4	76	28	30	12	420	-102	0	0	5.912	30	3.63	3.40	1
CEDARDALE	1620	2	*****	0	*****	****	0	****	0	******	******	******	******	4.151	30	*****	2.90	1
CHEROKEE	1724	2	50.0	30	2.1	73	28	30	20	451	-62	0	0	2.350	30	0.83	1.50	1
ENID	2912	2	50.6	30	2	73	19	30	11	431	-61	0	0	4.860	30	2.65	3.52	1
FT SUPPLY	3304	2	48.4	30	2.9	80	27	19	10	498	-88	0	0	0.220	30	-1.04	0.06	29
FREEDOM	3358	2	48.7	30	1.7	78	28	26	12	489	-52	0	0	5.180	30	3.83	3.71	1
GREAT SALT P	3740	2	50.9	30	4.1	75	28	31	11	424	-122	0	0	5.570	30	3.74	4.27	1
HARDY	3909	2	*****	0	*****	****	0	****	0	******	******	******	******	7.591	30	*****	4.85	1
HELENA	4019	2	49.7	30	3.7	74	28	31	21	458	-112	0	0	4.524	30	2.71	3.35	1
JEFFERSON	4573	2	52.8	28	*****	75	29	29	20	347	******	4	******	1.420	28	*****	0.74	29
LAMONT	5013	2	*****	0	*****	****	0	****	0	******	******	******	******	5.320	30	*****	3.34	1
MEDFORD	5768	2	*****	0	*****	****	0	****	0	******	******	******	******	2.281	30	*****	0.74	29
MORRISON	6065	2	*****	0	*****	****	0	****	0	******	******	******	******	6.540	30	*****	3.90	1
MUTUAL	6139	2	49.1	30	2.9	72	28	20	11	477	-88	0	0	3.910	30	2.51	3.20	1
NEWKIRK	6278	2	50.9	30	2.9	73	28	29	21	424	-87	0	0	6.430	30	4.02	3.41	1
ORIENTA	6751	2	*****	0	*****	****	0	****	0	******	******	******	******	3.240	30	1.52	2.44	1
PERRY	7012	2	52.9	30	3.3	76	28	32	20	364	-98	1	1	6.343	30	4.22	4.02	1
PONCA CITY	7201	2	54.0	30	6.8	77	27	31	20	335	-197	6	6	6.473	30	4.21	3.54	1
RED ROCK	7505	2	*****	0	*****	****	0	****	0	******	******	******	******	2.701	30	0.61	0.98	29
WAYNOKA	9404	2	50.9	30	2.9	76	27	26	10	423	-87	0	0	1.062	30	-0.47	0.55	1
WOODWARD	9760	2	*****	0	*****	****	0	****	0	******	******	******	******	3.821	30	2.45	3.21	1

NOVEMBER 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	52.5	30	3.4	76	27	27	11	380	-97	5	5	3.353	30	0.37	1.05	2
BARTLESVILLE	548	3	52.6	30	3.4	76	28	28	20	377	-98	5	5	3.331	30	0.61	1.00	2
BIXBY	782	3	51.3	30	2.9	81	1	30	12	412	-87	2	2	4.621	30	1.48	1.93	2
BURBANK	1256	3	*****	0	*****	****	0	****	0	******	******	******	******	4.570	30	2.03	2.23	1
CHELSEA	1717	3	*****	0	*****	****	0	****	0	******	******	******	******	3.060	30	*****	1.02	2
CLAREMORE	1828	3	51.4	30	2.9	78	1	29	12	413	-82	6	6	3.331	30	0.10	0.95	30
CLEVELAND 2	1902	3	51.1	26	*****	75	27	29	21	362	******	1	******	4.071	28	*****	2.13	2
FORAKER	3250	3	*****	0	*****	****	0	****	0	******	******	******	******	4.580	30	2.00	1.82	2
HOLLOW	4258	3	*****	0	*****	****	0	****	0	******	******	******	******	3.292	30	-0.21	1.47	2
HOMINY	4289	3	*****	0	*****	****	0	****	0	******	******	******	******	3.391	30	0.76	1.38	2
KANSAS	4672	3	51.4	24	*****	73	17	29	6	327	******	0	******	4.697	24	*****	1.75	2
LENAPAH	5118	3	*****	0	*****	****	0	****	0	******	******	******	******	2.850	30	*****	0.98	2
MANNFORD	5522	3	54.1	29	4.2	77	27	30	20	324	-129	7	7	3.372	29	*****	1.63	2
MARAMEC	5540	3	*****	0	*****	****	0	****	0	******	******	******	******	3.732	30	1.10	1.10	2
NOWATA	6485	3	53.4	27	*****	76	28	30	20	319	******	7	******	1.720	27	*****	0.62	30
PAWHUSKA	6935	3	52.7	30	4.1	76	27	27	11	375	-117	6	6	4.310	30	1.49	1.58	2
PAWNEE	6940	3	*****	0	*****	****	0	****	0	******	******	******	******	3.980	30	1.45	1.25	2
PRYOR	7309	3	51.9	30	4	78	1	27	6	399	-115	6	6	3.442	30	-0.18	1.25	30
RALSTON	7390	3	52.9	30	3.8	76	27	28	21	368	-110	5	5	4.300	30	1.76	1.50	2
SKIATOOK	8258	3	*****	0	*****	****	0	****	0	******	******	******	******	3.400	30	0.36	0.91	2
SPAVINAW	8380	3	56.1	30	4.8	75	28	31	20	279	-136	11	11	3.620	30	-0.12	1.16	30
TULSA	8992	3	53.4	30	3.5	75	27	32	20	353	-100	5	5	3.264	30	0.13	1.68	1
UPPER SPAV	9101	3	54.1	28	*****	73	28	33	21	313	******	7	******	4.584	28	*****	1.21	2
VINITA	9203	3	53.0	30	4.5	74	30	29	20	366	-130	5	5	3.271	30	-0.56	1.07	2
WAGONER	9247	3	54.7	30	3.7	74	29	31	6	317	-108	8	8	3.270	30	-0.31	0.98	30
WANN	9298	3	*****	0	*****	****	0	****	0	******	******	******	******	3.620	30	*****	1.45	2
WYNONA	9792	3	*****	0	*****	****	0	****	0	******	******	******	******	3.393	30	*****	1.03	2

NOVEMBER 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	49.9	30	2.9	73	19	27	11	453	-87	0	0	3.161	30	1.38	2.28	1
CLINTON	1909	4	51.9	30	2.4	76	9	30	20	392	-73	0	0	3.082	30	1.26	1.98	1
COLONY	2039	4	*****	0	*****	****	0	****	0	******	******	******	******	4.451	30	*****	3.63	1
CORDELL	2125	4	50.9	30	1.7	76	10	31	11	422	-52	0	0	3.100	30	1.35	2.40	1
ELK CITY	2849	4	50.9	30	2.3	76	23	32	11	424	-69	0	0	2.890	30	1.24	2.00	1
ERICK	2944	4	50.9	29	2	77	23	32	25	409	-75	0	0	2.531	30	1.20	1.91	1
GEARY	3497	4	54.6	30	6.1	74	19	34	1	312	-184	0	0	4.650	30	2.97	3.00	1
HAMMON	3871	4	48.7	28	*****	77	10	27	11	458	******	1	******	3.870	29	*****	3.19	1
LEEDEY	5090	4	*****	0	*****	****	0	****	0	******	******	******	******	3.430	30	1.88	2.59	1
MACKIE	5463	4	*****	0	*****	****	0	****	0	******	******	******	******	2.700	30	*****	2.27	1
MORAVIA	6035	4	*****	0	*****	****	0	****	0	******	******	******	******	2.531	30	1.15	1.80	1
OKEENE	6629	4	53.2	30	3.9	74	18	30	11	360	-112	4	4	3.680	30	1.73	2.81	1
RETROP	7565	4	*****	0	*****	****	0	****	0	******	******	******	******	2.840	30	*****	2.22	1
REYDON	7579	4	50.6	25	*****	77	23	29	21	360	******	0	******	3.240	25	*****	2.57	1
SAYRE	7952	4	*****	0	*****	****	0	****	0	******	******	******	******	3.181	30	1.83	2.68	1
SWEETWATER	8652	4	*****	0	*****	****	0	****	0	******	******	******	******	2.271	30	*****	1.85	1
TALOGA	8708	4	49.3	30	1.9	73	19	26	11	471	-57	0	0	3.124	30	1.32	2.05	1
THOMAS	8815	4	*****	0	*****	****	0	****	0	******	******	******	******	3.080	30	*****	2.16	1
VICI	9172	4	*****	0	*****	****	0	****	0	******	******	******	******	0.590	30	-1.00	0.35	29
WATONGA	9364	4	52.5	30	4.1	73	27	31	20	377	-122	1	1	4.553	30	2.74	3.12	1
WEATHERFORD	9422	4	51.2	30	3.5	75	9	33	20	414	-105	0	0	0.500	29	*****	0.30	29

