

NWS FORM E-5 (11-88) (PRES. by NWS Instruction 10-924)	U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE	HYDROLOGIC SERVICE AREA (HSA)	
		Tulsa, Oklahoma (TSA)	
MONTHLY REPORT OF RIVER AND FLOOD CONDITIONS		REPORT FOR:	
		MONTH May	YEAR 2024
TO: Hydrometeorological Information Center, W/OH2 NOAA / National Weather Service 1325 East West Highway, Room 7230 Silver Spring, MD 20910-3283		SIGNATURE Steven F. Piltz (Meteorologist-in-Charge)	
		DATE June 14, 2024	

When no flooding occurs, include miscellaneous river conditions, such as significant rises, record low stages, ice conditions, snow cover, droughts, and hydrologic products issued (NWS Instruction 10-924)

An "X" in the box indicates no flood stages were reached in this Hydrologic Service Area (HSA) during the month above.

Despite a couple of active weather periods this month, which included 29 tornadoes and periods of heavy rain, most of eastern OK and northwest AR ended May 2024 with below normal rainfall and well above normal temperatures. Normal precipitation values climatologically rank May as the wettest month of the year. These averages range from 5.0 - 5.5 inches across northeast Oklahoma to 5.5 - 6.0 inches across southeast Oklahoma. The Ozark region of northwest Arkansas averages 5.8 inches for the month. This report, past E-5 reports, and monthly hydrology and climatology summaries can be found at https://www.weather.gov/tsa/climo_summary_e5list.

Monthly Summary

Using the radar-derived estimated observed precipitation from the RFCs (Fig. 1a), rainfall totals for May 2024 ranged from around 2.5" to 13" across eastern OK and northwest AR, with much of the area receiving 5"-8". These rainfall totals correspond to around 50% to around 200% of the normal May rainfall (Fig. 1b).

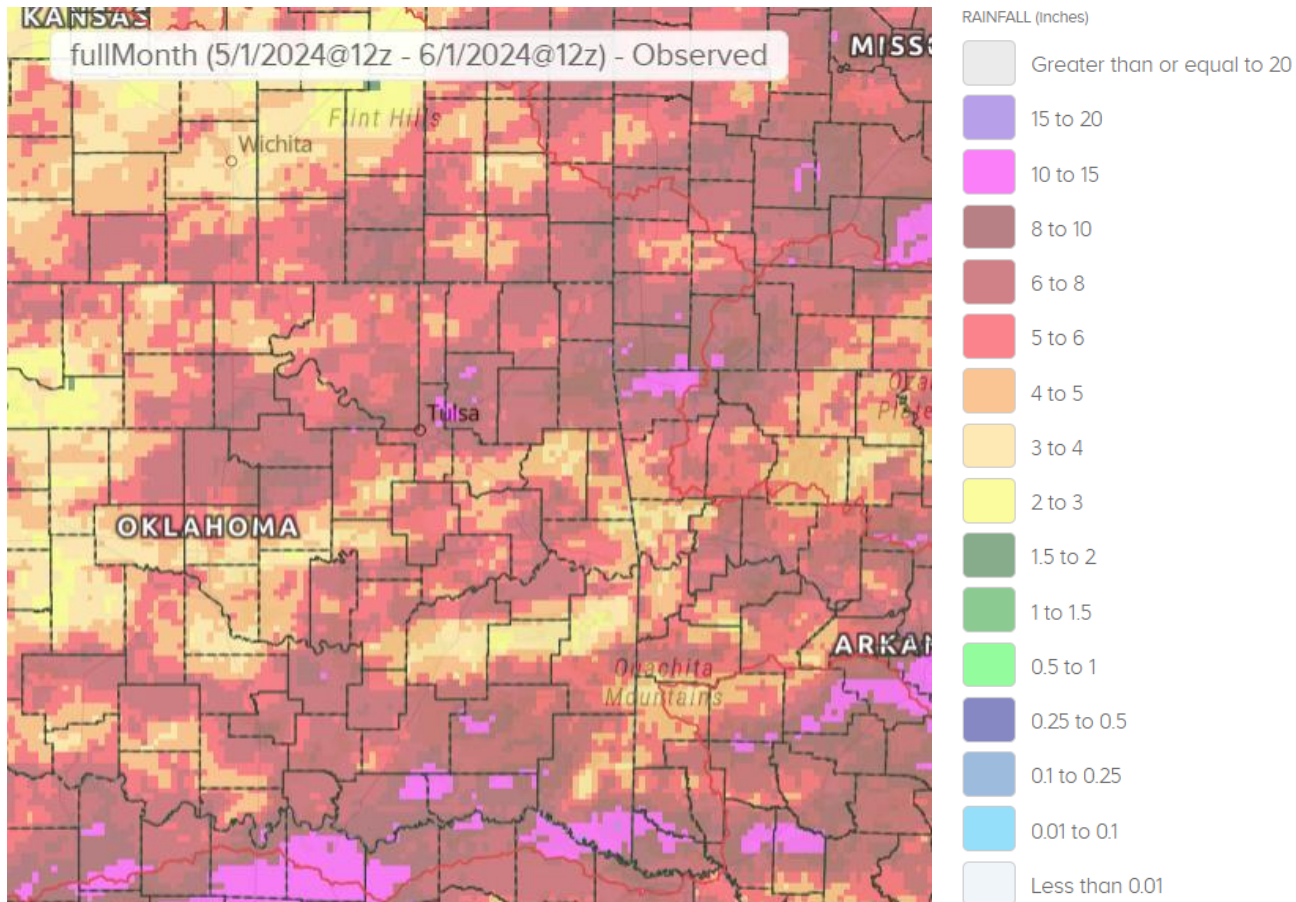


Fig. 1a. Estimated Observed Rainfall for May 2024

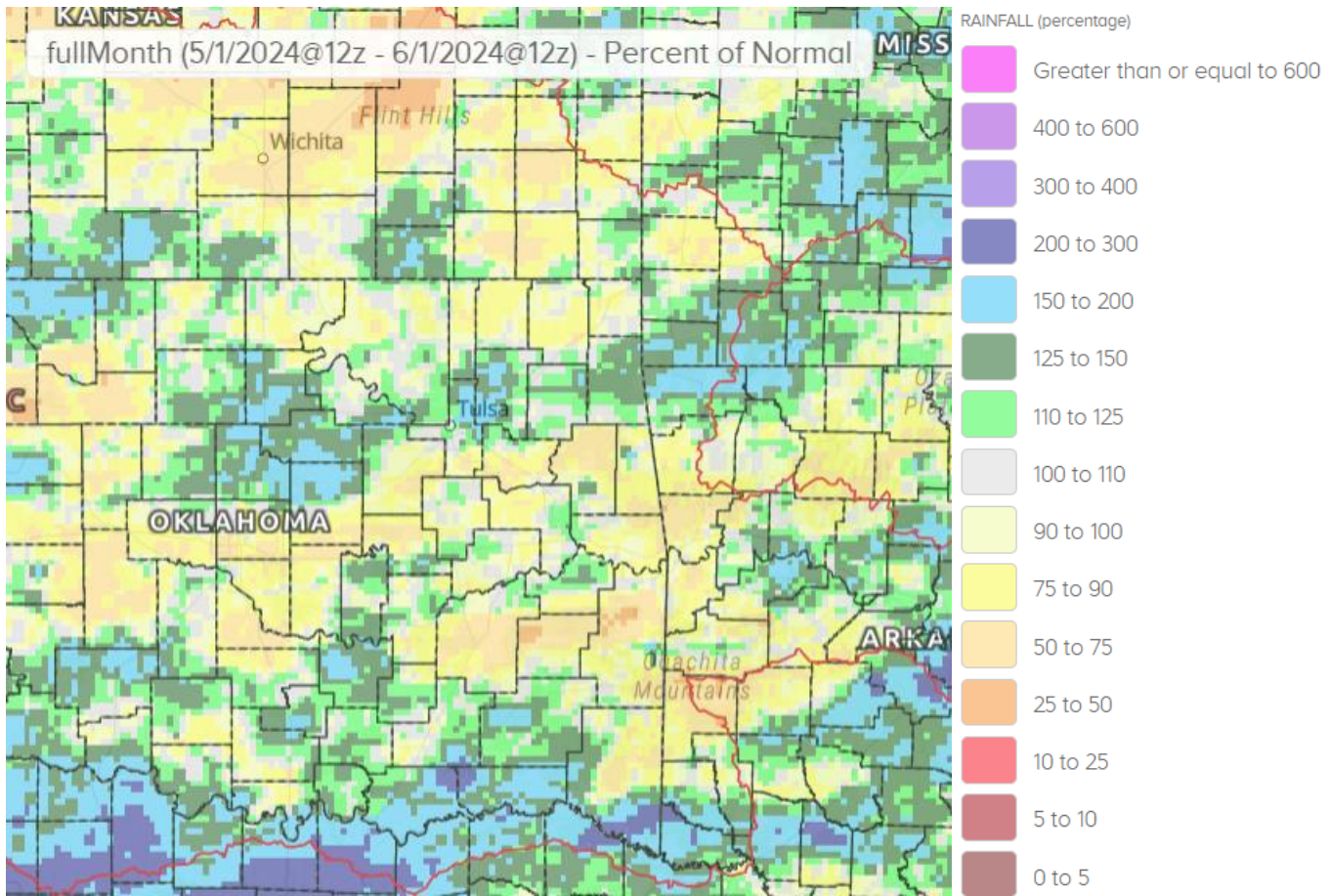


Fig. 1b. Estimated % of Normal Rainfall for May 2024

In Tulsa, OK, May 2024 ranked as the 17th warmest May (71.7°F, tied 1964; since records began in 1905) and the 7th wettest May (10.76"; since records began in 1888). Fort Smith, AR had the 4th warmest May (74.6°F; since records began in 1883) and the 44th wettest May (6.20"; since records began in 1883). Fayetteville, AR had the 4th warmest (70.6°F) and the 32nd driest (4.86") May since records began in 1950.

Some of the larger precipitation reports (in inches) for May 2024 included:

Terlton 3.7ESE, OK (coco)	12.27	Owasso 1.4NNW, OK (coco)	12.25	Owasso 1.5ESE, OK (coco)	12.02
Claremore 7.5W, OK (coco)	11.20	Bella Vista 0.6WSW, AR (coco)	10.93	Jay 3.3NNE, OK (coco)	10.80
Tulsa, OK (ASOS)	10.76	Tulsa 12.2SE, OK (coco)	10.60	Upper Spavinaw Port, OK (coop)	10.36

Some of the lowest precipitation reports (in inches) for May 2024 included:

McAlester, OK (ASOS)	2.90	Krebs 0.3WNW, OK (coco)	3.41	Huntsville 10N, AR (coop)	3.46
Tahlequah, OK (meso)	4.55	Bartlesville, OK (ASOS)	4.59	Mountainburg 2NE, AR (coop)	4.63
Elkins 1.7SE, AR (coco)	4.77	Fayetteville, AR (ASOS)	4.86	Hulbert 3.9N, OK (coco)	5.07

According to statistics from the [Oklahoma Climatological Survey](#) (OCS) Mesonet:

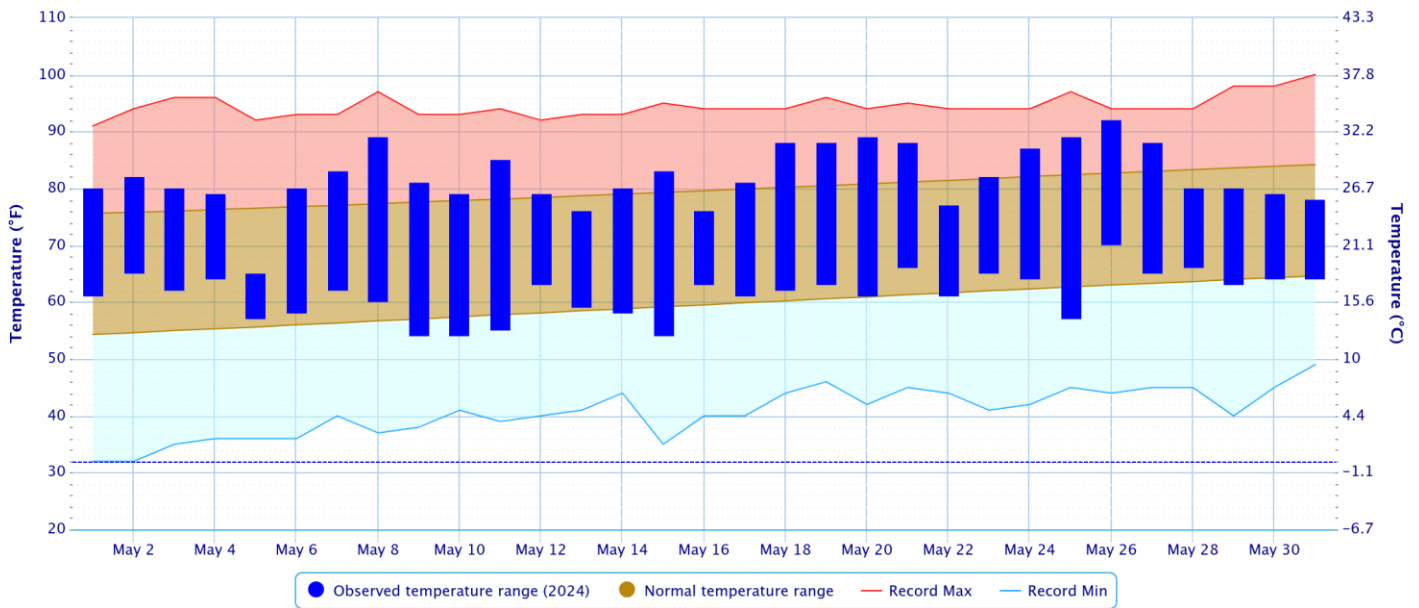
Rank since 1921	Last 30 Days (May 2 – 31)	Spring 2024	Water Year-to-Date (Oct 1, 2023 – May 31, 2024)	Year-to-Date (Jan 1 – May 31)	Last 180 Days (Dec 4 – May 31)	Last 365 Days (Jun 2, 2023 – May 31, 2024)
Northeast OK	31 st wettest	34 th wettest	45 th wettest	31 st wettest	28 th wettest	43 rd wettest
East Central OK	52 nd driest	28 th wettest	40 th wettest	33 rd wettest	34 th wettest	38 th wettest
Southeast OK	36 th wettest	23 rd wettest	47 th wettest	31 st wettest	40 th wettest	39 th wettest
Statewide	42 nd wettest	44 th wettest	37 th wettest	40 th wettest	33 rd wettest	30 th wettest

Spring (March-April-May) 2024 Summary

In Tulsa, OK, Spring 2024 ranked as the 7th warmest Spring (63.9°F; since records began in 1905) and the 15th wettest Spring (18.14"; since records began in 1888). Fort Smith, AR had the 2nd warmest Spring (65.8°F; since records began in 1883) and the 29th wettest Spring (17.05"; since records began in 1883). Fayetteville, AR had the 2nd warmest (62.2°F) and the 32nd driest (12.89") Spring since records began in 1950. 52 tornadoes were confirmed (as of June 7) in Spring 2024. Details can be found at <https://arcg.is/OeHLf0>. Five NWS river forecast points exceeded flood stage in Spring 2024.

Daily Temperature Data – Tulsa Area, OK (ThreadEx)

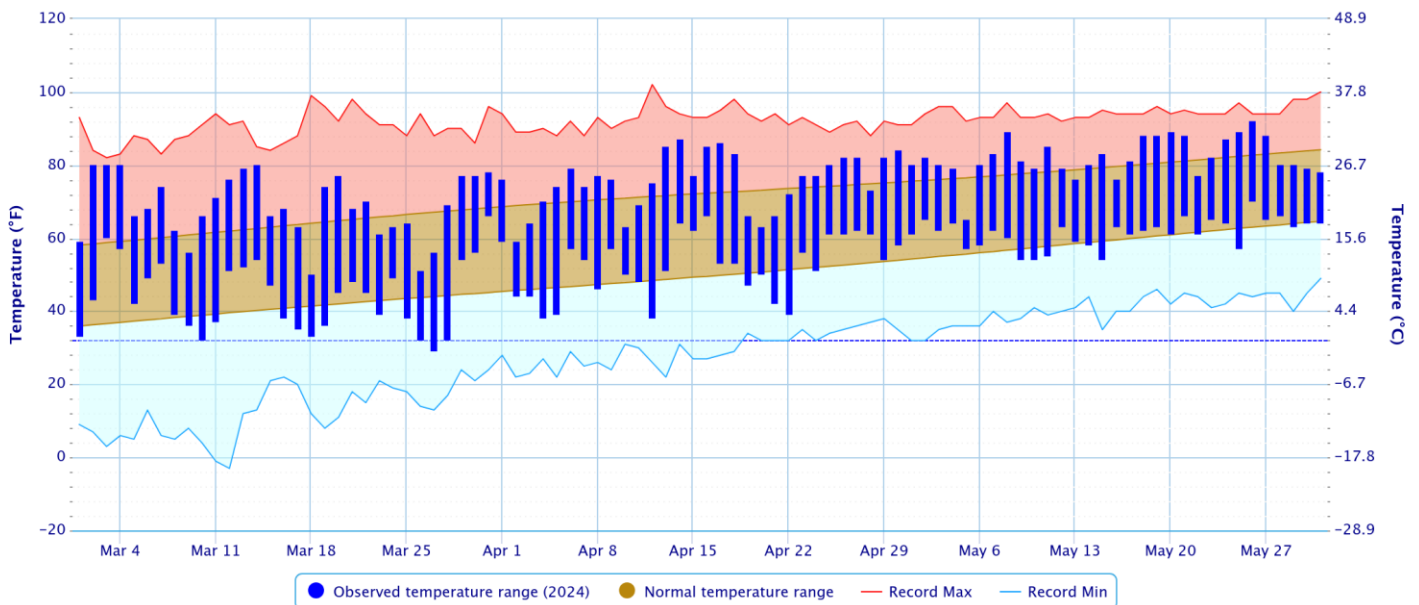
Period of Record – 1905-01-06 to 2024-06-03. Normals period: 1991-2020. Click and drag to zoom chart.



Powered by ACIS

Daily Temperature Data – Tulsa Area, OK (ThreadEx)

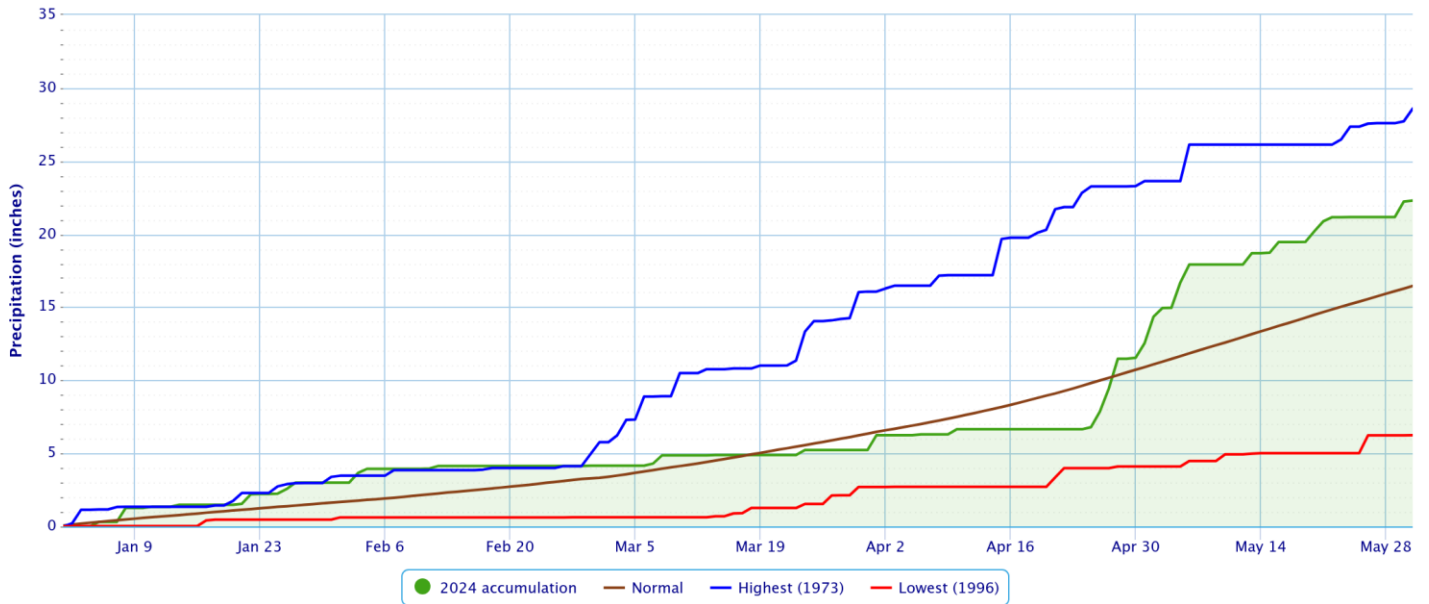
Period of Record – 1905-01-06 to 2024-06-03. Normals period: 1991-2020. Click and drag to zoom chart.



