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
MONTHLY REPORT OF RIVER AND FLOOD CONDITIONS	HYDROLOGIC SERVICE AREA (HSA): **Tulsa, Oklahoma (TSA)** REPORT FOR: MONTH **May** YEAR **2019**
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 28, 2019**

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.**

Very heavy rainfall in northern OK/southern KS, in excess of 15", resulted in Major and Record flooding for numerous rivers this month. There were 31 crests above the Major flood category at 17 river forecast points in the NWS Tulsa HSA. Three of these points, the Arkansas River near Ponca City, the Arkansas River at Van Buren, and Bird Creek at Avant, exceeded their record stages. Numerous river forecast points were above flood stage for a week or more, with a handful remaining above flood stage for more than 2 weeks. Three different flood events during the 37-day period from May 1-June 6 along the Neosho River resulted in the forecast point near Commerce being above flood stage for a total of 28 days and approximately 9 hours. In total, 29 of the 34 river forecast points in the NWS Tulsa HSA exceeded flood stage during May 2019. The confluence of three large river basins, the Upper Arkansas, Verdigris, and Neosho basins, all of which received the heaviest rainfall this month, occurs near Muskogee, OK, where very severe flooding occurred as the three rivers merged into the Arkansas River. The major flooding then continued downstream along the Arkansas River through east central Oklahoma and west central Arkansas, despite the lower rainfall totals directly over this region. Backwater flooding also occurred along the tributaries of the larger rivers. Based on information from the U.S. Army Corps of Engineers (USACE) Tulsa District, 11 reservoirs in the Arkansas, Verdigris, and Neosho River basins set new record pool levels, 6 of which are within the NWS Tulsa HSA. In addition to the significant flood event, a record number of tornadoes occurred in the NWS Tulsa area this month. 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 http://www.weather.gov/tsa/hydro-monthly-summary.

Monthly Summary

Using the radar-derived estimated observed precipitation from the RFCs (Fig. 1a, c, d), rainfall totals for May 2019 ranged from 3" to 25" across eastern OK and northwest AR. A rainfall minimum stretched from Pittsburg County to Carroll County, where 3"-6" of rain fell. To the southeast of this corridor, rainfall totals were widespread 6" to around 10", while northeast of this corridor, rainfall was a widespread 8"-20" with isolated pockets of 20"-25". These rainfall totals correspond to 200%-400% of the normal May rainfall across northeast OK, along and northwest of I-44. Southeast of a McAlester to Springdale line, the rainfall totals correspond to 75% to around 150% of the normal May rainfall (Fig. 1b).

The NWS Hydrometeorological Design Studies Center (HDSC) analysis shows that the Annual Exceedance Probability for the 30-day rainfall total (https://www.nws.noaa.gov/oh/hdsc/aep_storm_analysis/) between April 29 and May 30, 2019 was 1/200 to 1/1000 for parts of the NWS HSA (in other words: 0.5% to 0.1% annual chance of occurrence, or between a 200-yr and 1000-yr rainfall event; Fig. 2). A portion of south central Kansas had <1/1000 annual exceedance probability (<0.1%, or greater than a 1000-year rainfall event)! This rare rainfall event occurred in the upper Arkansas, Verdigris, and Neosho River basins and ultimately resulted in major flooding along area rivers. (Note: rainfall recurrence intervals do not equal flood recurrence intervals – i.e. a 100-year rainfall event does not equal a 100-year flood event).

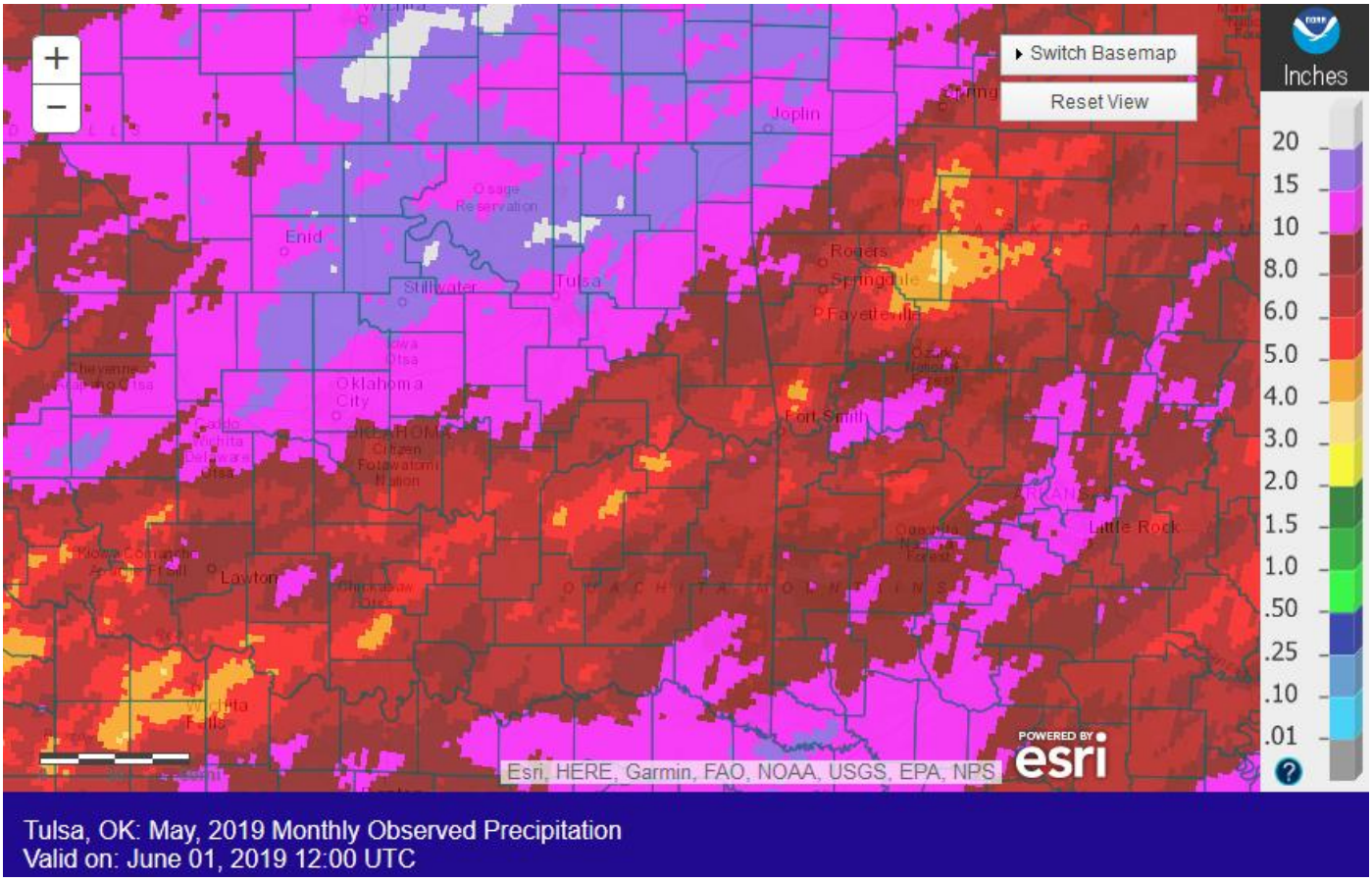


Fig. 1a. Estimated Observed Rainfall for May 2019

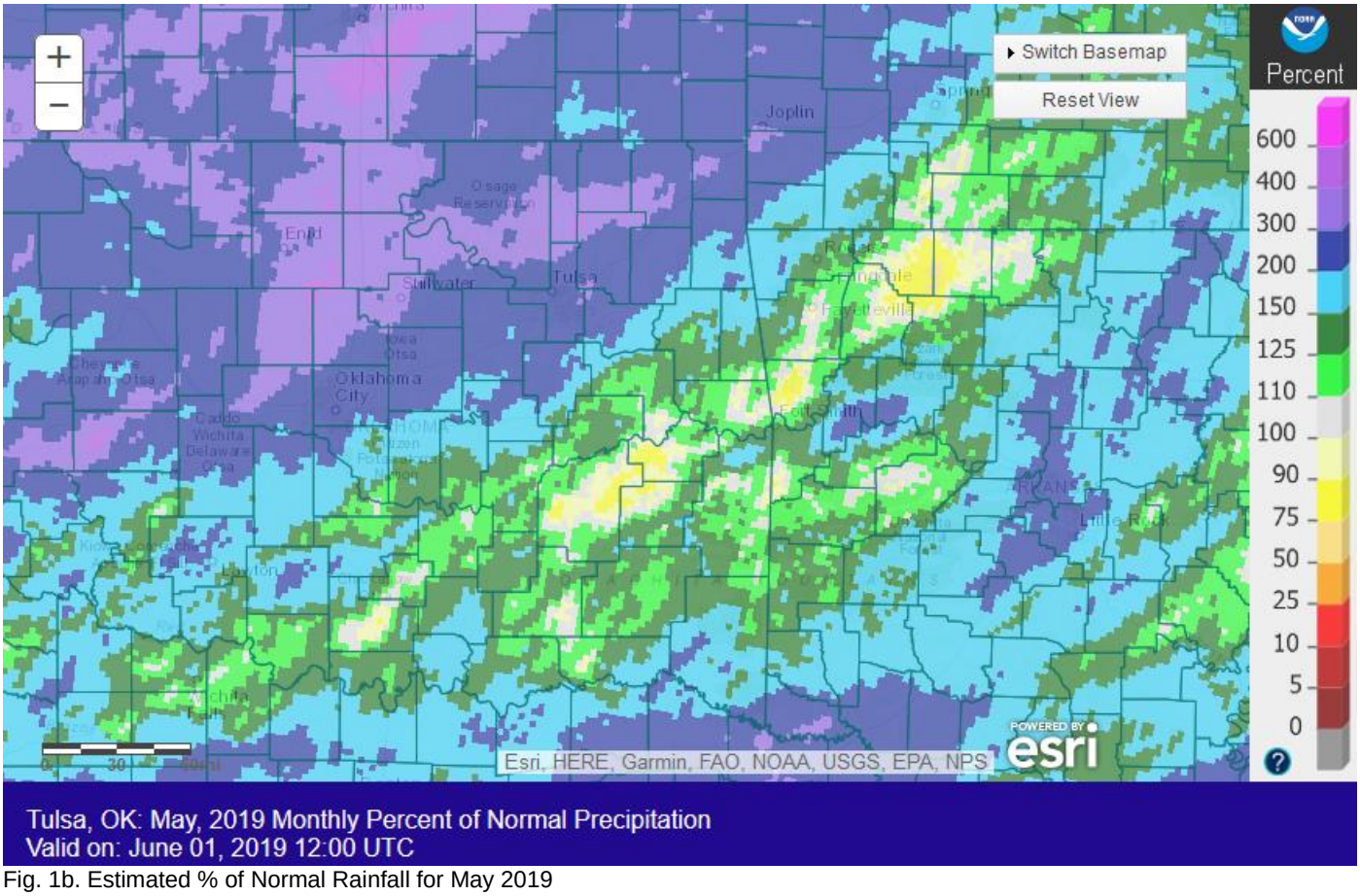


Fig. 1b. Estimated % of Normal Rainfall for May 2019

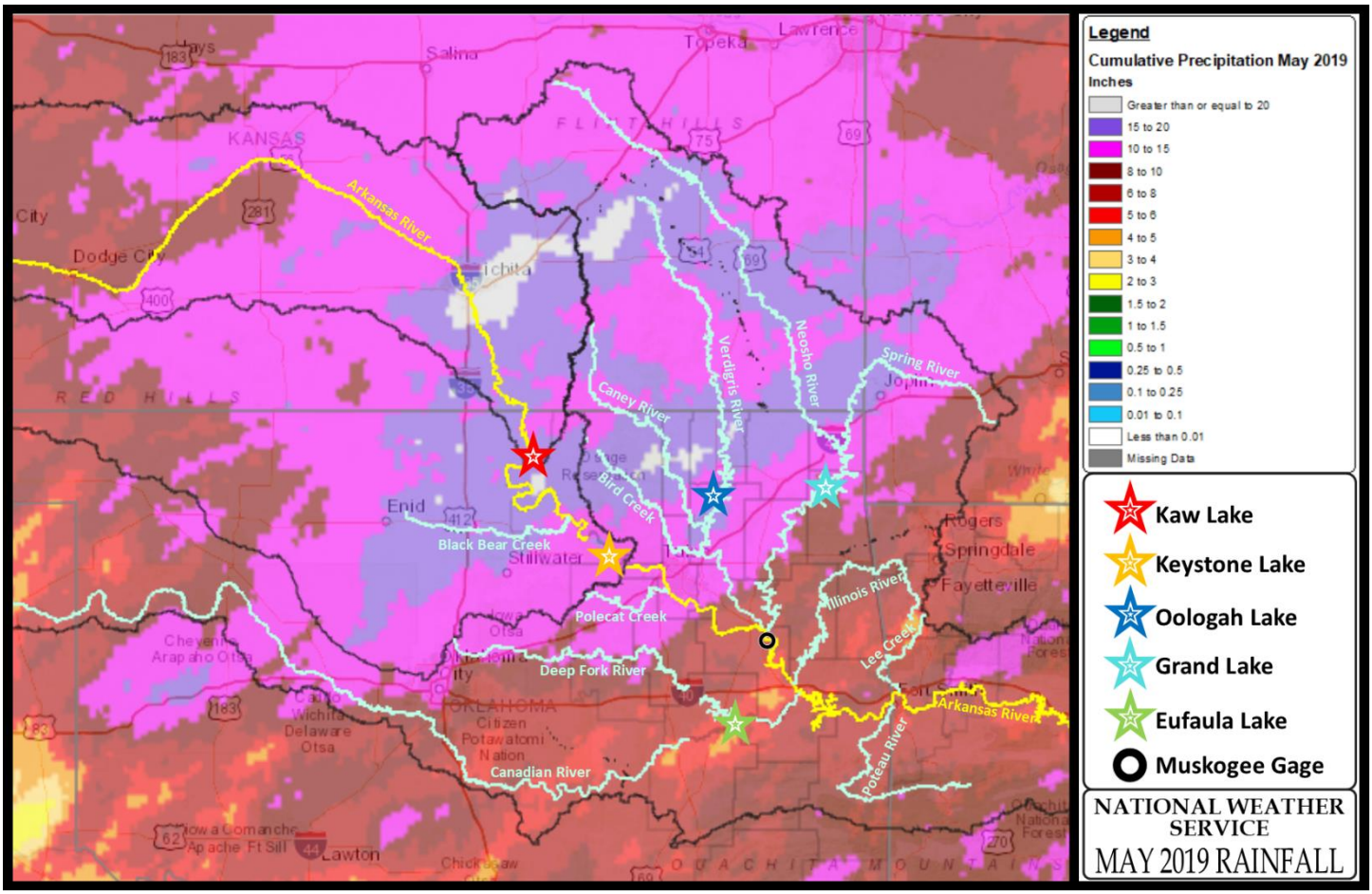


Fig. 1c. May 2019 Rainfall total across the Arkansas River Basin.