NOVEMBER 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	******	******	******	******	3.560	30	*****	2.10	1
ARCADIA	288	5	*****	0	*****	****	0	****	0	******	******	******	******	3.730	30	*****	2.67	1
BLANCHARD	830	5	53.7	28	*****	75	18	35	21	321	******	4	******	3.742	30	1.64	1.75	1
BRISTOW	1144	5	54.6	30	4.1	78	1	29	11	320	-120	9	4	3.190	30	0.30	1.52	2
CHANDLER	1684	5	52.5	27	*****	77	28	32	21	341	******	3	******	3.300	28	*****	1.38	1
CHICKASHA EXP	1750	5	54.4	29	3.6	77	18	32	26	312	-114	4	4	4.731	30	2.78	1.97	1
COX CITY	2196	5	*****	0	*****	****	0	****	0	******	******	******	******	2.290	30	*****	1.08	1
CRESCENT	2242	5	*****	0	*****	****	0	****	0	******	******	******	******	5.800	30	*****	3.50	1
CUSHING	2318	5	52.9	30	3.6	76	28	33	21	365	-106	3	3	3.131	30	0.55	1.33	1
EDMOND	2788	5	*****	0	*****	****	0	****	0	******	******	******	******	1.044	30	*****	0.48	29
EL RENO	2818	5	52.6	30	3.7	73	19	35	21	373	-110	1	1	3.970	30	2.22	2.50	1
GUTHRIE	3821	5	52.9	30	2.6	76	29	28	20	369	-73	6	6	2.312	30	0.02	1.51	30
HENNESSEY	4055	5	52.3	30	3.6	73	18	29	6	380	-110	0	0	5.510	30	3.57	3.76	1
INGALLS	4489	5	*****	0	*****	****	0	****	0	******	******	******	******	4.350	30	*****	2.20	1
KINGFISHER	4861	5	51.7	30	2.1	75	19	30	21	398	-64	0	0	5.370	30	3.46	3.49	1
KONAWA	4915	5	*****	0	*****	****	0	****	0	******	******	******	******	3.000	30	0.27	1.53	1
MARSHALL	5589	5	*****	0	*****	****	0	****	0	******	******	******	******	5.010	30	3.10	2.84	1
MEEKER	5779	5	50.9	29	0.5	76	1	30	11	410	-29	1	1	3.151	30	0.59	1.26	1
MULHALL	6110	5	*****	0	*****	****	0	****	0	******	******	******	******	4.380	30	*****	3.15	1
NORMAN NWS	6386	5	52.3	30	1.2	73	18	35	21	382	-35	1	1	3.653	30	1.17	2.50	1
OKEMAH	6638	5	55.8	30	4.5	76	27	36	11	286	-128	9	9	3.491	30	0.55	1.66	2
OKLAHOMA CTY	6659	5	*****	0	*****	****	0	****	0	******	******	******	******	1.844	28	*****	0.82	30
OKLAHOMA CTY	6661	5	53.2	30	3.6	74	27	33	11	355	-107	1	1	3.094	30	1.11	1.65	1
PERKINS	7003	5	*****	0	*****	****	0	****	0	******	******	******	******	4.570	30	2.13	2.64	1
PIEDMONT	7068	5	*****	0	*****	****	0	****	0	******	******	******	******	6.580	30	*****	4.11	1
PRAGUE	7264	5	*****	0	*****	****	0	****	0	******	******	******	******	2.962	30	0.29	1.10	1
PURCELL	7327	5	52.6	30	1.7	80	1	31	21	374	-49	3	3	3.340	30	0.84	1.60	1
SEMINOLE	8042	5	52.2	30	-0.1	75	27	32	10	387	2	2	2	2.852	30	-0.07	1.16	1
SHAWNEE	8110	5	*****	0	*****	****	0	****	0	******	******	******	******	2.952	30	0.06	1.23	1
STELLA	8479	5	*****	0	*****	****	0	****	0	******	******	******	******	3.261	30	*****	1.33	2
STILLWATER	8501	5	52.5	30	4	78	28	30	11	379	-117	4	4	5.681	30	3.43	3.23	1
STROUD	8563	5	*****	0	*****	****	0	****	0	******	******	******	******	3.012	30	*****	1.23	2
TECUMSEH	8751	5	*****	0	*****	****	0	****	0	******	******	******	******	2.220	30	*****	1.32	1
TROUSDALE	8960	5	52.5	30	*****	80	1	32	27	379	******	4	******	3.420	30	*****	1.11	1
UNION CITY	9086	5	*****	0	*****	****	0	****	0	******	******	******	******	6.352	30	4.05	4.69	1
WELTY	9479	5	*****	0	*****	****	0	****	0	******	******	******	******	3.432	30	*****	1.30	1
WEWOKA	9575	5	*****	0	*****	****	0	****	0	******	******	******	******	3.590	30	0.80	1.26	2

NOVEMBER 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	******	******	******	******	3.616	30	*****	1.85	1
BEGGS	631	6	*****	0	*****	****	0	****	0	******	******	******	******	3.970	30	*****	1.99	1
CALVIN	1391	6	*****	0	*****	****	0	****	0	******	******	******	******	1.600	30	-1.37	0.75	10
CHECOTAH	1711	6	*****	0	*****	****	0	****	0	******	******	******	******	3.452	30	0.14	1.43	2
CLAYTON	1858	6	*****	0	*****	****	0	****	0	******	******	******	******	3.780	30	*****	1.69	1
DEWAR	2485	6	*****	0	*****	****	0	****	0	******	******	******	******	4.746	30	1.65	1.77	2
DUSTIN	2690	6	*****	0	*****	****	0	****	0	******	******	******	******	4.381	30	*****	2.05	2
EUFAULA	2993	6	56.1	29	3.4	76	27	37	11	265	-110	7	2	3.480	29	*****	1.60	1
HANNA	3884	6	54.8	30	3.1	76	27	30	11	313	-87	8	8	4.242	30	0.78	2.23	2
HASKELL	3956	6	*****	0	*****	****	0	****	0	******	******	******	******	3.010	30	-0.48	1.08	1
HOLDENVILLE	4235	6	54.5	28	*****	85	2	34	6	297	******	4	******	3.140	28	*****	1.90	2
LAKE EUFAULA	4975	6	53.3	28	*****	76	28	36	20	330	******	3	******	4.431	29	*****	2.48	2
LYONS	5437	6	*****	0	*****	****	0	****	0	******	******	******	******	3.560	30	-0.21	1.04	30
MARBLE CITY	5546	6	*****	0	*****	****	0	****	0	******	******	******	******	2.740	30	*****	1.10	2
MCALESTER	5664	6	54.8	30	3	76	27	34	11	309	-94	5	-3	3.043	30	-0.47	1.85	1
MCCURTAIN	5693	6	56.1	30	3.4	78	26	31	11	278	-97	11	5	3.414	30	-0.95	1.57	2
MUSKOGEE	6130	6	54.0	30	3	75	28	32	11	334	-93	3	3	3.863	30	0.31	1.16	29
OKMULGEE	6670	6	54.5	30	5	77	27	31	11	324	-142	10	10	3.561	30	0.40	1.90	1
OKTAHA	6678	6	*****	0	*****	****	0	****	0	******	******	******	******	3.710	30	*****	1.10	2
SALLISAW	7862	6	54.0	30	2.4	78	1	33	11	337	-66	5	5	4.160	30	0.05	1.17	10
SCIPIO	7979	6	*****	0	*****	****	0	****	0	******	******	******	******	3.720	30	*****	2.03	2
SHORT	8170	6	*****	0	*****	****	0	****	0	******	******	******	******	4.990	30	*****	1.75	2
STILWELL	8506	6	52.3	30	2.3	74	29	26	7	383	-68	0	0	5.090	30	1.31	1.91	30
TAHLEQUAH	8677	6	53.9	30	3.7	75	28	28	6	338	-112	6	1	4.931	30	1.35	1.56	2
WEBBERS FALL	9445	6	53.2	30	3	79	1	31	12	360	-85	6	6	3.291	30	-0.08	1.33	2
WETUMKA	9571	6	*****	0	*****	****	0	****	0	******	******	******	******	5.625	30	2.41	2.57	2