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Accumulated Precipitation – Tulsa Area, OK (ThreadEx)

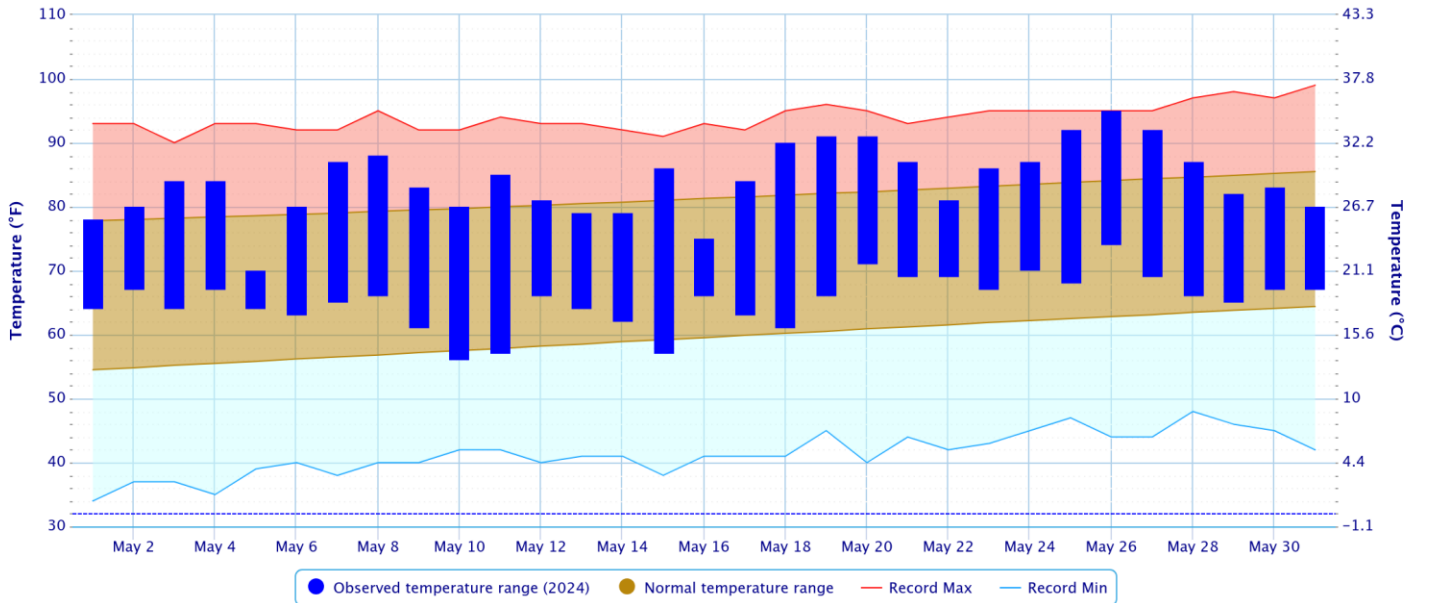
Click and drag to zoom to a shorter time interval; green/black diamonds represent subsequent/missing values



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Daily Temperature Data – Fort Smith Area, AR (ThreadEx)

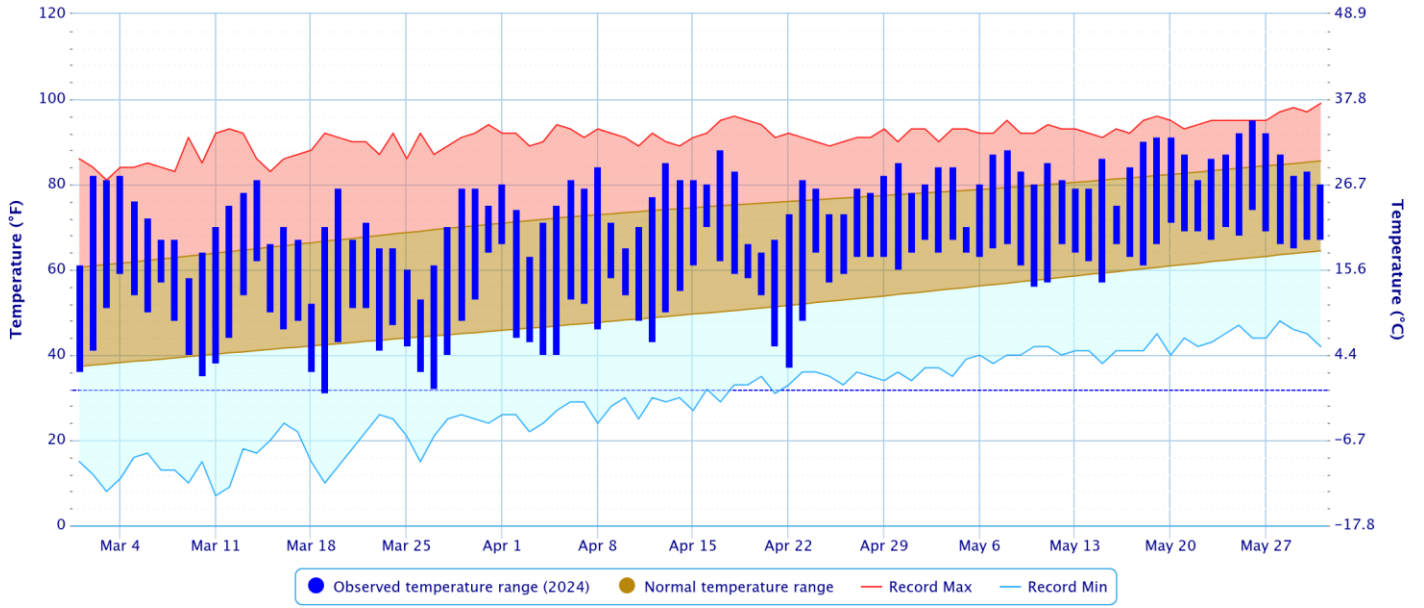
Period of Record – 1882-06-01 to 2024-06-03. Normals period: 1991-2020. Click and drag to zoom chart.



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Daily Temperature Data – Fort Smith Area, AR (ThreadEx)

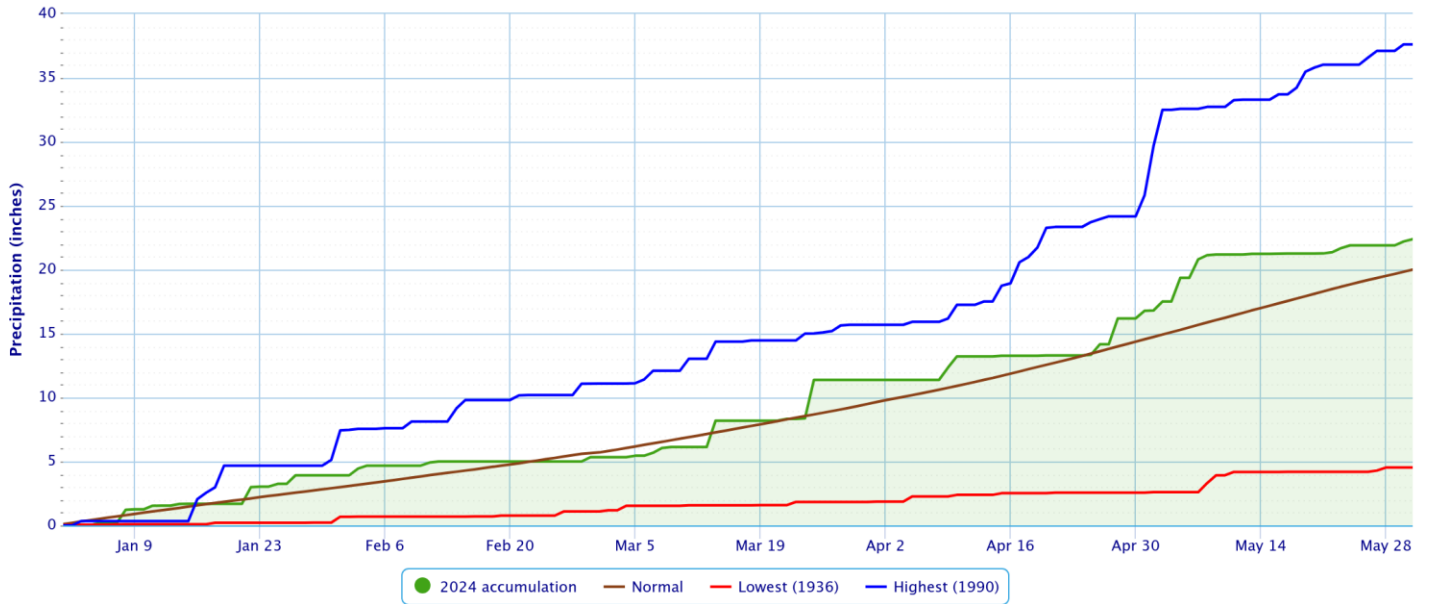
Period of Record – 1882-06-01 to 2024-06-03. Normals period: 1991-2020. Click and drag to zoom chart.



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Accumulated Precipitation – Fort Smith Area, AR (ThreadEx)

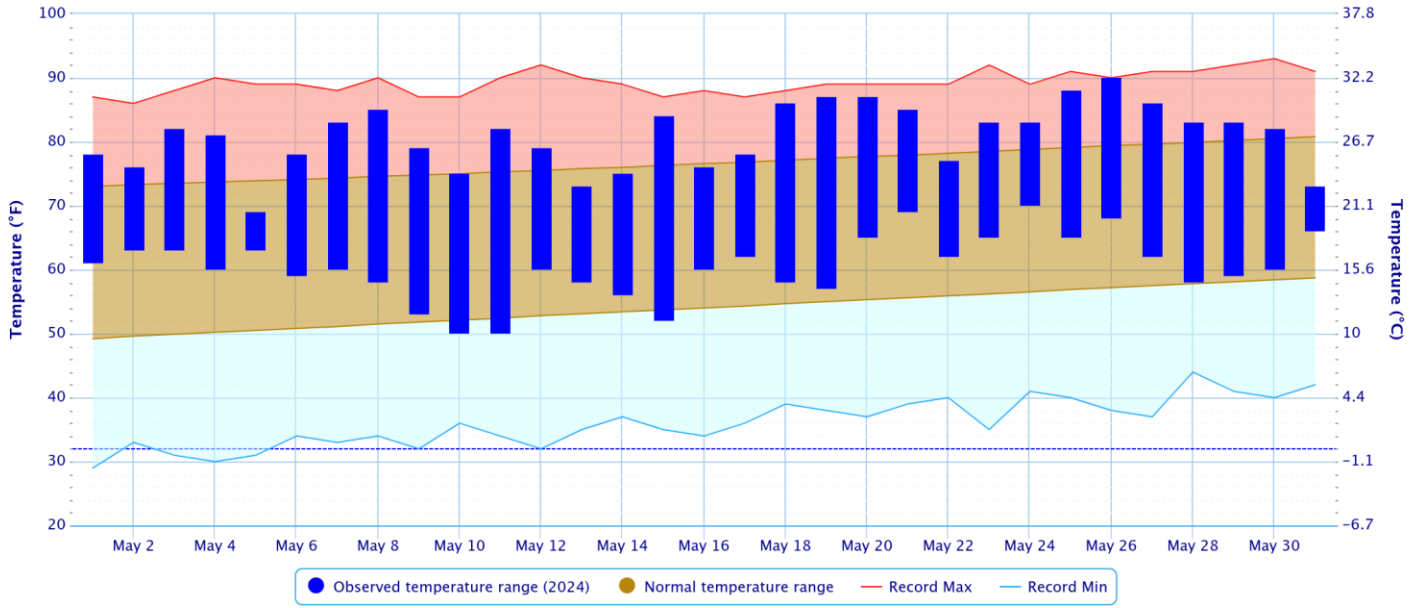
Click and drag to zoom to a shorter time interval; green/black diamonds represent subsequent/missing values



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Daily Temperature Data – FAYETTEVILLE DRAKE FIELD, AR

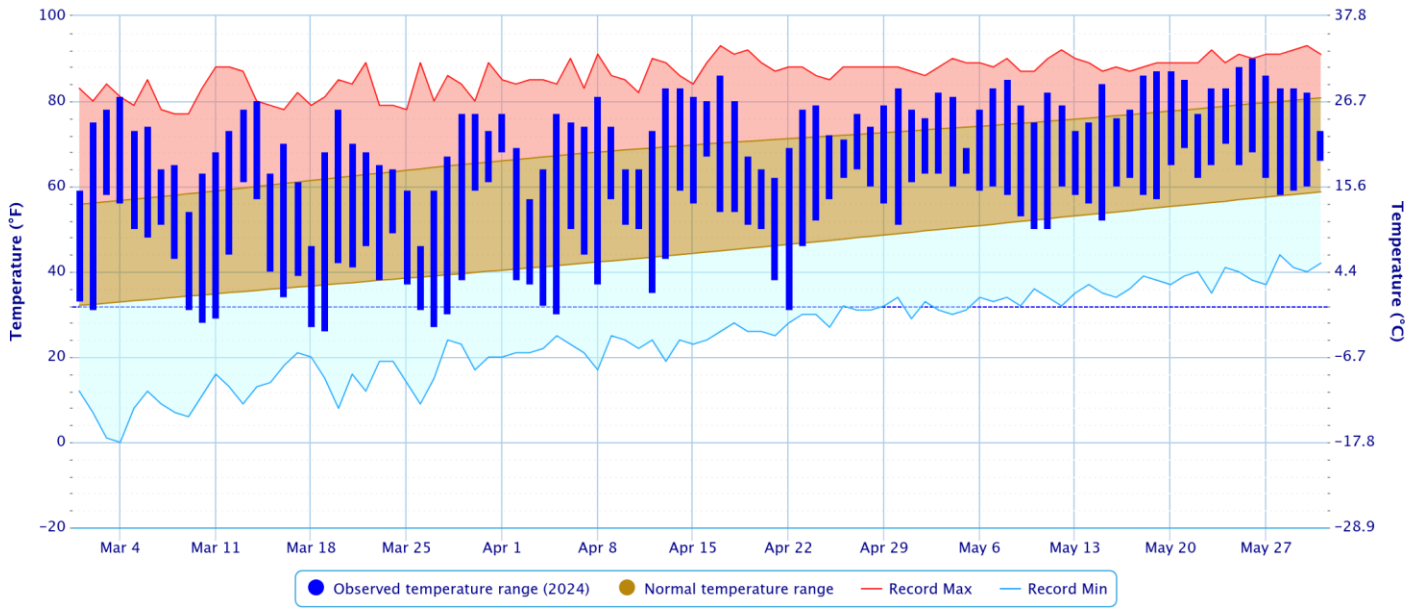
Period of Record – 1949-07-14 to 2024-06-03. Normals period: 1991-2020. Click and drag to zoom chart.



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Daily Temperature Data – FAYETTEVILLE DRAKE FIELD, AR

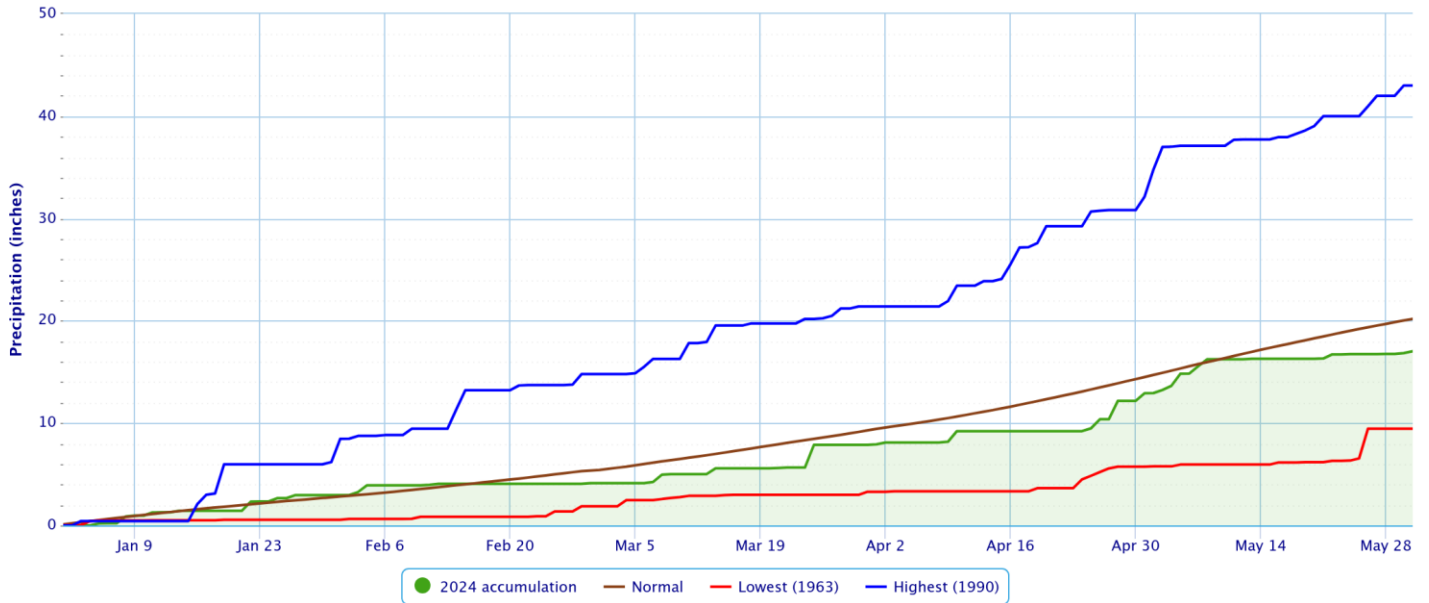
Period of Record – 1949-07-14 to 2024-06-03. Normals period: 1991-2020. Click and drag to zoom chart.



Powered by ACIS

Accumulated Precipitation – FAYETTEVILLE DRAKE FIELD, AR

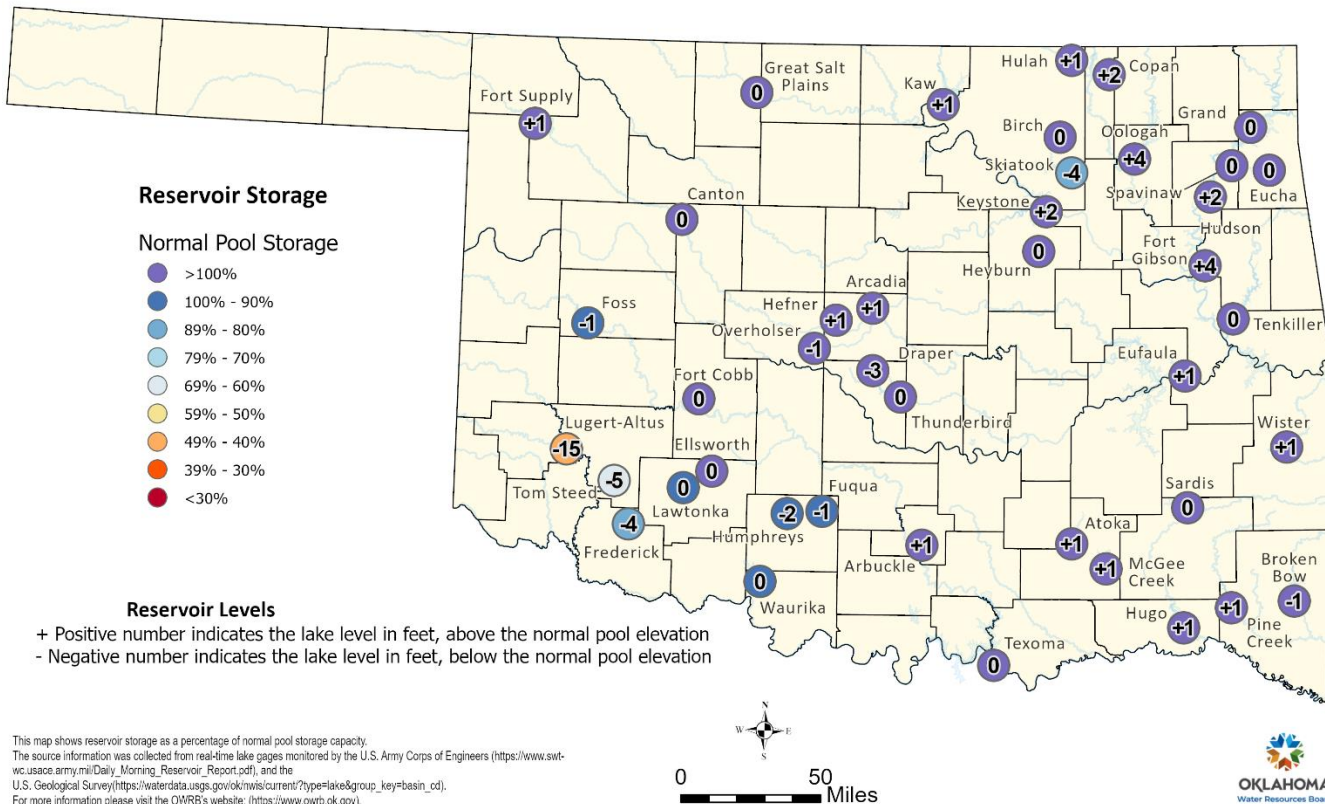
Click and drag to zoom to a shorter time interval; green/black diamonds represent subsequent/missing values



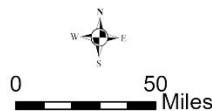
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Reservoirs

Oklahoma Reservoir Levels and Storage as of 6/3/2024



This map shows reservoir storage as a percentage of normal pool storage capacity. The source information was collected from real-time lake gages monitored by the U.S. Army Corps of Engineers (https://www.swt-wc.usace.army.mil/Daily_Morning_Reservoir_Report.pdf) and the U.S. Geological Survey (https://waterdata.usgs.gov/ok/nwis/current/?type=lake&group_key=basin_cd). For more information please visit the OWRB's website: (<https://www.owrb.ok.gov/>).