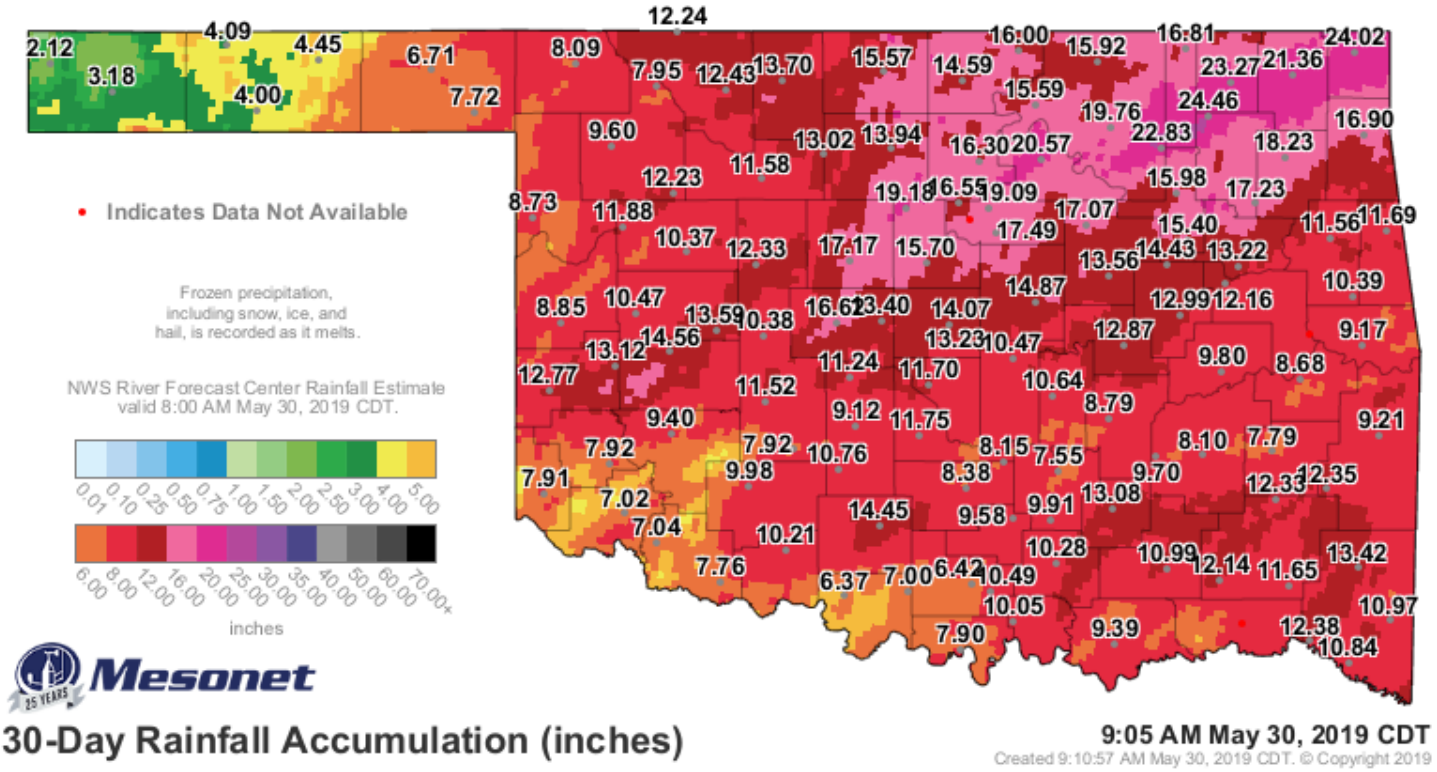


Fig. 1d. OK Mesonet (values) and NWS RFC rainfall estimate (image) 30-day rainfall ending at 9:05 am CDT 05/30/2019.

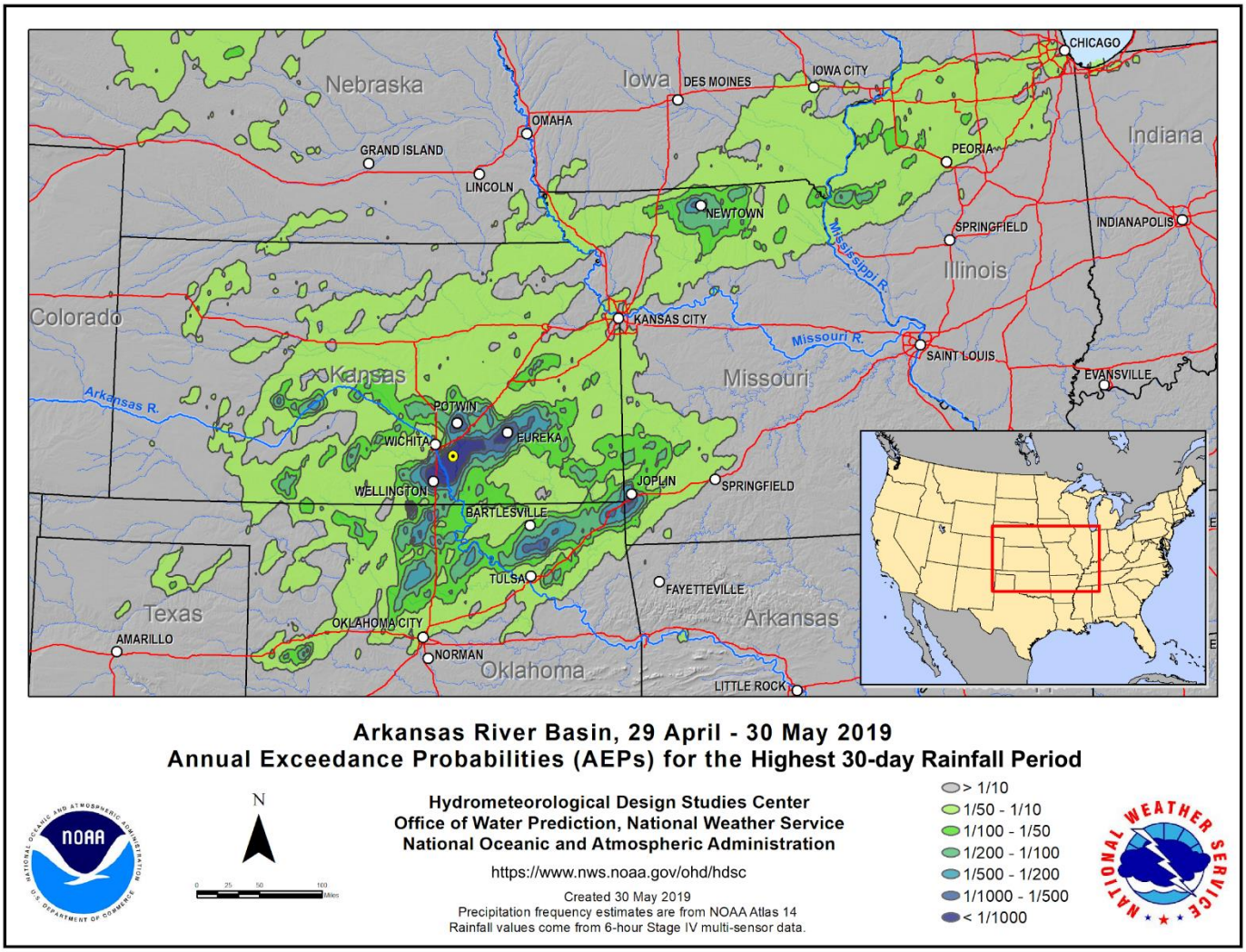


Fig. 2. NWS HDSC Annual Exceedance Probabilities for highest 30-day rainfall period April 29-May 30, 2019.

<u>Tornado statistics for NWS Tulsa area of responsibility - eastern OK and northwest AR only:</u>

- May 2019 had 48 total tornadoes. This sets the record for most tornadoes in the month of May. The previous record was 39 tornadoes in 2010. This also sets the record for most tornadoes of any month. The previous record was 42 tornadoes in April 2011.
- 41 tornadoes during the 7-day period May 18 – 22, 2019. This sets the record for most tornadoes during a 7-day period. The previous record was 35 tornadoes May 10 - 16, 2010.
- 38 tornadoes during the 7-day period of May 20 - 26, 2019. Now the 2nd most tornadoes in a 7-day period.
- 61 tornadoes Jan. 1-May 31, 2019 ranks as 2nd most for the entire year. The record is 77 tornadoes in 2011.
- During a 48-hour period, starting with the first tornado on 20:05 May 20th through 19:52 on the 22nd of May, a total of 28 tornadoes occurred over a period of 47 hours and 47 minutes. This sets the record for tornadoes in a 48-hr period. The previous record was 25 tornadoes on the 14th of April 2011.
- 20 tornadoes occurred on May 22nd over a period of 8 hours and 14 minutes. This is the 4th most tornadoes within a 24-hr period.

(Timing was determined using the start time of the first tornado as the starting time of the time period, and the start time of the last tornado as the ending time of the time period. More info at: https://arcg.is/1X8eW1)

In Tulsa, OK, May 2019 ranked as the 52nd warmest May (69.2°F, tied 2005, 1989, 1938; since records began in 1905) and the 3rd wettest May (12.99"; since records began in 1888). Fort Smith, AR had the 34th warmest May (71.4°F, tied 1937, 1922, 1921; since records began in 1883) and the 20th wettest May (8.01"; since records began in 1883). Fayetteville, AR had the 22nd warmest (66.9°F) and the 26th wettest (6.56") May since records began in 1950.

Some of the larger precipitation reports (in inches) for May 2019 included (coop/cocorahs values are after 7am CDT May 1; mesonet/ASOS values are after 1am CDT May 1; heavy rain was occurring through the night of April 30 into the morning of May 1):

Talala 0.5W, OK (coco)	24.69	Pawnee, OK (coop)	22.52	Wyandotte 7.3NE, OK (coco)	21.92
Ochelata 5.6N, OK (coco)	21.89	Vinita 5.0 WNW, OK (coco)	21.87	Catoosa 8.1E, OK (coco)	21.47
Spavinaw, OK (coop)	20.23	Broken Arrow 3.0 NNW, OK (coco)	20.05	Claremore 2ENE, OK (coop)	19.96
Sperry 6.7 WNW, OK (coco)	19.63	Talala, OK (meso)	19.60	Pryor 6.9 ESE, OK (coco)	19.52
Broken Arrow 4.6 NNW, OK (coco)	19.21	Pawnee, OK (meso)	19.07	Terlton 3.7 ESE, OK (coco)	19.03
Tulsa 12.2 SE, OK (coco)	19.02	Ralston, OK (coop)	19.01	Skiatook, OK (meso)	18.96

Some of the lowest precipitation reports (in inches) for May 2019 included (see caveats above):

McAlester, OK (ASOS)	6.13	Fayetteville Drake Field, OK(ASOS)	6.56	Wilburton, OK (meso)	6.80
Stigler, OK (meso)	6.92	Muskogee, OK (ASOS)	7.05	Sallisaw, OK (meso)	7.33
Fort Smith, AR (ASOS)	8.01	Wister, OK (meso)	8.19	Eufaula, OK (meso)	8.39

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

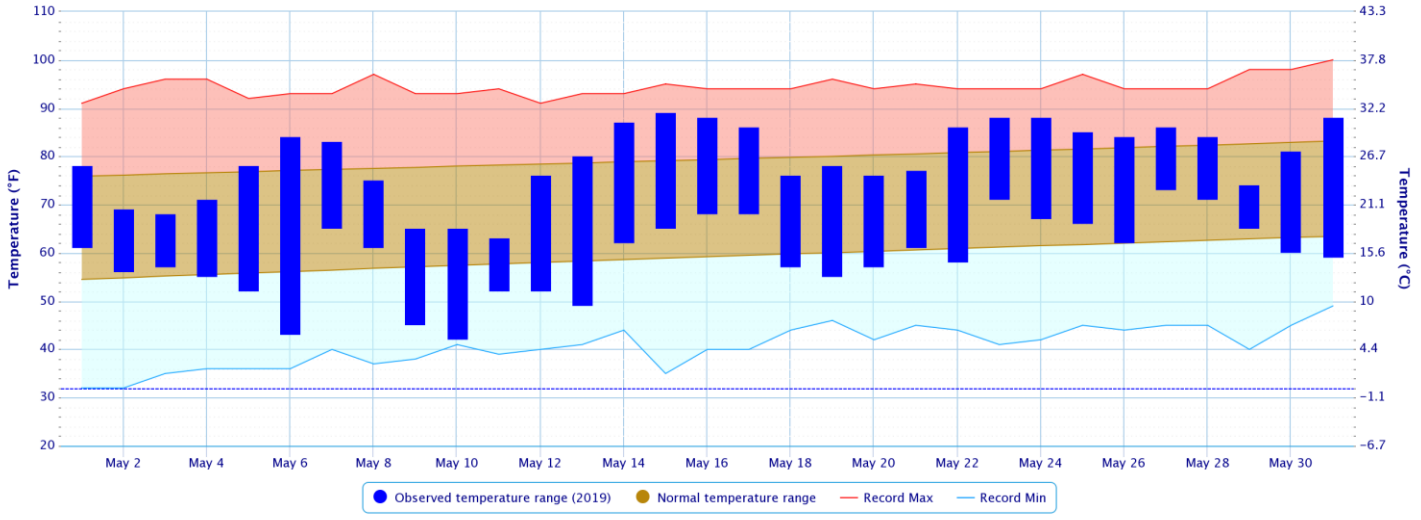
Rank since 1921	30 Days May 1-30 2019	Last 60 Days (Apr 2 – May 31)	Spring 2019 (Mar 1 – May 31)	Year-to-Date (Jan 1 – May 31)	Last 180 Days (Dec 3 – May 31)	Water Year-to-Date (Oct 1 – May 31)	Last 365 Days (Jun 1, 2018– May 31, 2019)
Northeast OK	**2nd wettest**	**1st wettest**	**2nd wettest**	**1st wettest**	**1st wettest**	**2nd wettest**	**7th wettest**
East Central OK	12th wettest	**8th wettest**	14th wettest	**9th wettest**	**8th wettest**	11th wettest	13th wettest
Southeast OK	**10th wettest**	11th wettest	17th wettest	16th wettest	**10th wettest**	**9th wettest**	**6th wettest**
Statewide	**2nd wettest**	**3rd wettest**	**4th wettest**	**4th wettest**	**4th wettest**	**1st wettest**	**2nd wettest**

Spring (March-April-May) 2019

In Tulsa, OK, Spring (March-April-May) 2019 ranked as the 54th coldest Spring (59.9°F, tied 1988; since records began in 1905) and the 4th wettest Spring (22.13"; since records began in 1888). Fort Smith, AR had the 52nd warmest Spring (61.7°F, tied 1989, 1959, 1934, 1899; since records began in 1883) and the 22nd wettest Spring (17.58"; since records began in 1883). Fayetteville, AR had the 33rd coldest (56.7°F, tied 1962) and the 22nd wettest (15.99") Spring since records began in 1950.

Daily Temperature Data – Tulsa Area, OK (ThreadEx)

Period of Record – 1905-01-06 to 2019-06-04. Normals period: 1981-2010. Click and drag to zoom chart.