NOVEMBER 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	52.3	30	0.2	78	18	34	11	382	-5	0	0	2.300	30	0.99	1.43	1
ALTUS DAM	184	7	53.0	30	3.4	79	10	32	26	363	-99	3	3	3.260	30	1.90	2.53	1
ANADARKO	224	7	51.3	30	1.3	75	10	31	27	415	-39	2	2	5.640	30	3.91	4.10	1
APACHE	260	7	*****	0	*****	****	0	****	0	******	******	******	******	5.040	30	3.23	3.48	1
ALTUS AFB	447	7	*****	0	*****	****	0	****	0	******	******	******	******	2.455	30	*****	1.68	1
CARNEGIE	1504	7	52.5	30	2.4	76	9	32	19	378	-70	2	2	0.891	30	-0.71	0.55	29
CHATTANOOGA	1706	7	53.1	30	1.5	79	10	34	21	360	-43	2	2	3.050	30	1.51	1.69	1
DUNCAN 11 W	2668	7	*****	0	*****	****	0	****	0	******	******	******	******	1.832	30	*****	0.92	1
FREDERICK	3353	7	54.2	29	3.5	80	9	36	11	316	-114	2	2	1.310	30	-0.29	0.85	29
HEADRICK	3998	7	*****	0	*****	****	0	****	0	******	******	******	******	2.200	30	*****	1.67	1
HOBART	4204	7	52.6	28	*****	76	9	32	20	348	******	0	******	3.543	29	*****	2.95	1
HOLLIS	4249	7	53.1	30	2.5	80	22	33	11	357	-76	0	0	1.970	30	0.86	1.23	1
LAWTON	5063	7	53.6	30	3	79	1	33	11	346	-87	3	3	4.151	30	2.35	2.60	1
LOOKEBA	5329	7	*****	0	*****	****	0	****	0	******	******	******	******	4.933	30	3.14	3.13	1
MANGUM	5509	7	52.8	30	2	80	23	33	27	367	-59	0	0	2.501	30	1.24	2.05	1
RANDLETT	7403	7	*****	0	*****	****	0	****	0	******	******	******	******	2.720	30	*****	1.84	1
ROOSEVELT	7727	7	*****	0	*****	****	0	****	0	******	******	******	******	3.390	30	1.91	2.32	1
SEDAN	8016	7	*****	0	*****	****	0	****	0	******	******	******	******	2.600	30	*****	1.41	1
SNYDER	8299	7	*****	0	*****	****	0	****	0	******	******	******	******	3.240	30	1.70	2.08	1
VINSON	9212	7	*****	0	*****	****	0	****	0	******	******	******	******	2.441	30	1.22	1.78	1
WALTERS	9278	7	53.5	30	1.1	78	10	35	20	347	-36	3	3	3.290	30	1.20	2.10	1
WICHITA MT	9629	7	52.5	27	*****	76	10	30	21	337	******	0	******	5.370	27	*****	4.00	1
WILLOW	9668	7	*****	0	*****	****	0	****	0	******	******	******	******	2.400	30	*****	1.70	1

NOVEMBER 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	53.3	30	1.2	74	28	33	7	350	-43	0	-6	2.752	30	-0.05	0.98	1
ALLEN	147	8	*****	0	*****	****	0	****	0	******	******	******	******	3.480	30	*****	2.10	1
ARDMORE	292	8	55.1	30	0.6	80	1	33	7	303	-20	5	-2	1.160	30	-1.27	0.48	30
ATOKA DAM	394	8	55.8	18	*****	82	2	33	6	168	******	2	******	3.230	18	*****	1.63	2
BOKCHITO	917	8	*****	0	*****	****	0	****	0	******	******	******	******	2.270	30	*****	0.65	10
CANEY	1437	8	*****	0	*****	****	0	****	0	******	******	******	******	3.170	30	*****	1.83	2
CENTRAHOMA	1648	8	54.5	28	*****	80	1	32	7	303	******	10	******	3.900	28	*****	2.00	2
CHICKASAW	1745	8	53.3	28	*****	80	1	30	6	332	******	5	******	3.710	30	1.04	1.90	1
COLEMAN	2011	8	*****	0	*****	****	0	****	0	******	******	******	******	3.390	30	*****	1.90	2
COMANCHE	2054	8	54.4	30	*****	76	1	37	6	318	******	0	******	2.850	30	0.77	1.59	1
DAISY	2354	8	*****	0	*****	****	0	****	0	******	******	******	******	4.452	30	0.45	2.62	2
DUNCAN	2660	8	54.2	29	2.8	75	10	36	11	315	-97	3	3	2.261	30	0.11	1.18	1
ELMORE CITY	2872	8	*****	0	*****	****	0	****	0	******	******	******	******	2.820	30	*****	1.64	1
GRADY	3688	8	*****	0	*****	****	0	****	0	******	******	******	******	2.640	30	*****	1.34	1
HEALDTON	4001	8	52.6	26	*****	79	1	31	7	324	******	2	******	3.050	27	*****	1.75	2
HENNEPIN	4052	8	*****	0	*****	****	0	****	0	******	******	******	******	0.760	30	*****	0.39	30
KETCHUM RAN	4780	8	*****	0	*****	****	0	****	0	******	******	******	******	3.050	30	*****	1.64	1
KINGSTON	4865	8	*****	0	*****	****	0	****	0	******	******	******	******	2.530	30	-0.30	0.92	1
LEHIGH	5108	8	*****	0	*****	****	0	****	0	******	******	******	******	4.206	30	*****	2.55	2
LINDSAY	5216	8	52.6	30	1.3	74	18	31	10	376	-35	4	4	1.061	30	-1.16	0.42	9
LOCO	5247	8	*****	0	*****	****	0	****	0	******	******	******	******	2.570	30	*****	1.23	1
MADILL	5468	8	55.3	30	1.5	82	1	33	6	301	-41	9	3	3.650	30	0.85	1.40	2
MARIETTA	5563	8	54.3	30	0.8	79	1	30	7	329	-20	10	3	3.130	30	0.53	1.23	1
MARLOW	5581	8	54.0	30	2.5	75	9	33	21	332	-73	2	2	2.420	30	0.28	1.07	1
MCGEE CREEK	5713	8	54.9	28	*****	80	1	32	6	288	******	7	******	4.030	28	*****	2.41	2
PAULS VALLEY	6926	8	52.9	30	0.8	78	1	32	7	366	-26	4	4	3.390	30	0.86	1.90	1
PONTOTOC	7214	8	*****	0	*****	****	0	****	0	******	******	******	******	3.292	30	0.33	1.19	1
TISHOMINGO	8884	8	60.6	15	*****	76	25	38	26	74	******	8	******	2.430	18	*****	1.59	1
TUSSY	9032	8	*****	0	*****	****	0	****	0	******	******	******	******	1.440	30	*****	0.43	9
WAURIKA	9395	8	55.8	30	2.7	77	18	32	6	286	-77	10	4	1.960	30	0.14	1.10	1

NOVEMBER 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	56.0	30	3	76	27	32	11	277	-90	8	2	3.890	30	0.16	2.00	1
BATTIEST	567	9	53.7	29	*****	79	1	30	12	335	******	6	******	4.200	29	*****	1.55	2
BENGAL	670	9	*****	0	*****	****	0	****	0	******	******	******	******	3.370	30	*****	1.64	2
BOSWELL	980	9	54.8	12	*****	79	2	32	7	132	******	10	******	3.820	29	*****	1.83	2
BROKEN BOW	1162	9	*****	0	*****	****	0	****	0	******	******	******	******	3.291	30	-0.95	1.05	2
CARNASAW	1499	9	*****	0	*****	****	0	****	0	******	******	******	******	1.904	30	-2.58	0.99	10
CARTER TWR	1544	9	*****	0	*****	****	0	****	0	******	******	******	******	2.500	22	*****	1.05	8
FANSHAWE	3065	9	*****	0	*****	****	0	****	0	******	******	******	******	4.060	30	-0.45	0.88	30
HEAVENER	4008	9	*****	0	*****	****	0	****	0	******	******	******	******	3.250	30	-1.04	1.09	2
HUGO	4384	9	55.9	29	1.6	83	2	30	12	279	-51	15	6	5.090	30	1.14	2.47	3
IDABEL	4451	9	54.1	30	1.6	81	1	31	12	333	-48	6	1	3.753	30	-0.35	1.01	2
PAGE	6842	9	54.4	25	*****	78	1	31	12	275	******	9	******	3.870	26	*****	1.47	10
POTEAU	7254	9	53.9	30	*****	76	27	30	6	333	******	0	******	3.810	30	*****	1.24	1
SMITHVILLE	8285	9	52.8	30	2	80	1	27	12	371	-56	5	5	3.401	30	-0.98	1.20	10
SPIRO	8416	9	*****	0	*****	****	0	****	0	******	******	******	******	3.880	30	-0.54	1.53	2
TUSKAHOMA	9023	9	57.0	30	4.1	77	27	29	11	255	-114	16	10	3.152	30	-0.98	1.52	2
VALLIANT	9118	9	*****	0	*****	****	0	****	0	******	******	******	******	3.730	30	-0.43	1.13	2
WILBURTON	9634	9	54.8	30	3.5	79	1	30	11	313	-102	8	8	3.391	30	-0.90	1.60	1
WISTER	9724	9	54.4	27	*****	80	1	29	11	298	******	12	******	2.800	27	*****	1.03	30