According to the USACE, a couple of the lakes in the HSA were below 3% of top of their conservation pools as of 5/31/2024: Skiatook Lake 86%. Several lakes were above 3% of the top of their conservation pools: Beaver Lake 35%, Oologah Lake 14%, Ft. Gibson Lake 12%, Eufaula Lake 10%, Grand Lake 7%, Hudson Lake 5%, and Copan Lake 4%.

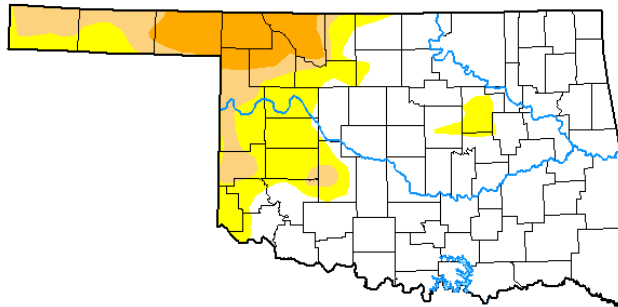
Drought

**U.S. Drought Monitor
Oklahoma**

May 28, 2024

(Released Thursday, May. 30, 2024)

Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	70.40	29.60	14.68	6.72	0.00	0.00
Last Week 05-21-2024	70.40	29.60	11.37	5.91	0.00	0.00
3 Months Ago 02-27-2024	69.20	30.80	3.23	0.19	0.00	0.00
Start of Calendar Year 01-02-2024	55.32	44.68	21.64	3.08	0.00	0.00
Start of Water Year 09-26-2023	34.29	65.71	46.76	30.93	12.91	0.00
One Year Ago 05-30-2023	37.13	62.87	50.44	43.18	24.99	2.70

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:

Rocky Bilotta
NCEI/NOAA



droughtmonitor.unl.edu

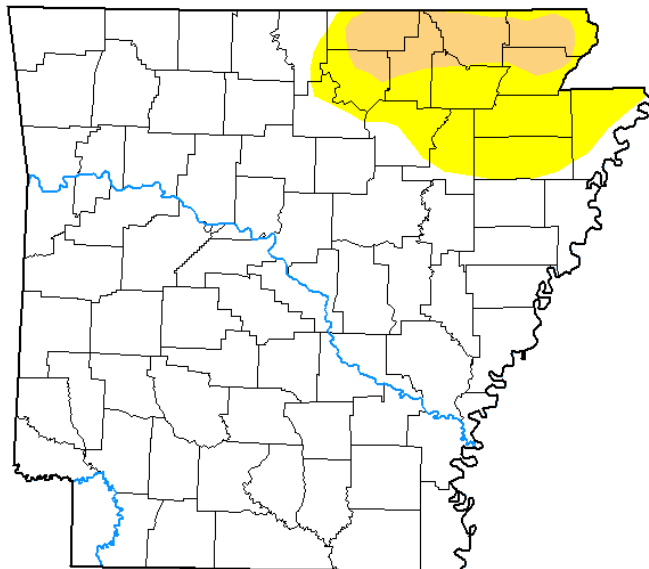
Fig. 2. Drought Monitor for Oklahoma

**U.S. Drought Monitor
Arkansas**

May 28, 2024

(Released Thursday, May. 30, 2024)

Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	86.14	13.86	4.30	0.00	0.00	0.00
Last Week 05-21-2024	83.24	16.76	5.15	0.00	0.00	0.00
3 Months Ago 02-27-2024	78.92	21.08	2.74	0.00	0.00	0.00
Start of Calendar Year 01-02-2024	15.06	84.94	44.54	23.39	13.71	0.79
Start of Water Year 09-26-2023	38.45	61.55	25.37	3.70	0.00	0.00
One Year Ago 05-30-2023	58.48	41.52	0.00	0.00	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:

Rocky Bilotta
NCEI/NOAA



droughtmonitor.unl.edu

Fig. 3. Drought Monitor for Arkansas

According to the [U.S. Drought Monitor](#) (USDM) from May 28, 2024 (Figs. 2, 3), drought conditions were not occurring across eastern Oklahoma and northwest AR. Abnormally Dry (D0) but not in drought conditions were occurring in parts of Creek, Okmulgee, and Okfuskee Counties in eastern OK.

Outlooks

The [Climate Prediction Center](#) (CPC) outlook for June 2024 (issued May 31, 2024) indicates an enhanced chance for above normal temperatures and above median precipitation across eastern OK and northwest AR. This outlook was based on dynamical model and sub-seasonal climate model output and long-term trends. According to CPC, “the favored ridge-trough forecast pattern over the CONUS from west to east for much of the first half of June supports a downstream mean frontal zone from the Southeast westward across the southern Plains to the south-central Rockies.” This supports the above median rainfall outlook.

For the 3-month period June-July-August 2024, CPC is forecasting an enhanced chance for above normal temperatures and an equal chance for above, near, and below median precipitation across eastern OK and northwest AR (outlook issued May 16, 2024). This outlook is based on long-term trends, ENSO state, and incorporates both statistical and dynamical forecast tools. According to CPC, weakening El Niño conditions are present in the equatorial Pacific Ocean. A transition from El Niño to ENSO-neutral is likely through the beginning of June. La Niña may develop in June-August (49% chance) or July-September (69% chance). CPC continues the El Niño Advisory and issued a La Niña Watch.

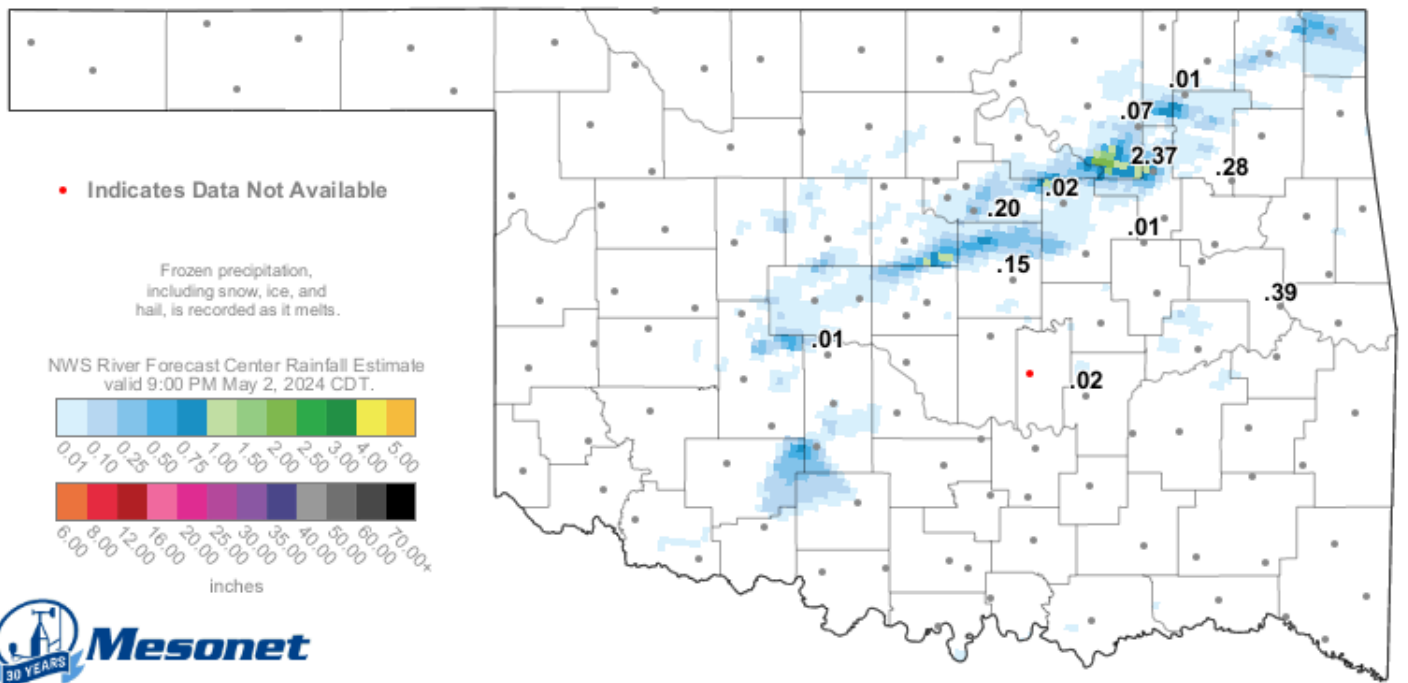
Summary of Heavy Precipitation Events Daily quality-controlled rainfall maps can be found at: http://water.weather.gov/precip/index.php?location_type=wfo&location_name=tsa

The active last week of April brought a total of 1”-6” of rain to nearly all of eastern OK and northwest AR, and resulted in the Neosho River near Commerce starting the month of May in flood.

Just before midnight of May 1, a line of thunderstorms moved south out of KS and into northeast OK. These storms continued to move southeast through the overnight and morning hours, bringing rain to nearly all of eastern OK and northwest AR before exiting the region mid-morning. Rainfall totals ranged from 0.25” to around 3” (Figs. 4, 5). The additional rainfall over the Neosho River basin led to an additional rise near Commerce, and the Poteau River near Panama rose to just below flood stage (see E3 and preliminary hydrographs at the end of this report).

Scattered showers and isolated thunderstorms were around through the morning and early afternoon hours of the 2nd. At mid-evening, a line of thunderstorms developed along a cold front just northwest of I-44 in northeast OK. Several clusters of storms then moved to the southeast across eastern OK and northwest AR through the evening, overnight, and early morning hours, before dissipating after sunrise of the 3rd. Heavy rainfall and some training of storms resulted in pockets of heavy rain (Fig. 6). Rainfall totals ranged from around 0.25” to 4” (Fig. 7). This caused within-bank rises along area rivers, especially the Arkansas River (see preliminary hydrographs at the end of this report).

Widely scattered showers and thunderstorms developed primarily southeast of I-44 along a cold front as it moved across the area during the afternoon and evening of the 4th. Then, widespread showers and thunderstorms moved into the area from the west during the early morning hours of the 5th. This activity continued to spread northeast through the morning and afternoon hours as an upper-level trough axis lifted northeast from TX into AR/MO, before exiting the area by early evening. Training of the showers and thunderstorms over northern Le Flore County resulted in enough rain in the Poteau River basin to cause minor flooding near Panama (see E3 and preliminary hydrographs at the end of this report). 24-hour rainfall totals through 7 am on the 5th ranged from 0.25” to around 3” (Fig. 8), and an additional 0.10” to around 2” of rain fell across all of eastern OK and northwest AR by 7 am on the 6th (Fig. 9).



3-Hour Rainfall Accumulation (inches)

10:35 PM May 2, 2024 CDT

Created 10:41:04 PM May 2, 2024 CDT. © Copyright 2024

Fig. 6. OK Mesonet (values) and NWS RFC rainfall estimate (image) 3-hour rainfall ending at 10:35 pm CDT 5/02/2024.

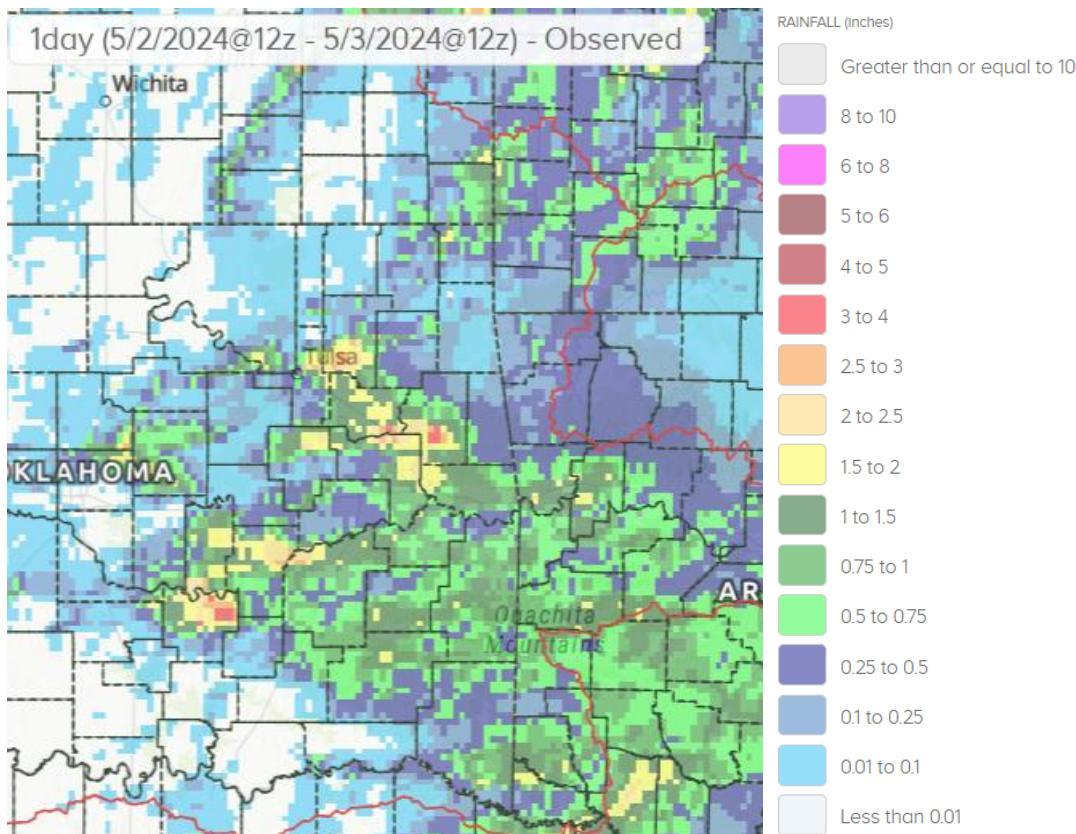


Fig. 7. 24-hour Estimated Observed Rainfall ending at 7am CDT 5/03/2024.

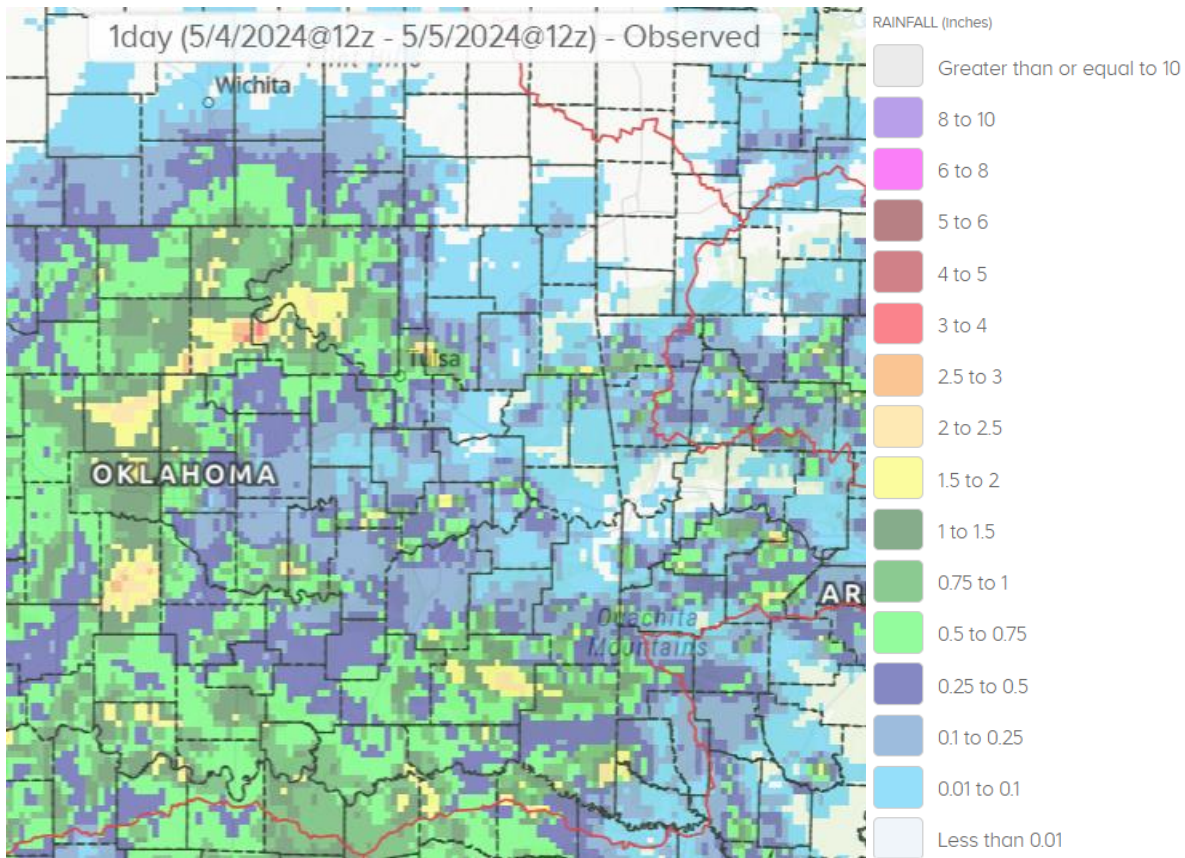


Fig. 8. 24-hour Estimated Observed Rainfall ending at 7am CDT 5/05/2024.

