Oklahoma Monthly Climate Summary

AUGUST 2022

OKLAHOMA CLIMATOLOGICAL SURVEY

August's heat and drought appeared ferocious at first, with widespread triple-digit temperatures and moisture deficits throughout the first half of the month. A strong cold front signaled a pattern change, however, and the heat settled into more seasonable levels for the last half of the month. On the whole, August was still well above normal and contributed to the hottest climatological summer seen in the state since 2011. There was just enough rainfall to provide some drought relief near the end of the month, but not before the coverage of severe drought had expanded to its highest levels in the state since March 5, 2013. The Aug. 9 U.S. Drought Monitor report had 92.5% of the state in at least severe drought, but that level had diminished to 88% at month's end. Impacts reported to the Oklahoma Mesonet included dry farm ponds, cattle sell-offs, a lack of hay and grazing, and crop failures. There was some severe weather associated with the rainy periods in the form of damaging winds and hail, but the more significant impacts came in the way of heavy rains. Widespread flash flooding occurred over Aug. 22-23 and again on the 29th in parts of central and southern Oklahoma, and necessitated road closures and water rescues for stranded motorists.

August 2022 Statewide Extremes

Description	Extreme	Station	Day
High Temperature	110°F	Hollis	4
Low Temperature	51°F	Eva	25
High Precipitation	8.88 in.	Waurika	--
Low Precipitation	0.17 in.	Red Rock	--

The statewide average precipitation total was 2.13 inches according to preliminary data from the Oklahoma Mesonet, 1.1 inches below normal and ranked as the 40th driest August since records began in 1895. As is usually the case in Oklahoma, some parts of the state fared much better than others. South central and southwest Oklahoma saw their 38th and 39th wettest Augusts on record, respectively. Meanwhile, the north central and northeast regions suffered through their third and ninth driest Augusts, respectively. Waurika led all Mesonet sites with 8.88 inches for the month while Red Rock's gauge measured a measly 0.17 inches. Thirty-two of the Mesonet's 120 sites failed to reach at least an inch of rain during August, and 28 sites saw 3 inches or more. The climatological summer—June 1 through Aug. 31—ended as the 30th driest on record at 7.48 inches, 3.21 inches below normal. Deficits of 2-8 inches were common across the state, with a few very localized surpluses of 2-8 inches. The first eight months of the year were equally as dry with a statewide average of 21.34 inches, 3.91 inches below normal and ranked as the 40th driest January-August on record.

The statewide average temperature finished at 81.9 degrees, 1.1 degrees above normal and ranked as the 46th warmest August on record dating back to 1895. Temperatures peaked early in the month with Hollis hitting the month's high mark at 110 degrees on Aug. 4. Triple-digit temperatures occurred on 18 of August's 31 days, and were recorded 826 times at Mesonet sites during the month. The month's lowest temperature of 51 degrees was recorded at Eva on the 25th.

August 2022 Statewide Statistics

Temperature

	Average	Depart.	Rank (1895-2022)
Month (Aug)	81.9°F	1.1°F	46th Warmest
Season-to-Date (Jun-Aug)	82.7°F	2.6°F	9th Warmest
Year-to-Date (Jan-Aug)	63.5°F	0.8°F	23rd Warmest

Precipitation

	Total	Depart.	Rank (1895-2022)
Month (Aug)	2.13 in.	-1.1 in.	40th Driest
Season-to-Date (Jun-Aug)	7.48 in.	-3.21 in.	30th Driest
Year-to-Date (Jan-Aug)	21.34 in.	-3.91 in.	40th Driest