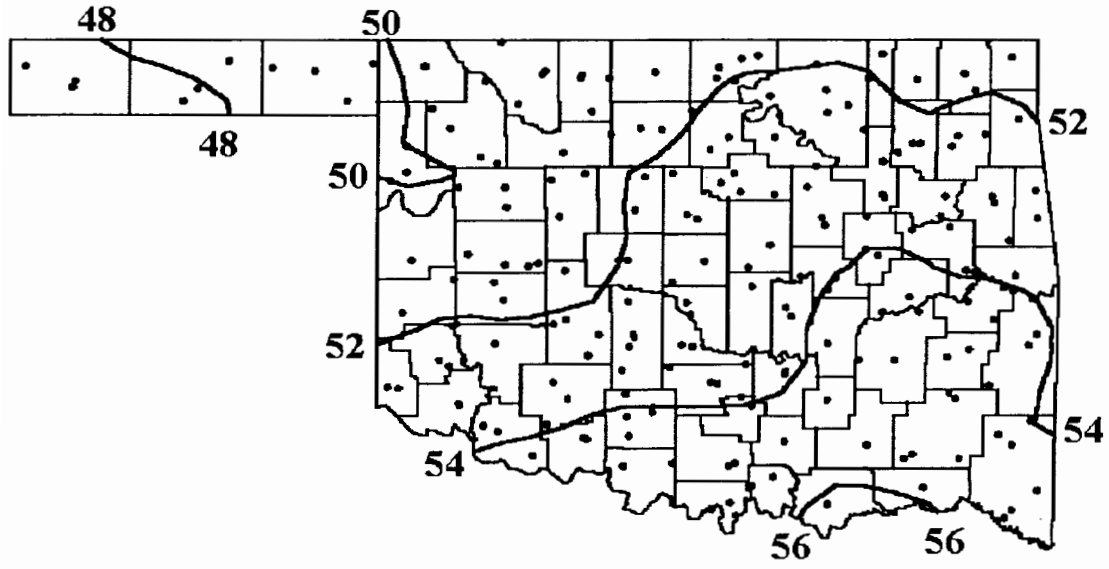
NOVEMBER 1998 CLIMATE DIVISION SUMMARY

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	49.2	9	4.1	87	22	19	11	473	-125	0	0	2.200	12	1.19	3.70	1
2	50.6	14	3.2	80	27	19	10	432	-95	1	1	4.470	22	2.61	4.85	1
3	53.0	12	3.7	81	1	27	6	363	-108	6	6	3.640	22	0.55	2.23	1
4	51.5	10	3.3	77	23	26	11	403	-100	0	0	3.100	18	1.48	3.63	1
5	52.9	15	2.5	80	1	28	20	364	-75	3	3	3.790	35	1.39	4.69	1
6	54.4	10	3.2	85	2	26	7	324	-93	6	4	3.850	23	0.37	2.57	2
7	52.9	10	2.3	80	23	30	21	363	-68	2	2	2.930	21	1.37	4.10	1
8	54.2	10	1.8	82	1	30	7	328	-54	5	2	2.740	25	0.12	2.62	2
9	54.8	8	2.2	83	2	27	12	312	-66	8	3	3.570	14	-0.62	2.47	3

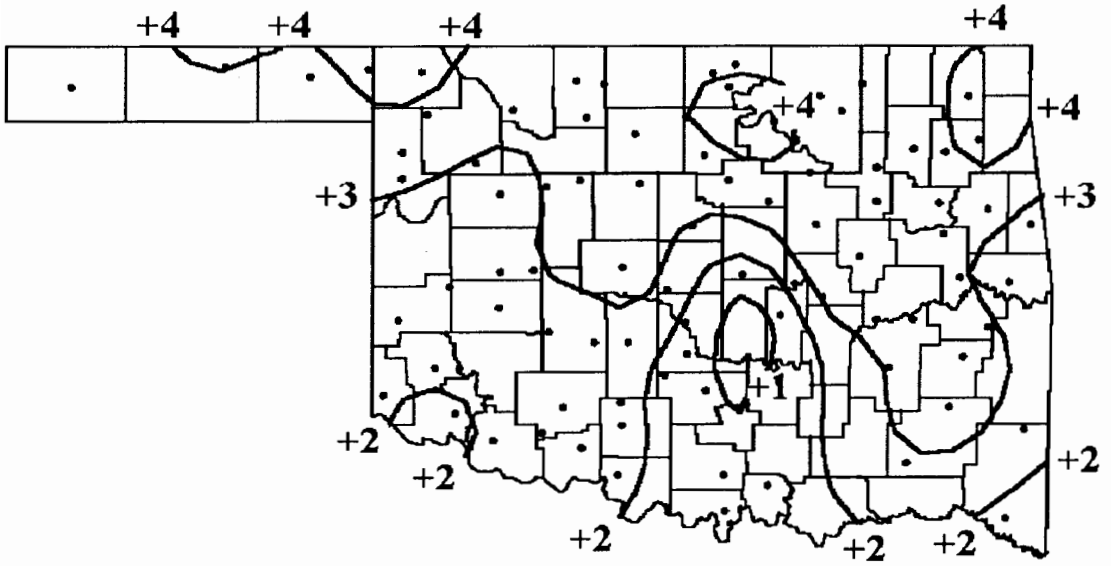
MESONET MONTHLY SUMMARY FOR NOVEMBER 1998

NAME	MEAN TEMP	MAX TEMP	MAX DAY	MIN TEMP	MIN DAY	HDD	CDD	TOT PPT	MAX 24-HR	MAX DAY
PANHANDLE										
Arnett	50.1	77	22	28	11	448	0	.55	.34	1
Beaver	48.9	83	22	24	11	483	0	.72	.50	1
Boise City	47.0	86	22	20	11	540	0	.80	.73	1
Buffalo	50.2	80	27	26	11	445	0	1.22	1.05	1
NORTH CENTRAL										
Alva	49.9	73	27	31	11	454	0	2.65	1.77	1
Blackwell	52.4	76	27	31	11	380	2	3.24	1.25	1
Breckenridge	51.7	73	27	32	11	398	0	2.31	.92	1
Cherokee	50.9	73	18	30	20	423	0	1.55	1.02	1
Fairview	51.3	74	27	28	11	409	0	1.50	1.27	1
Freedom	50.8	77	27	28	11	427	0	*****	*****	**
Lahoma	50.8	73	18	31	11	427	0	2.25	1.29	1
NORTHEAST										
Bixby	53.6	75	27	30	11	348	7	3.92	1.70	1
Burbank	52.0	76	27	27	11	394	3	4.96	2.38	1
Catoosa	53.2	74	27	31	20	356	2	2.96	1.22	1
Claremore	52.7	75	28	30	11	371	3	2.69	.97	1
Copan	51.7	75	28	29	11	402	3	4.17	1.34	1
Foraker	51.9	76	27	31	11	395	2	4.17	1.78	1
Jay	51.7	75	28	28	6	403	3	3.77	1.22	1
Miami	51.1	75	28	29	6	418	1	3.21	1.10	1
WEST CENTRAL										
Bessie	52.3	77	9	33	20	381	0	1.11	.46	1
Butler	51.3	77	22	28	11	383	0	.92	.62	1
Camargo	49.8	76	9	26	11	456	0	.87	.57	1
Cheyenne	51.8	75	9	32	20	394	0	.64	.36	1
Erick	51.2	78	22	31	20	413	0	.68	.39	29
CENTRAL										
Acme	53.3	76	9	35	21	353	0	3.57	1.91	1
Bowlegs	53.7	75	18	30	11	348	7	3.49	1.56	1
Bristow	52.7	75	27	29	11	373	3	3.64	1.58	1
Chandler	53.5	77	27	33	20	347	3	3.07	1.87	1
Chickasha	52.8	75	18	31	11	367	1	3.40	1.54	1
El Reno	50.7	72	18	30	11	430	0	2.91	1.46	1
Guthrie	53.1	74	27	32	20	358	1	3.56	2.04	1
Kingfisher	51.5	73	18	30	20	403	0	2.56	1.28	1
Marena	52.9	77	27	30	20	364	1	5.23	2.82	1
Marshall	52.2	74	27	29	20	385	0	2.80	1.11	1
EAST CENTRAL										
Calvin	54.2	75	18	31	11	330	7	4.03	2.33	1
Cookson	52.7	72	9	28	6	370	1	4.09	1.78	1
Eufaula	54.8	75	27	35	11	309	2	3.00	2.06	1
Haskell	53.6	75	27	32	11	345	3	3.61	1.28	1
Hectorville	54.7	76	27	34	20	315	6	4.31	1.80	1
McAlester	54.9	76	27	33	6	307	5	3.82	2.23	1
Okmulgee	53.8	77	27	28	11	342	7	3.56	1.50	1
SOUTHWEST										
Altus	53.7	79	9	35	11	338	0	1.22	.57	29
Apache	52.7	73	18	34	20	368	0	2.34	1.35	1
Fort Cobb	52.2	76	9	32	20	383	0	1.99	.81	1
Grandfield	54.5	82	9	36	11	322	6	2.22	1.16	29
Hinton	52.1	75	9	31	20	388	0	2.55	1.18	1
Hobart	52.2	76	9	32	20	385	0	1.30	.65	1
SOUTH CENTRAL										
Ada	53.8	76	27	31	6	340	5	2.51	1.56	1
Ardmore	55.3	78	26	32	6	296	6	3.03	1.48	1
Burneyville	55.2	77	18	29	6	303	9	2.90	1.50	1
Byars	54.0	73	18	34	6	332	3	3.45	1.76	1
Centrahoma	54.5	76	27	30	6	320	5	4.12	2.36	1
Durant	56.7	76	27	35	6	257	6	3.50	1.86	1
Ketchum Ranch	54.3	74	9	35	6	323	2	2.70	1.62	1
SOUTHEAST										
Antlers	54.8	77	27	28	6	310	3	4.48	1.89	1
Broken Bow	55.4	77	25	31	11	290	3	3.90	1.52	1
Clayton	55.1	76	27	30	6	301	4	3.43	1.69	1
Cloudy	54.9	75	25	32	6	305	1	3.71	1.65	1
Hugo	56.3	76	27	33	6	265	2	4.77	2.94	1