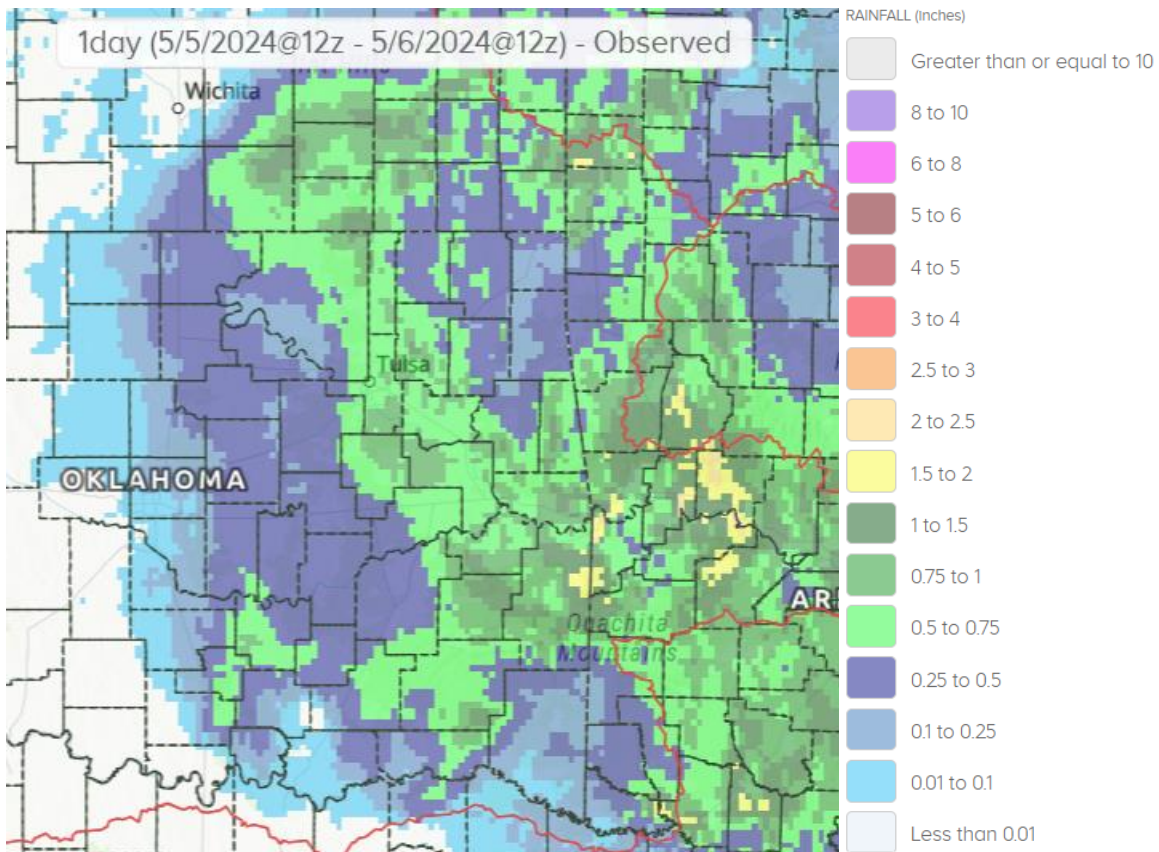
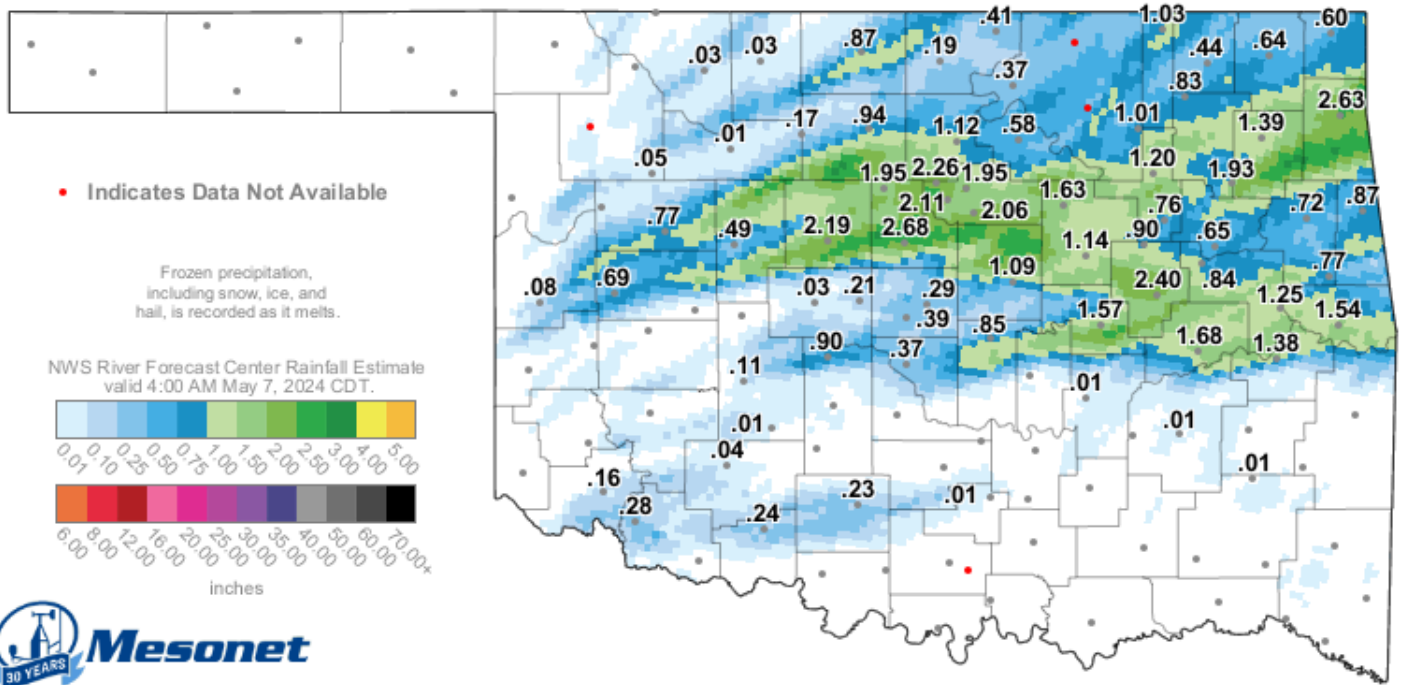


Fig. 9. 24-hour Estimated Observed Rainfall ending at 7am CDT 5/06/2024.



12-Hour Rainfall Accumulation (inches)

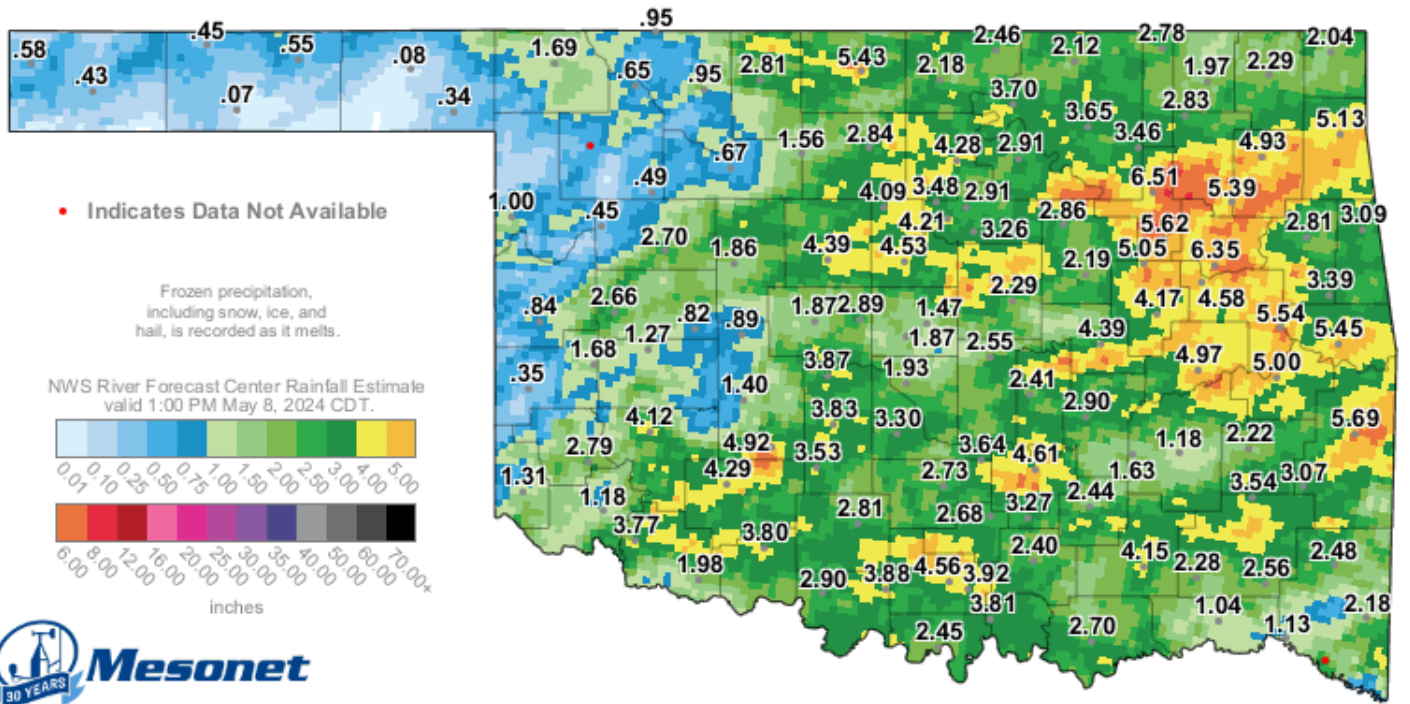
5:10 AM May 7, 2024 CDT

Created 5:16:01 AM May 7, 2024 CDT. © Copyright 2024

Fig. 10. OK Mesonet (values) and NWS RFC rainfall estimate (image) 12-hour rainfall ending at 5:10 am CDT 5/07/2024.



Fig. 11. 24-hour Estimated Observed Rainfall ending at 7am CDT 5/07/2024.

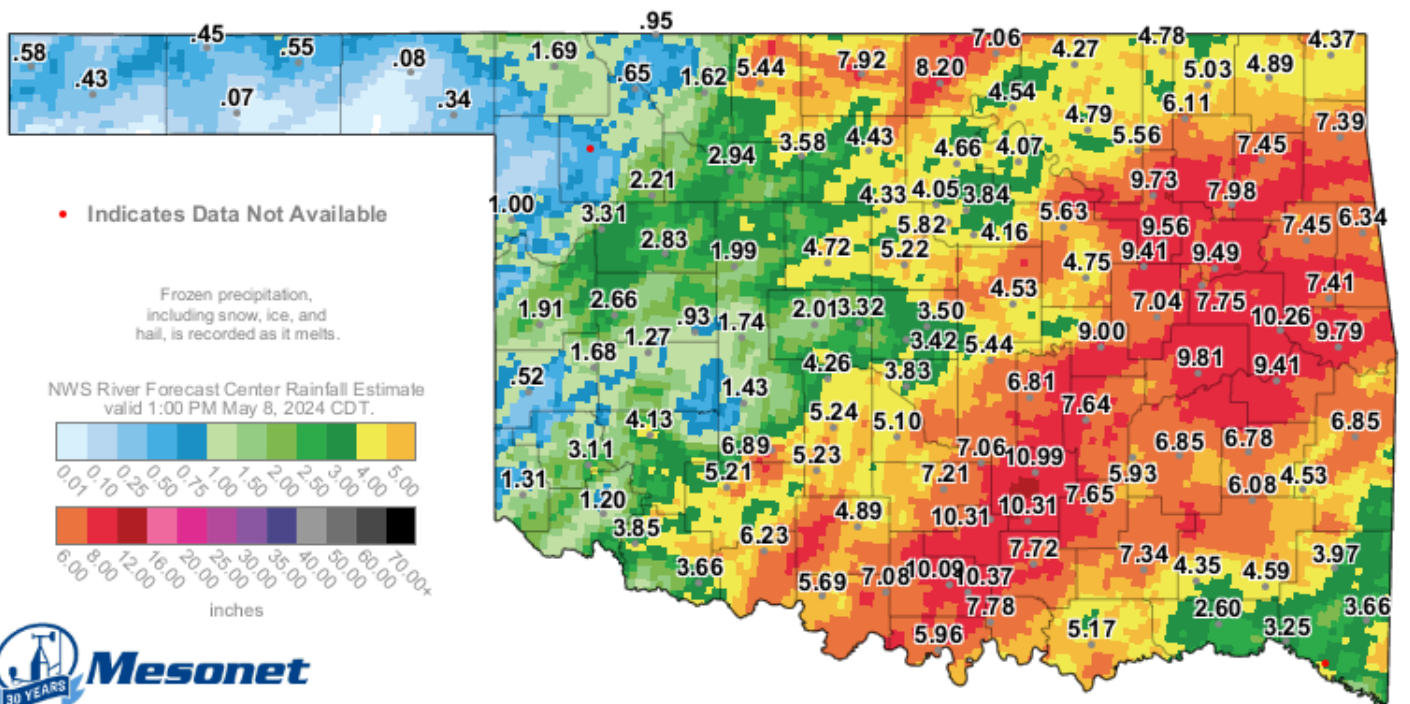


10-Day Rainfall Accumulation (inches)

2:20 PM May 8, 2024 CDT

Created 2:25:54 PM May 8, 2024 CDT. © Copyright 2024

Fig. 12. OK Mesonet (values) and NWS RFC rainfall estimate (image) 10-day rainfall ending at 2:20 pm CDT 5/08/2024.



14-Day Rainfall Accumulation (inches)

2:20 PM May 8, 2024 CDT

Created 2:25:54 PM May 8, 2024 CDT. © Copyright 2024

Fig. 13. OK Mesonet (values) and NWS RFC rainfall estimate (image) 14-day rainfall ending at 2:20 pm CDT 5/08/2024.

As a line of thunderstorms approached northeast OK from the northwest during the evening of the 6th, isolated thunderstorms developed ahead of the line within an environment primed for significant severe weather. One of these storms became a supercell that produced a long-track EF-4 tornado across Osage and into Washington County in northeast OK before it became overwhelmed by the advancing line of storms (see <https://arcg.is/OeHLf0> for details). The line of severe thunderstorms continued to march eastward through the night, affecting locations along and north of I-40, before exiting the area before sunrise on the 7th. Ten additional tornadoes occurred (see <https://arcg.is/OeHLf0> for details), as well as hail and some flash flooding. Rainfall totals ranged from around 0.5" to around 3" (Figs. 10, 11). This rainfall, on top of the rainfall in the preceding days, resulted in minor flooding along the Neosho River near Commerce and the lower Arkansas River near Van Buren and Ozark L&D (see E3 and preliminary hydrographs at the end of this report). Rises also occurred along Bird Creek and the Caney River, though flood stage was not exceeded. Faster flows occurred in the Illinois River basin, and although the river did not flood, the flow was too dangerous for recreation. The active weather from the last week of April through the first week of May brought widespread 4"-10" of rain to eastern OK and northwest AR (Figs. 12, 13).

Widespread showers with embedded thunderstorms moved east across southeast OK during the afternoon through early evening hours of the 12th as an upper-level low moved into and across the Great Plains. Then, around midnight of the 13th, a cluster of storms in north central OK moved east into northeast OK. A larger line of thunderstorms also moved east into northeast OK, just before dawn. By 7 am, rainfall totals were 0.10" to around 2" across eastern OK (Fig. 14). The line of storms continued to move northeast across northeast OK and far northwest AR before exiting the area by late morning. Meanwhile, new convection developed near I-40 in east central OK. These storms moved quickly to the northeast and dissipated soon after noon over northwest AR. During the late afternoon hours, widely scattered showers and thunderstorms developed over eastern OK and northwest AR along and ahead of a cold front. This activity moved to the southeast and then dissipated in the late evening with the loss of daytime heating. These rounds of storms brought an additional 0.10" to 1.5" of rain (Fig. 15).

A cluster of strong to severe thunderstorms moved into northeast OK from the west around midnight of the 20th. These storms continued to track east across northeast OK and far northwest AR through the early morning hours, dissipating around sunrise. Rainfall totals ranged from around 0.25" to near 3" across the affected areas (Fig. 16).

Isolated thunderstorms developed in an unstable atmosphere across southeast OK ahead of a front during the afternoon of the 21st and moved northeast into northwest AR. A line of thunderstorms then developed along the front northeast of I-44 by late afternoon. These storms moved southeast, eventually decreasing in coverage through the late evening. Two EF-1 tornadoes, large hail (2"-3" hailstones), and damaging winds occurred (see <https://arcg.is/OeHLf0> for details). Some training of storms produced heavy rain just south of I-40 before the storms finally dissipated shortly after midnight. While most of the affected areas received 0.10" to around 1" of rain, much of Haskell County received 0.50" to 3" of rain (Fig. 17).

Showers and thunderstorms redeveloped across northeast OK and northwest AR at daybreak on the 22nd, north of the stalled cold front in the I-40 vicinity, as warm air advection increased over the region. Strong to severe thunderstorms, one of which produced an EF-1 tornado (see <https://arcg.is/OeHLf0> for details), continued along and north of the front through the morning and early afternoon hours as the front began to move southeast again. The storms ended from northwest to southeast, finally exiting the area by late evening. Shortly after midnight of the 23rd, a complex of thunderstorms developed over south central OK. These storms moved eastward into southeast OK during the pre-dawn hours as additional storms developed ahead of the complex over southeast OK and west central AR. These storms moved east of the area soon after sunrise. Rainfall totals ranged from 0.10" to 4", with the highest totals occurring along and south of I-40 (Figs. 18, 19).

Thunderstorms over northern TX crossed the Red River into far southeast OK late on the 23rd. These storms moved east, exiting the area a few hours later. However, another cluster of thunderstorms from south central OK moved into the same area sooner after. This activity quickly moved east, ending before dawn of the 24th. The two rounds of storms brought heavy rain to the area, with rainfall totals of 1.5" to 4" across Choctaw County and southern McCurtain County, and 0.1" to 1.5" across the remainder of far southeast OK (Fig. 20).

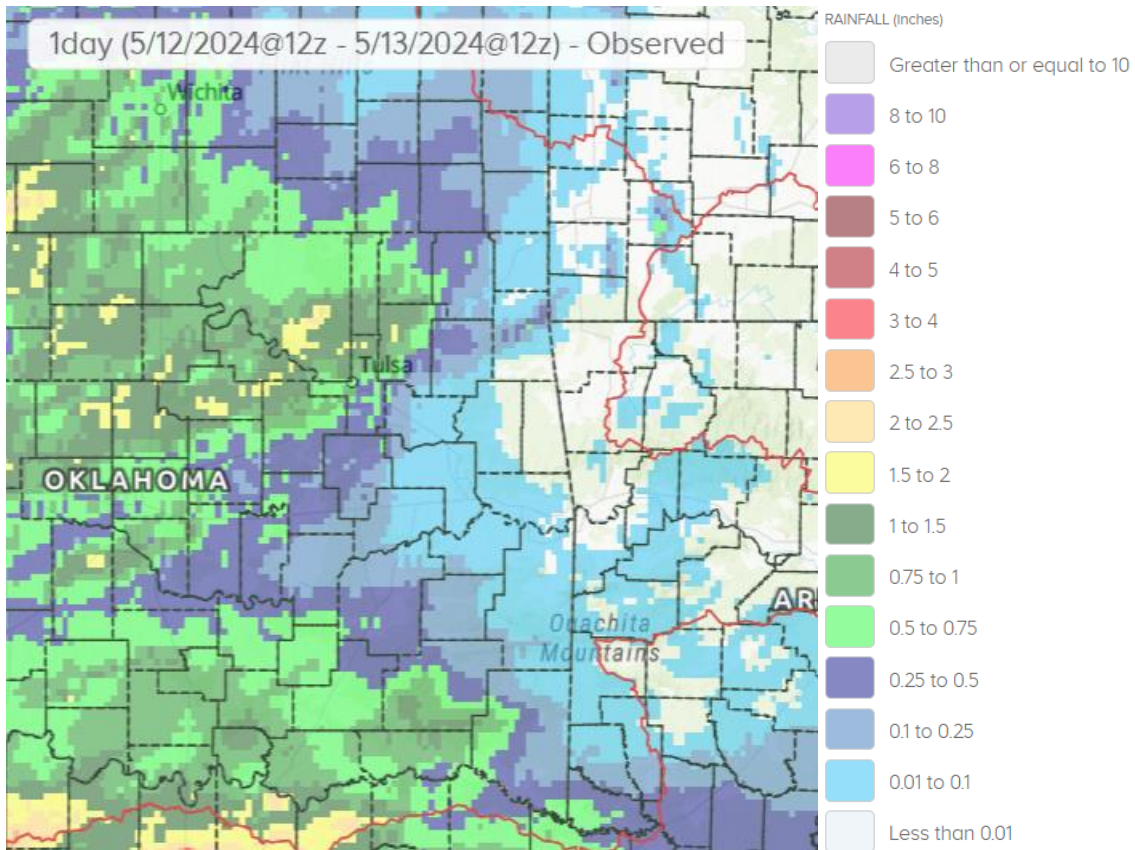


Fig. 14. 24-hour Estimated Observed Rainfall ending at 7am CDT 5/13/2024.