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Daily Temperature Data – Tulsa Area, OK (ThreadEx)

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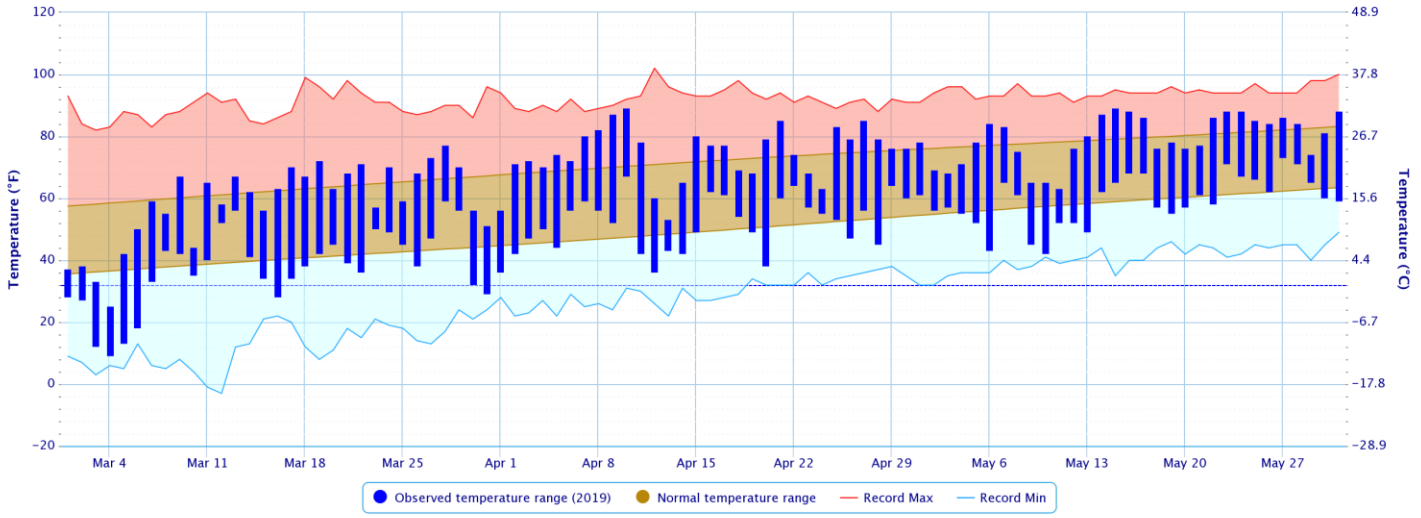

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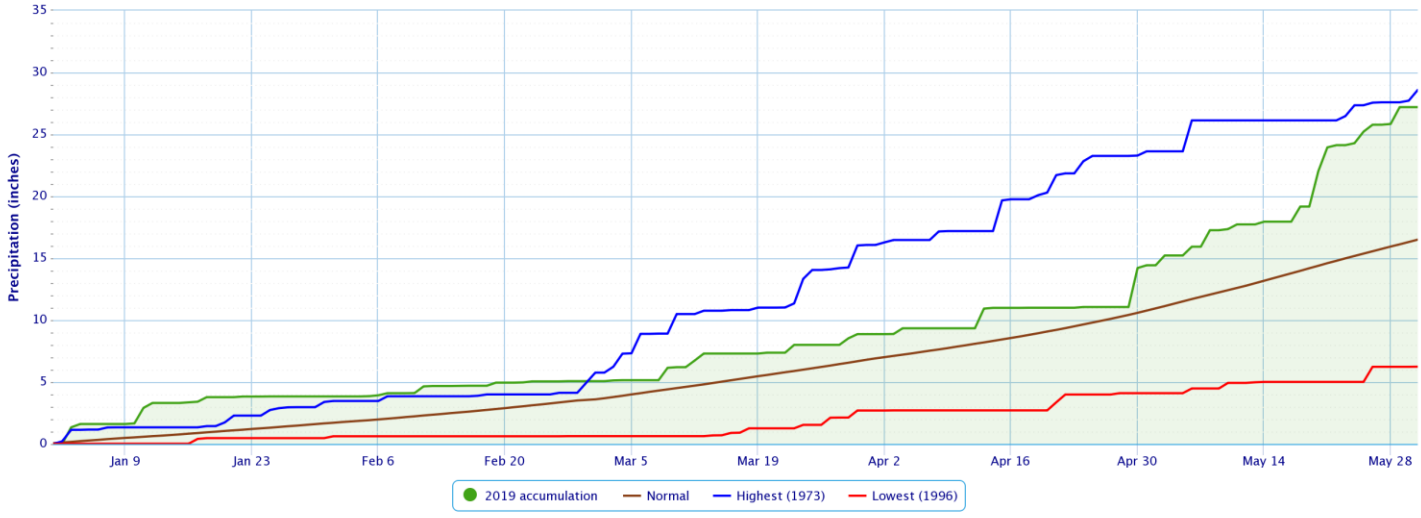
Accumulated Precipitation – Tulsa Area, OK (ThreadEx)

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)

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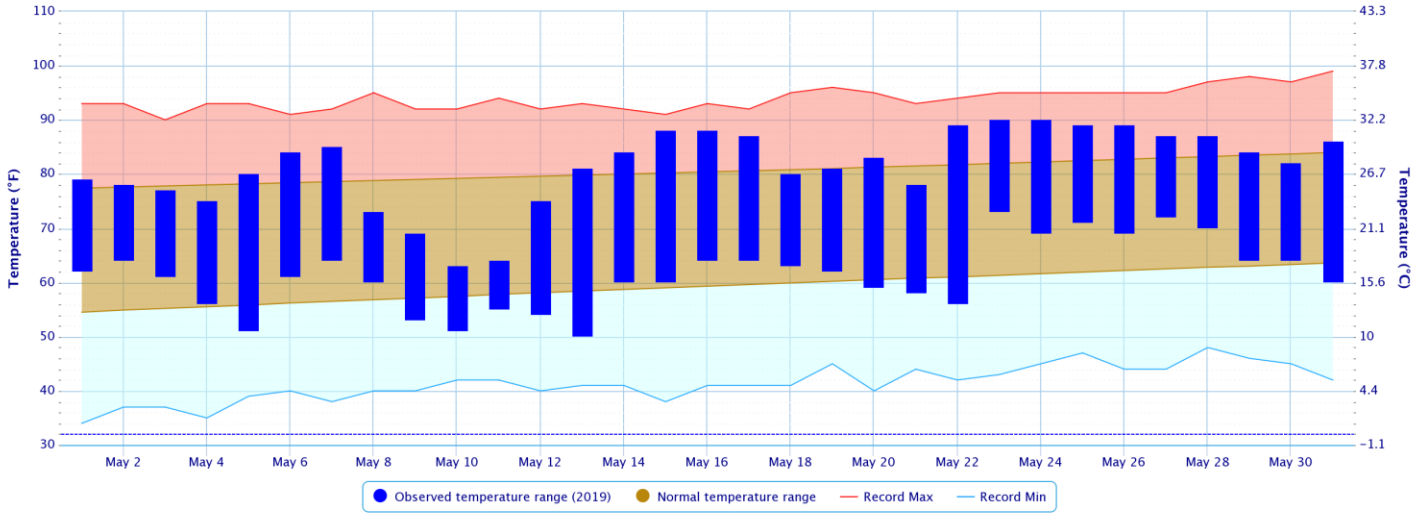

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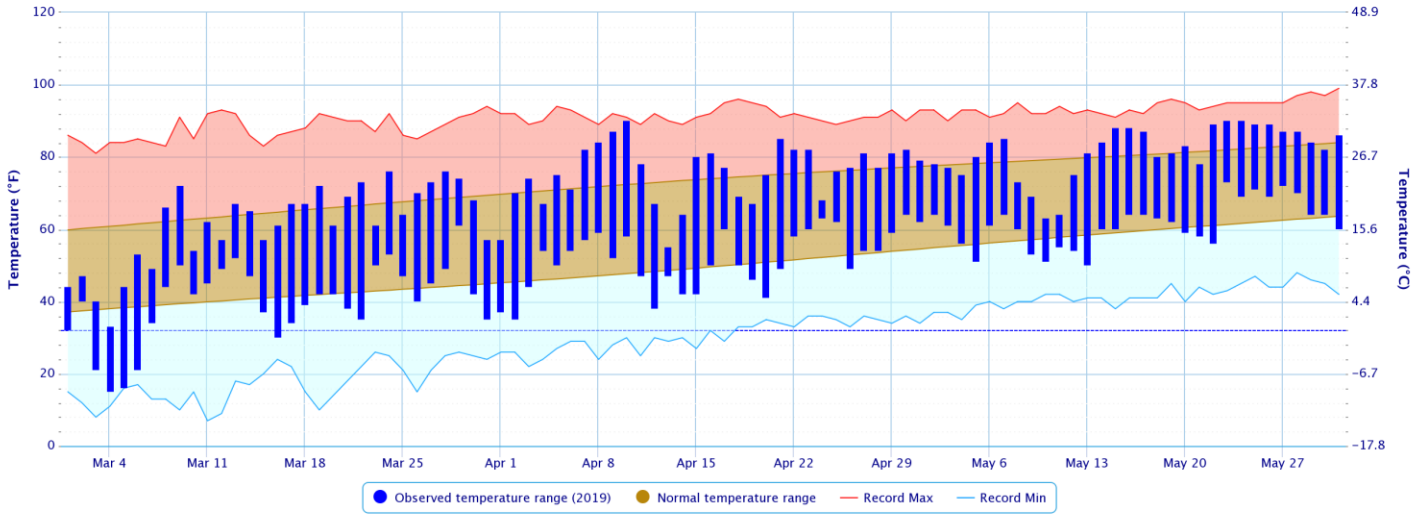
Daily Temperature Data – Fort Smith Area, AR (ThreadEx)

Period of Record – 1882-06-01 to 2019-06-04. Normals period: 1981-2010. Click and drag to zoom chart.



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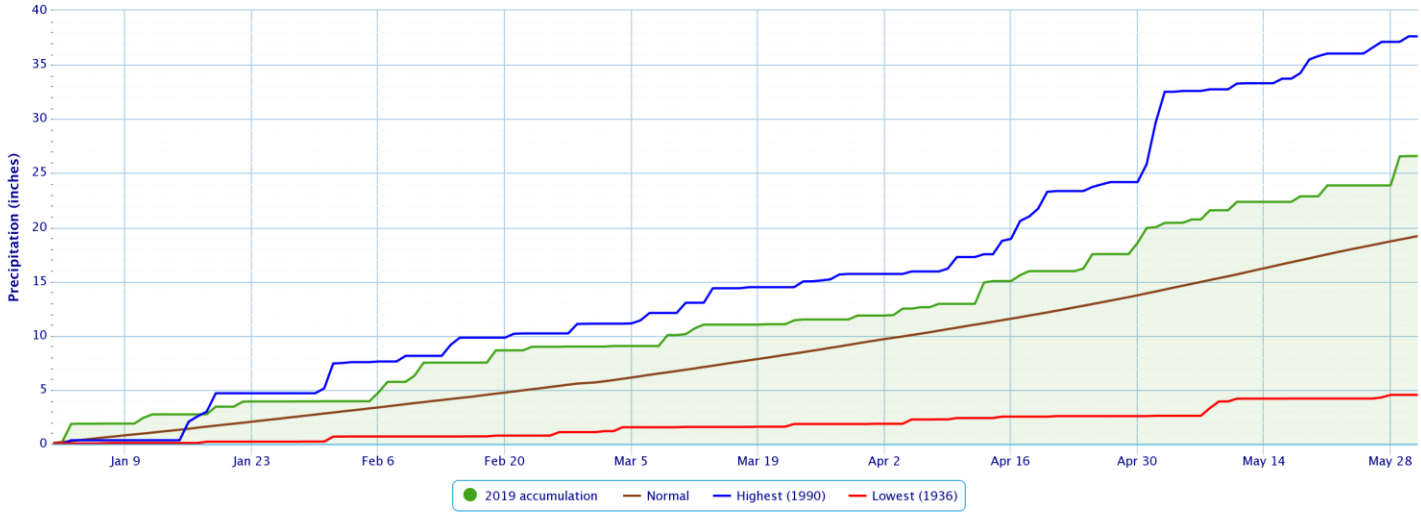
Accumulated Precipitation – Fort Smith Area, AR (ThreadEx)

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



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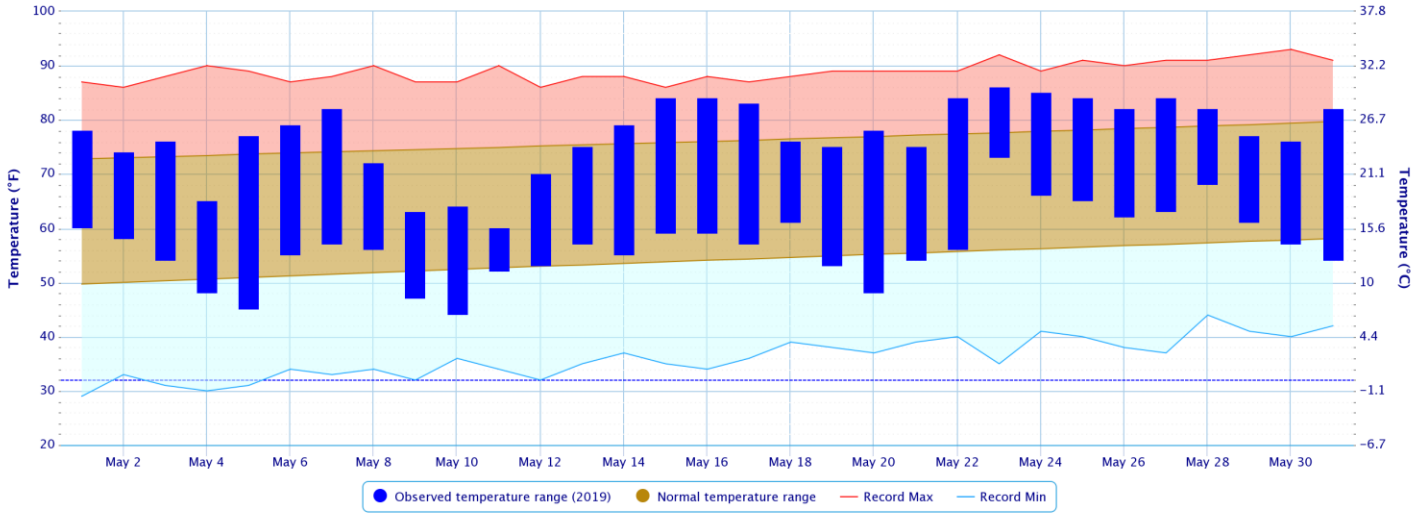
Daily Temperature Data – FAYETTEVILLE DRAKE FIELD, AR

Period of Record – 1949-07-14 to 2019-06-04. Normals period: 1981-2010. Click and drag to zoom chart.



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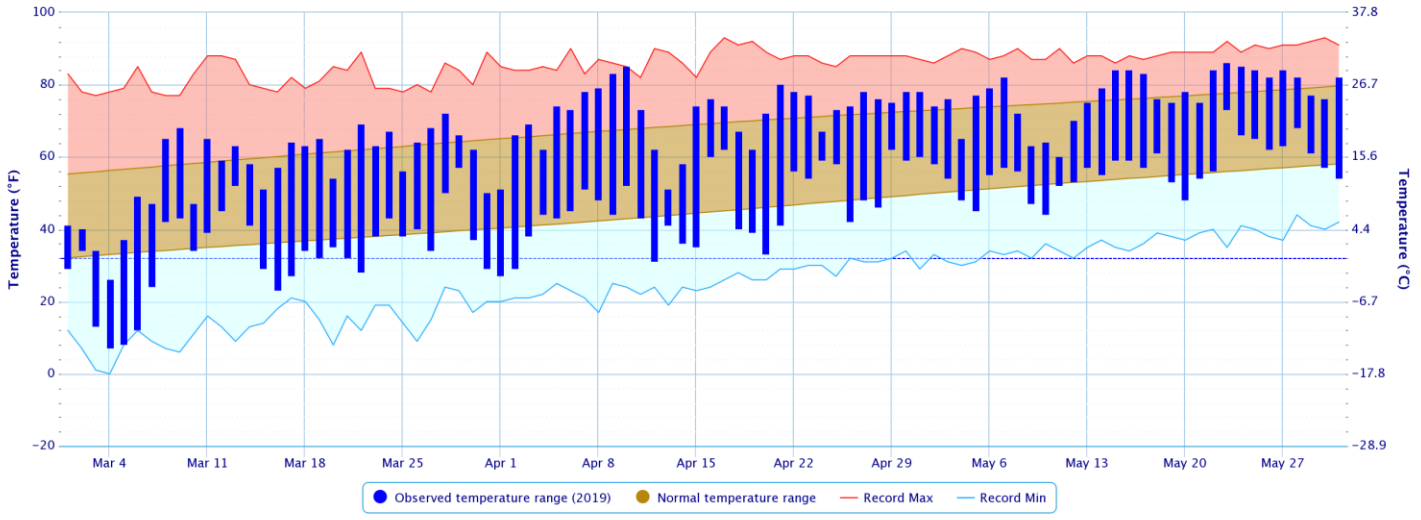
Daily Temperature Data – FAYETTEVILLE DRAKE FIELD, AR

Period of Record – 1949-07-14 to 2019-06-04. Normals period: 1981-2010. Click and drag to zoom chart.