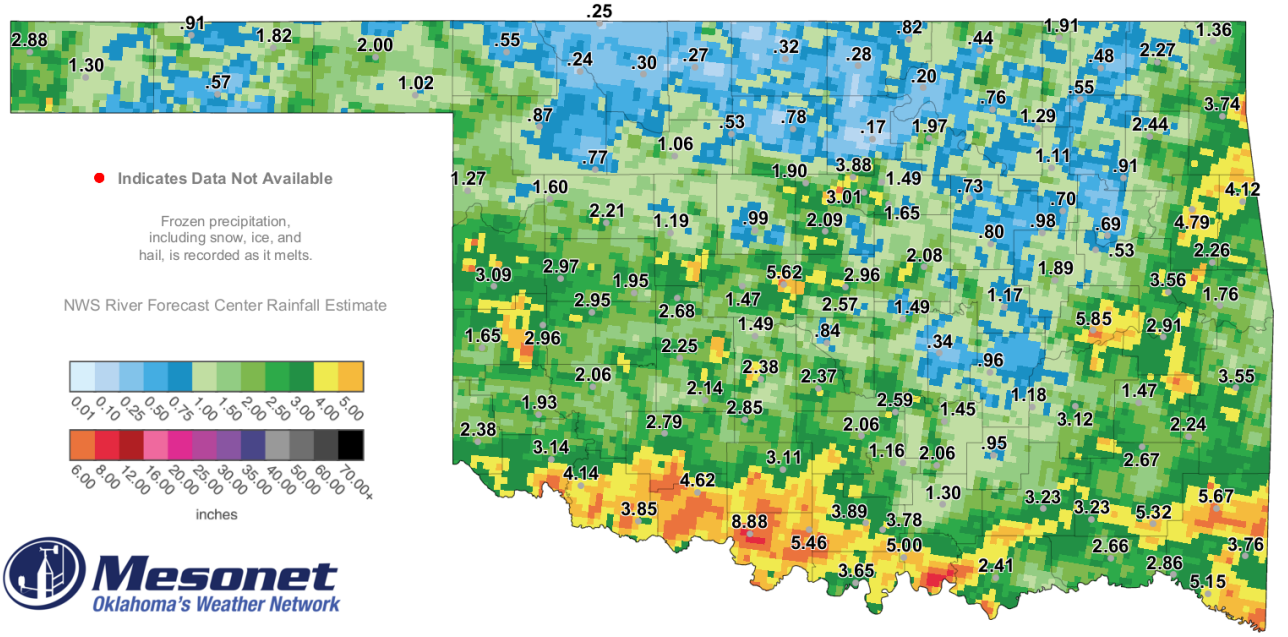
Depart. = departure from 30-year normal

August's heat topped off an uncommonly hot summer, which ended with a statewide average of 82.7 degrees, 2.6 degrees above normal and ranked as the ninth warmest June-August on record. That also marks the summer as the warmest in Oklahoma since 2011's 86.8 degrees, which tied with Texas that year for the hottest summer in any state and any year since records began in 1895. This summer's temperatures

topped out on July 19 at Mangum at 115 degrees, tying the Mesonet's all-time highest reading with six other sites dating back to 1997. Oklahoma had not seen a temperature that high since Kingfisher hit 115 back on Aug. 1, 2012. The heat continued to mount for 2022 with the first eight months of the year finishing at 63.5 degrees, 0.8 degrees above normal and ranking as the 23rd warmest January-August on record.

The September temperature and precipitation outlooks from the Climate Prediction Center aren't full of doom and gloom at least, but they aren't exactly rosy, either. The outlooks show equal odds of above-, below-, and near-normal temperatures and precipitation over the bulk of the state. There are increased odds of above normal temperatures in the western Panhandle and above normal rainfall in far southeastern Oklahoma. CPC's September drought outlook calls for some improvement in the drought across roughly the southeastern one-third of the state, but persistence across the remainder of Oklahoma.

AUGUST 2022 OBSERVED PRECIPITATION



31-Day Rainfall Accumulation (inches)

Aug 1, 2022 12:00 AM CDT - Sep 1, 2022 12:00 AM CDT

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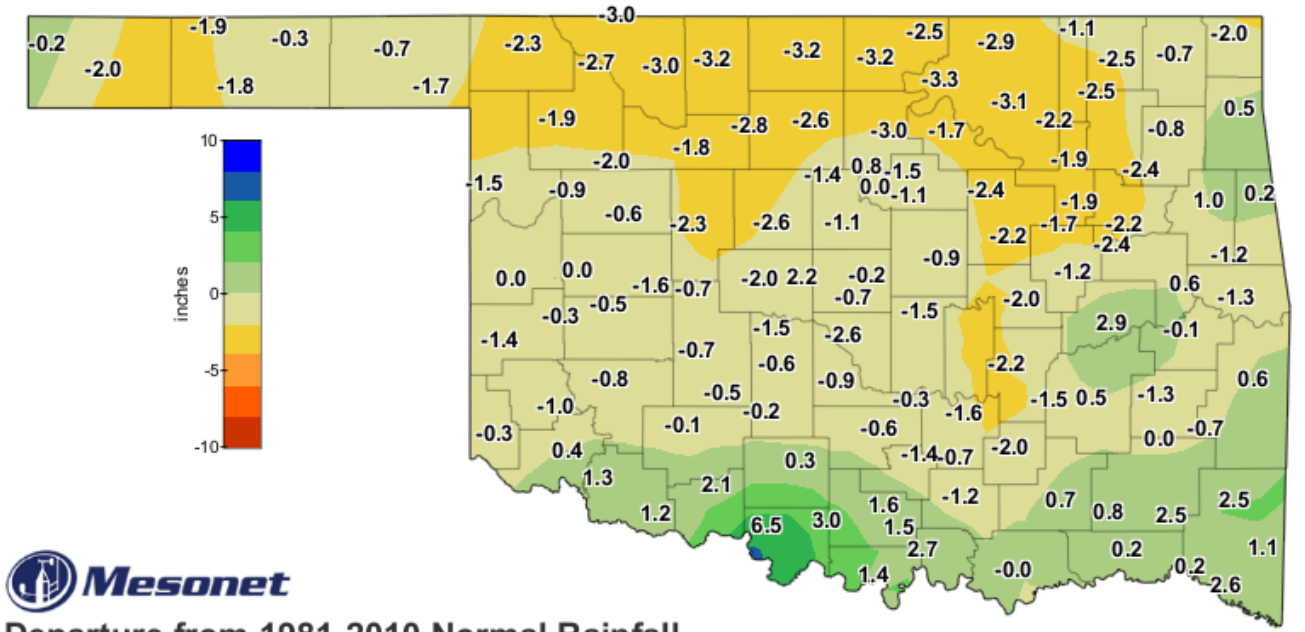
AUGUST 2022 DEPARTURE FROM NORMAL PRECIPITATION