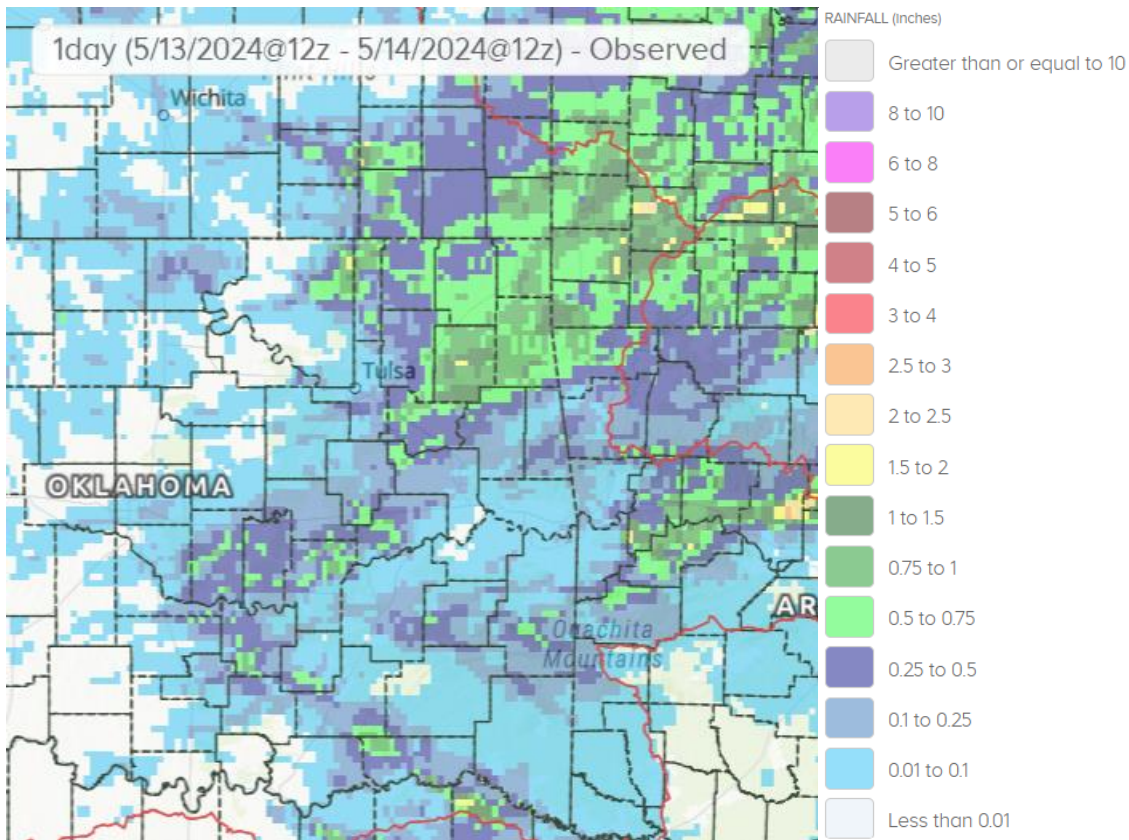


Fig. 15. 24-hour Estimated Observed Rainfall ending at 7am CDT 5/14/2024.

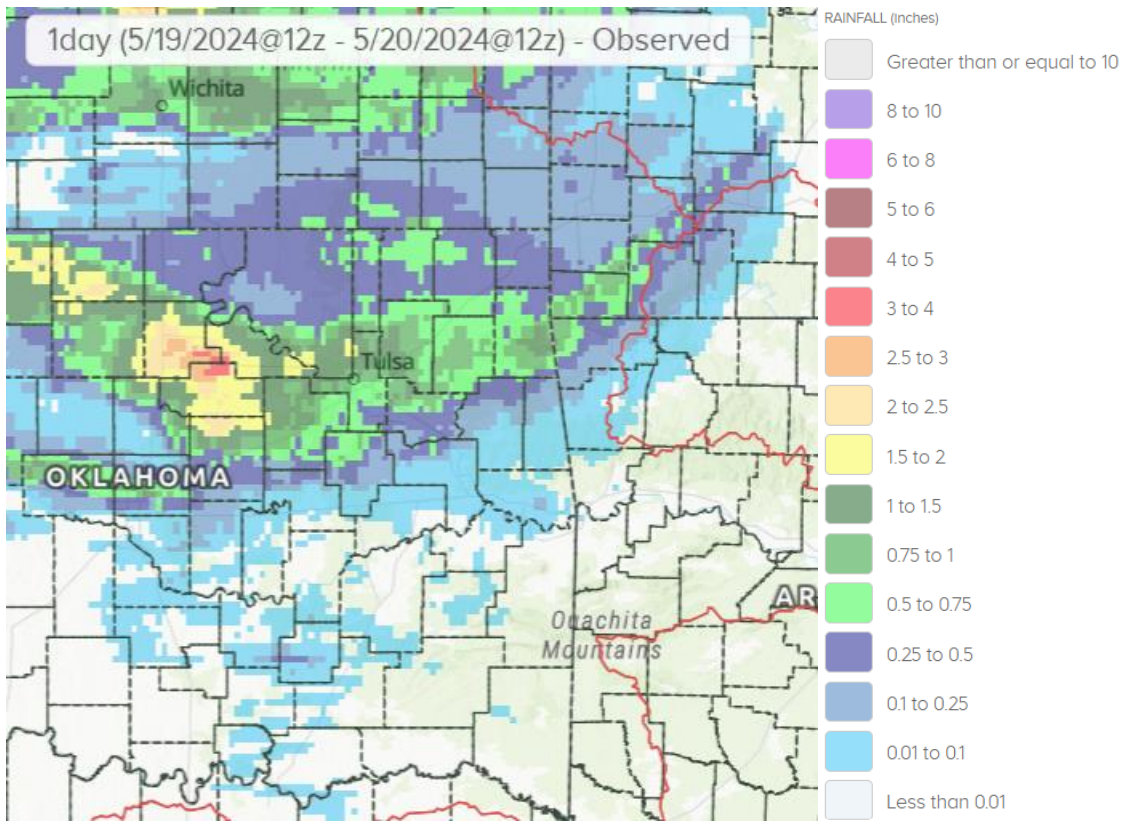


Fig. 16. 24-hour Estimated Observed Rainfall ending at 7am CDT 5/20/2024.

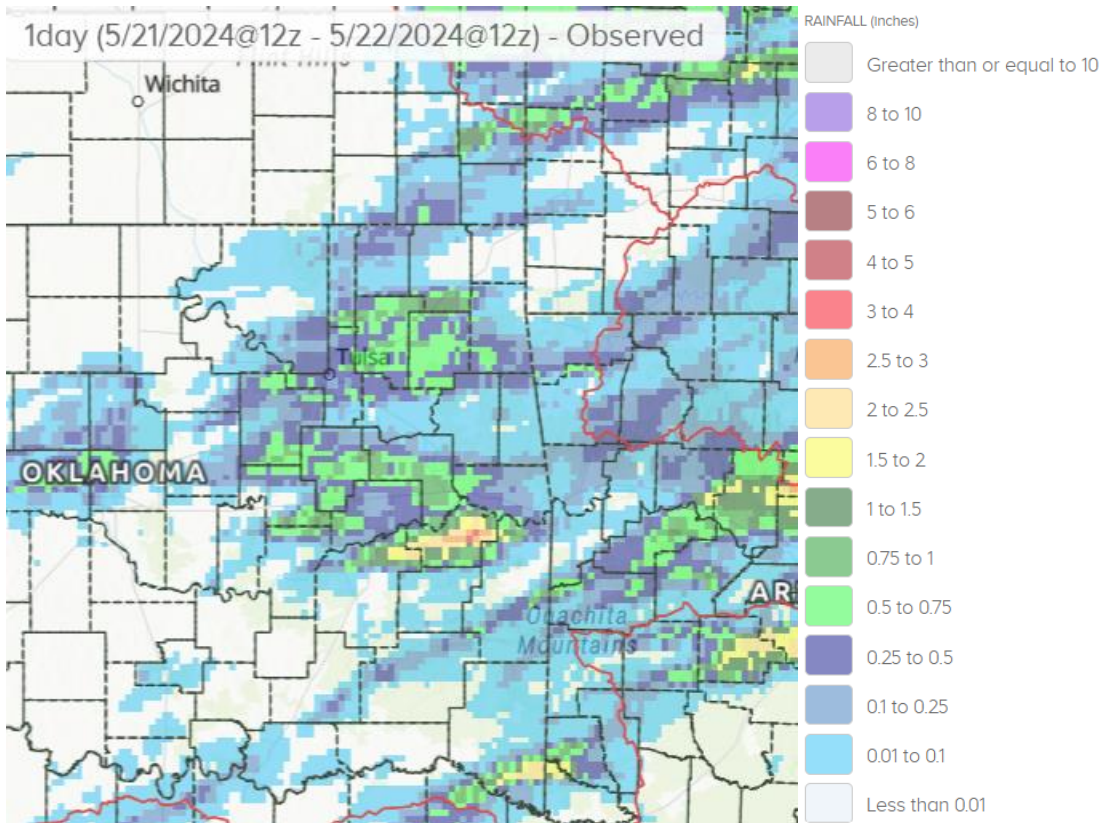


Fig. 17. 24-hour Estimated Observed Rainfall ending at 7am CDT 5/22/2024.

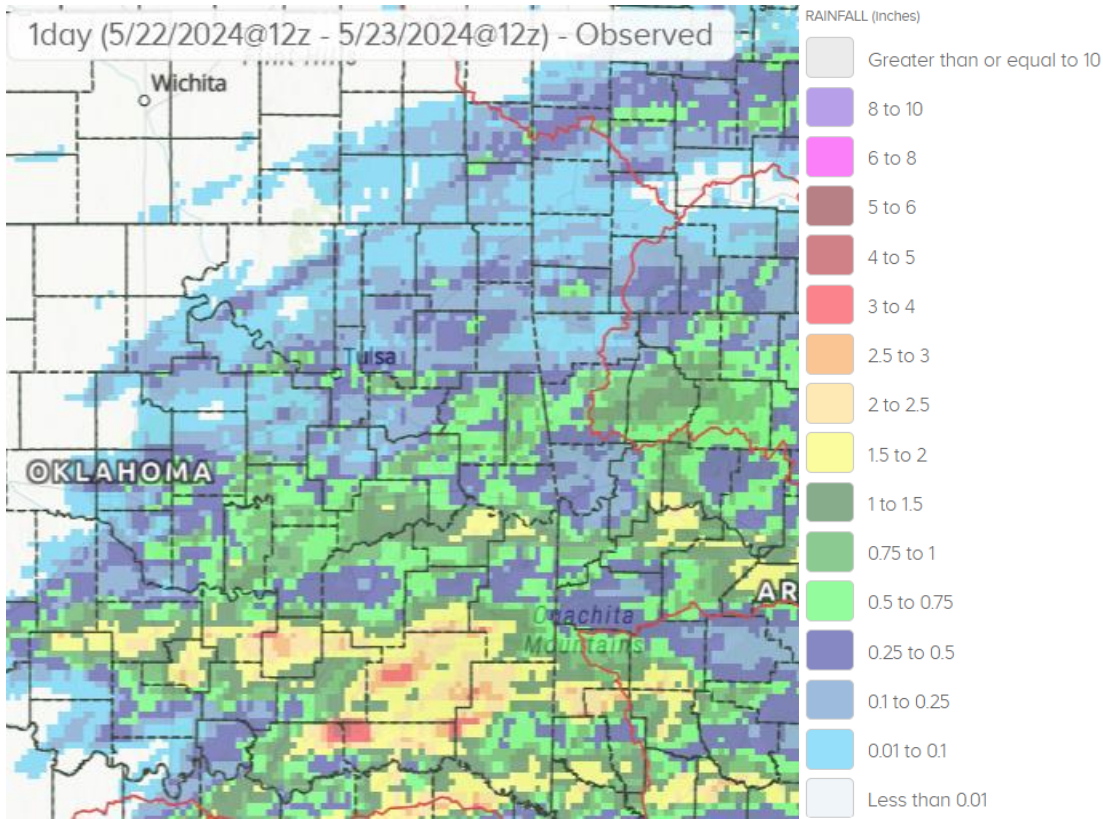


Fig. 18. 24-hour Estimated Observed Rainfall ending at 7am CDT 5/23/2024.

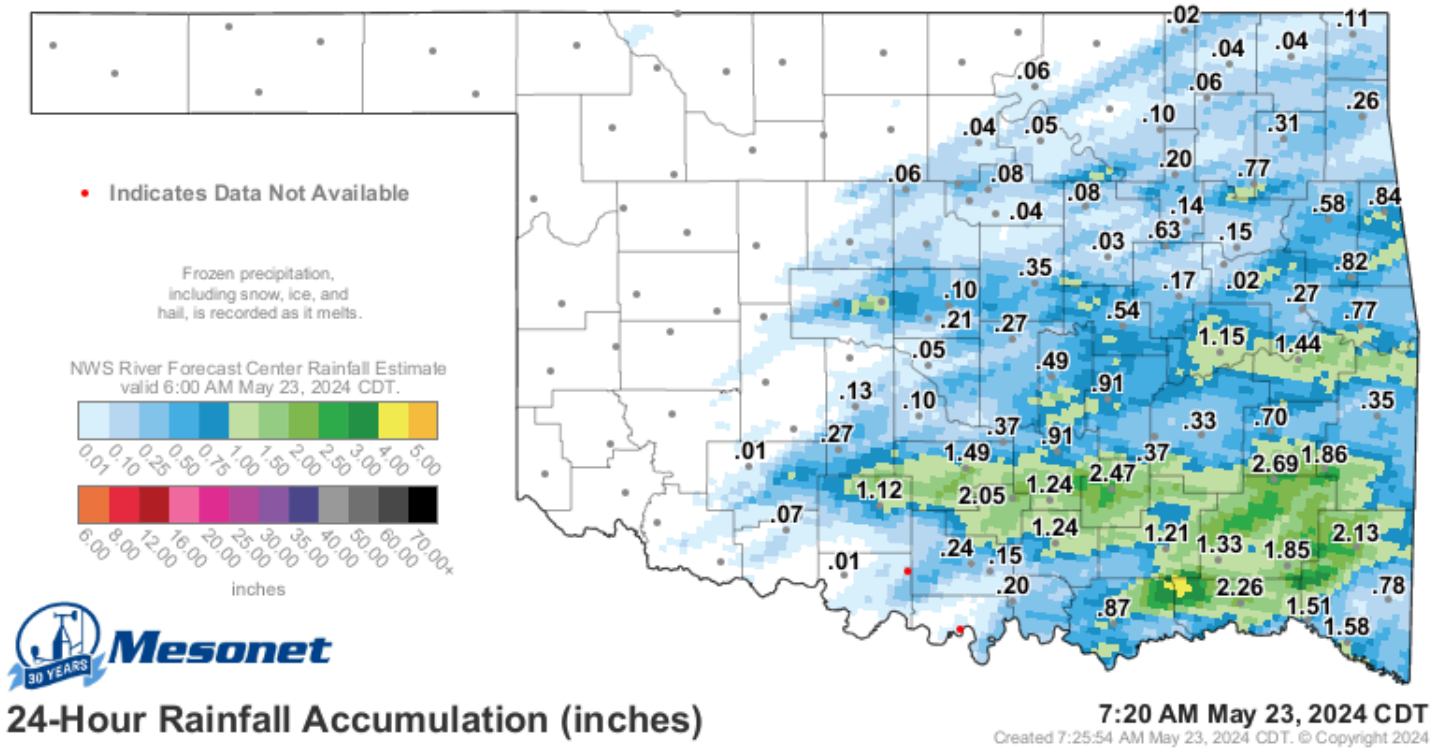


Fig. 19. OK Mesonet (values) and NWS RFC rainfall estimate (image) 24-hour rainfall ending at 7:20 am CDT 5/23/2024.

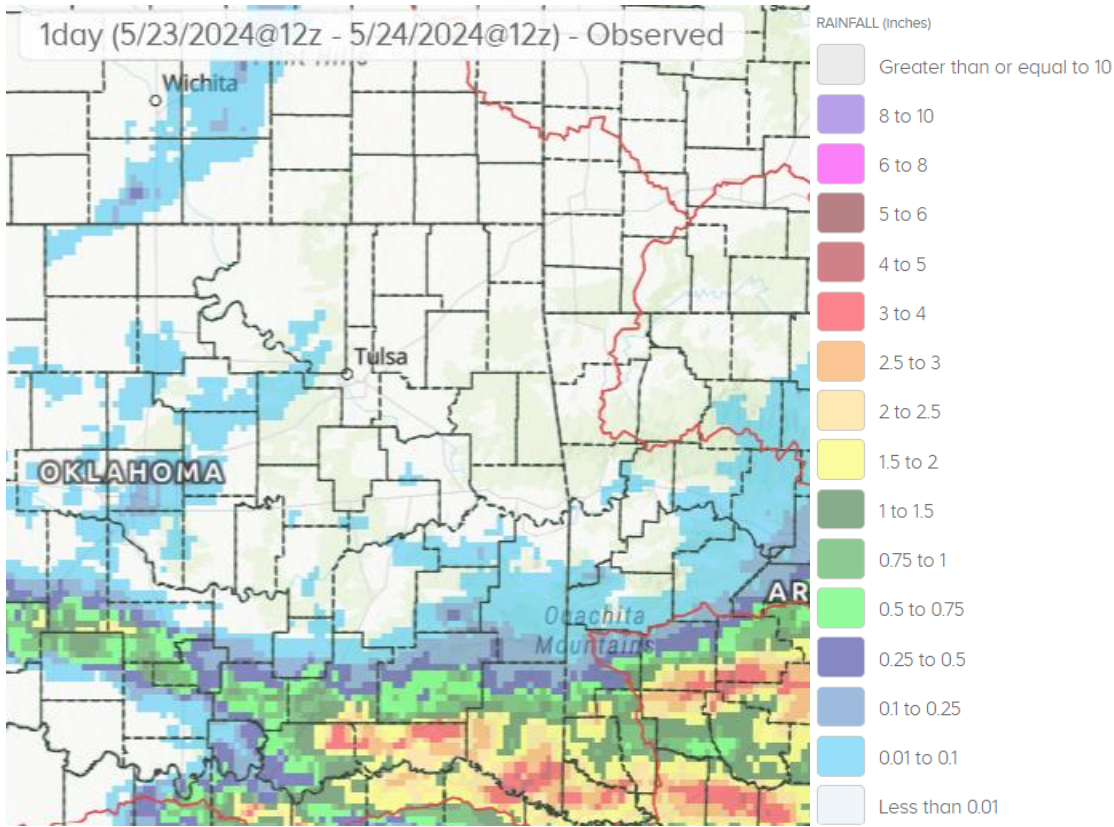


Fig. 20. 24-hour Estimated Observed Rainfall ending at 7am CDT 5/24/2024.

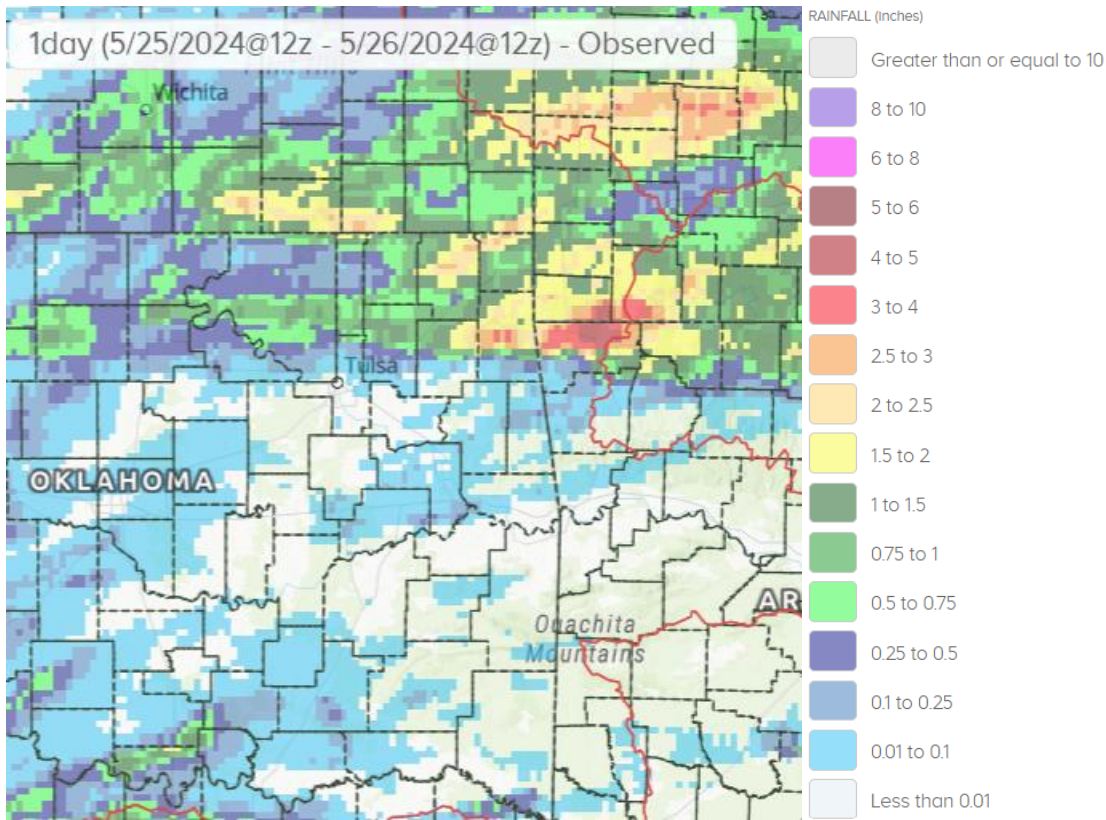


Fig. 21. 24-hour Estimated Observed Rainfall ending at 7am CDT 5/26/2024.