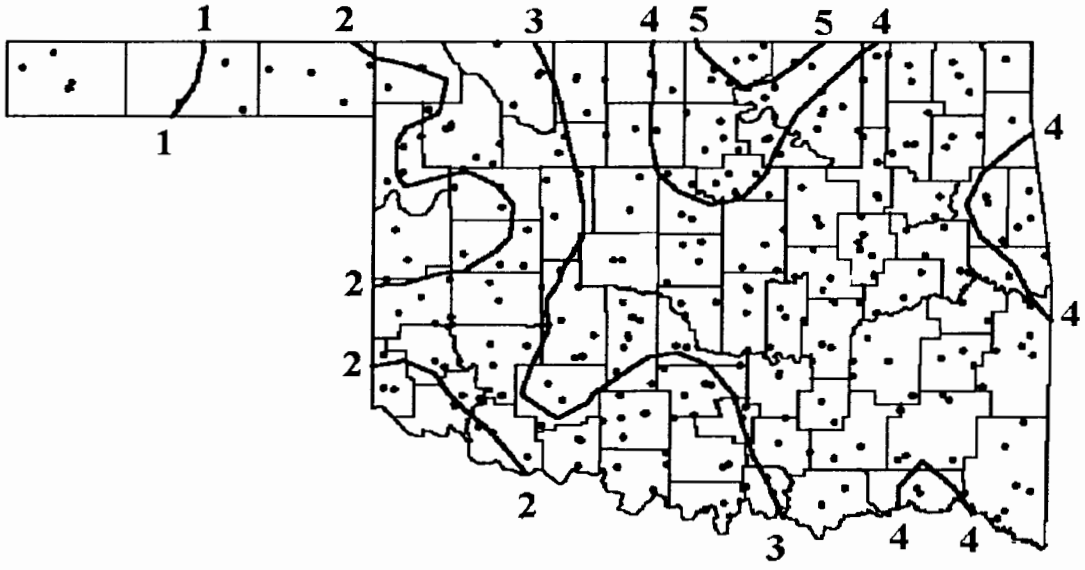
NAME	MEAN TEMP	MAX TEMP	MAX DAY	MIN TEMP	MIN DAY	HDD	CDD	TOT PPT	MAX 24-HR	MAX DAY
PANHANDLE										
Goodwell	47.4	85	22	22	11	527	0	.87	.77	1
Hooker	47.4	87	22	25	20	527	0	.66	.53	1
Kenton	46.4	82	22	19	11	558	0	.53	.48	1
Slapout	49.5	82	22	27	20	466	0	.84	.56	1
NORTH CENTRAL										
May Ranch	50.7	75	27	30	11	430	0	1.88	1.36	1
Medford	51.3	73	27	30	20	411	0	2.35	.84	1
Newkirk	51.7	74	27	30	20	399	0	5.87	3.70	1
Red Rock	52.2	76	27	30	20	384	1	4.77	2.67	1
Seiling	50.3	74	18	27	11	442	0	1.29	.98	1
Woodward	51.4	76	9	29	11	407	0	1.09	.67	1
NORTHEAST										
Nowata	51.1	75	28	28	11	421	3	2.62	1.08	1
Pawnee	52.7	75	27	29	11	375	4	3.78	2.08	1
Pryor	51.7	74	28	28	6	405	5	3.08	.91	29
Skiatook	52.8	73	27	13	11	369	2	2.78	.87	1
Tullahassee	54.0	74	27	31	6	334	3	3.71	1.19	29
Vinita	50.7	73	28	28	20	430		3.60	1.40	1
Wynona	52.3	76	27	29	11	385	4	3.49	1.50	1
WEST CENTRAL										
Putnam	50.9	73	9	30	11	423	0	.94	.55	1
Retrop	52.7	78	9	33	10	369	0	1.08	.54	1
Watonga	51.5	72	18	32	11	404	0	2.30	1.39	1
Weatherford	51.3	73	9	31	20	412	0	1.06	.54	1
CENTRAL										
Minco	52.3	73	18	32	20	380	0	2.86	1.45	1
Ninnekah	53.0	75	9	32	26	361	0	3.10	1.64	1
Norman	52.8	74	18	33	6	366	0	4.37	2.38	1
Oilton	51.7	76	27	27	11	402	4	2.90	1.86	1
Okemah	53.6	74	27	31	11	347	4	4.35	2.52	1
Perkins	53.2	76	27	33	11	357	2	4.02	2.85	1
Shawnee	53.0	73	27	35	20	359	0	2.76	1.30	1
Spencer	53.2	74	27	31	20	356	1	3.68	2.47	1
Stillwater	52.2	77	27	29	11	386	3	5.50	3.38	1
Washington	53.9	74	18	35	11	334	2	3.04	1.96	1
EAST CENTRAL										
Preston	*****	***	***	***	**	****	****	3.99	2.11	1
Sallisaw	53.9	75	28	30	11	335	2	3.06	1.07	1
Stigler	53.8	76	26	30	11	339	3	3.28	1.62	1
Stuart	54.1	73	25	32	11	329	1	3.91	1.98	1
Tahlequah	52.3	74	28	28	11	384	2	4.42	1.69	1
Webbers Falls	54.0	76	28	31	11	334	3	4.02	1.88	1
Westville	52.6	73	28	28	6	373	1	4.52	1.36	1
SOUTHWEST										
Hollis	53.1	80	22	32	11	356	0	.89	.48	29
Mangum	52.3	79	9	29	21	381	0	.80	.33	1
Medicine Park	53.5	77	9	38	20	343	0	3.15	1.15	29
Tipton	54.2	80	9	33	26	327	3	1.58	.79	1
Walters	54.5	79	9	36	21	320	5	3.09	2.08	1
SOUTH CENTRAL										
Lane	55.5	76	25	32	6	288	3	3.40	2.07	1
Madill	55.7	75	18	32	6	286	6	2.65	1.06	1
Pauls Valley	54.6	76	18	33	6	318	7	3.01	1.51	1
Ringling	56.0	77	18	33	6	279	10	2.52	1.30	1
Sulphur	54.1	75	18	30	6	331	5	2.93	1.80	1
Tishomingo	55.1	75	18	31	6	302	4	3.37	1.66	1
Waurika	55.0	78	9	32	6	310	10	2.14	1.27	1
SOUTHEAST										
Idabel	55.8	77	27	32	11	279	5	3.78	.98	30
Mt Herman	54.2	75	25	30	6	324	1	3.64	1.00	1
Talihina	55.6	76	25	30	11	284	2	2.59	1.05	1
Wilburton	54.7	75	27	31	6	312	3	3.17	1.72	1
Wister	54.3	76	27	30	6	326	6	3.23	1.17	1



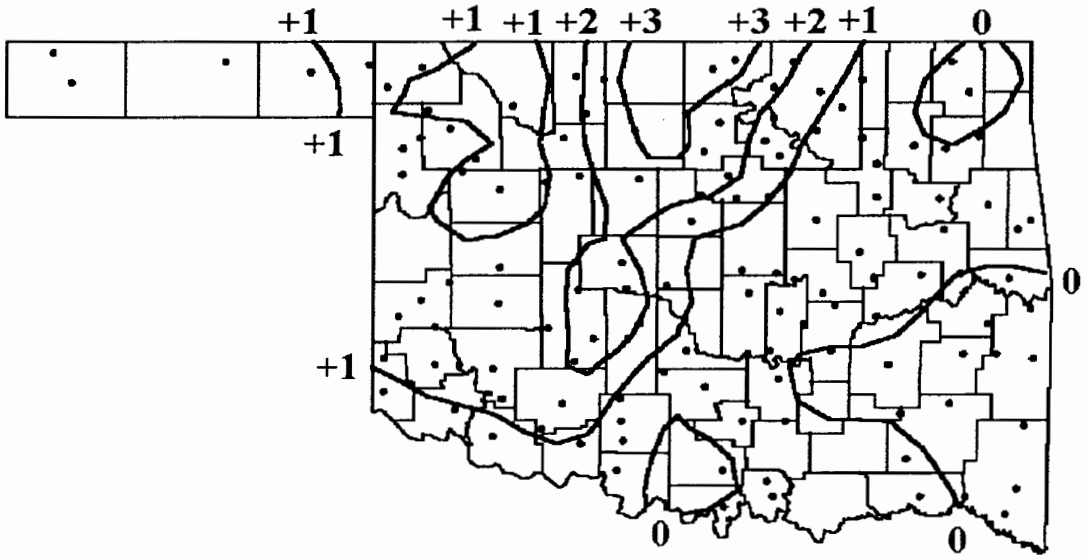
NOVEMBER 1998 AVERAGE MONTHLY TEMPERATURE (°F)