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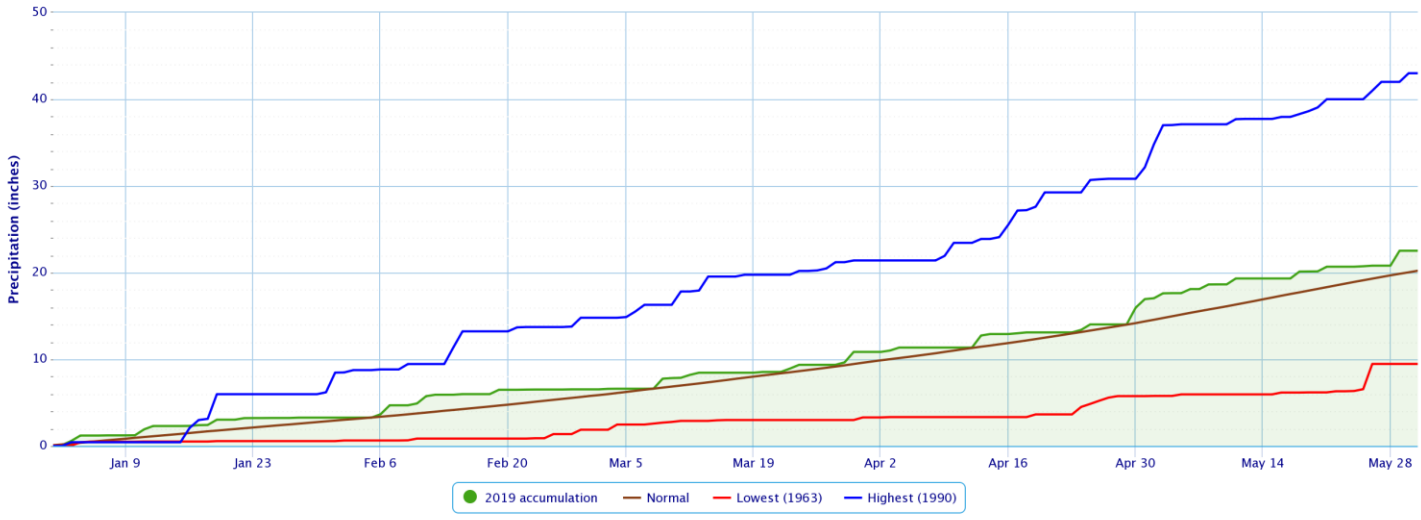
Accumulated Precipitation – FAYETTEVILLE DRAKE FIELD, AR

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



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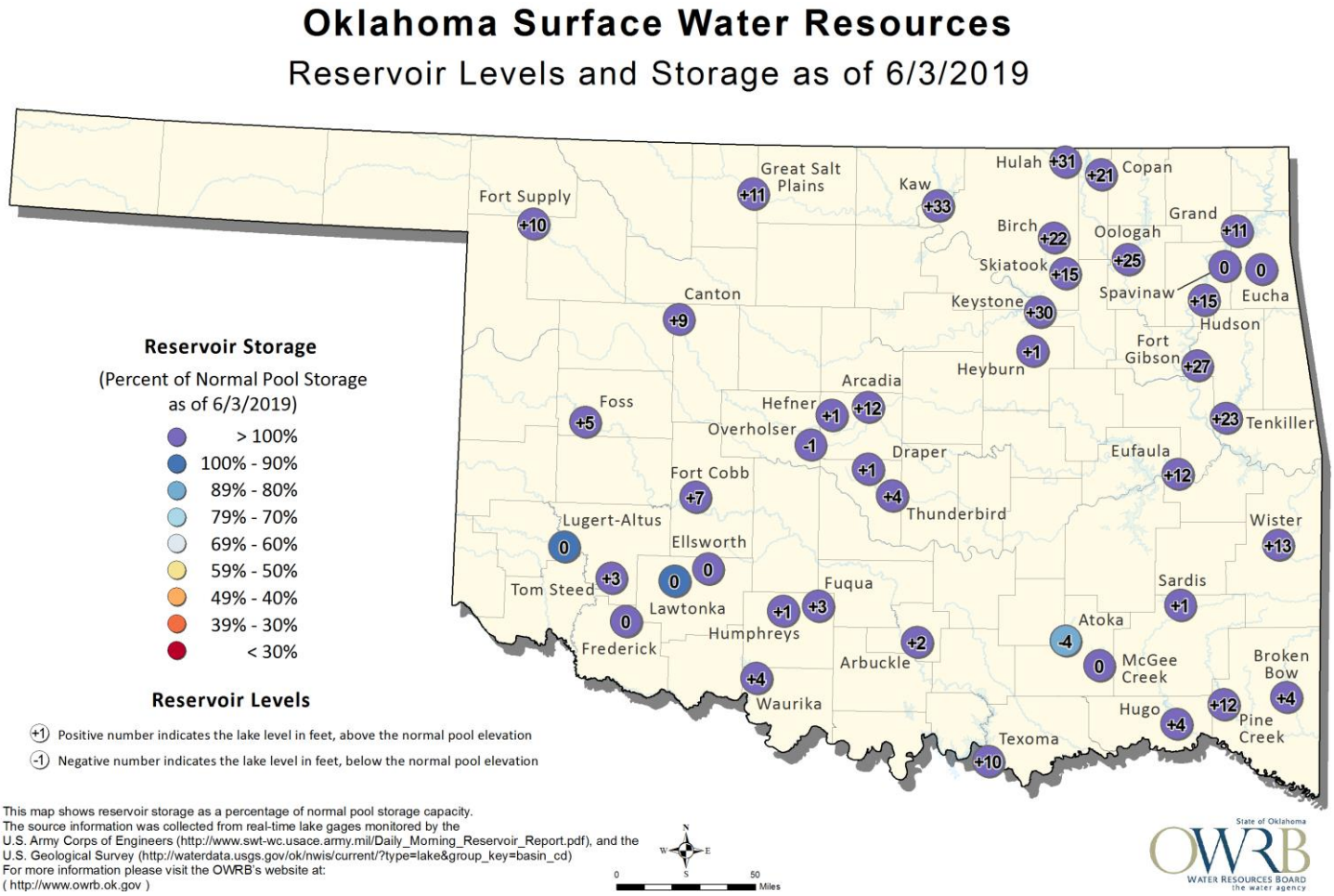
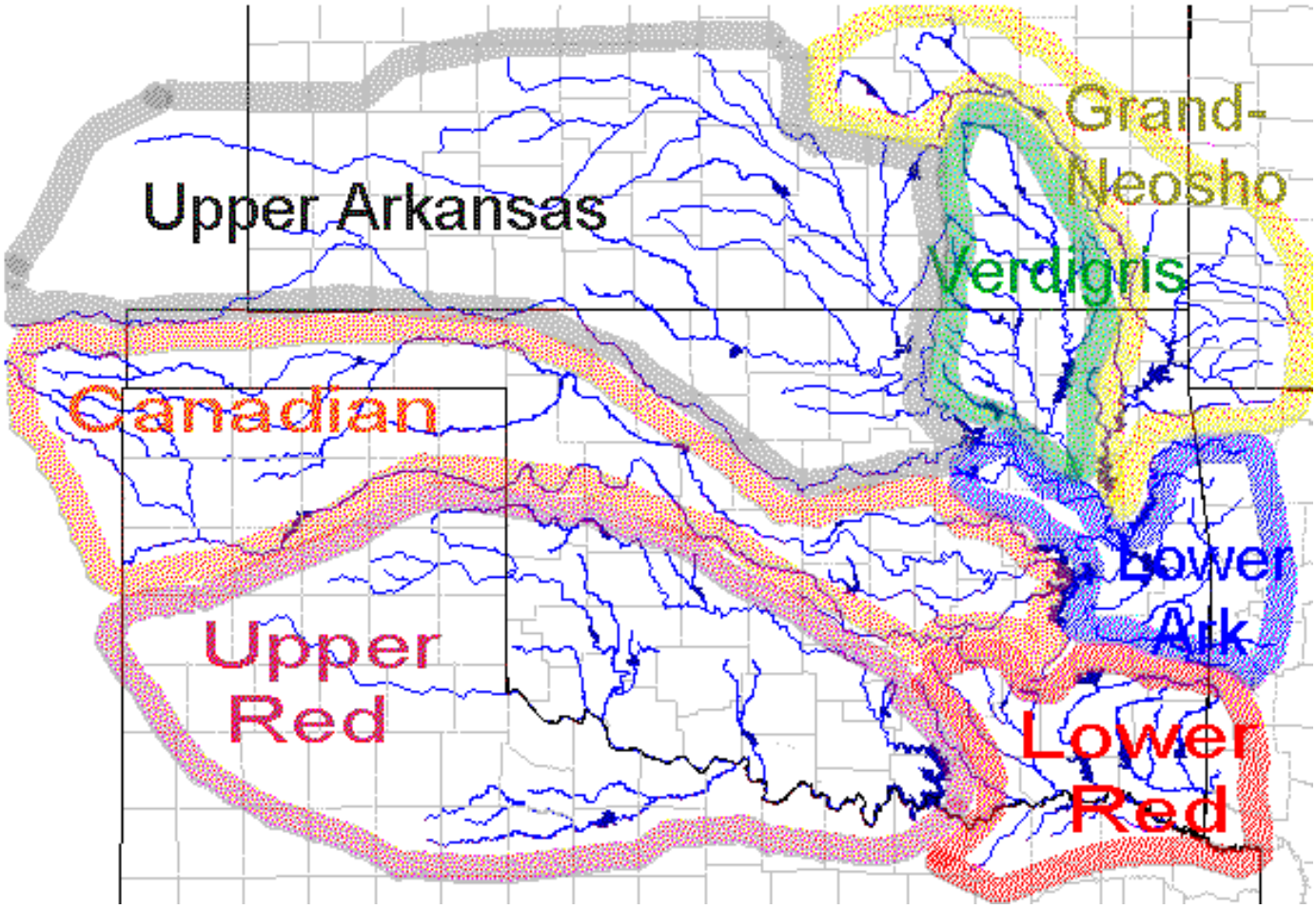
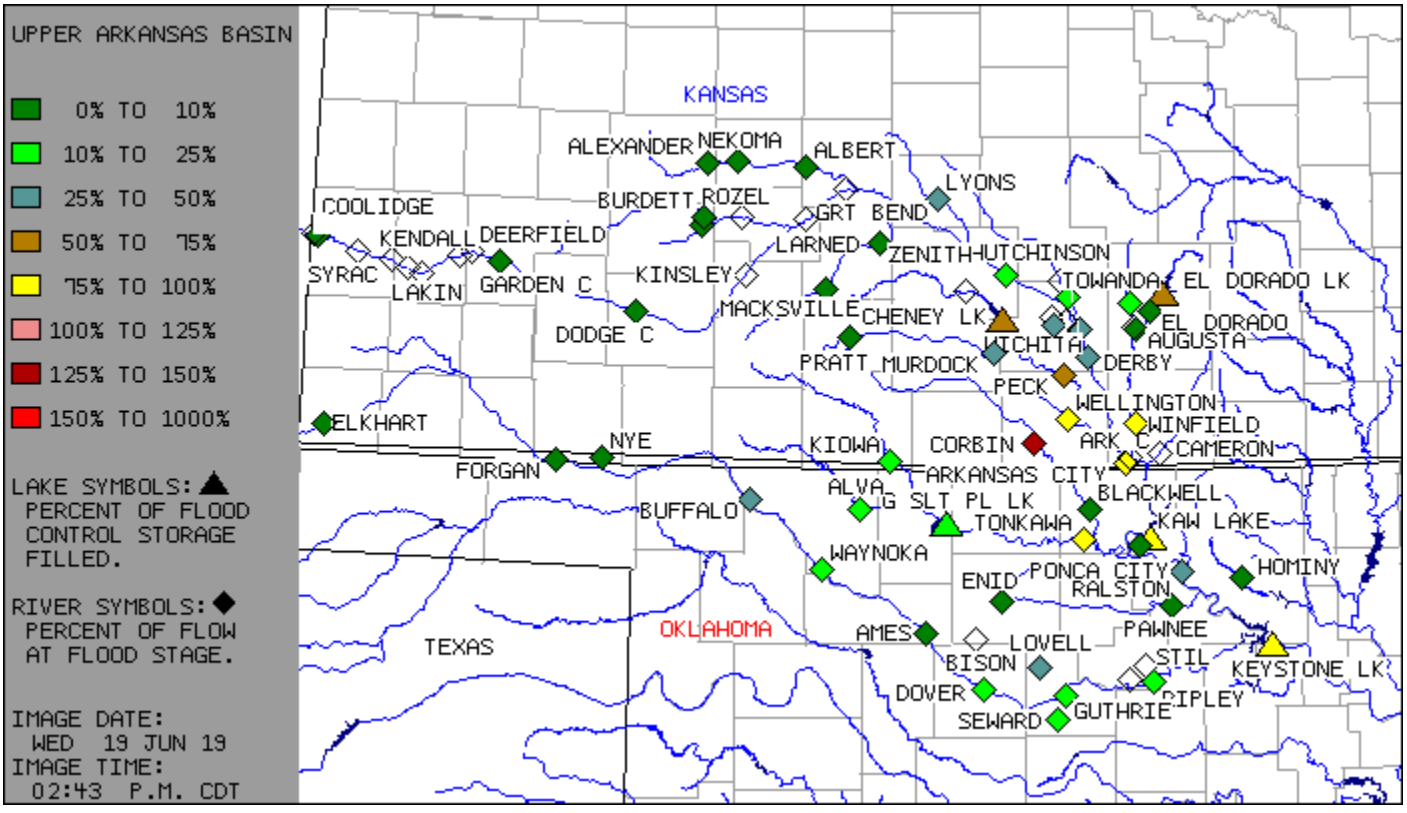
Reservoirs

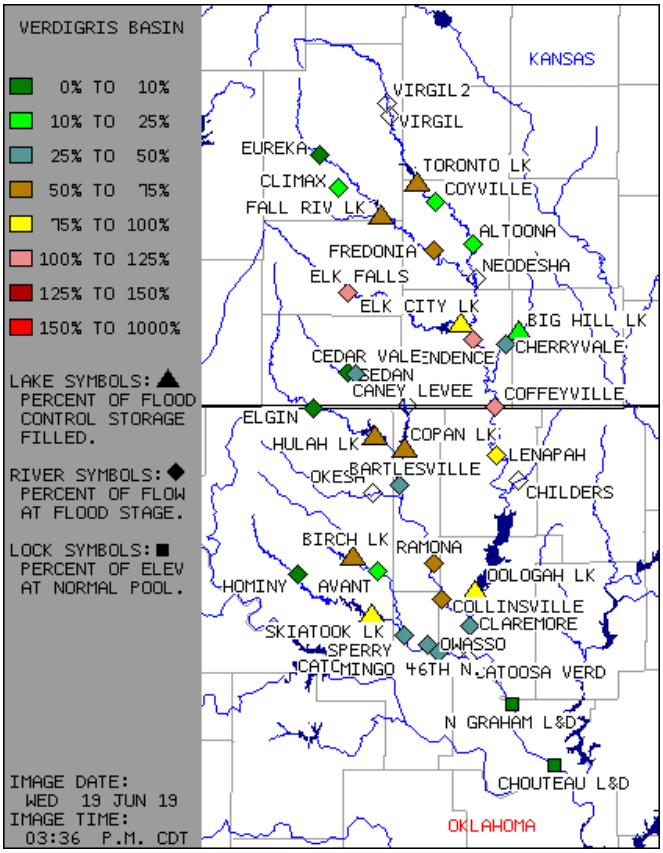
According to the USACE, all lakes in the HSA were utilizing their flood pools. As of 6/05/2019, the current percentage of flood control pool in use (this is not the maximum from the flood event): Oologah Lake 100%, Eufaula Lake 100%, Skiatook Lake 98%, Grand Lake/Pensacola 97%, Ft. Gibson Lake 97%, Keystone Lake 96%, Kaw Lake 95%, Hulah Lake 95%, Copan Lake 95%, Hudson Lake 92%, Birch Lake 90%, Beaver Lake 67%, Tenkiller Lake 63%, Wister Lake 44%, Hugo Lake 15%, and Sardis Lake 12%.



The following maps are for reference: Major river basin boundaries for the USACE Tulsa District and gaging stations/lakes within the basins (images from USACE SWT).