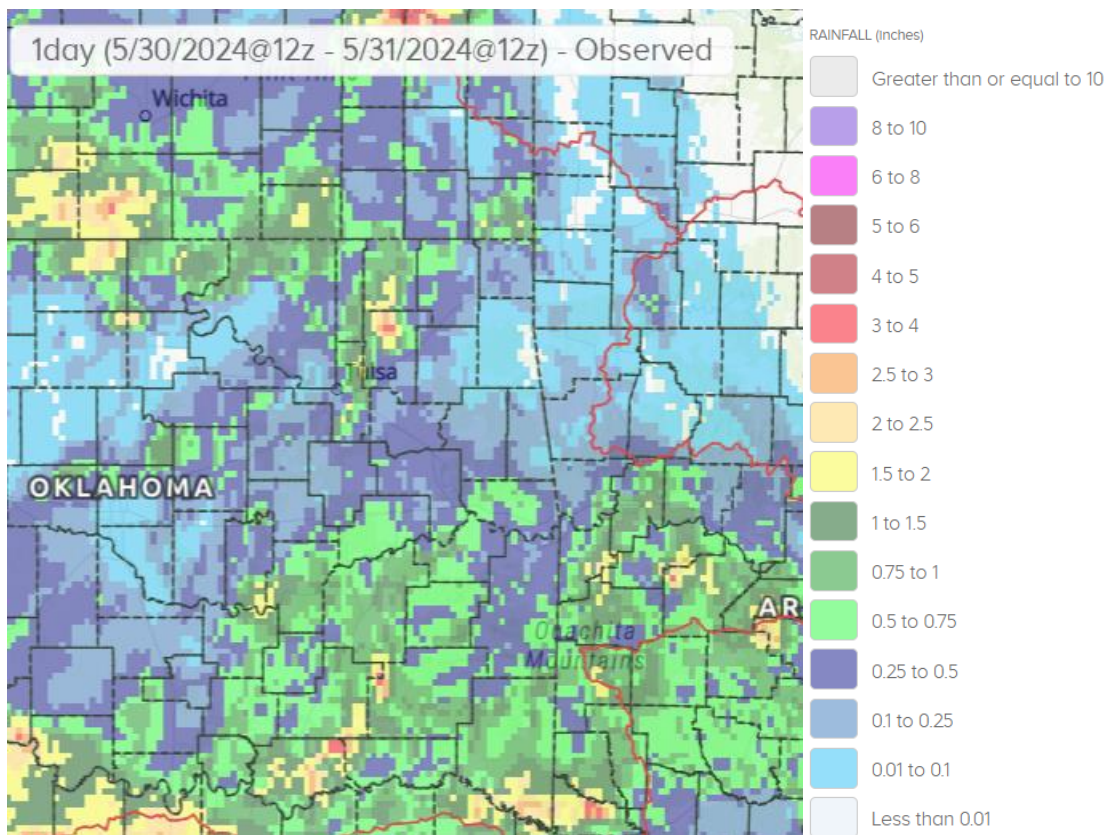


Fig. 22. 24-hour Estimated Observed Rainfall ending at 7am CDT 5/31/2024.

At mid-evening of the 25th, supercells moved east into northeast OK where the instability and wind shear were favorable for significant severe weather. One supercell in particular became dominant, realized this environment, and produced numerous tornadoes and damaging straight-line winds as it marched across northeast OK and northwest AR through the overnight hours. Eleven tornadoes were confirmed, two of which produced EF-3 damage (see <https://arcg.is/0eHLf0> for details). A second supercell moving across southern KS turned southeast shortly after midnight and impacted far northeast OK and far northwest AR. All of the storms were east of the region by day break. In addition to the severe weather, these supercells also produced heavy rain, especially over far northeast OK and far northwest AR. Rainfall totals were around 0.50" to 5" for much of the area along and north of Highway 412 (Fig. 21).

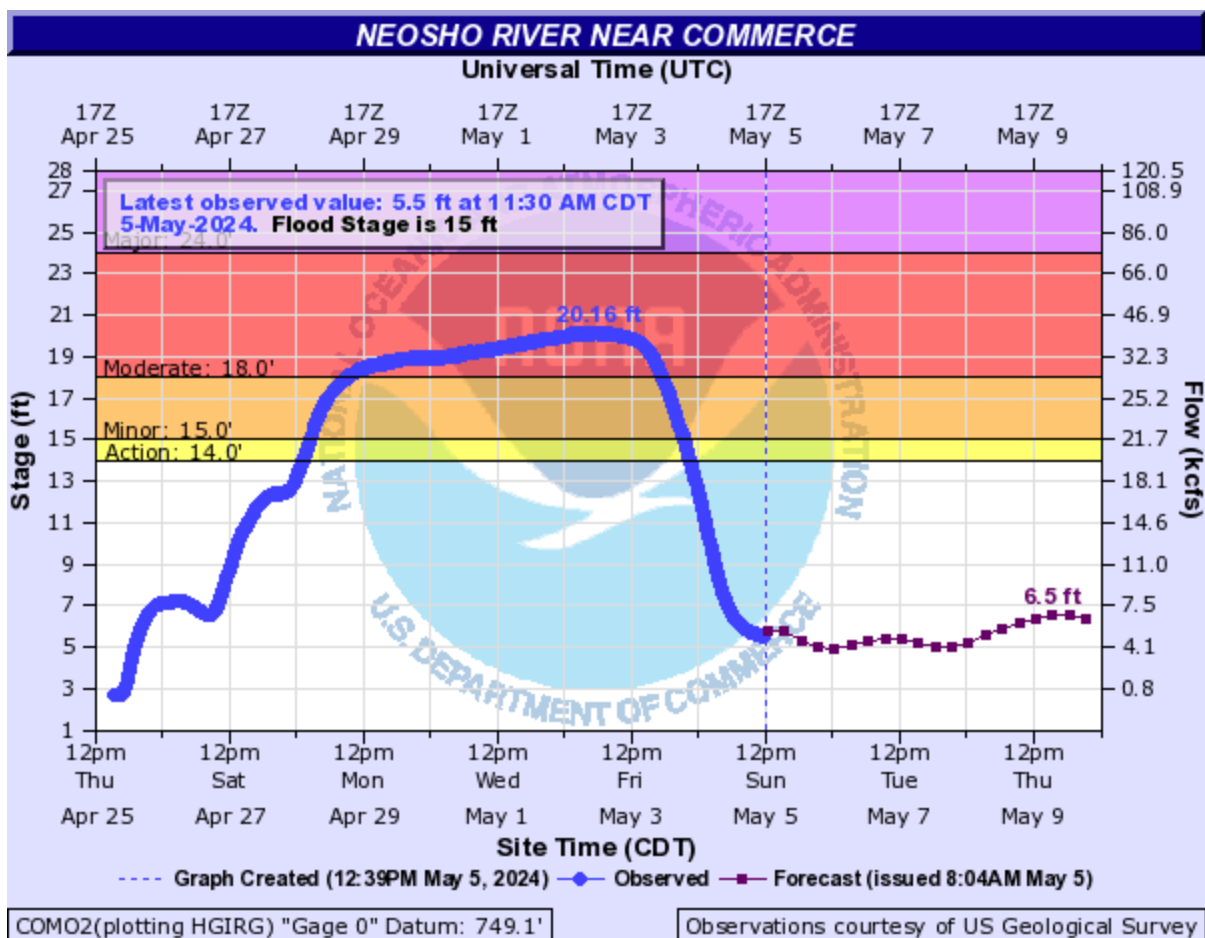
At noon on the 30th, a line of thunderstorms stretching from southern KS to northern TX entered eastern OK from the west. These storms continued eastward through the afternoon and evening hours. The storms weakened and dissipated by late-evening over western AR. These showers and thunderstorms brought around 0.10" to 3" of rain to eastern OK and northwest AR (Fig. 22).

Written by:
 Nicole McGavock
 Service Hydrologist
 WFO Tulsa

Products issued in May 2024:

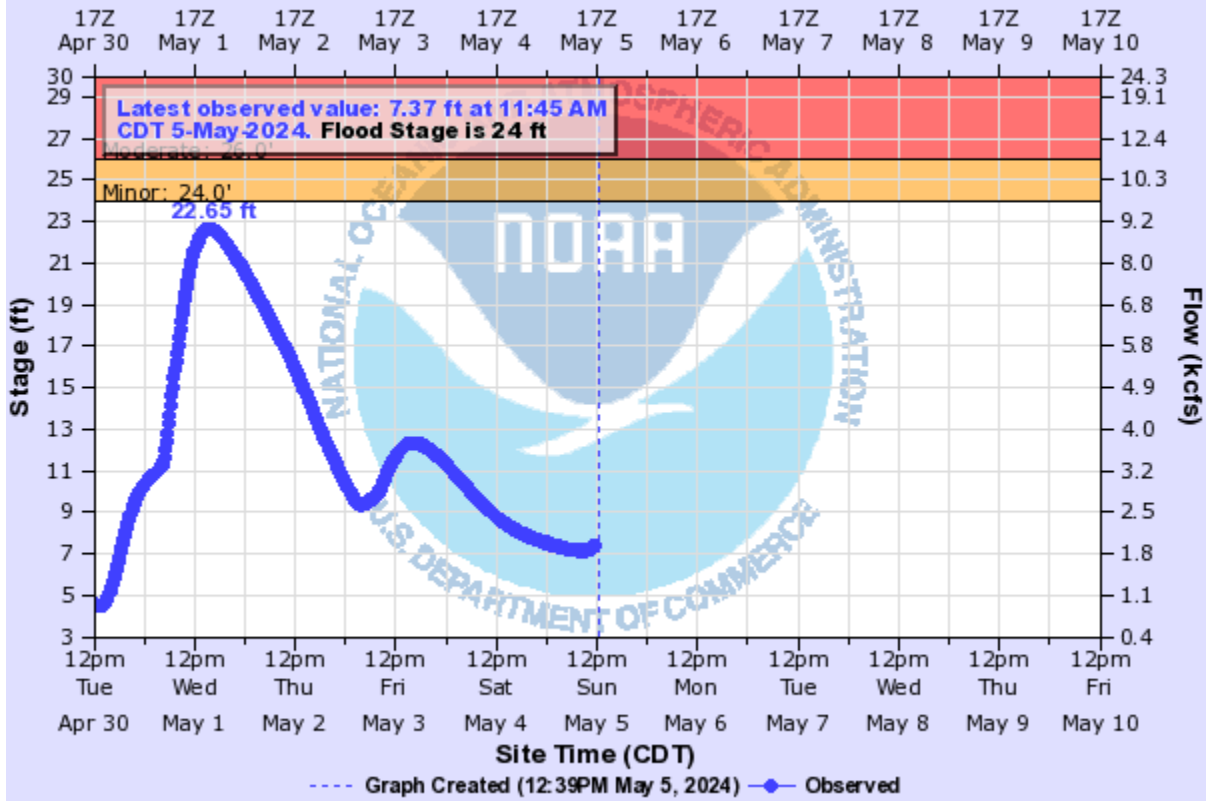
- 17 Flash Flood Warnings (FFW)
- 11 Flash Flood Statements (FFS)
- 4 Flash/Areal Flood Watches (FFA) (16 Watch FFA CON/EXT/EXA/EXB/CAN)
- 46 Urban and Small Stream Advisories (FLS)
- 0 Areal Flood Warnings (FLW)
- 0 Areal Flood Statements (FLS)
- 8 River Flood Warnings (FLW) (includes category increases)
- 48 River Flood Statements (FLS)
- 9 River Flood Advisories (FLS) (36 Advisory FLS CON/EXT/CAN)
- 0 River Flood Watches (FFA) (0 Watch FFA CON/EXT/CAN)
- 0 River Statements (RVS)
- 0 Hydrologic Outlooks (ESF)
- 0 Drought Information Statements (DGT)

Preliminary Hydrographs:



POTEAU RIVER NEAR POTEAU

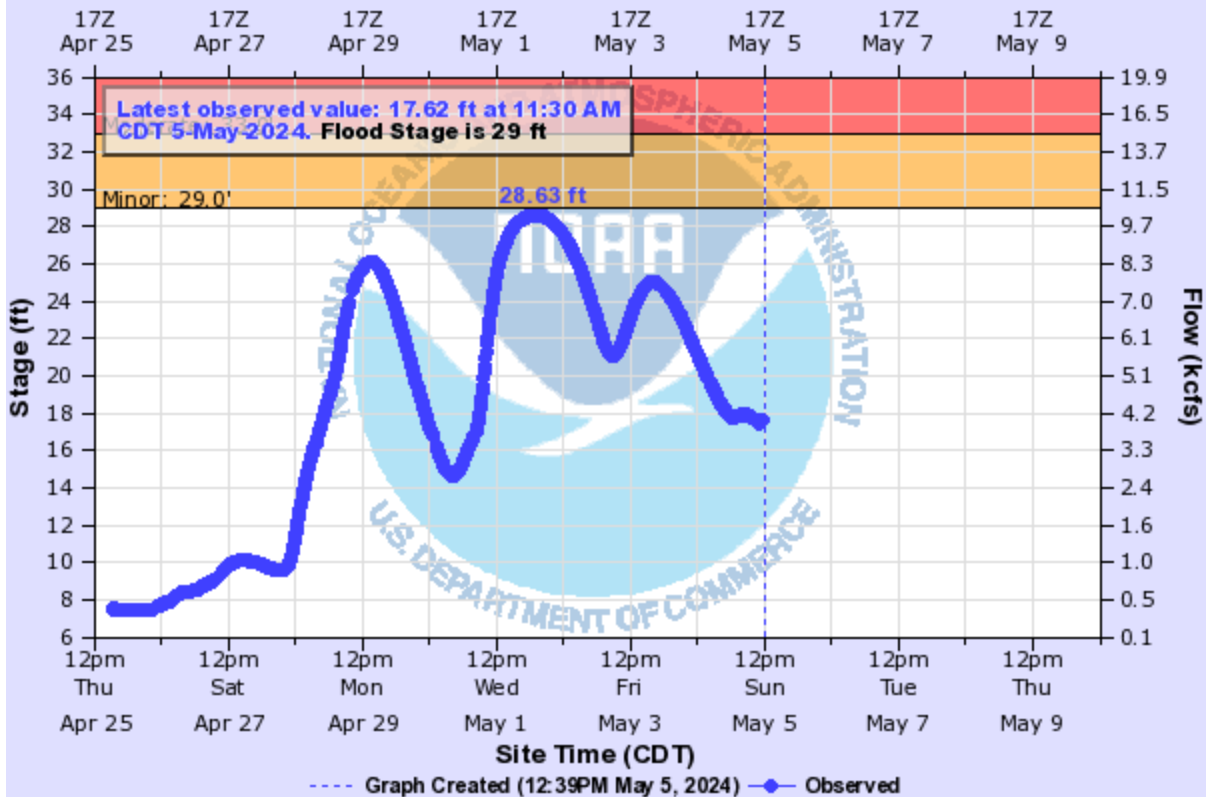
Universal Time (UTC)



PTAO2(plotting HGIRG) "Gage 0" Datum: 409.4'

POTEAU RIVER NEAR PANAMA

Universal Time (UTC)

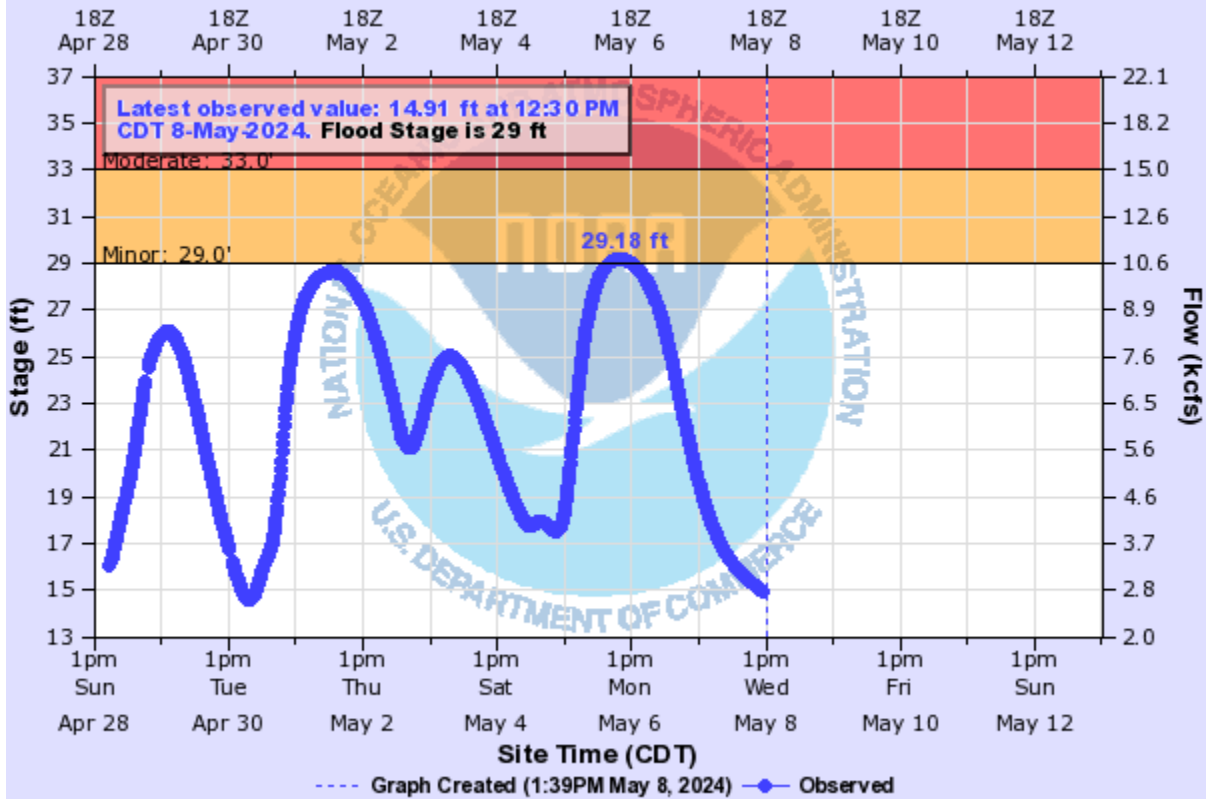


PANO2(plotting HGIRG) "Gage 0" Datum: 387.96'

Observations courtesy of US Geological Survey

POTEAU RIVER NEAR PANAMA

Universal Time (UTC)

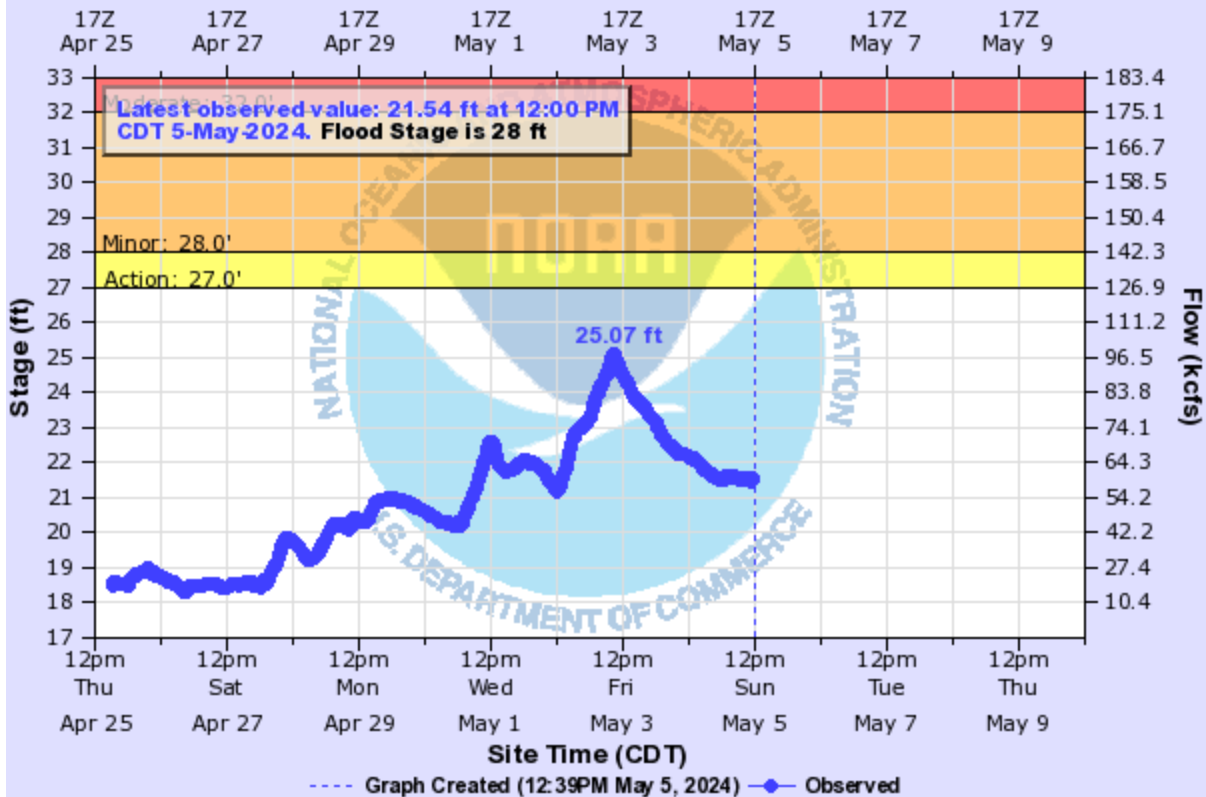


PANO2(plotting HGIRG) "Gage 0" Datum: 387.96'