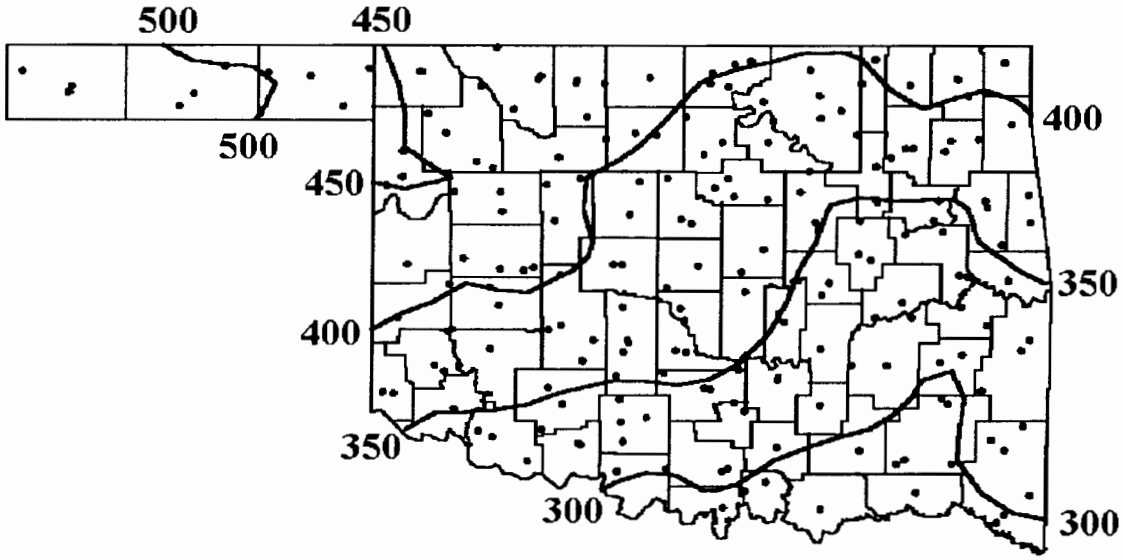
NOVEMBER 1998 DEPARTURE FROM NORMAL TEMPERATURE(°F)



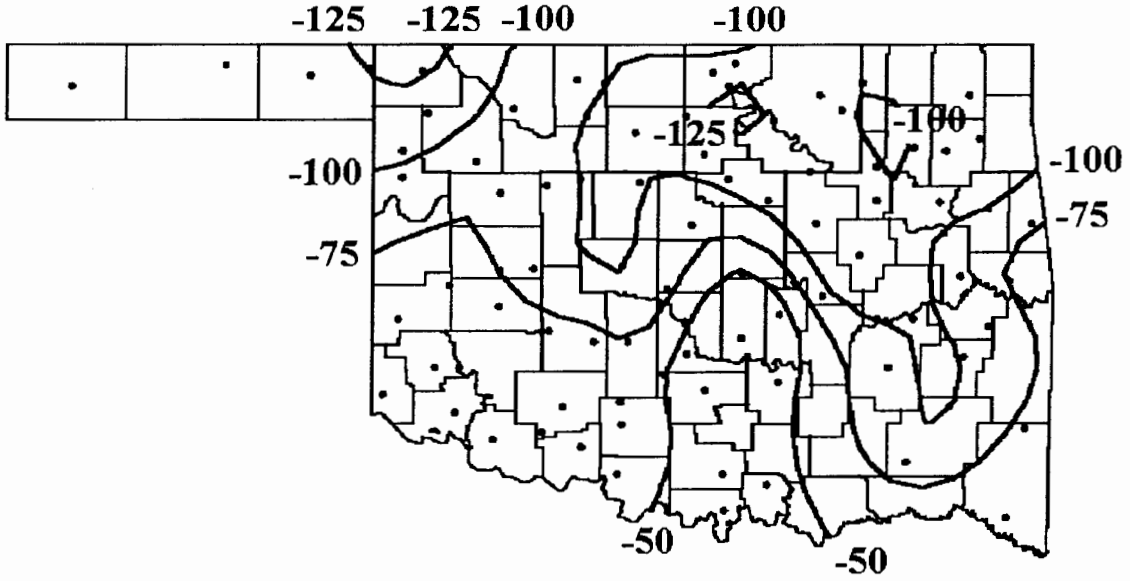
NOVEMBER 1998 TOTAL PRECIPITATION (INCHES)



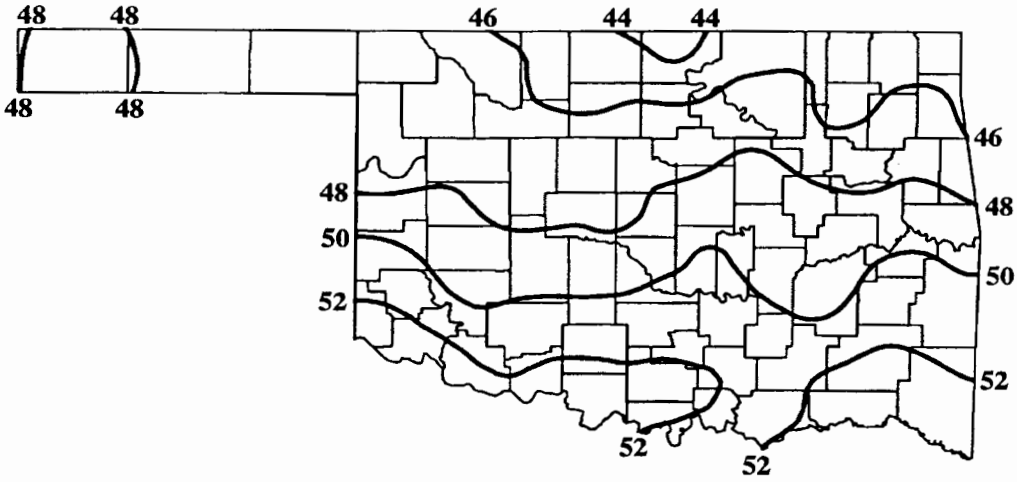
NOVEMBER 1998 DEPARTURE FROM NORMAL PRECIPITATION (INCHES)



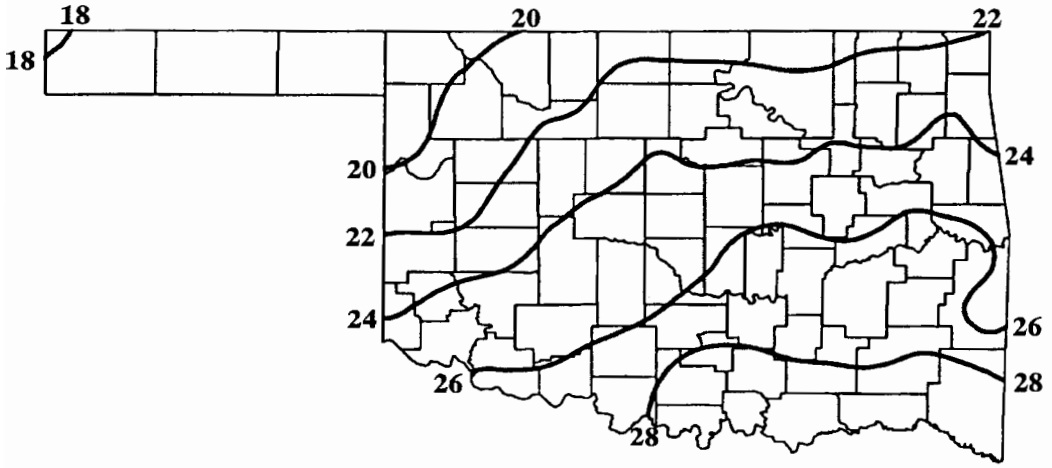
NOVEMBER 1998 ACCUMULATED HEATING DEGREE DAYS (°F)



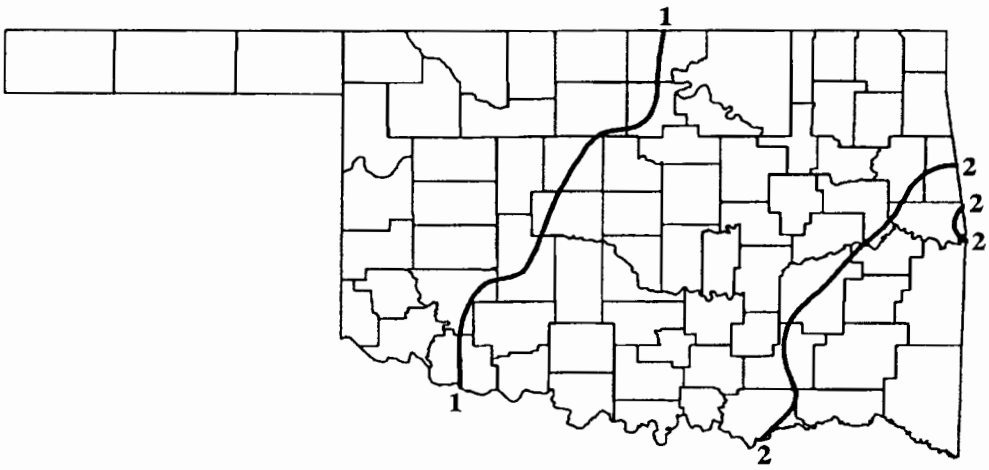
NOVEMBER 1998 DEPARTURE FROM NORMAL HEATING DEGREE DAYS (°F)



JANUARY NORMAL DAILY MAXIMUM TEMPERATURES (°F)



JANUARY NORMAL DAILY MINIMUM TEMPERATURE (°F)