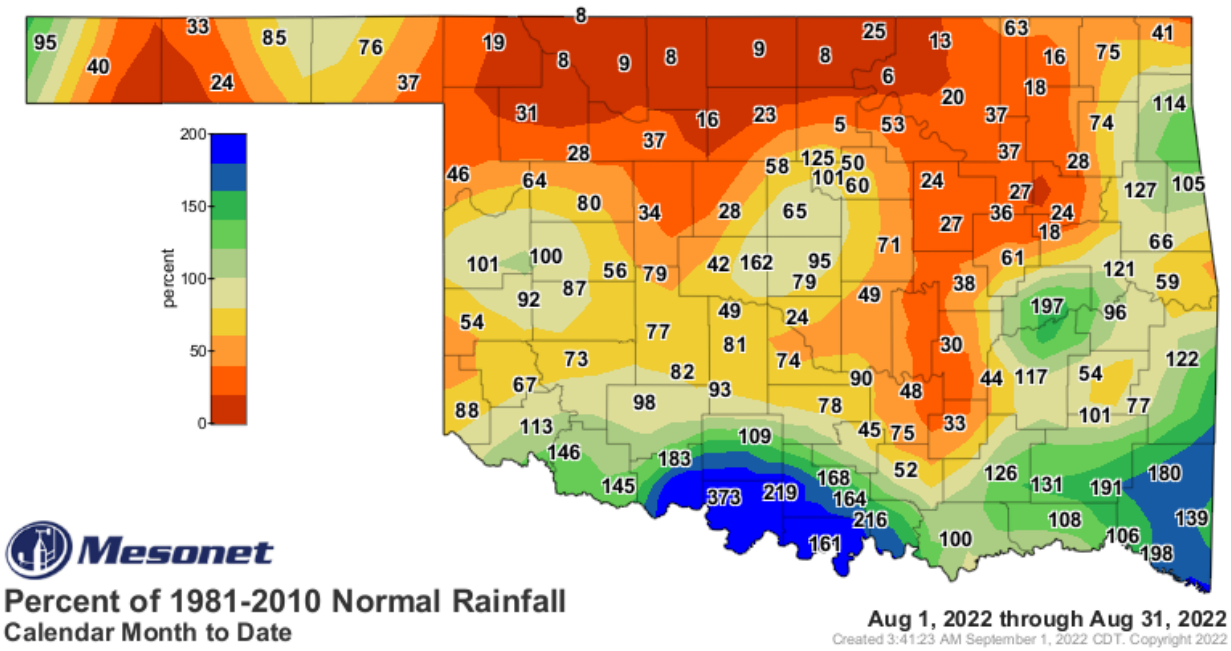


Departure from 1981-2010 Normal Rainfall
Calendar Month to Date

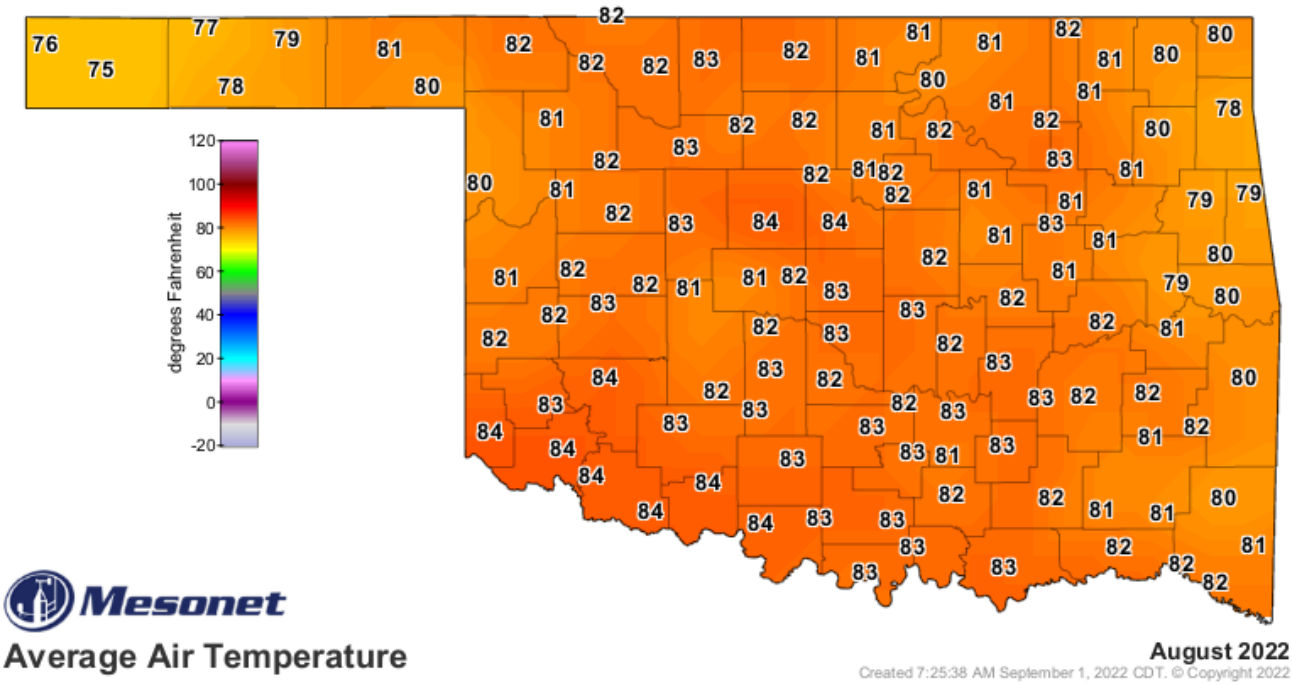