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75% TO 100%
100% TO 125%
125% TO 150%
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RIVER SYMBOLS: ◆ PERCENT OF FLOW AT FLOOD STAGE.
LOCK SYMBOLS: ■ PERCENT OF ELEV AT NORMAL POOL.
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IMAGE TIME: 03:36 P.M. CDT
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ALTOONA
FREDONIA
NEODESHA
ELK FALLS
ELK CITY LK
BIG HILL LK
CHERRYVALE
CEDAR VALE
INDEPENDENCE
SEDAN
CANEY LEVEE
COFFEYVILLE
ELGIN
HULAH LK
COPAN LK
LENAPAH
BARTLESVILLE
OKESA
CHILDERS
BIRCH LK
RAMONA
HOMINY
AVANT
OOLOGAH LK
COLLINSVILLE
CLAREMORE
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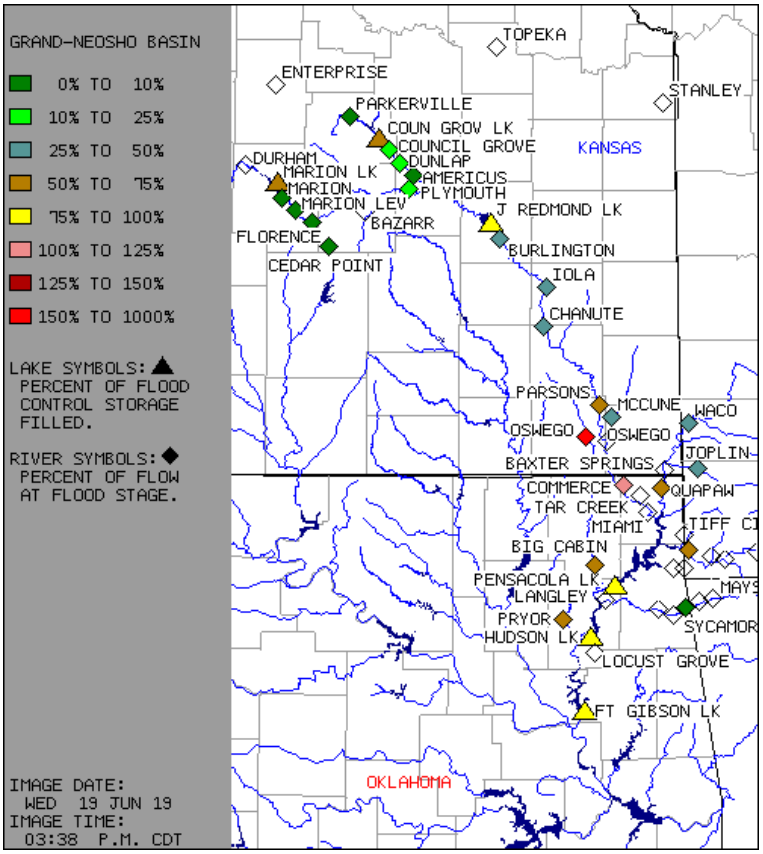
VERD
N GRAHAM L&D
CHOUTEAU L&D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RIVER SYMBOLS: ◆ PERCENT OF FLOW AT FLOOD STAGE.
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ENTERPRISE
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DURHAM
MARION LK
DUNLAP
AMERICUS
MARION
PLYMOUTH
MARION LEV
BAZARR
J REDMOND LK
FLORENCE
BURLINGTON
CEDAR POINT
IOLA
CHANUTE
PARSONS
MCCUNE
WACO
OSWEGO
OSWEGO
JOPLIN
BAXTER SPRINGS
COMMERCE
QUAPAW
TAR CREEK
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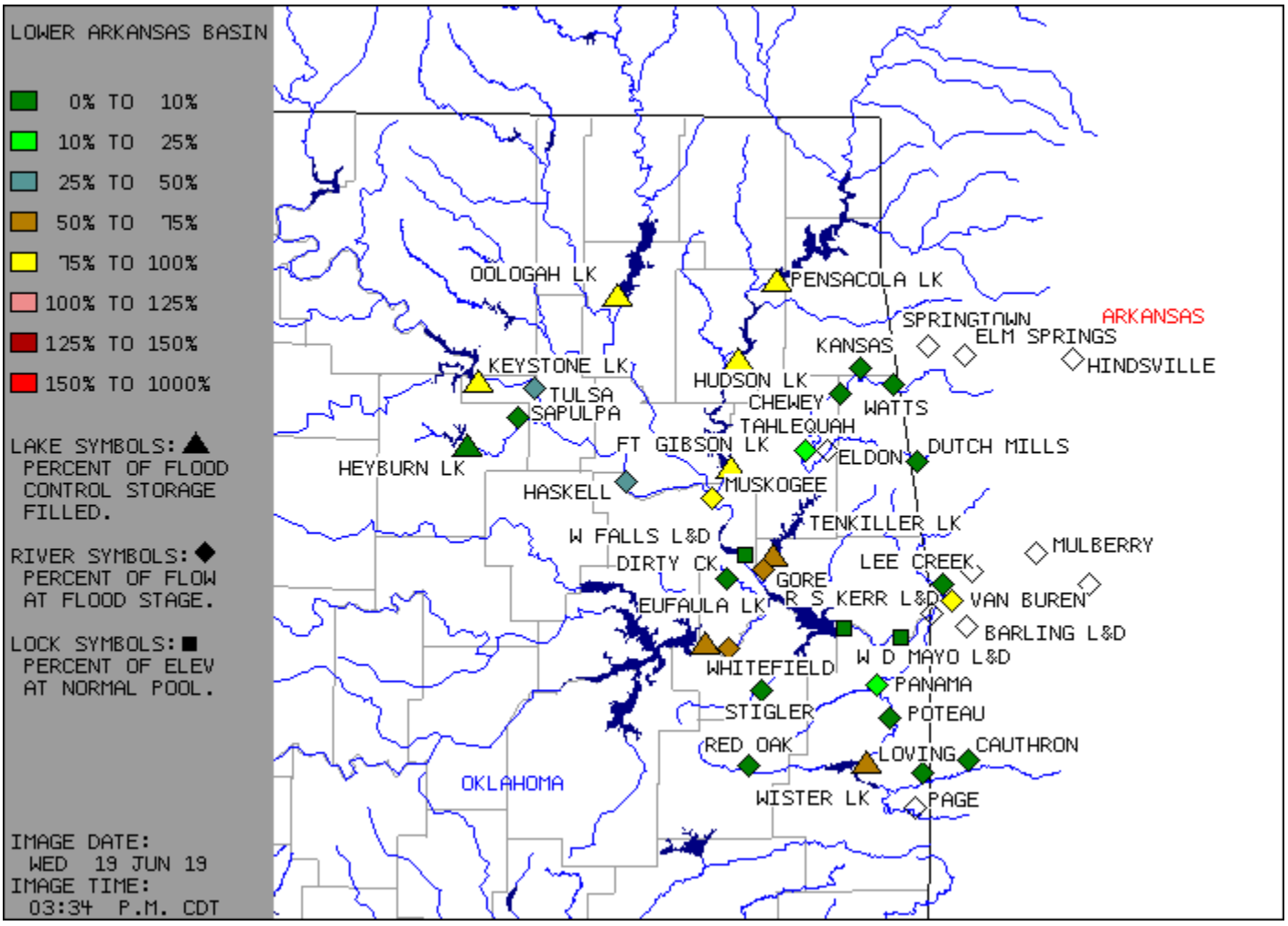
SYCAMOR
LOCUST GROVE
FT GIBSON LK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125% TO 150%
150% TO 1000%
LAKE SYMBOLS: ▲ PERCENT OF FLOOD CONTROL STORAGE FILLED.
RIVER SYMBOLS: ◆ PERCENT OF FLOW AT FLOOD STAGE.
LOCK SYMBOLS: ■ PERCENT OF ELEV AT NORMAL POOL.
IMAGE DATE: WED 19 JUN 19
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PENSACOLA LK
SPRINGTOWN
ELM SPRINGS
HINDSVILLE
KANSAS
KEYSTONE LK
TULSA
SAPULPA
HUDSON LK
CHEWEY
WATTS
TAHLEQUAH
HEYBURN LK
FT GIBSON LK
ELDON
DUTCH MILLS
HASKELL
MUSKOGEE
TENKILLER LK
W FALLS L&D
MULBERRY
DIRTY CK
LEE CREEK
GORE
R S KERR L&D
VAN BUREN
EUFAULA LK
BARLING L&D
W D MAYO L&D
WHITEFIELD
PANAMA
STIGLER
POTEAU
RED OAK
LOVING
CAUTHRON
WISTER LK
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Drought

According to the U.S. Drought Monitor (USDM) from May 28, 2019 (Figs. 3a, b), no drought or abnormally dry conditions were present across eastern OK and northwest AR.

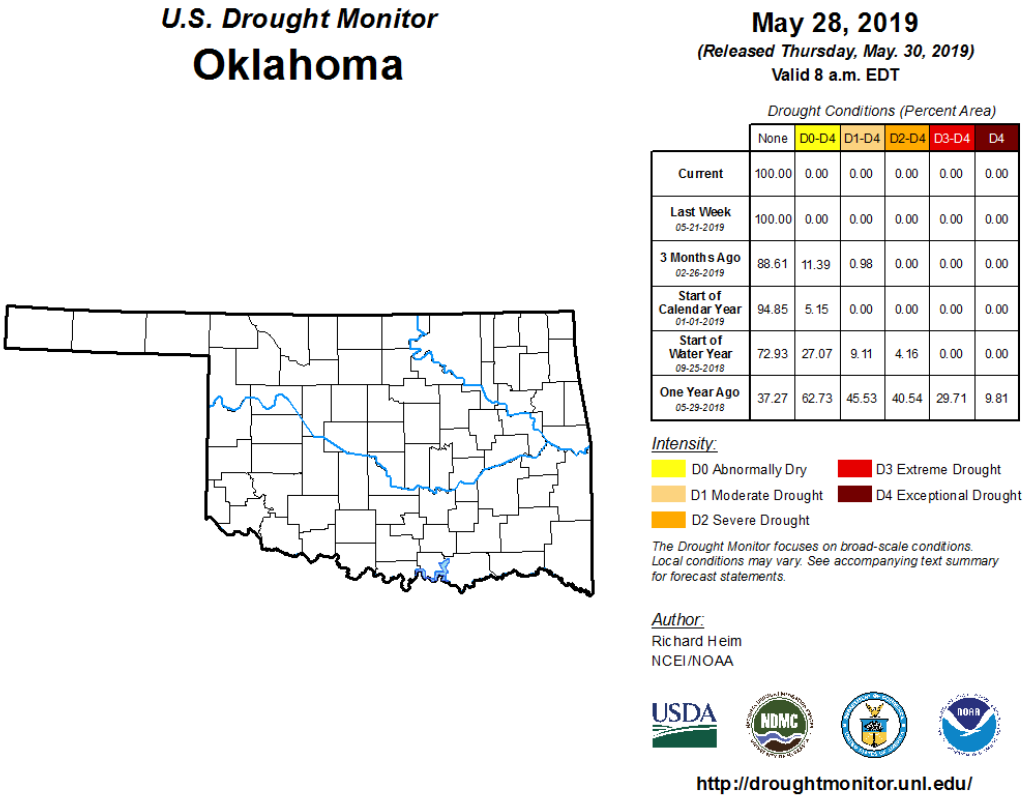


Fig. 3a. Drought Monitor for Oklahoma

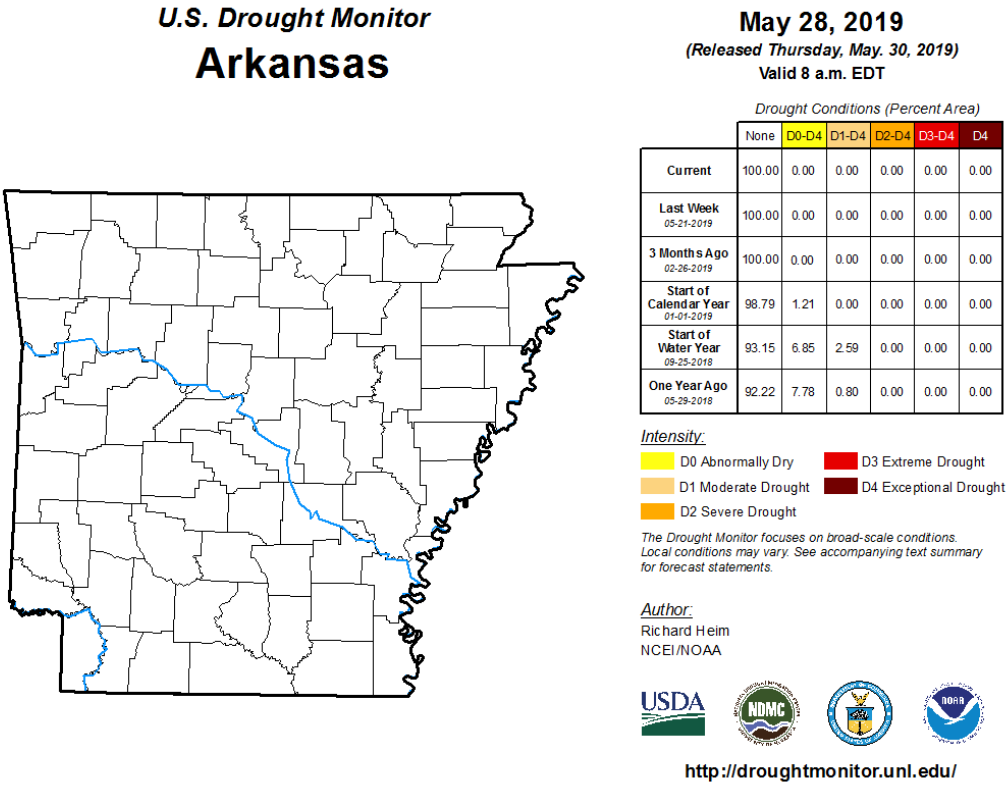


Fig. 3b. Drought Monitor for Arkansas

Outlooks

The Climate Prediction Center (CPC) outlook for June 2019 (issued May 31, 2019) indicates an enhanced chance for below normal temperatures across eastern OK and an equal chance for above, near, and below normal temperatures across northwest AR. This outlook also indicates significantly increased odds for above median precipitation across all of eastern OK and northwest AR. This outlook takes into account weather conditions forecast over the first two weeks of May, the weeks 3-4 outlook, and the above normal soil moisture over the central and southern Plains, which will make below normal temperatures more likely. The significantly enhanced rainfall probabilities are due to the dynamical model forecasts for the first week of June. This signal is consistent with the current El Niño base state. The Madden-Julian Oscillation (MJO) is highly amplified over the eastern Indian Ocean, however the linkages between the MJO and the CONUS is generally weak during June and therefore, were not a significant factor in the outlook.

For the 3-month period June-July-August 2019, CPC is forecasting an enhanced chance for below normal temperatures and an enhanced chance for above median precipitation across all of eastern OK and northwest AR (outlook issued May 16, 2019). This outlook is based on both statistical and dynamical forecast tools, decadal timescale climate trends, current soil moisture conditions, and influence from El Niño. The enhanced odds for below normal temperatures are primarily based on the high soil moisture conditions, and the above median rainfall in primarily based on dynamical model and summertime ENSO impacts. According to CPC, the combined effect of the ocean-atmosphere system is consistent with the continuation of weak El Niño conditions through May 2019. A continuation of the weak El Niño is expected into the upcoming winter season. There is an 70% chance that El Niño conditions will continue through summer 2019, and a 55-60% chance it will continue in the winter. There is a very low chance for La Niña. CPC continues the El Niño Advisory.

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

A line of showers and thunderstorms near a surface boundary moved across north central and northeast OK in the pre-dawn hours of April 30th. As this activity moved north into KS at mid-morning, another line of showers and thunderstorms from central OK spread northeast into northeast OK along the front as it slowly moved south. Additional thunderstorms developed near, as well as ahead of the front in the warm sector, during the afternoon. Several of these storms became severe, with moisture and shear parameters supportive of rotating supercells. 13 tornadoes (ranging from EF-0 to EF-2) occurred across eastern OK (see https://arcg.is/1X8eW1 for more information). On the synoptic scale, southwest deep-layer flow (parallel to the front) and a high precipitable water (near 2") airmass supported repeated rounds of training thunderstorms, which resulted in heavy rain and flooding. By early evening, thunderstorms congealed into a line across northeast OK, spread east through the evening, and produced very heavy rainfall. Widespread showers and thunderstorms continued behind the leading line, covering all of eastern OK and northwest AR by late evening. As this area of rain pushed east of the region in the very early morning hours, yet another area of showers and thunderstorms developed over southeast OK and moved northeast, and a line of thunderstorms over central OK moved east as a squall line. All of this activity brought additional rainfall to a large portion of eastern OK and northwest AR. The rain finally came to an end by mid-morning on May 1. Most of eastern OK and northwest AR received 2"-3" of rain from this event, with higher totals of 4"-6.5" in portions of northeast OK and southeast OK (Figs. 4-7). Widespread flash flooding occurred with this heavy rain, and one fatality (pending medical examiner's report) occurred in Tulsa, OK when a motorist left the highway, drove into a swollen drainage ditch, and was washed downstream. The official observing site in Tulsa, OK recorded 3.15" of rain on April 30, most of which fell in a few hours, setting a new daily rainfall record for that day (previous record was 3.00" in 1970). Additionally, all of the water resulted in significant rises along area creeks and rivers, and minor to moderate river flooding along the Polecat Creek near Sapulpa, Bird Creek near Sperry, Caney River near Collinsville, Verdigris River near Lenapah, Illinois River near Watts, Chewey, and Tahlequah, Poteau River near Poteau and Panama, Neosho River near Commerce, Spring River near Quapaw, and the Kiamichi River near Antlers (see preliminary hydrographs at the end of this report; see E3 Report for details).