Observations courtesy of US Geological Survey

ARKANSAS RIVER NEAR MUSKOGEE

Universal Time (UTC)

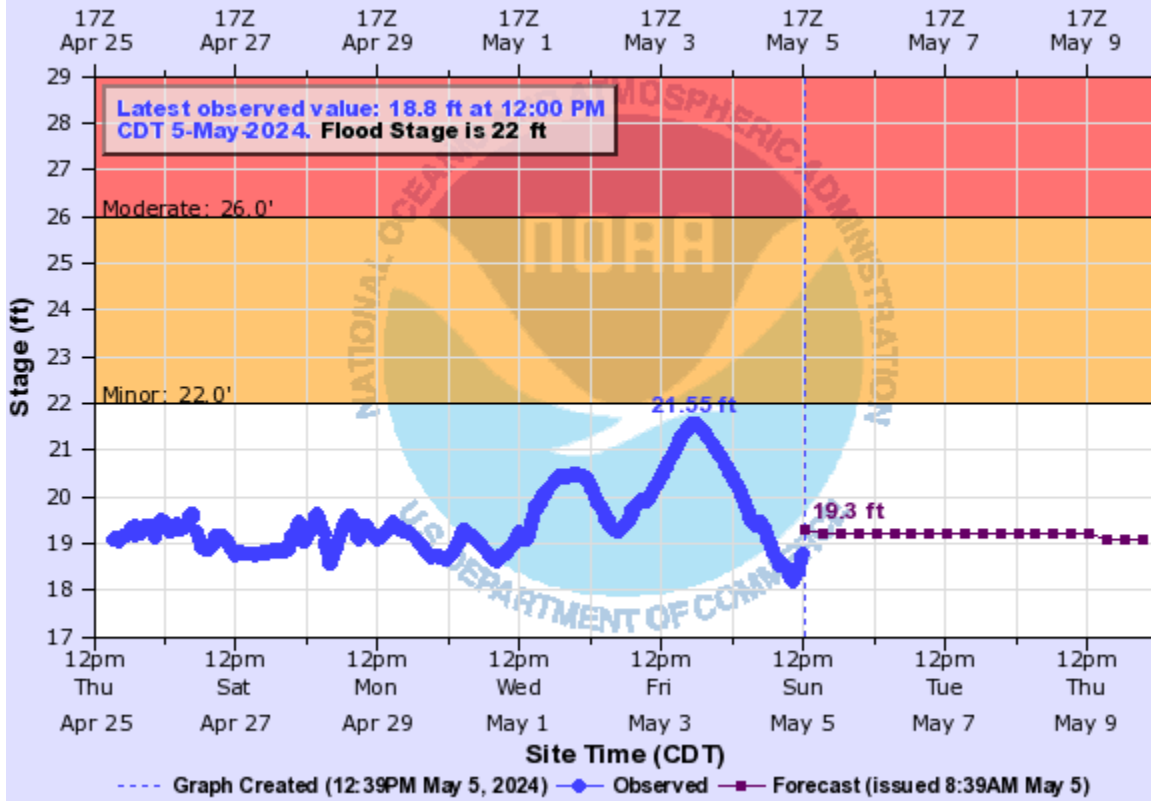


MKGO2(plotting HGIRG) "Gage 0" Datum: 471.67'

Observations courtesy of US Geological Survey

ARKANSAS RIVER AT VAN BUREN

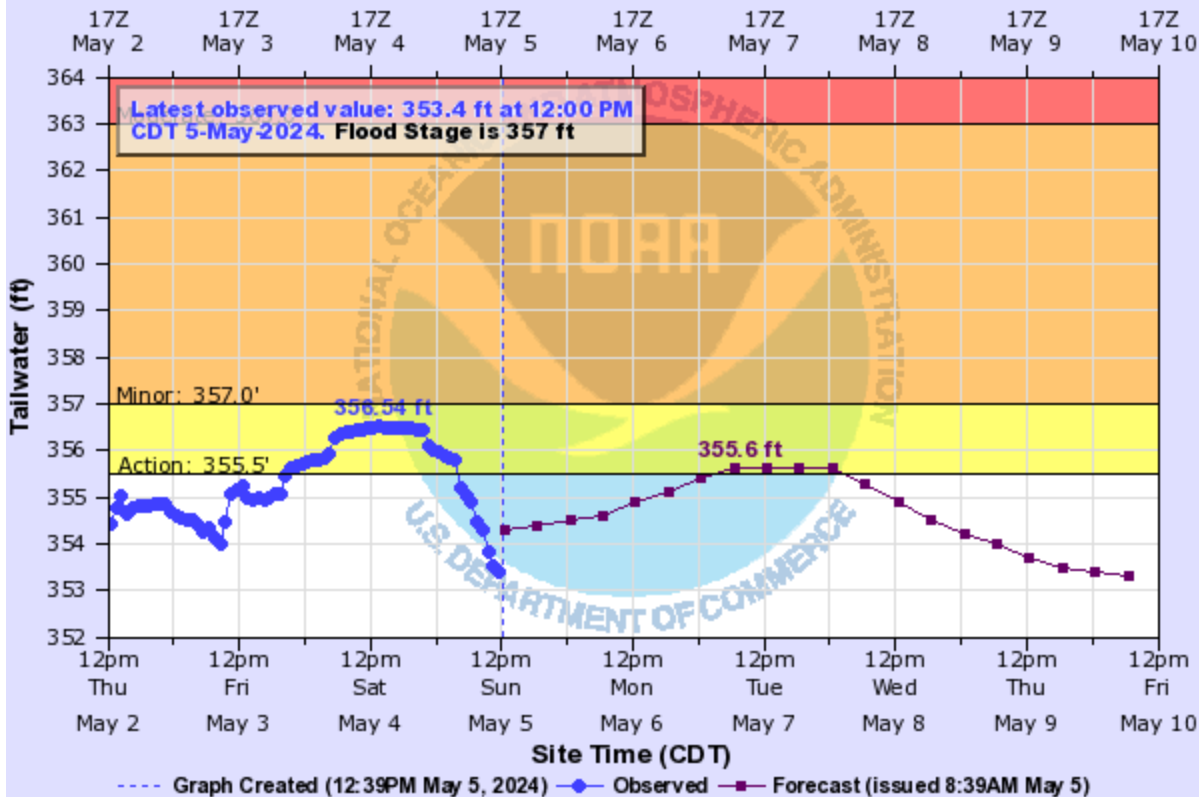
Universal Time (UTC)



VBUA4(plotting HGIRG) "Gage 0" Datum: 372.57'

ARKANSAS RIVER AT OZARK L/D TAILWATER

Universal Time (UTC)

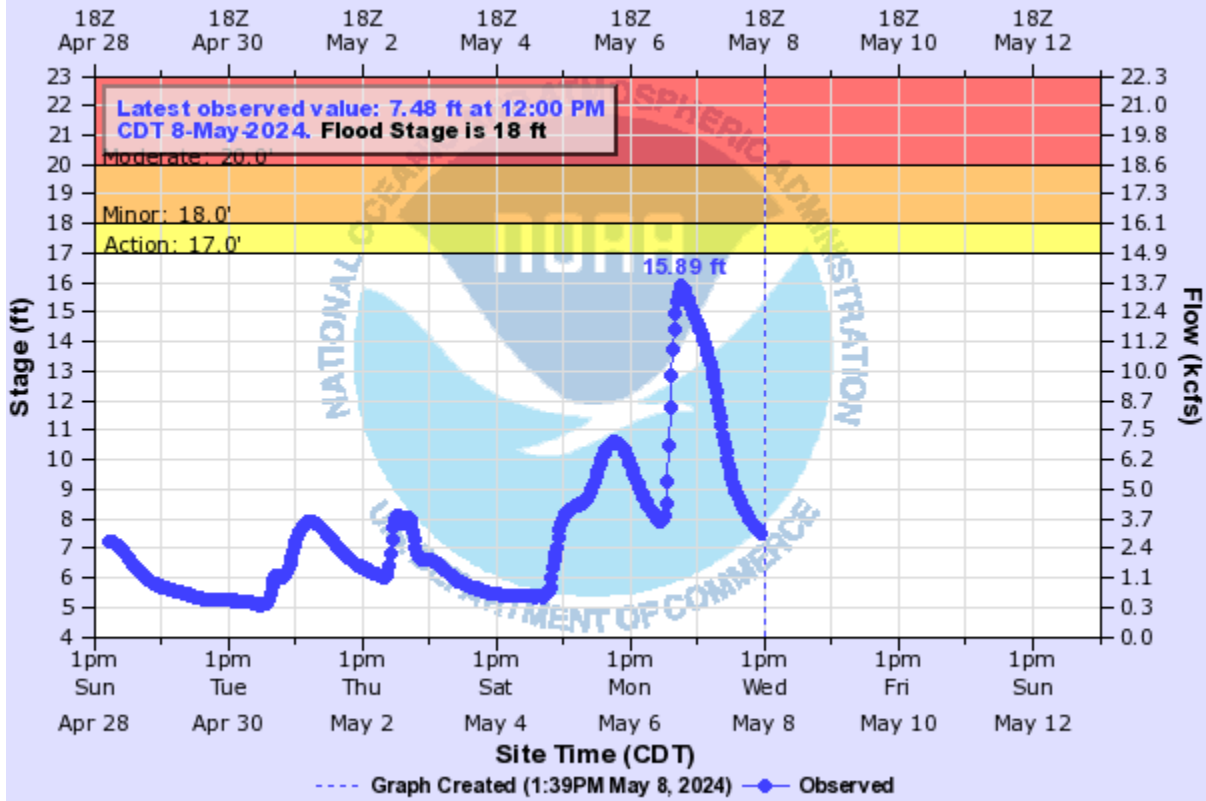


OZGA4(plotting HTIRG) "Gage 0" Datum: 0'

Observations courtesy of US Army Corps of Engineers - LRD

BIRD CREEK NEAR OWASSO

Universal Time (UTC)

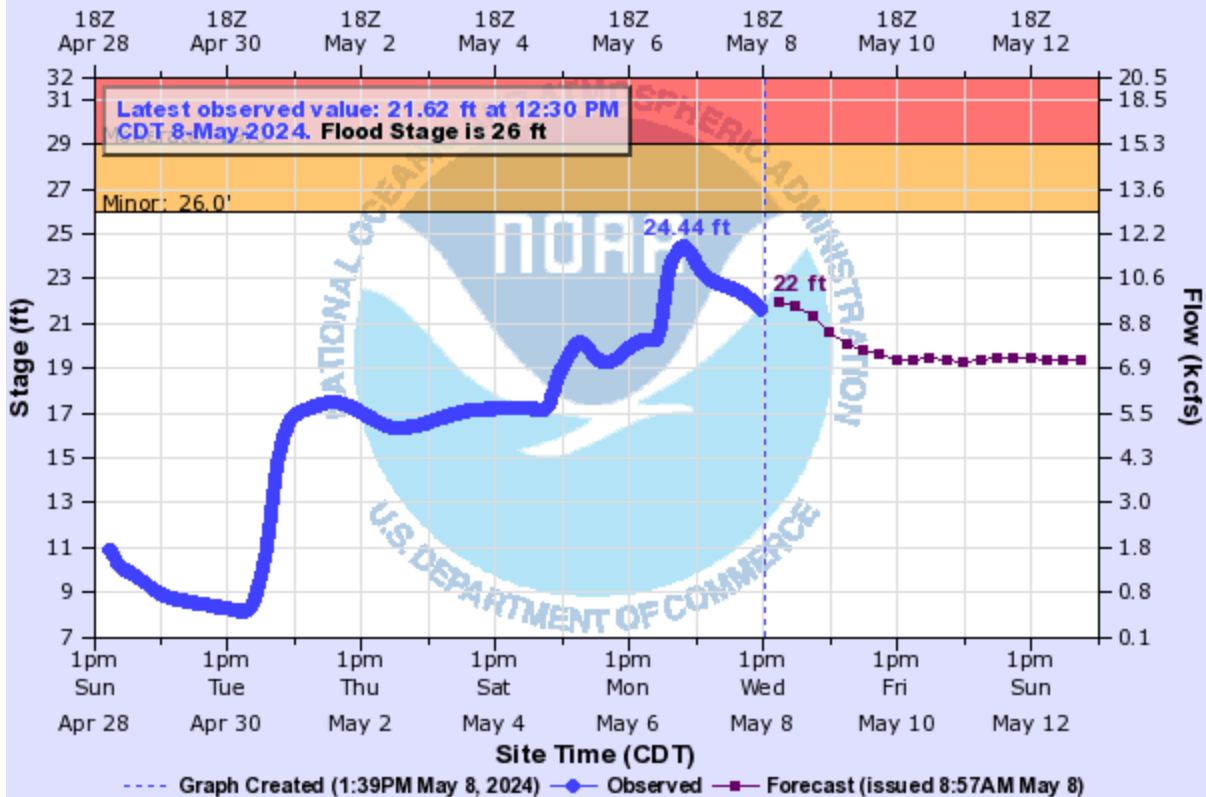


OWSO2(plotting HGIRG) "Gage 0" Datum: 560.64'

Observations courtesy of US Geological Survey

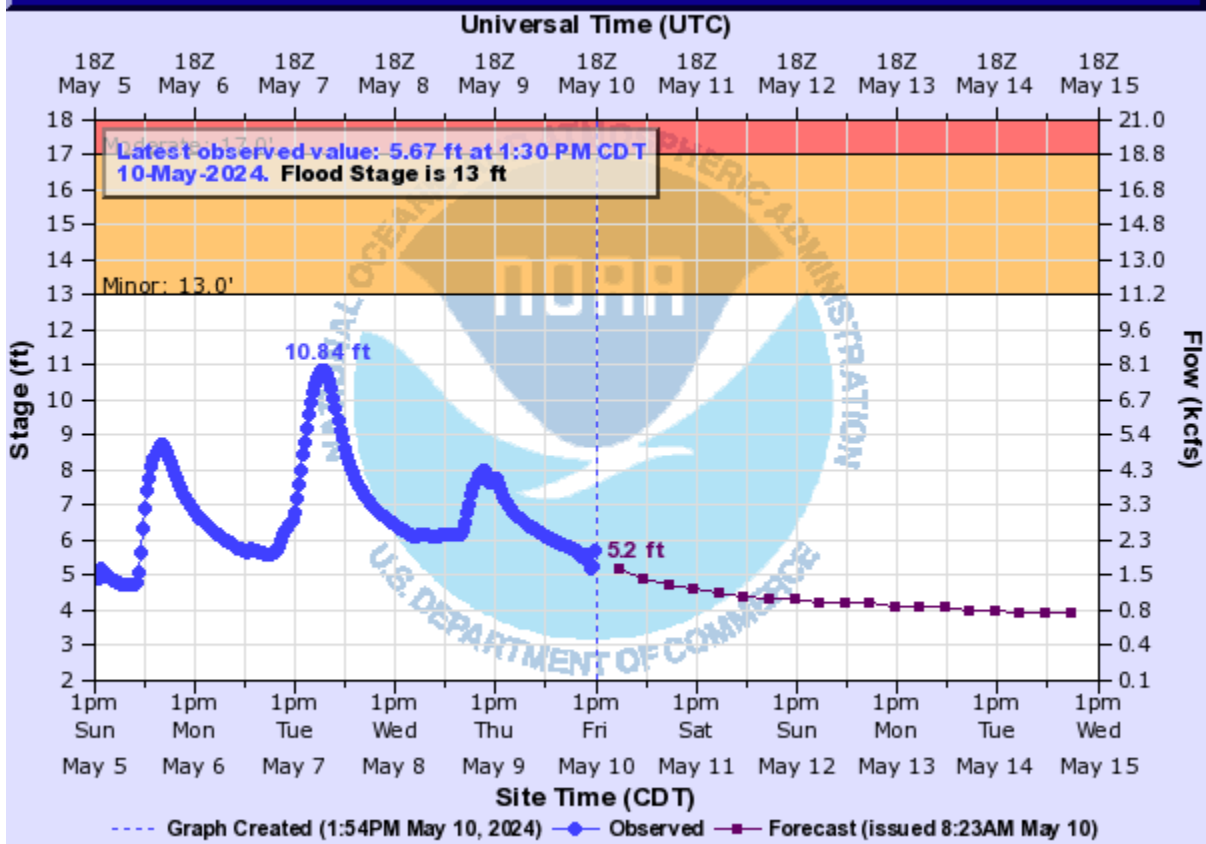
CANEY RIVER NEAR COLLINSVILLE

Universal Time (UTC)



CVLO2(plotting HGIRG) "Gage 0" Datum: 565.72'

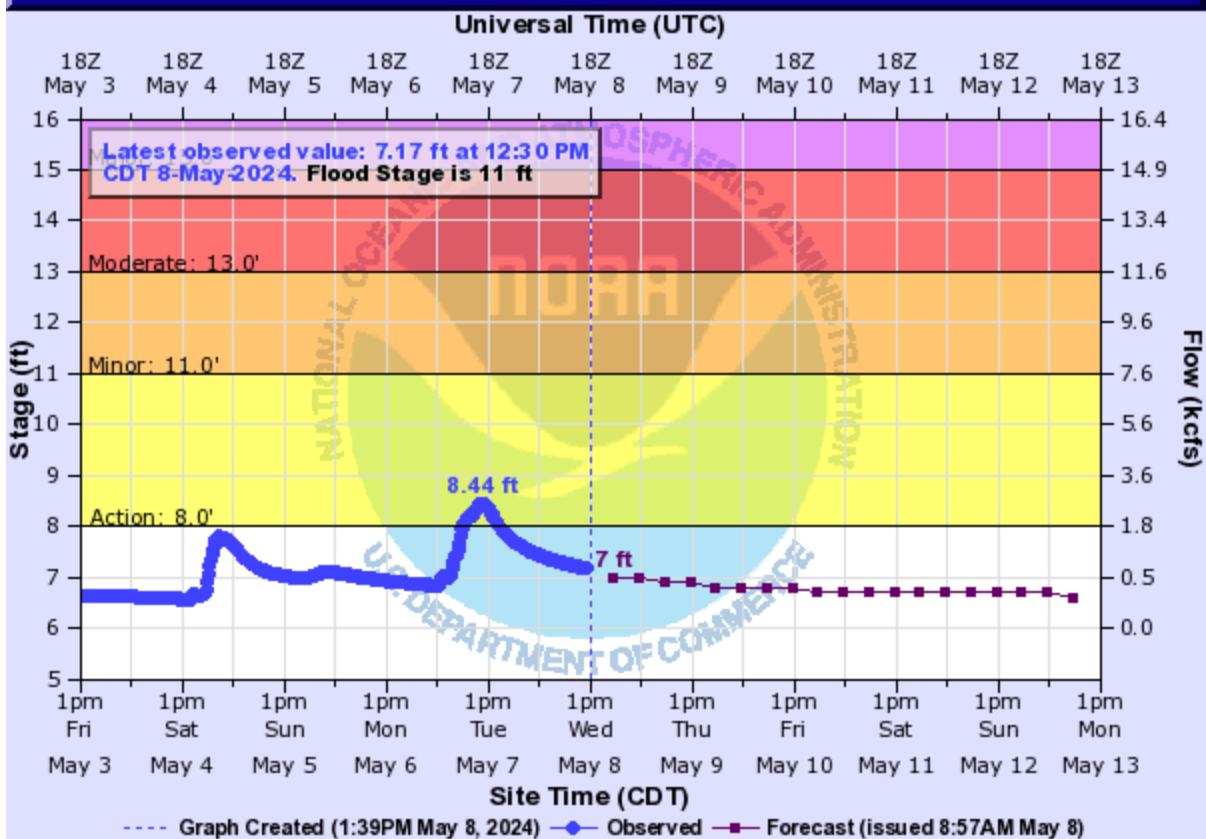
ILLINOIS RIVER (AR OK) NEAR WATTS



WT02(plotting HGIRG) "Gage 0" Datum: 894.01'