Aug 1, 2022 through Aug 31, 2022

Created 3:41:23 AM September 1, 2022 CDT. Copyright 2022

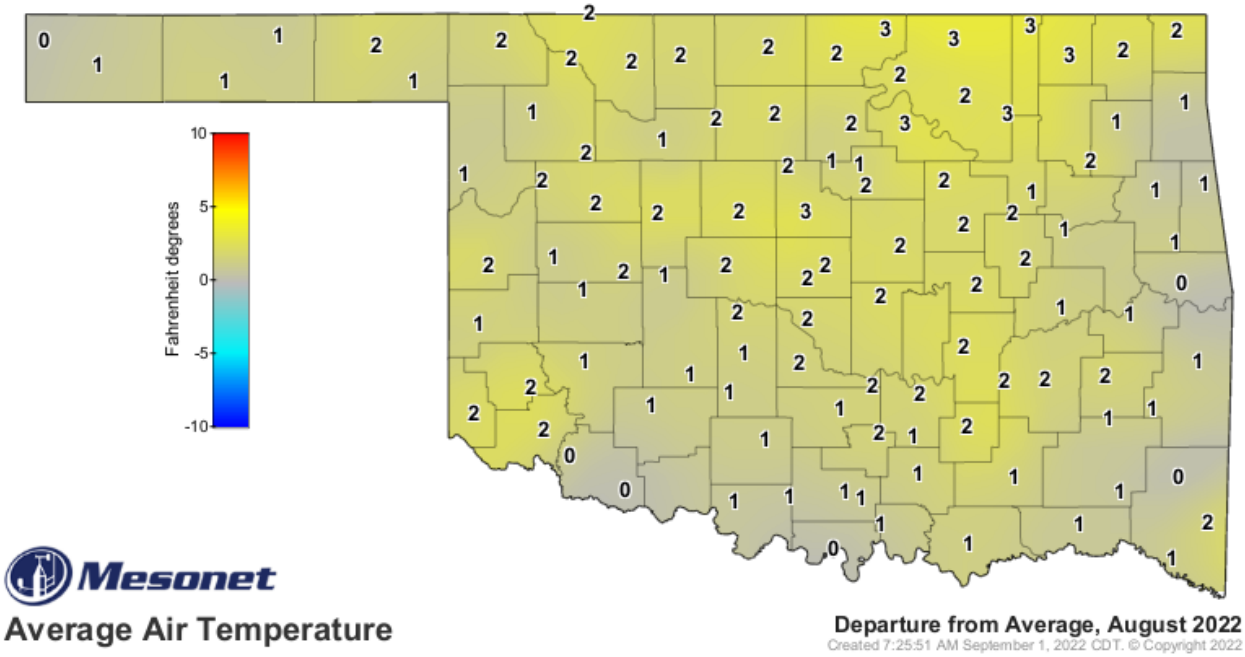
AUGUST 2022 PERCENT OF NORMAL PRECIPITATION