24-hour precipitation reports >5" ending at 7am CDT May 1, 2019:

Quapaw 3SE, OK	6.35	Nowata 3NNE, OK	6.10	Jay 3.3 NNE, OK	5.75
Miami 2NE, OK	5.57	Pryor 6.9ESE, OK	5.55	Wyandotte 7.3NE, OK	5.53
Jay 4N, OK	5.07	Spavinaw, OK	5.05	Talala 4NW, OK	5.01

Showers and thunderstorms move east out of south central OK into southeast OK and west central AR, primarily along and south of I-40, during the evening of May 2nd. This activity continued through the overnight hours and spread a little north into northwest AR. Rainfall totals ranged from 1" to around 3" along and south of a McAlester to Ozark line, with lesser amounts further north from McAlester to Springdale (Fig. 9).

A thunderstorm complex ahead of a cold front moved out of south central KS/central OK and into northeast OK around noon on the 3rd. This widespread activity progressed east across eastern OK and northwest AR, primarily north of I-40, through the afternoon and early evening hours. The showers and thunderstorms were more scattered further south across southeast OK. Widespread rainfall totals of around 0.50" to around 1" occurred along and north of I-40, with localized pockets of 1.5" to 3" of rain (Fig. 10).

Thunderstorms again developed along a cold front in western KS and along a dryline in western OK on the 5th, and this activity then moved into eastern OK by the late evening. These storms moved eastward across all of the HSA, except far southeast OK, through the overnight hours and early morning hours of the 6th. Locations primarily north of Highway 412 in northeast OK and northwest AR received 0.50" to around 2" of rain, with localized amounts around 3" in Osage and Pawnee Counties (Fig. 11). It should also be noted that the heavier rainfall also occurred on the upper Arkansas River basin upstream of the NWS Tulsa HSA. This will eventually play a role later in the month. This additional rainfall, combined with the rainfall from the end of April and through the first few days of May, resulted in higher river and lake levels across northeast OK. By this time, the Arkansas River near Muskogee was holding nearly steady just below flood stage as upstream water was released to lower flood control pools from area reservoirs.

Heavy rain once again fell across southeast KS as two rounds of heavy rain affected that area during the evening and overnight hours of the 6th-7th. Widespread 1"-4" of rain fell over the Neosho River basin in southeast KS (Fig. 12), resulting in moderate flooding along the Neosho River near Commerce (see preliminary hydrographs at the end of this report; see E3 Report for details).

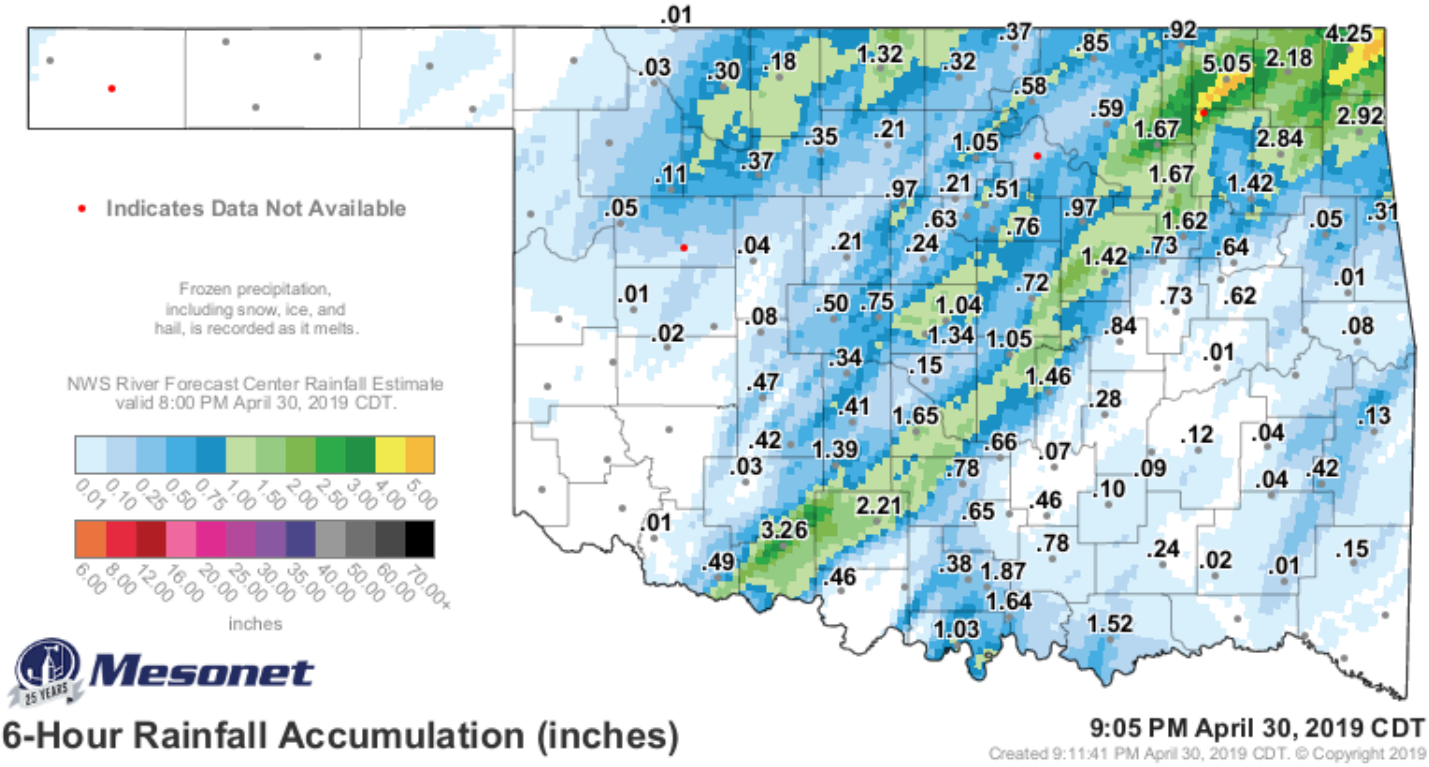


Fig. 4. OK Mesonet (values) and NWS RFC rainfall estimate (image) 6-hour rainfall ending at 9:05 pm CDT 04/30/2019.

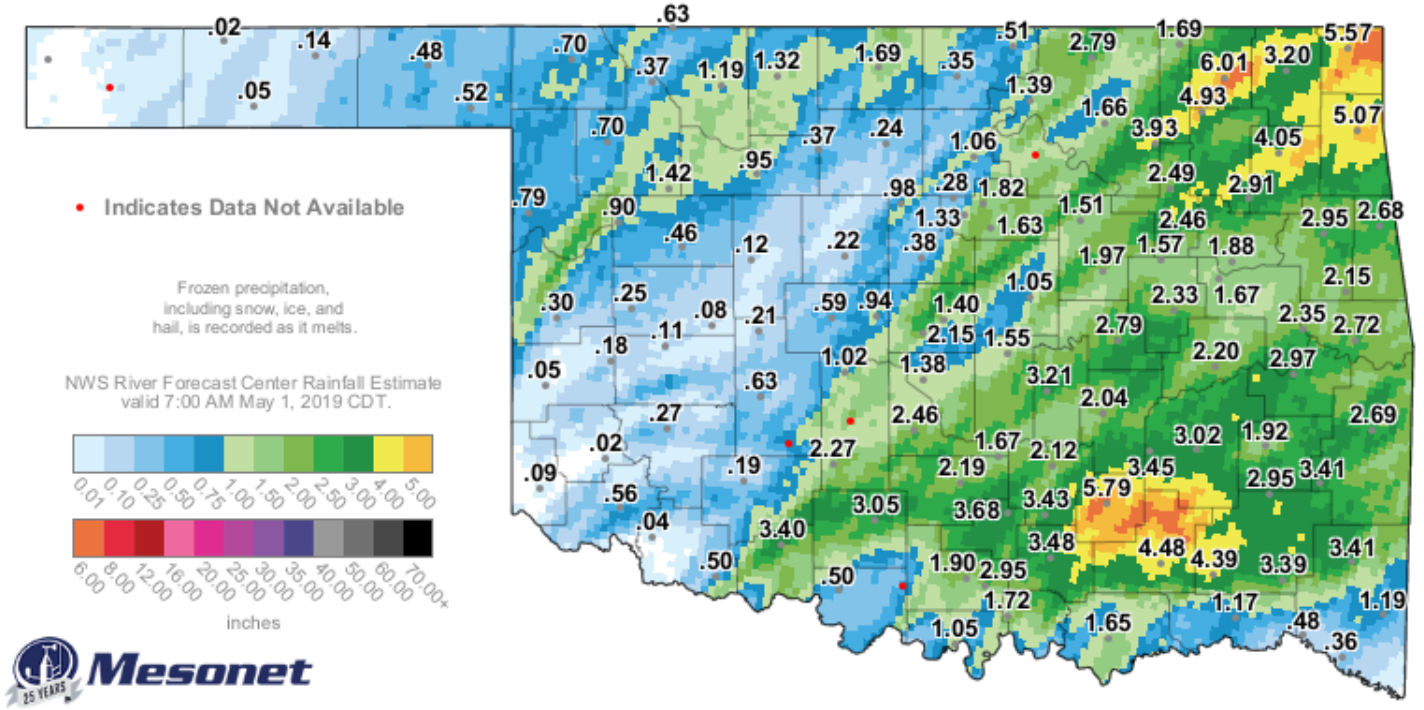


Fig. 5. OK Mesonet (values) and NWS RFC rainfall estimate (image) 24-hour rainfall ending at 8:00 am CDT 05/01/2019.

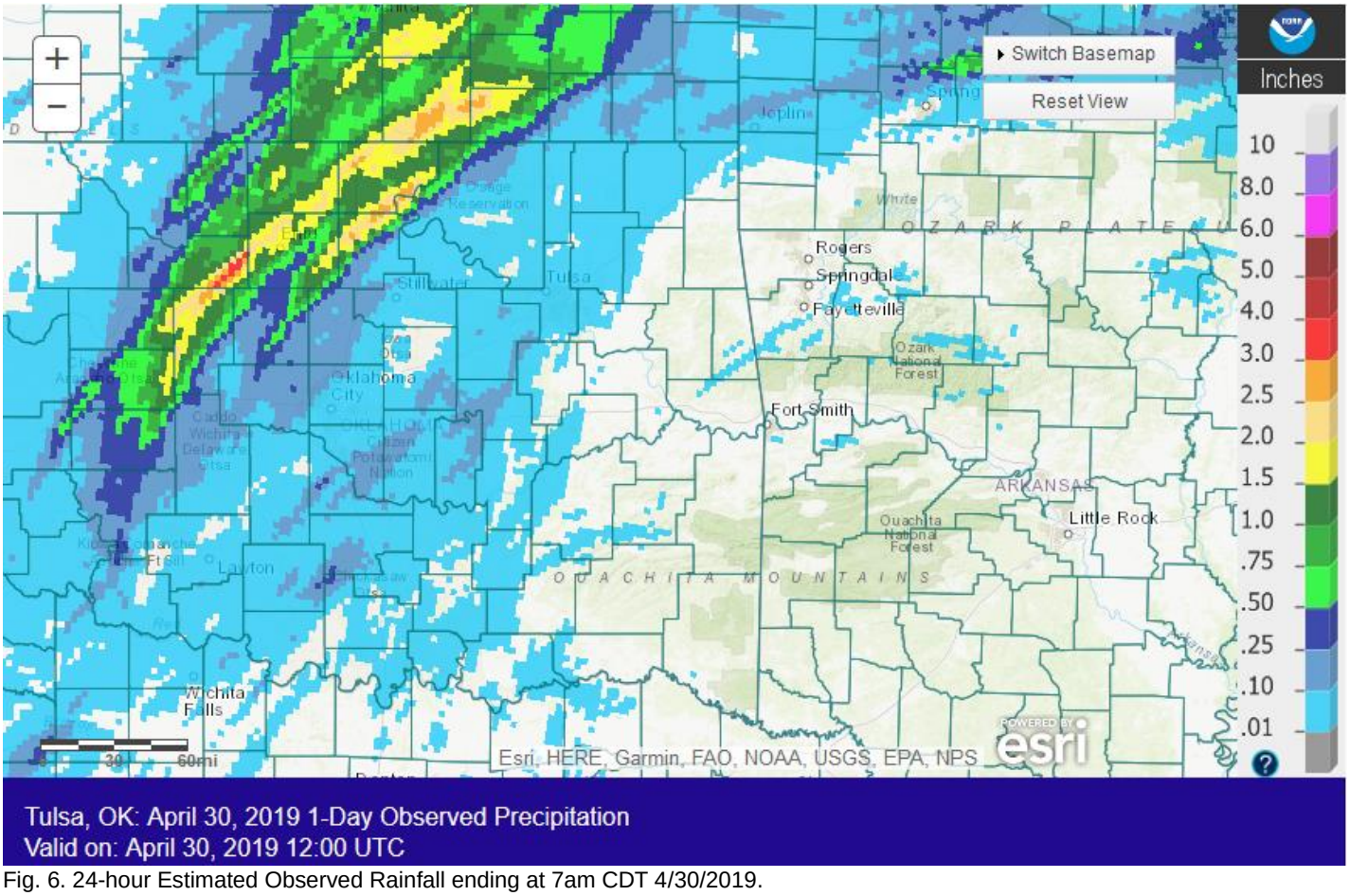


Fig. 6. 24-hour Estimated Observed Rainfall ending at 7am CDT 4/30/2019.

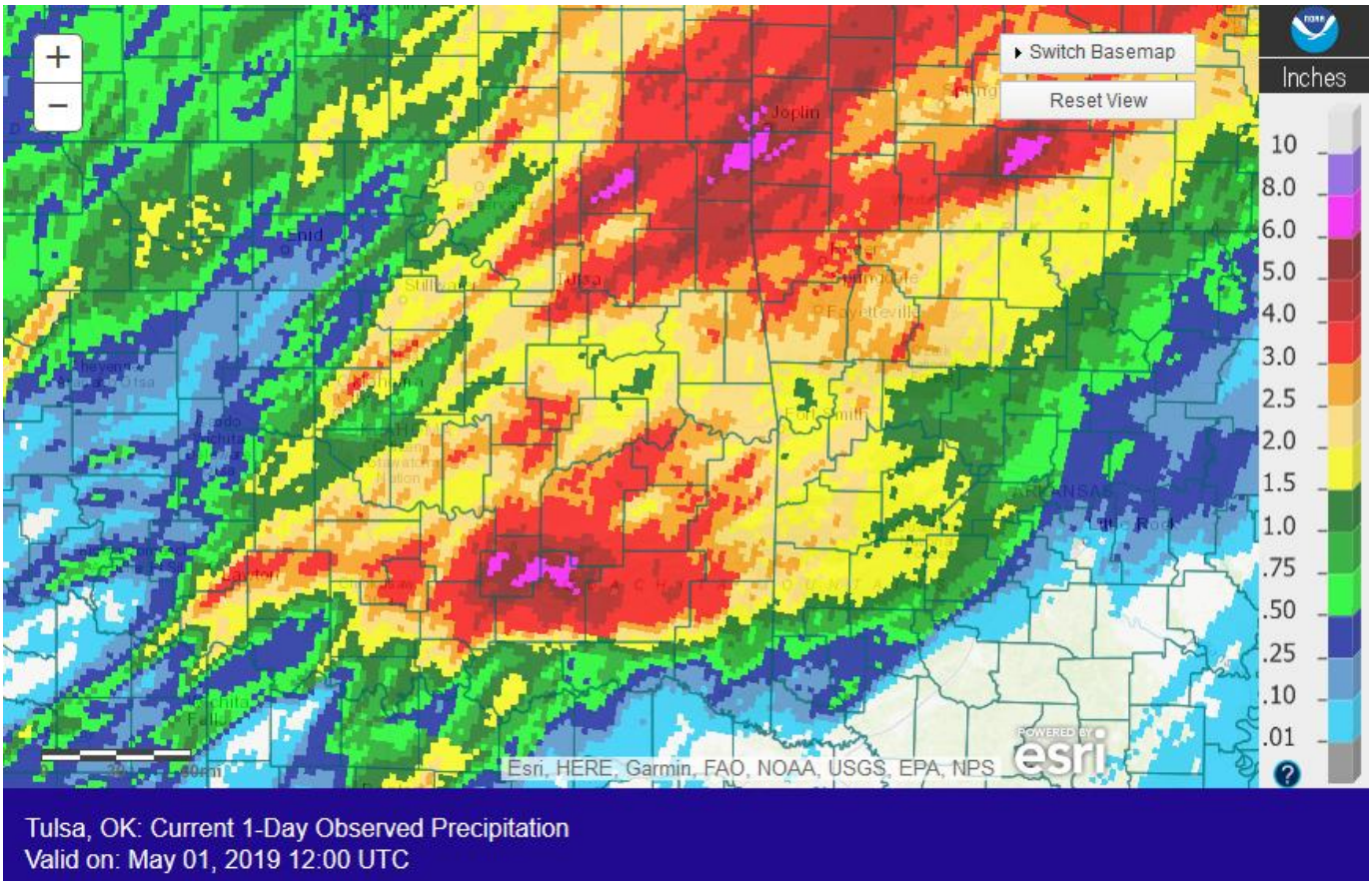


Fig. 7. 24-hour Estimated Observed Rainfall ending at 7am CDT 5/01/2019.