Observations courtesy of US Geological Survey

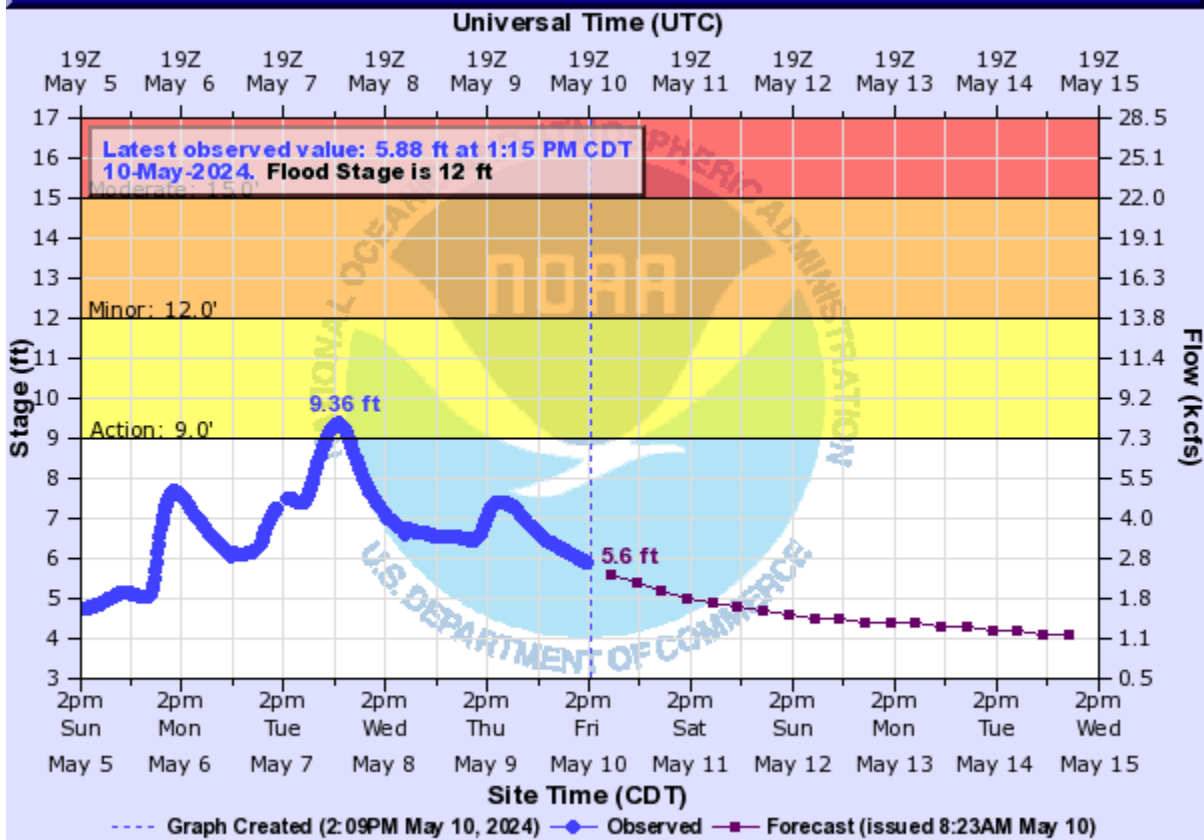
FLINT CREEK (OK) NEAR KANSAS



KNSO2(plotting HGIRG) "Gage 0" Datum: 854.98'

Observations courtesy of US Geological Survey

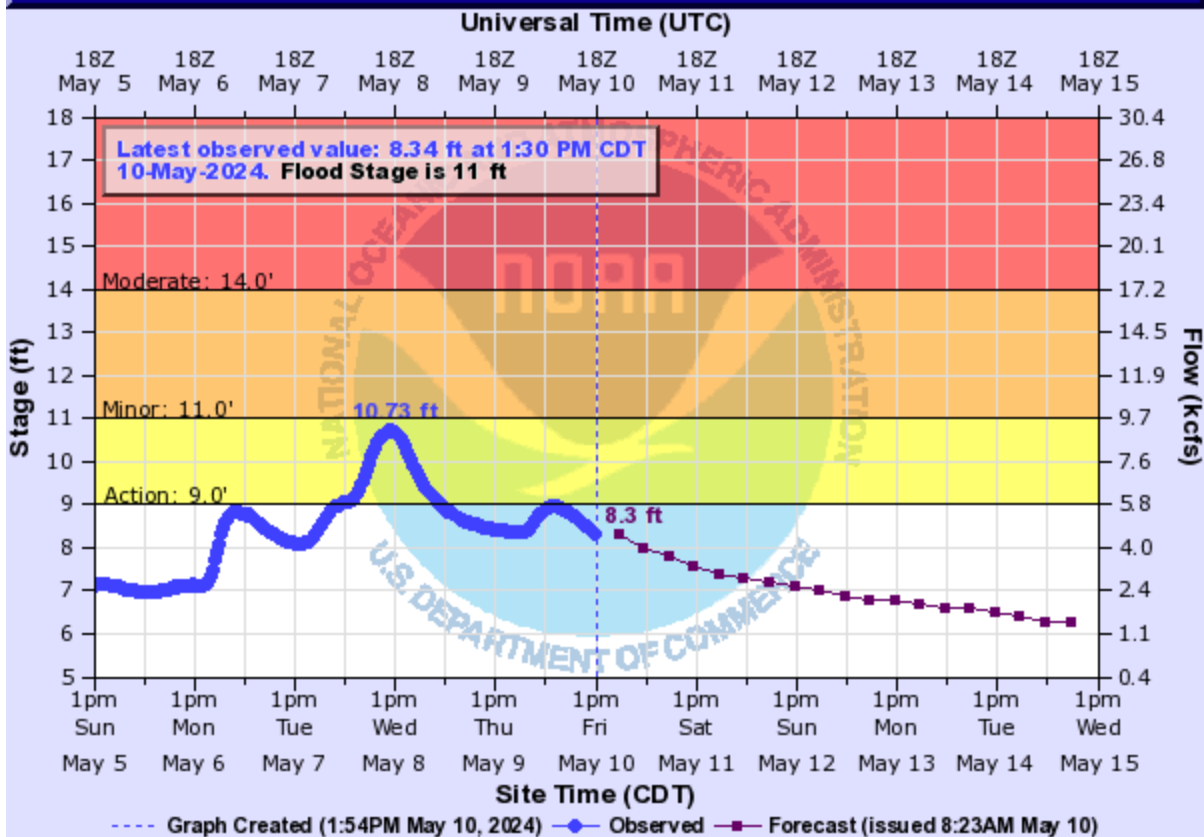
ILLINOIS RIVER (AR OK) AT CHEWEY



CWY02(plotting HGIRG) "Gage 0" Datum: 800.91'

Observations courtesy of US Geological Survey

ILLINOIS RIVER (AR OK) NEAR TAHLEQUAH

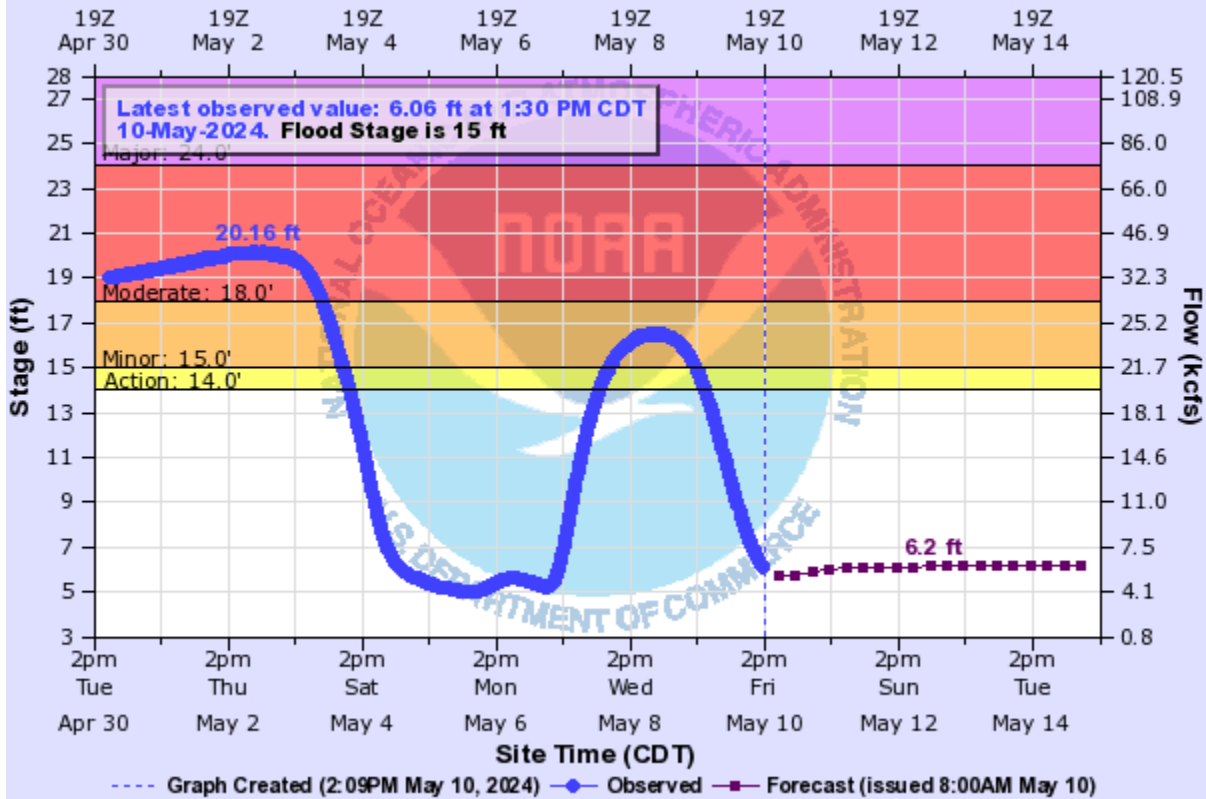


TAL02(plotting HGIRG) "Gage 0" Datum: 665.08'

Observations courtesy of US Geological Survey

NEOSHO RIVER NEAR COMMERCE

Universal Time (UTC)

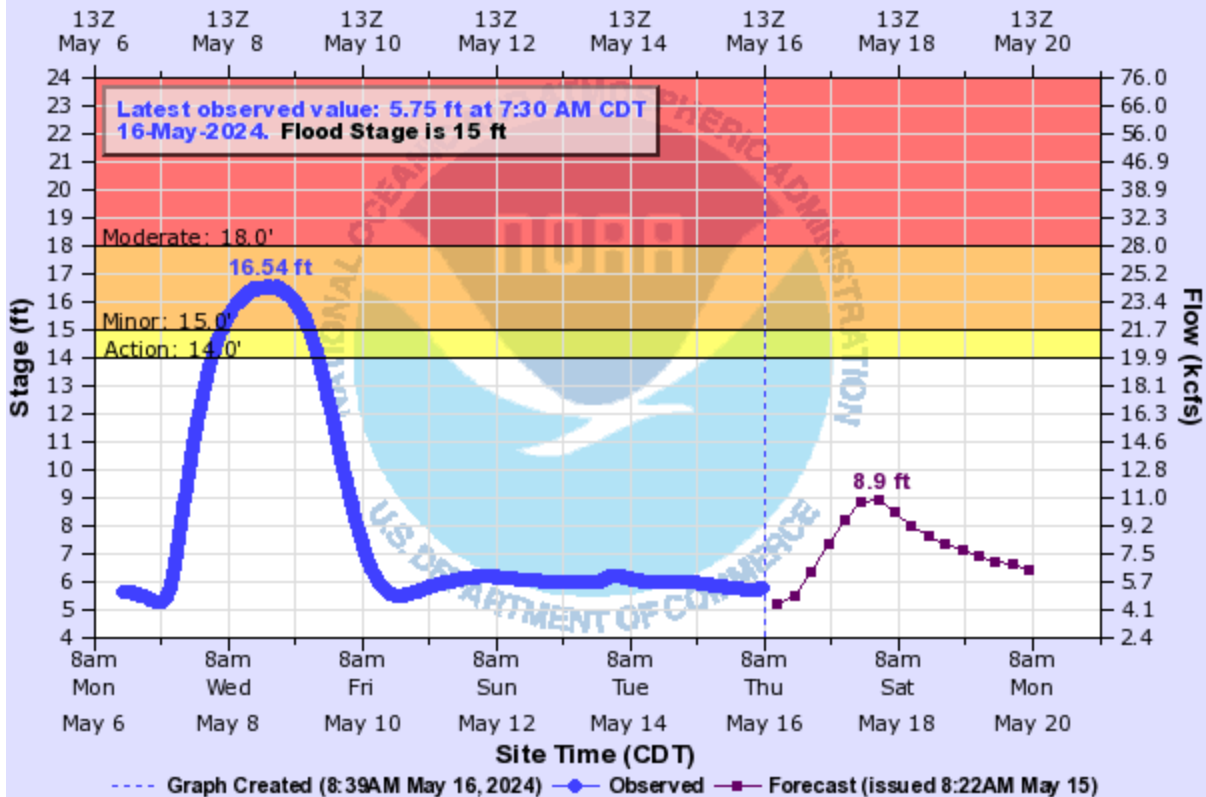


COMO2(plotting HGIRG) "Gage 0" Datum: 749.1'

Observations courtesy of US Geological Survey

NEOSHO RIVER NEAR COMMERCE

Universal Time (UTC)

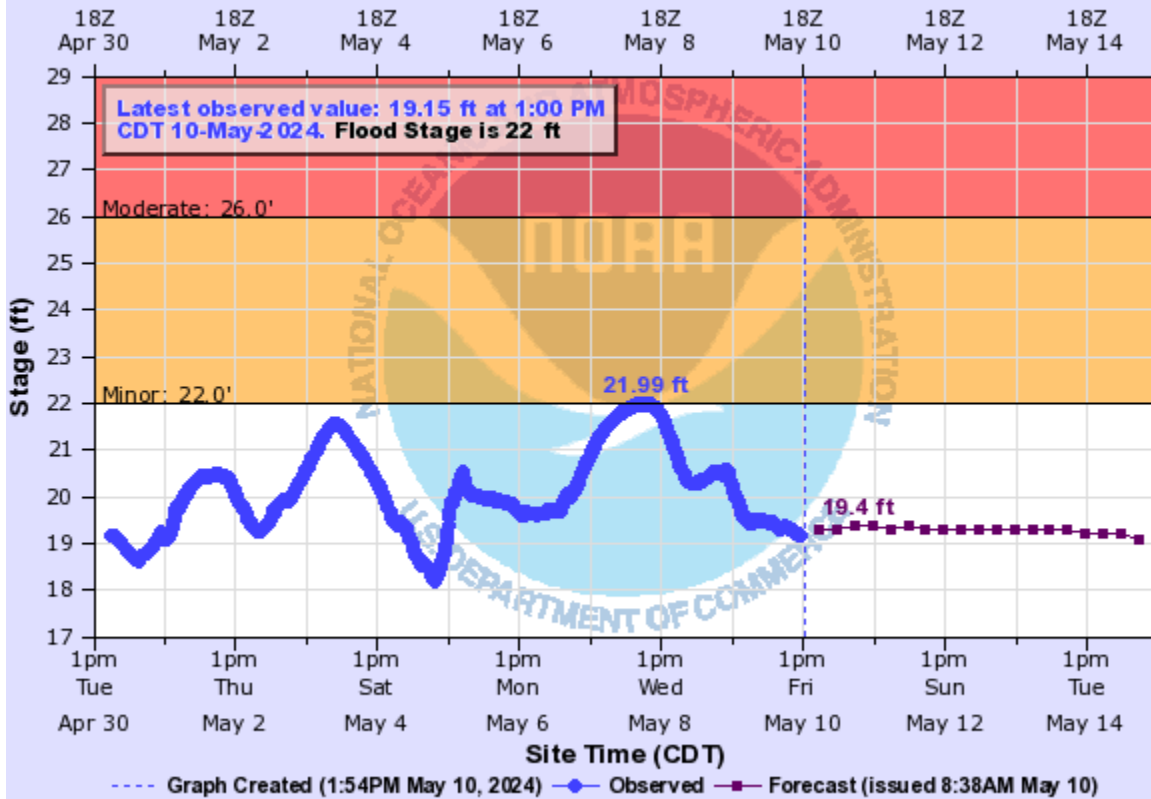


COMO2(plotting HGIRG) "Gage 0" Datum: 749.1'

Observations courtesy of US Geological Survey

ARKANSAS RIVER AT VAN BUREN

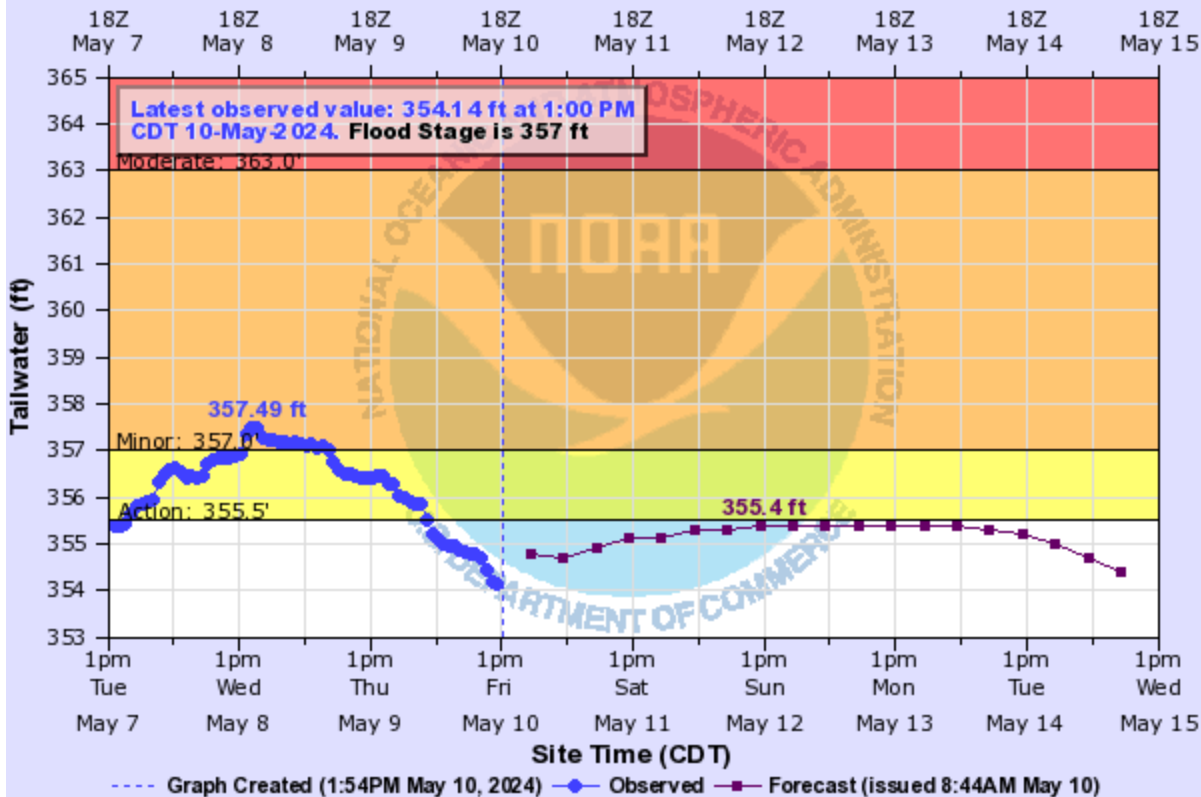
Universal Time (UTC)



VBUA4(plotting HGIRG) "Gage 0" Datum: 372.57'

ARKANSAS RIVER AT OZARK L/D TAILWATER

Universal Time (UTC)



OZGA4(plotting HTIRG) "Gage 0" Datum: 0'

Observations courtesy of US Army Corps of Engineers - LRD