AUGUST 2022 AVERAGE TEMPERATURE



AUGUST 2022 DEPARTURE FROM NORMAL TEMPERATURE

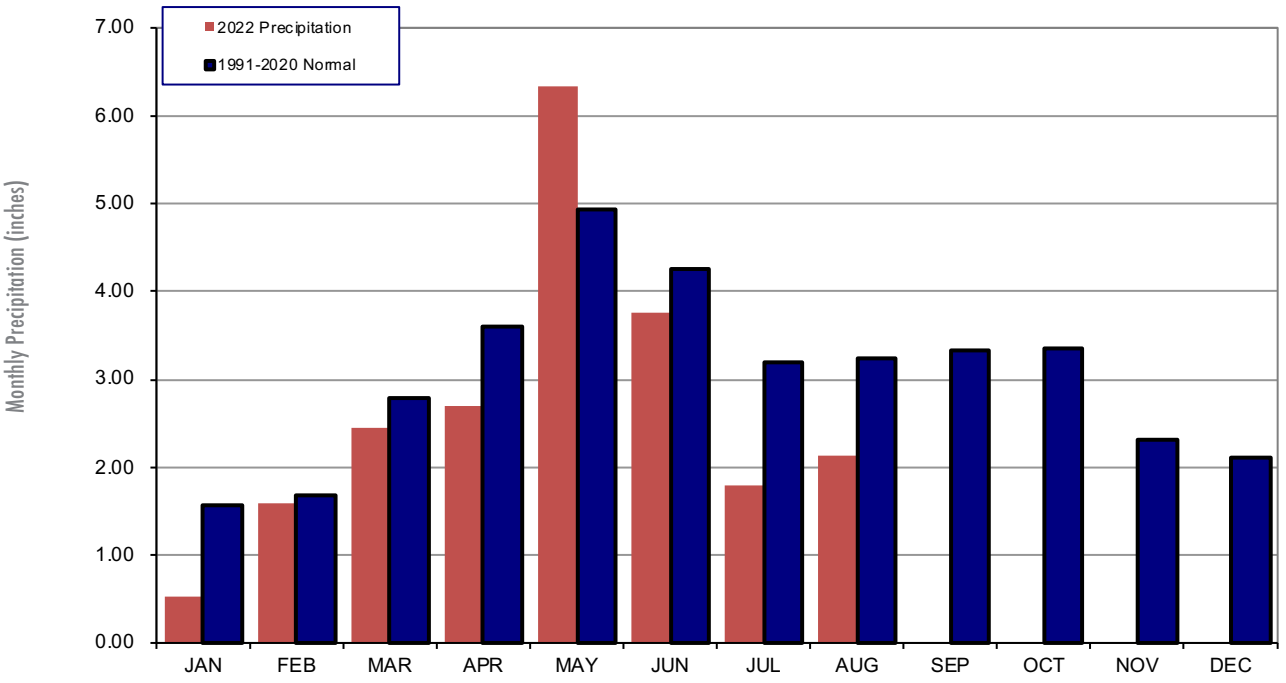


MESONET MONTHLY SUMMARY FOR AUGUST 2022

NAME	MEAN TEMP	HIGH TEMP	HIGH DAY	LOW TEMP	LOW DAY	HDD	CDD	TOT PPT	HIGH 24-HR	HIGH DAY
PANHANDLE										
Arnett	80.3	102	3	61	18	0	476	1.27	.91	21
Beaver	80.8	103	6	55	25	0	491	2.00	1.02	27
Boise City	75.5	98	6	54	24	0	324	1.30	.91	17
Buffalo	82.2	106	6	57	23	0	533	.55	.20	19
Eva	76.8	103	5	51	25	0	365	.91	.46	16
NORTH CENTRAL										
Alva	47.0	104	3	***	31	0	504	.30	.21	27
Blackwell	81.4	102	3	59	19	0	507	.28	.22	27
Breckinridge	82.2	103	3	59	19	0	534	.78	.28	29
Cherokee	82.5	105	3	58	24	0	541	.27	.22	27
Fairview	82.9	105	5	61	24	0	555	1.06	.47	27
Freedom	82.3	104	5	59	22	0	535	.24	.12	19
Lahoma	81.8	103	3	60	19	0	521	.53	.21	27
NORTHEAST										
Bixby	81.3	103	16	62	19	0	506	.70	.34	29
Burbank	80.8	103	16	58	19	0	489	.20	.10	28
Copan	82.1	103	15	59	12	0	530	1.91	1.42	16
Foraker	81.3	103	16	59	18	0	505	.44	.19	28
Inola	46.8	104	16	***	1	0	496	.91	.46	4
Jay	78.8	97	3	60	25	0	428	3.74	1.56	9
Miami	80.4	100	15	58	31	0	478	1.36	.37	16
Nowata	81.3	102	16	58	12	0	506	.48	.24	29
WEST CENTRAL										
Bessie	83.3	106	5	63	19	0	567	2.95	2.13	21
Butler	82.3	104	5	60	19	0	537	2.97	2.45	21
Camargo	80.7	103	3	57	24	0	488	1.60	.65	27
Cheyenne	82.0	103	5	62	24	0	528	3.08	2.44	21
Elk City	82.5	105	5	64	19	0	544	2.96	2.05	21
CENTRAL										
Acme	83.2	105	5	59	19	0	565	2.85	1.34	9
Bristow	80.7	104	16	59	19	0	488	.80	.21	4
Lake Carl Blac	80.6	102	16	57	19	0	484	3.88	2.65	29
Chandler	82.5	103	16	62	19	0	543	2.08	1.66	28
Chickasha	83.4	106	3	60	19	0	570	2.38	.79	5
El Reno	81.5	105	16	56	19	0	512	1.47	.63	21
Guthrie	84.0	105	3	63	19	****	****	2.09	1.33	28
Kingfisher	83.9	108	3	59	19	0	585	.99	.56	8
Marena	82.0	104	16	62	19	0	527	3.01	1.14	29
Minco	82.7	103	3	63	19	0	550	1.49	.45	21
Marshall	82.6	103	3	58	19	0	544	1.90	1.47	28
EAST CENTRAL										
Cookson	80.5	99	3	61	19	0	480	2.26	1.43	9
Eufaula	83.0	104	16	66	19	0	559	5.85	2.35	28
Haskell	81.1	104	16	62	19	0	500	.53	.19	17
Hectorville	83.7	106	16	65	25	0	579	.98	.51	29
Holdenville	83.4	104	16	63	25	0	569	.96	.47	9
McAlester	82.8	103	5	63	14	0	551	3.12	.87	29
Okmulgee	81.7	105	16	60	25	0	519	1.89	.97	29
SOUTHWEST										
Altus	85.0	108	4	66	19	0	620	3.14	1.42	21
Apache	82.7	104	3	62	19	0	549	2.14	1.53	29
Fort Cobb	*****	***	***	***	***	****	****	2.25	1.04	29
Grandfield	85.1	108	4	66	19	0	622	3.85	2.34	21
Hinton	81.9	105	3	62	19	0	523	2.68	.95	21
Hobart	84.3	107	4	61	19	0	599	2.06	1.36	21
SOUTH CENTRAL										
Ada	83.5	104	5	63	25	0	574	1.45	.59	21
Ardmore	83.7	103	5	67	14	0	580	3.78	2.36	21
Burneyville	83.1	105	5	63	19	0	561	3.65	2.24	21
Byars	83.6	105	5	64	25	0	577	2.59	1.52	29
Centrahoma	83.7	105	16	64	25	0	579	.95	.62	21
Durant	84.0	103	5	69	14	0	588	2.41	1.42	21
Fittstown	81.9	104	5	61	19	0	525	2.06	.85	21
Ketchum Ranch	84.3	106	5	63	19	0	597	3.11	1.74	21
SOUTHEAST										
Antlers	81.9	104	16	62	14	0	523	3.23	2.34	21
Broken Bow	82.1	102	3	61	14	0	530	3.76	2.23	22
Clayton	82.4	103	5	65	25	0	538	2.67	1.05	9
Cloudy	81.6	101	16	64	14	0	515	5.32	3.79	21
Hugo	83.2	103	16	67	14	0	564	2.66	1.64	21
Idabel	82.7	102	5	63	14	0	548	5.15	3.68	22