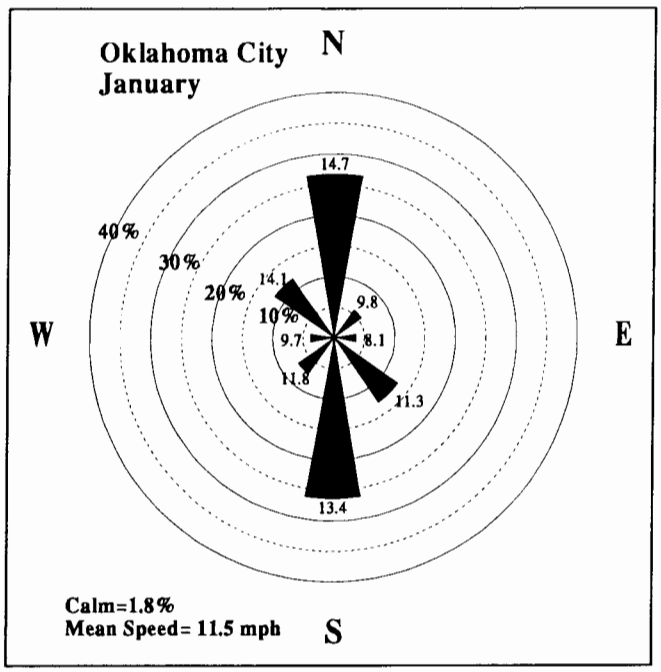


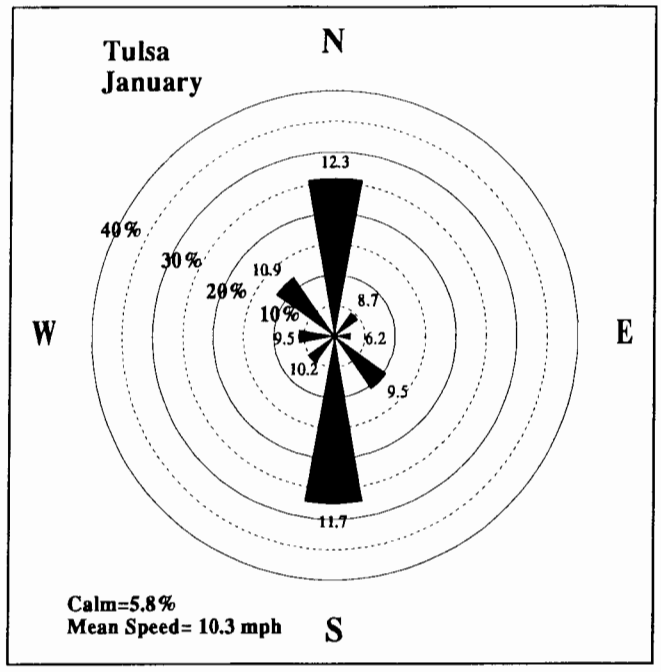
JANUARY NORMAL MONTHLY PRECIPITATION (INCHES)

OUTLOOK FOR JANUARY 1998 THROUGH MARCH 1999

BASED ON SEASONAL OUTLOOK PROVIDED BY THE CLIMATE PREDICTION CENTER

TEMPERATURE: HIGHER THAN NORMAL TEMPERATURE STATEWIDE
PRECIPITATION: NEAR NORMAL SOUTHWEST
BELOW NORMAL ELSEWHERE



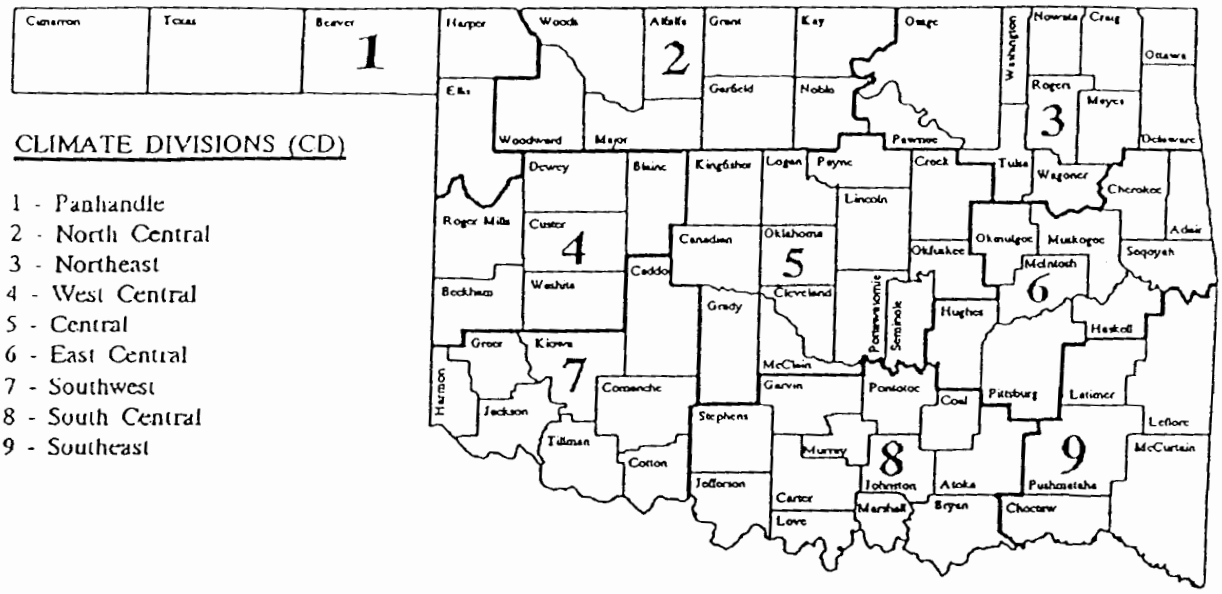


January Wind Roses for Oklahoma City and Tulsa. The frequency (percent) of winds from each direction is represented by length of its bar. The numbers at the ends of the bars indicate the average wind speed from that direction in miles per hour.

SUNRISE/SUNSET TIMES FOR JANUARY 1999

	OKLAHOMA CITY			TULSA			
DATE	SUNRISE	SUNSET	DAYLIGHT	DATE	SUNRISE	SUNSET	DAYLIGHT
99 1 1	7:38AM	5:30PM cst	9 hrs 53 mins	99 1 1	7:33AM	5:21PM cst	9 hrs 49 mins
99 1 2	7:38AM	5:31PM cst	9 hrs 53 mins	99 1 2	7:33AM	5:22PM cst	9 hrs 49 mins
99 1 3	7:38AM	5:31PM cst	9 hrs 54 mins	99 1 3	7:33AM	5:23PM cst	9 hrs 50 mins
99 1 4	7:38AM	5:32PM cst	9 hrs 54 mins	99 1 4	7:33AM	5:23PM cst	9 hrs 50 mins
99 1 5	7:38AM	5:33PM cst	9 hrs 55 mins	99 1 5	7:33AM	5:24PM cst	9 hrs 51 mins
99 1 6	7:38AM	5:34PM cst	9 hrs 56 mins	99 1 6	7:33AM	5:25PM cst	9 hrs 52 mins
99 1 7	7:38AM	5:35PM cst	9 hrs 56 mins	99 1 7	7:33AM	5:26PM cst	9 hrs 52 mins
99 1 8	7:38AM	5:35PM cst	9 hrs 57 mins	99 1 8	7:33AM	5:27PM cst	9 hrs 53 mins
99 1 9	7:38AM	5:36PM cst	9 hrs 58 mins	99 1 9	7:33AM	5:27PM cst	9 hrs 54 mins
99 110	7:38AM	5:37PM cst	9 hrs 59 mins	99 110	7:33AM	5:28PM cst	9 hrs 55 mins
99 111	7:38AM	5:38PM cst	10 hrs 0 mins	99 111	7:33AM	5:29PM cst	9 hrs 56 mins
99 112	7:38AM	5:39PM cst	10 hrs 1 mins	99 112	7:33AM	5:30PM cst	9 hrs 57 mins
99 113	7:38AM	5:40PM cst	10 hrs 2 mins	99 113	7:33AM	5:31PM cst	9 hrs 58 min
99 114	7:38AM	5:40PM cst	10 hrs 3 mins	99 114	7:33AM	5:32PM cst	9 hrs 59 min
99 115	7:38AM	5:41PM cst	10 hrs 4 mins	99 115	7:33AM	5:33PM cst	10 hrs 0 min
99 116	7:37AM	5:42PM cst	10 hrs 5 mins	99 116	7:32AM	5:34PM cst	10 hrs 1 min
99 117	7:37AM	5:43PM cst	10 hrs 6 mins	99 117	7:32AM	5:35PM cst	10 hrs 2 min
99 118	7:37AM	5:44PM cst	10 hrs 7 mins	99 118	7:32AM	5:35PM cst	10 hrs 4 min
99 119	7:37AM	5:45PM cst	10 hrs 8 mins	99 119	7:31AM	5:36PM cst	10 hrs 5 min
99 120	7:36AM	5:46PM cst	10 hrs 10 mins	99 120	7:31AM	5:37PM cst	10 hrs 6 min
99 121	7:36AM	5:47PM cst	10 hrs 11 mins	99 121	7:31AM	5:38PM cst	10 hrs 8 min
99 122	7:35AM	5:48PM cst	10 hrs 12 mins	99 122	7:30AM	5:39PM cst	10 hrs 9 min
99 123	7:35AM	5:49PM cst	10 hrs 14 mins	99 123	7:30AM	5:40PM cst	10 hrs10 min
99 124	7:35AM	5:50PM cst	10 hrs 15 mins	99 124	7:29AM	5:41PM cst	10 hrs12 min
99 125	7:34AM	5:51PM cst	10 hrs 17 mins	99 125	7:29AM	5:42PM cst	10 hrs13 min
99 126	7:34AM	5:52PM cst	10 hrs 18 mins	99 126	7:28AM	5:43PM cst	10 hrs15 min
99 127	7:33AM	5:53PM cst	10 hrs 20 mins	99 127	7:28AM	5:44PM cst	10 hrs17 min
99 128	7:32AM	5:54PM cst	10 hrs 21 mins	99 128	7:27AM	5:45PM cst	10 hrs18 min
99 129	7:32AM	5:55PM cst	10 hrs 23 mins	99 129	7:27AM	5:46PM cst	10 hrs20 min
99 130	7:31AM	5:56PM cst	10 hrs 24 mins	99 130	7:26AM	5:47PM cst	10 hrs21 min
99 131	7:31AM	5:57PM cst	10 hrs 26 mins	99 131	7:25AM	5:48PM cst	10 hrs23 min

OKLAHOMA



CLIMATE DIVISIONS (CD)

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

EXPLANATION OF TABLES

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

Station Name:
Station Identification Number: These are usually assigned by the National Climatic Data Center.
Climate Division: See the figure above.
Number of Temperature Observations: These are the actual number of temperature reports recorded at the station during the current month. Missing observations may result in artificially high or low mean monthly temperatures.