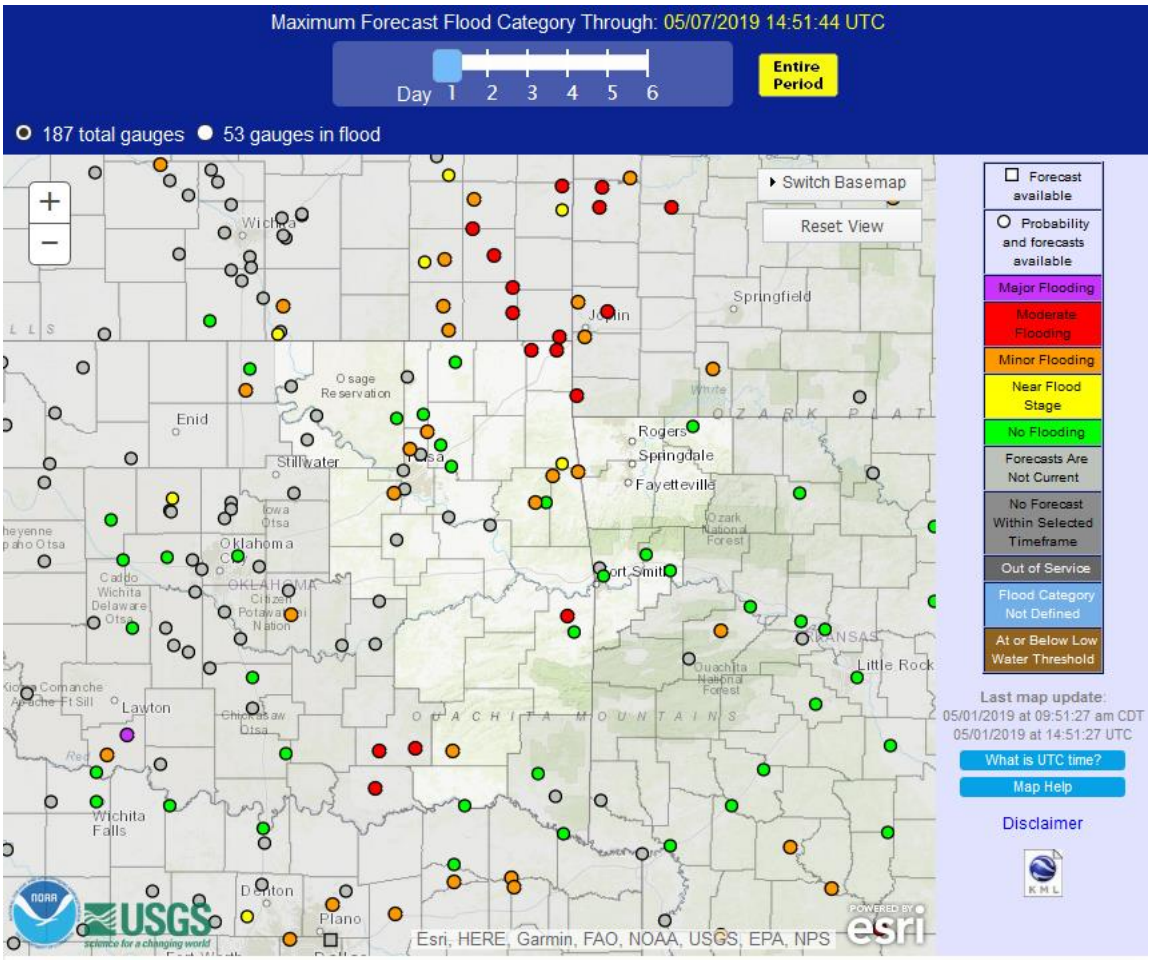


Fig. 8. Maximum forecast category for rivers across eastern OK as of 10am CDT May 1, 2019.

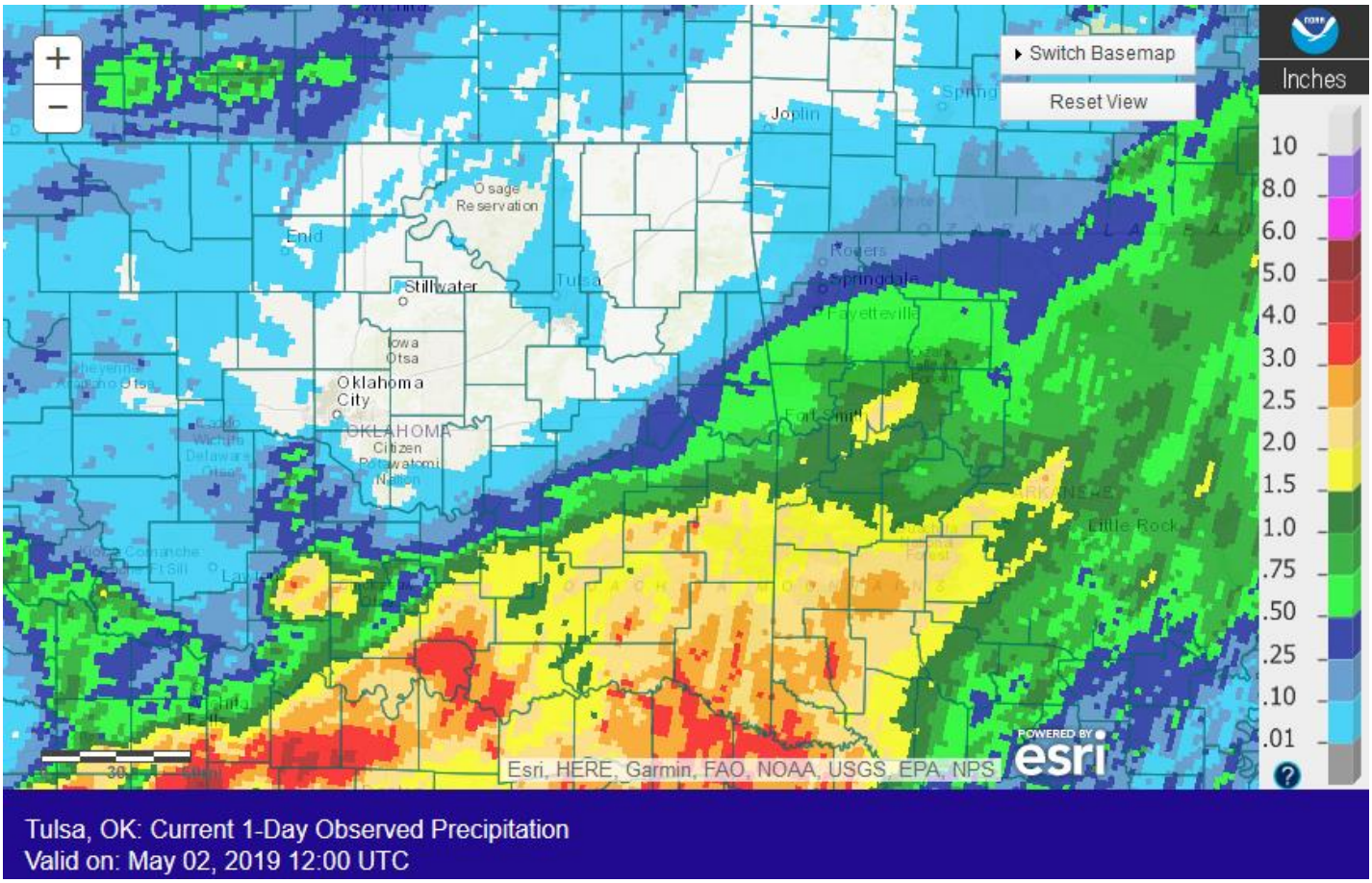


Fig. 9. 24-hour Estimated Observed Rainfall ending at 7am CDT 5/02/2019.

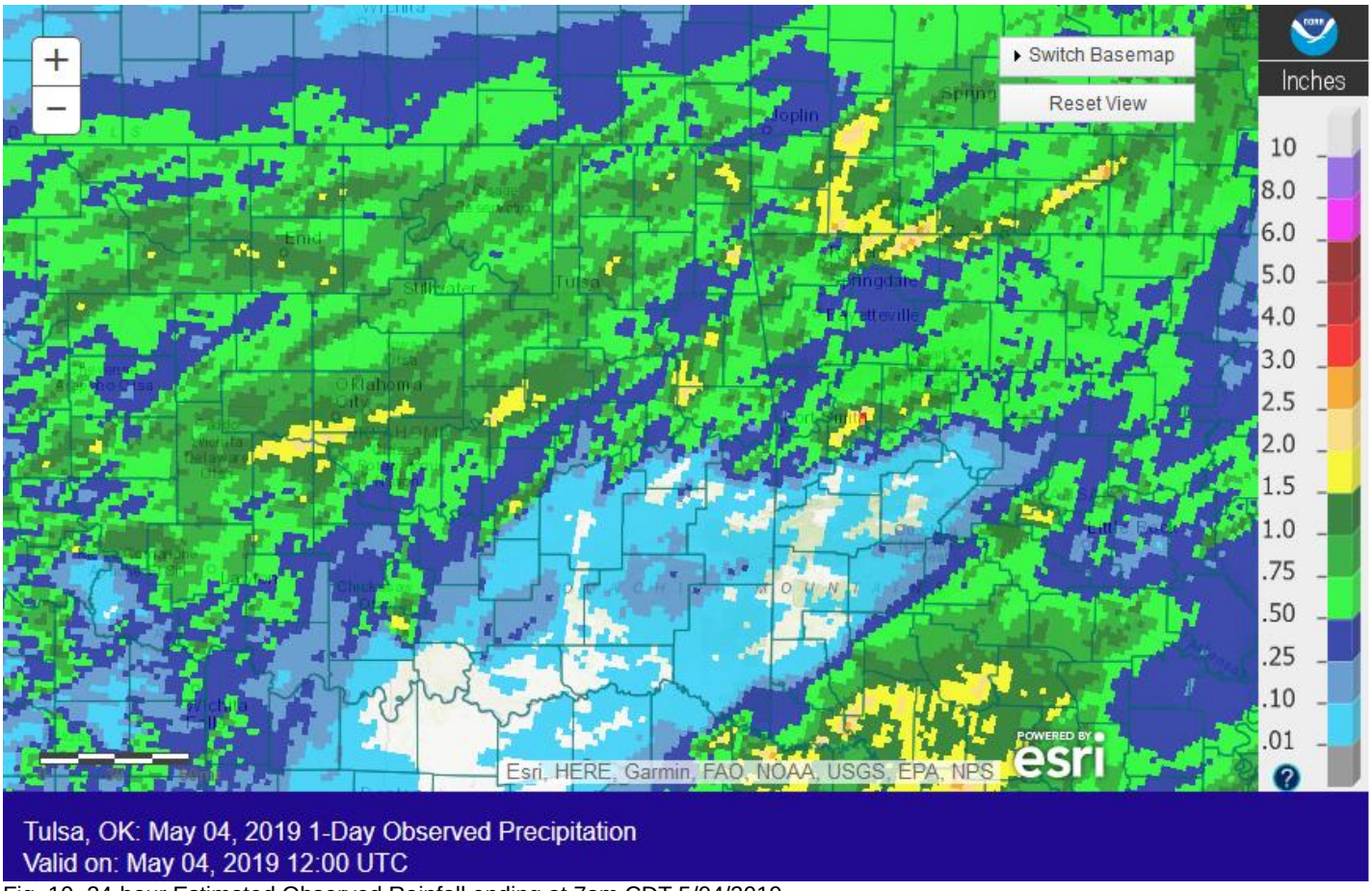


Fig. 10. 24-hour Estimated Observed Rainfall ending at 7am CDT 5/04/2019.

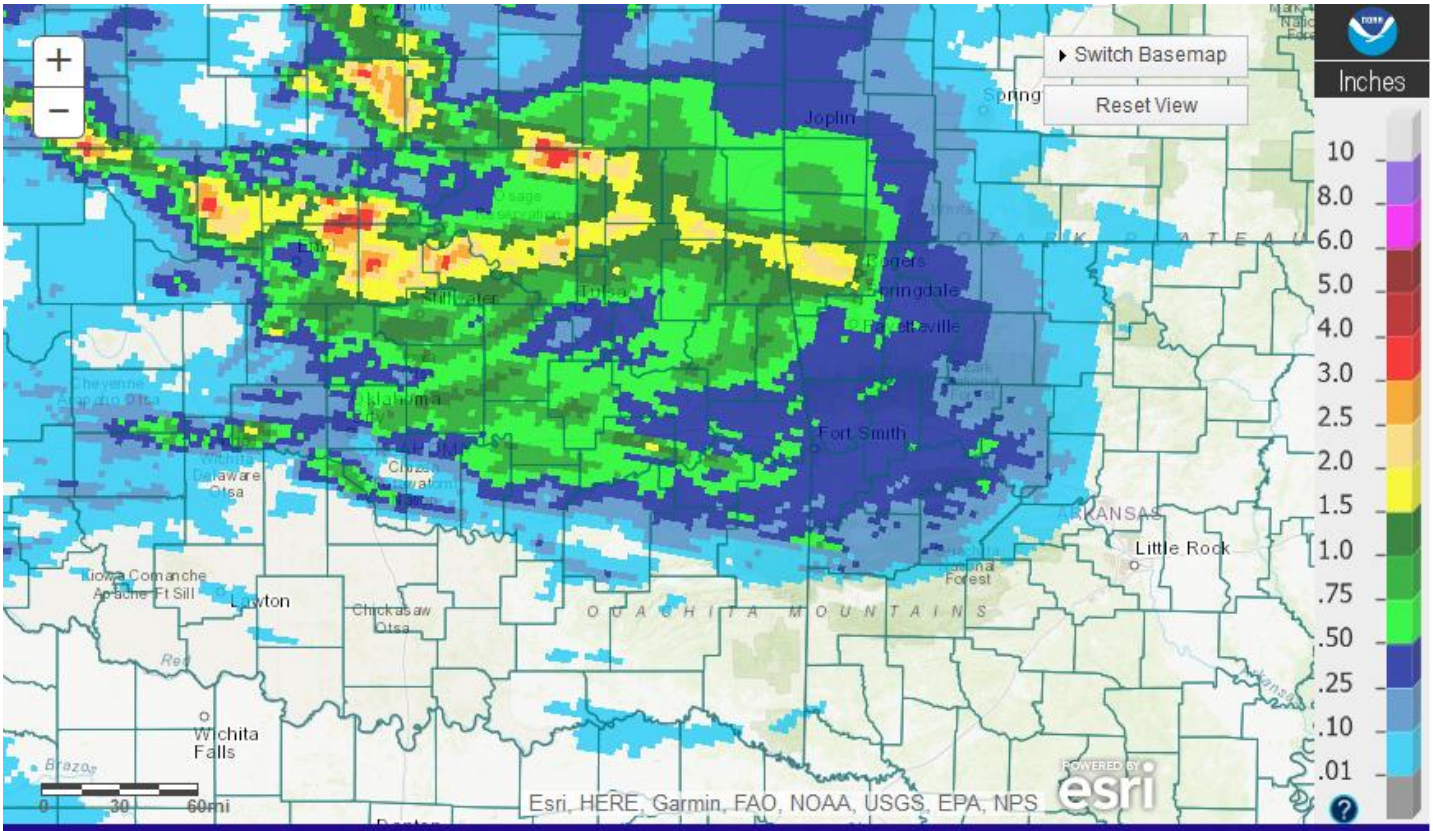


Fig. 11. 24-hour Estimated Observed Rainfall ending at 7am CDT 5/06/2019.