NAME	MEAN TEMP	HIGH TEMP	HIGH DAY	LOW TEMP	LOW DAY	HDD	CDD	TOT PPT	HIGH 24-HR	HIGH DAY
Goodwell	78.2	102	6	54	23	0	410	.57	.27	29
Hooker	79.3	103	6	56	23	0	443	1.82	.65	27
Kenton	75.6	98	6	54	23	0	328	2.88	2.03	16
Slapout	80.0	102	6	58	24	0	464	1.02	.55	27
May Ranch	82.0	103	7	61	23	0	526	.25	.12	19
Medford	82.1	104	3	59	19	0	529	.32	.14	27
Newkirk	81.5	102	3	60	18	0	513	.82	.61	28
Red Rock	81.8	104	16	60	19	0	520	.17	.14	4
Seiling	81.8	103	5	57	24	0	520	.77	.36	21
Woodward	80.9	101	3	59	24	0	494	.87	.40	27
Pawnee	82.7	104	16	62	25	0	550	1.97	1.93	29
Porter	81.4	102	16	63	25	0	507	.69	.29	4
Pryor	80.0	100	16	60	25	0	465	2.44	1.49	29
Skiatook	82.5	104	16	63	18	0	544	1.29	.74	20
Talala	82.0	103	16	61	18	0	526	.55	.38	29
Tulsa	83.6	105	16	65	18	0	575	1.11	.91	29
Vinita	80.3	101	15	59	25	0	474	2.27	1.08	16
Wynona	82.0	103	16	61	19	0	528	.76	.73	29
Erick	82.1	105	4	59	19	0	532	1.64	.94	21
Putnam	82.4	106	5	59	24	0	539	2.21	1.05	8
Watonga	83.2	105	3	63	23	0	566	1.19	.58	21
Weatherford	83.3	104	3	64	18	0	566	1.95	1.66	21
Norman	83.6	103	5	63	19	0	575	.84	.42	21
Oilton	81.8	104	16	60	19	0	519	.73	.34	29
OKC East	83.6	103	16	62	19	0	576	2.57	2.28	28
Okemah	82.7	104	3	61	19	0	549	1.17	.63	9
Perkins	82.9	104	3	62	19	0	555	1.65	.95	29
Seminole	83.1	104	5	61	19	0	560	.34	.13	23
Shawnee	83.7	105	3	62	19	0	578	1.49	.91	29
Spencer	82.9	103	16	62	25	0	555	2.96	2.68	28
Stillwater	82.1	103	16	61	19	0	531	1.49	.66	29
Washington	83.1	107	5	61	19	0	560	2.37	1.35	29
Yukon	82.5	103	3	62	19	0	544	5.62	3.02	29
Sallisaw	80.8	100	16	63	19	0	490	1.76	.59	9
Stigler	81.8	104	16	63	25	0	520	2.91	1.13	9
Stuart	83.6	104	16	64	19	0	576	1.18	.44	10
Tahlequah	79.6	99	3	62	25	0	452	4.79	2.82	9
Webbers Falls	80.5	101	3	62	25	****	****	3.56	2.46	9
Westville	79.1	98	3	62	12	0	436	4.12	1.63	9
Hollis	84.8	110	4	65	19	0	613	2.38	1.55	21
Mangum	83.6	108	4	58	19	0	575	1.93	1.24	21
Medicine Park	84.2	106	4	65	19	0	595	2.79	1.19	21
Tipton	84.6	107	4	67	19	0	606	4.14	1.71	21
Walters	84.5	107	5	65	19	0	605	4.62	3.32	21
Lane	83.1	103	16	64	14	0	561	3.23	2.41	21
Madill	83.8	104	5	67	19	****	****	5.00	3.81	21
Newport	84.1	105	5	66	19	0	593	3.89	1.99	21
Pauls Valley	83.9	105	5	64	19	0	586	2.06	1.63	21
Ringling	84.2	104	5	66	19	0	596	5.46	4.25	21
Sulphur	83.7	104	5	64	25	0	581	1.16	.99	21
Tishomingo	83.0	104	5	64	19	0	558	1.30	1.20	21
Waurika	84.7	108	5	66	19	0	612	8.88	4.10	21
Mt Herman	80.4	99	3	62	14	0	478	5.67	2.31	21
Talihina	82.7	102	15	63	14	0	550	2.24	.90	9
Valliant	82.9	103	5	62	14	0	554	2.86	1.92	22
Wilburton	83.2	105	5	64	14	0	566	1.47	.55	9
Wister	81.3	103	3	61	14	0	505	3.55	2.30	9