Deviation from Normal: The deviation of the observed mean monthly temperature from the monthly station normal. A positive value indicates the month was warmer than normal. A negative value indicates the month was cooler than normal. Normal monthly temperatures may be calculated by subtracting the deviation from the observed temperature.

Maximum Daily Maximum: The maximum daily maximum temperature observed during the current month and year and the day which it occurred.

Minimum Daily Minimum: The minimum daily minimum temperature observed during the current month and year and the day which it occurred.

Heating Degree Days: HDD are calculated each day of the month for which there is a temperature report and the average temperature for the day is less than 65 degrees. Daily values are summed to arrive at a monthly total. They are a qualitative measure of how much heat was required to maintain a comfortable indoor temperature. Missing observations may result in an artificially high or low value. For February 1984 HDD would be calculated as:

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

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

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

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

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

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

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

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

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

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

OKLAHOMA CITY CLIMATE CALENDAR
DATA COURTESY OF NATIONAL WEATHER SERVICE NORMAN

The data on this calendar is for Oklahoma City.
Normal values are calculated for the period 1961-1990.
Temperature extremes are for the period 1891-1997.
Precipitation extremes are for the period 1891-1997.

JANUARY

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	36.5	46.5	74	1910	13	1979		26.5	51	1966	2	1928		0.02	0.63	1892	
2	37.3	47.1	78	1997	13	1911		27.4	56	1950	-2	1911		0.07	1.01	1951	
3	35.3	45.6	78	1997	10	1919		25	56	1997	-9	1911		0.06	1.03	1908	
4	34.5	43.8	72	1927	11	1959		25.2	60	1955	-7	1947		0.02	1.81	1932	
5	36.6	46.8	71	1927	18	1924		26.5	48	1946	-2	1959		0.05	1	1962	
6	36.4	47.8	68	1921	14	1909		25.1	52	1907	-2	1912		0.02	1.02	1934	
7	34.5	44.9	73	1965	15	1913		24.2	61	1907	-3	1912		0.01	0.93	1944	
8	35.2	46.9	71	1923	11	1937		23.5	49	1949	-4	1988		0.03	1.45	1939	
9	34.2	44.8	70	1902	9	1977		23.5	49	1900	-2	1977		0.02	0.62	1993	
10	32.7	42.6	75	1990	13	1962		22.7	45	1898	-3	1977		0.02	0.66	1905	
11	33.4	44.1	77	1911	2	1918		22.6	50	1898	-7	1918		0.01	1.1	1916	
12	35.4	45.6	73	1935	6	1912		25.1	51	1960	-7	1912		0.03	0.78	1927	
13	36.1	47	74	1996	11	1905		25.3	51	1952	-4	1916		0.01	0.79	1992	
14	37.3	48.3	75	1928	12	1905		26.3	50	1928	-1	1905		0.02	0.46	1898	
15	37.3	49.2	77	1914	14	1930		25.5	53	1969	-2	1905		0.02	0.65	1949	
16	36	46.5	76	1894	11	1930		25.5	57	1990	0	1930		0.04	0.7	1990	
17	36.8	47.6	73	1894	8	1930		26.1	52	1894	-9	1930		0.04	1.16	1926	
18	36.1	46.4	74	1951	8	1892		25.7	48	1895	-9	1930		0.1	1.07	1968	
19	34.6	44.1	75	1914	12	1962		25.1	54	1904	-11	1892		0.09	2.76	1894	
20	35.4	45.9	80	1986	18	1984		25	53	1921	1	1985		0.02	1.29	1904	
21	35.8	45.6	71	1967	12	1954		26	56	1921	-3	1930		0.08	1.4	1932	
22	36.4	47.3	79	1967	16	1962		25.5	50	1921	-8	1930		0.03	0.39	1920	
23	36	46.8	75	1909	13	1963		25.1	51	1967	-1	1963		0.02	1.16	1921	
24	38.7	50.1	81	1950	8	1894		27.2	51	1944	-8	1894		0.02	0.37	1949	
25	38.6	49.2	77	1952	15	1905		27.9	58	1944	-3	1894		0.08	1.26	1949	
26	36.4	46.4	72	1953	12	1897		26.5	54	1911	0	1902		0.03	1.25	1916	
27	35.6	45.8	72	1914	17	1961		25.3	56	1914	3	1963		0.03	0.62	1985	
28	36.6	47.1	78	1893	21	1948		26	60	1968	5	1948		0.02	0.44	1989	
29	37.1	48.1	76	1911	13	1966		26.2	51	1982	-1	1895		0.06	1.84	1982	
30	36.5	46.9	74	1917	16	1949		26.2	55	1988	-1	1895		0.07	1.34	1982	
31	38.1	48.4	83	1911	6	1918		27.8	52	1911	-1	1979		0.06	1.98	1923	
MONTH	36	46.6	83	1911	2	1918		25.5	61	1907	-11	1892		1.13	2.76	1894	

*The most tornadoes reported in January for Oklahoma was 4 in 1957 and 1967.

TULSA CLIMATE CALENDAR

DATA COURTESY OF NATIONAL WEATHER SERVICE TULSA

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.

JANUARY

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	35	45	73	1910	13	1974		25	59	1910	0	1928		0.05	0.7	1925	
2	35	45	76	1997	10	1911		25	56	1997	2	1911		0.05	0.9	1951	
3	35	45	75	1997	14	1959		25	58	1997	-2	1919		0.05	1.12	1971	
4	35	45	70	1956	12	1959		25	63	1955	-8	1947		0.05	1.96	1932	
5	35	45	73	1984	16	1940		25	55	1916	-7	1947		0.05	1.28	1929	
6	35	45	69	1907	15	1913		25	53	1907	0	1912		0.05	0.93	1910	
7	35	45	77	1965	15	1968		25	64	1907	-5	1912		0.05	1.05	1935	
8	35	45	71	1923	17	1970		25	51	1939	-5	1988		0.05	1.92	1907	
9	35	45	69	1909	10	1977		25	46	1939	0	1977		0.05	0.94	1930	
10	35	45	75	1911	13	1962		25	48	1916	-5	1977		0.05	1.7	1922	
11	35	45	80	1911	2	1918		24	52	1911	-6	1977		0.05	1.95	1905	
12	35	45	73	1960	3	1912		24	57	1960	-13	1918		0.05	2.1	1916	
13	35	45	75	1907	11	1916		24	51	1959	-12	1916		0.05	1.5	1927	
14	35	45	75	1952	13	1979		24	51	1953	-4	1916		0.05	0.65	1937	
15	35	45	69	1914	18	1972		24	53	1980	0	1905		0.05	0.76	1949	
16	35	45	78	1938	14	1930		24	55	1935	1	1930		0.04	1.9	1932	
17	35	45	73	1952	10	1930		24	55	1973	-3	1930		0.05	0.5	1926	
18	35	45	72	1951	12	1940		25	53	1923	-14	1930		0.05	0.88	1968	
19	35	45	75	1951	14	1970		25	48	1954	-5	1943		0.05	1.5	1980	
20	35	45	77	1986	15	1984		25	51	1923	-3	1985		0.05	1.63	1904	
21	35	45	75	1957	15	1935		25	57	1957	-1	1918		0.05	2.2	1916	
22	35	45	78	1909	16	1962		25	57	1909	-16	1930		0.05	0.63	1913	
23	35	46	78	1909	12	1963		25	54	1967	-8	1930		0.05	1.42	1953	
24	35	46	79	1950	15	1940		25	51	1919	-4	1906		0.05	0.67	1938	
25	35	46	74	1952	18	1940		25	55	1944	2	1940		0.05	1.89	1989	
26	36	46	71	1911	20	1957		25	55	1944	7	1963		0.05	0.62	1967	
27	36	46	74	1914	21	1948		25	55	1910	1	1963		0.05	1.01	1916	
28	36	46	82	1909	21	1972		26	59	1968	3	1948		0.05	0.69	1989	
29	36	47	76	1947	14	1966		26	50	1988	-2	1949		0.05	1.43	1939	
30	36	47	74	1947	15	1949		26	58	1988	-6	1949		0.05	1.73	1975	
31	36	47	76	1989	7	1918		26	48	1923	-5	1979		0.05	2.13	1983	
MONTH	35.2	45.4	82	1909	2	1918		24.9	64	1907	-16	1930		1.54	2.2	1916	

*The average number of tornadoes reported in January for Oklahoma is 0.3.