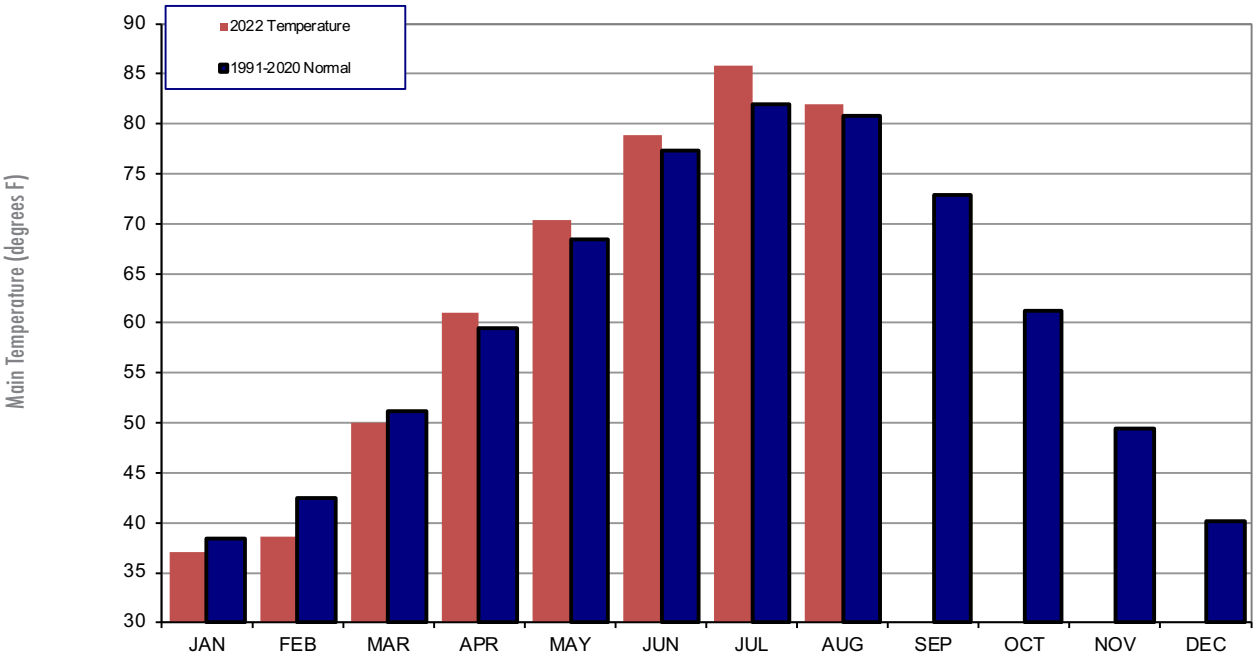
2022 STATEWIDE PRECIPITATION MONTHLY TOTALS VS. NORMAL



August 2022 Mesonet Precipitation Comparison

Climate Division	Precipitation (inches)	Departure from Normal (inches)	Rank since 1895	Wettest on Record (Year)	Driest on Record (Year)	Aug-21 (inches)
Panhandle	1.37	-1.52	24th Driest	5.81 (1917)	0.54 (1936)	1.40
North Central	0.51	-2.93	3rd Driest	8.10 (1974)	0.14 (2000)	1.81
Northeast	1.30	-2.35	9th Driest	8.86 (2019)	0.03 (2000)	1.58
West Central	2.28	-0.90	60th Driest	6.93 (2017)	0.02 (2000)	2.72
Central	2.01	-1.34	41st Driest	8.18 (1906)	0.02 (2000)	2.25
East Central	2.61	-0.84	51st Driest	10.88 (1915)	0.02 (2000)	3.29
Southwest	2.91	0.03	39th Wettest	7.38 (1996)	0.00 (2000)	2.29
South Central	3.19	0.35	38th Wettest	8.72 (1906)	0.01 (2000)	3.94
Southeast	3.51	0.21	52nd Wettest	9.68 (1915)	0.25 (1936)	4.24
Statewide	2.13	-1.10	40th Driest	6.47 (1915)	0.12 (2000)	2.56

2022 STATEWIDE TEMPERATURE MONTHLY TOTALS VS. NORMAL



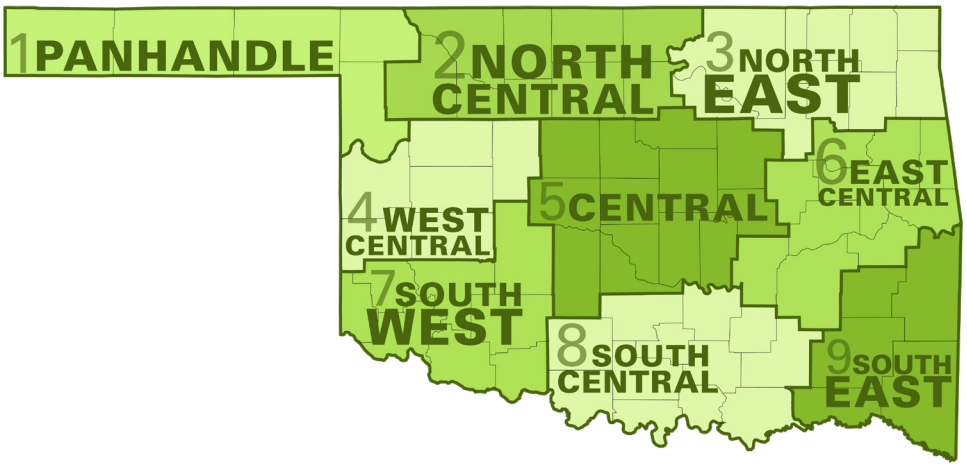
August 2022 Mesonet Temperature Comparison

Climate Division	Average Temp (F)	Departure from Normal (F)	Rank since 1895	Hottest on Record (Year)	Coldest on Record (Year)	Aug-21 (F)
Panhandle	78.7	0.8	53rd Warmest	83.7 (1937)	71.4 (1915)	78.9
North Central	81.7	1.1	47th Warmest	88.2 (1936)	72.9 (1915)	81.8
Northeast	81.2	1.1	51st Warmest	88.8 (1936)	72.7 (1915)	81.4
West Central	82.4	1.5	36th Warmest	87.9 (2011)	73.6 (1915)	81.1
Central	82.3	0.9	48th Warmest	88.7 (1936)	74.1 (1915)	81.7
East Central	81.1	0.3	61st Warmest	88.6 (1936)	73.5 (1915)	81.5
Southwest	84.1	1.4	31st Warmest	91.4 (2011)	76.1 (1915)	82.2
South Central	83.3	0.8	47th Warmest	90.8 (2011)	76.1 (1992)	81.8
Southeast	82.2	1.6	34th Warmest	87.5 (2011)	74.2 (1915)	81.5
Statewide	81.9	1.1	46th Warmest	87.7 (2011)	73.9 (1915)	81.3

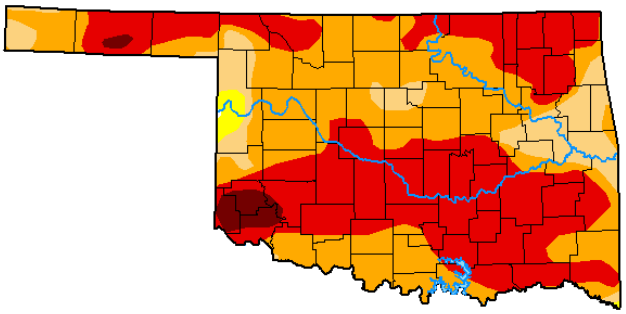
MESONET EXTREMES FOR AUGUST 2022

Climate Division	High Temp (F)	Day	Station	Low Temp (F)	Day	Station	High Monthly Rainfall (inches)	Station	High Daily Rainfall (inches)	Day	Station
Panhandle	106	6th	Buffalo	51	25th	Eva	2.88	Kenton	2.03	16th	Kenton
North Central	105	3rd	Cherokee	57	24th	Seiling	1.06	Fairview	0.61	28th	Newkirk
Northeast	105	16th	Tulsa	58	31st	Miami	3.74	Jay	1.93	29th	Pawnee
West Central	106	5th	Bessie	57	24th	Camargo	3.08	Cheyenne	2.45	21st	Butler
Central	108	3rd	Kingfisher	56	19th	El Reno	5.62	Yukon	3.02	29th	Yukon
East Central	106	16th	Hectorville	60	25th	Okmulgee	5.85	Eufaula	2.82	9th	Tahlequah
Southwest	110	4th	Hollis	58	19th	Mangum	4.62	Walters	3.32	21st	Walters
South Central	108	5th	Waurika	61	19th	Fittstown	8.88	Waurika	4.25	21st	Ringling
Southeast	105	5th	Wilburton	61	14th	Broken Bow	5.67	Mt Herman	3.79	21st	Cloudy
Statewide	110	4th	Hollis	51	25th	Eva	8.88	Waurika	4.25	21st	Ringling

Oklahoma Climate Divisions



U.S. Drought Monitor
Oklahoma



August 30, 2022
(Released Thursday, Sep. 1, 2022)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.02	99.98	98.98	88.22	47.13	2.19
Last Week *08-23-2022*	0.02	99.98	98.64	89.68	48.60	2.19
3 Months Ago *05-31-2022*	51.02	48.98	42.58	34.82	17.16	2.93
Start of Calendar Year *01-04-2022*	5.02	94.98	88.14	72.26	40.44	0.00
Start of Water Year *09-28-2021*	6.45	93.55	73.23	23.72	2.65	0.00
One Year Ago *08-31-2021*	81.57	18.43	6.61	0.72	0.00	0.00

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

Author:
Deborah Bathke
National Drought Mitigation Center

droughtmonitor.unl.edu

INTERPRETATION INFORMATION

MEAN DAILY TEMPERATURE: Calculated from an average of the daily maximum and minimum temperatures. Daily averages are summed for each day, and then divided by the number of valid data points - typically the number of days in the month. Although this November differ from the "true" daily average, it is consistent with historical methods of observation and comparable to the normals and extremes for stations and regions of the state.

DEGREE DAYS: Degree Days are calculated each day of the month for which there is a temperature report and the mean temperature for the day is less than (Heating Degree Days) or greater than (Cooling Degree Days) 65 degrees. Daily values are summed to arrive at a monthly total. HDD/CDD are qualitative measures of how much heating/cooling was required to maintain a comfortable indoor temperature. Missing observations November result in an artificially high or low value.

ADDITIONAL RESOURCES

SUNRISE / SUNSET TABLES
U.S. Naval Observatory: http://aa.usno.navy.mil/data

SEVERE STORM REPORTS
Storm Prediction Center: http://spc.noaa.gov/climo/

National Centers for Environmental Information:
https://www.ncdc.noaa.gov/stormevents/

SEASONAL OUTLOOKS
Climate Prediction Center:
http://www.cpc.ncep.noaa.gov/products/OUTLOOKS_index.shtml

CLIMATE CALENDARS AND OTHER LOCAL WEATHER AND CLIMATE INFORMATION
Oklahoma Climatological Survey:
http://climate.mesonet.org or http://climate.ok.gov/

OKLAHOMA CLIMATOLOGICAL SURVEY

Oklahoma Climatological Survey is the State Climate Office for Oklahoma

Dr. Kevin Kloesel Director
Dr. Chris Fiebrich Associate Director

EDITOR
Gary D. McManus State Climatologist

CONTENT AND LAYOUT ASSISTANT
Andrea Dawn Melvin Outreach Program Manager, K20

For more information, contact:
Oklahoma Climatological Survey
The University of Oklahoma
120 David L. Boren Blvd., Suite 2900
Norman, OK 73072-7305

TEL: 405-325-2541
FAX: 405-325-7282
E-MAIL: ocs@ou.edu
WEBSITE: http://climate.ok.gov