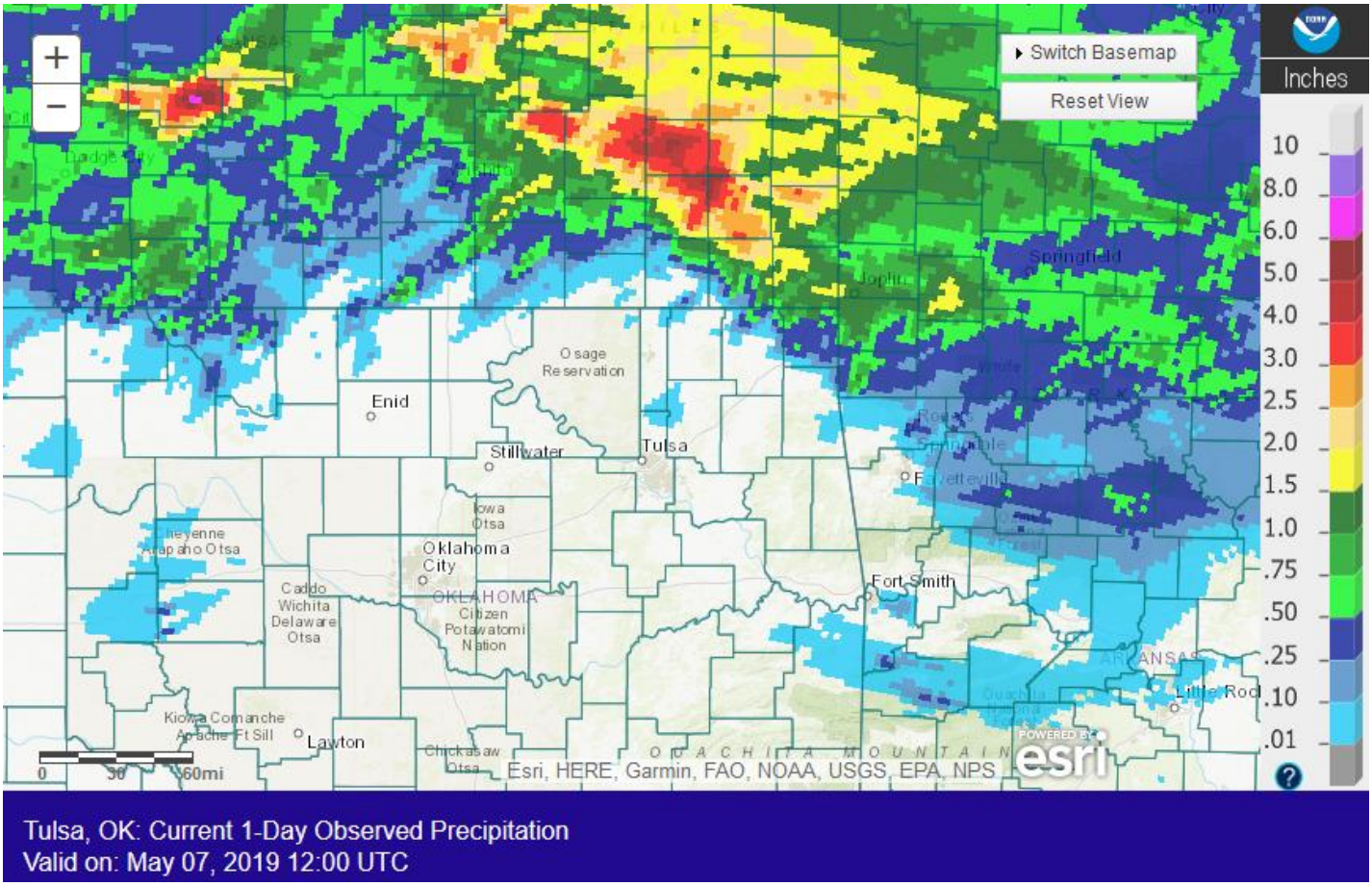


Fig. 12. 24-hour Estimated Observed Rainfall ending at 7am CDT 5/07/2019.

A large thunderstorm complex moved across KS and OK on the 7th and its leading-edge line of storms entered eastern OK at midnight on the 8th. These storms continued eastward through the overnight hours entering western AR near sunrise, and finally pushed east of the HSA by late afternoon. Rainfall totals were around 0.50" to 2" across all of eastern OK and northwest AR, with isolated totals of 2" to 2.5" in western Osage and eastern Kay Counties, and northern Pushmataha and southern Le Flore Counties (Figs 13, 14). Also of note, much higher rainfall totals of widespread 2" to 8" occurred across the upper Arkansas River basin in central OK and central KS. Much of this water also flowed downstream into the Kaw and Keystone reservoirs. The Kaw Lake flood pool was filled, went into surcharge by the evening of May 10th, and fell back to below the top of the flood control pool on the afternoon of the 13th. The Keystone Lake flood pool also rose significantly, but did not fill. The Arkansas River near Ralston exceeded flood stage, remaining just below the moderate flood level from this event. Since the Arkansas River near Muskogee was already near flood stage, flood stage was briefly exceeded a couple of times due to this rainfall event combined with the releases from reservoirs along the Arkansas River and Neosho River basins. Similarly, the Arkansas River at Van Buren also briefly exceeded flood stage due to the already high river levels plus this extra water that routed downstream from Muskogee. This heavy rain also impacted the Deep Fork River, which flowed downstream and led to moderate flooding along the Deep Fork River near Beggs. See the preliminary hydrographs at the end of this report and the E3 Report for details on the river flooding from this event. Other than a few days of scattered showers and thunderstorms, the area remained mostly rain-free through the 17th, helping to lower lake and river levels for many areas. However, the Arkansas River remained slightly below flood stage from Muskogee to Ozark during this time.

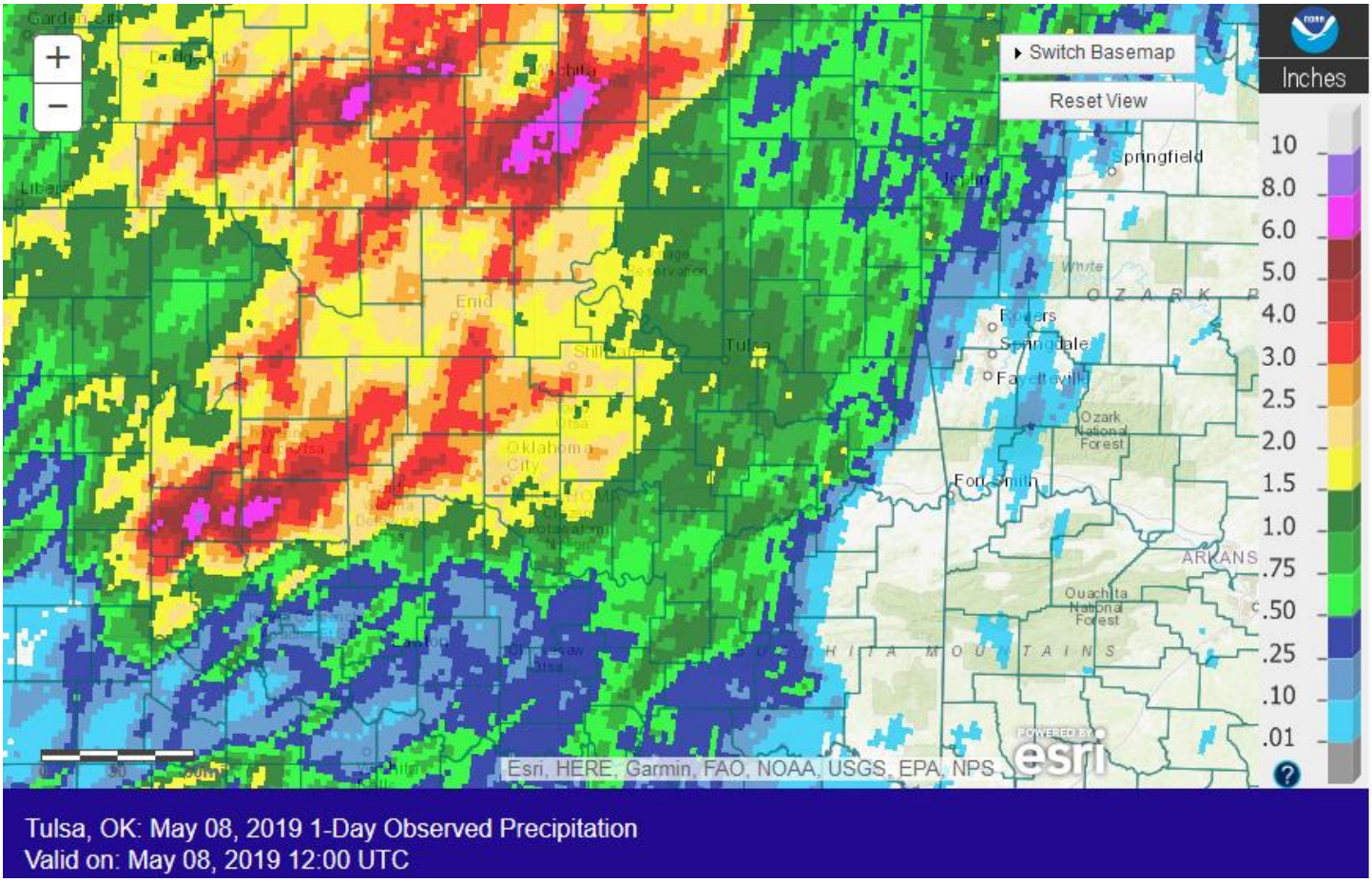


Fig. 13. 24-hour Estimated Observed Rainfall ending at 7am CDT 5/08/2019.

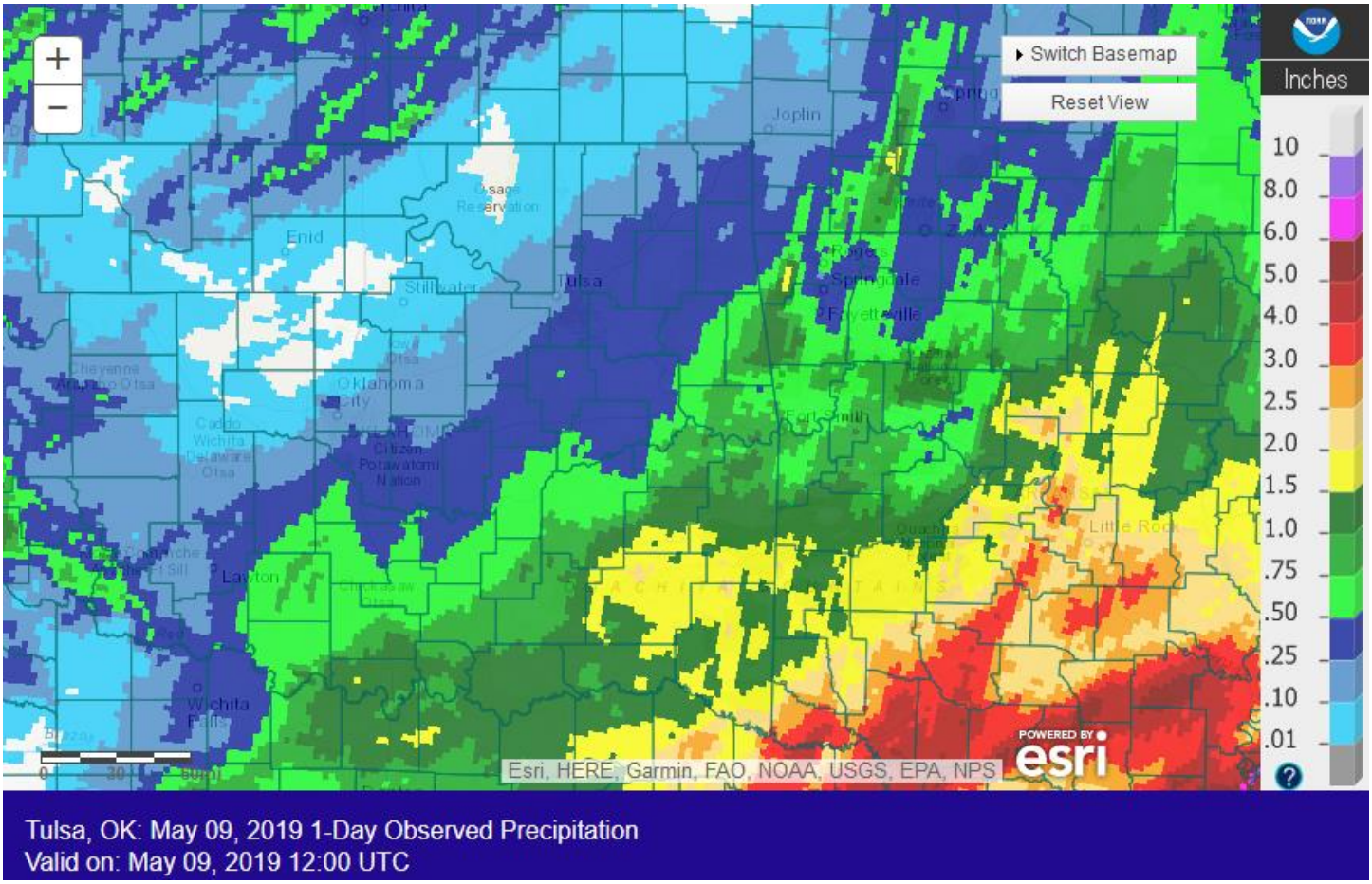


Fig. 14. 24-hour Estimated Observed Rainfall ending at 7am CDT 5/09/2019.

Heavy Rain and Major Flood Event May 18 – 30, 2019

Note: maximum elevation, maximum inflow, maximum release, and pool of record data for area lakes are courtesy of the USACE Tulsa District for the period April 29-June 11, 2019.
Note: river stage data is considered preliminary pending official USGS analysis

Summary:

A persistent convectively active pattern, consisting of a deep trough over the western U. S. and ridging along the Gulf Coast and southeastern U. S., set the stage for numerous rounds of rainfall across the Southern Plains on the 18th and continuing through the end of the month. The atmospheric moisture, with precipitable water content of 1.5”-2”, remained high during this time frame, resulting in very efficient rainfall-producing showers and thunderstorms. Antecedent conditions from the rainfall earlier this month and at the end of April meant that soil moisture was already high, and any additional rainfall would quickly become runoff. Antecedent river and lake levels were also above normal ahead of this active storm period. 6”-16” inches of rain fell between May 18 and May 30 along and northwest of a line from near Okmulgee, OK to near Bentonville, AR, and 3”-5” inches of rain fell southeast of this line (Fig. 15). Widespread 10”-16” fell in the southern KS and northern OK area bounded by Kingfisher, OK - Tulsa, OK - Miami, OK - Emporia, KS - Wichita, KS (Fig. 16a, b). The result was 34 river floods at 25 river forecast points. There was a total of 62 crests during those 34 floods, 3 which were new records (Arkansas River near Ponca City and at Van Buren, and Bird Creek at Avant), and 31 which were crests in the major flood category. 17 of the 34 floods lasted 7 days or more; 14 lasted 10 days or more; 5 lasted 14 days or more; and 3 lasted 21 days or more (see preliminary hydrographs at the end of this report; see E3 Report for details). The Arkansas River near Muskogee was above flood stage the longest at approximately 22 days and 5 hours and was also above the Major flood category the longest at approximately 13 days and 12 hours. The first river to rise above flood stage during this event (in the NWS Tulsa HSA) did so on the evening of May 20, 2019. The last river to fall below flood stage from this event did so on the afternoon of June 13, 2019. Therefore, there was a river above flood stage in the NWS Tulsa HSA for just under 24 consecutive days. For the USACE Tulsa District flood control reservoirs, 6 set new pools of record in the NWS Tulsa HSA: Kaw, Keystone, Skiatook, Birch, Oologah, and Hudson Lakes.

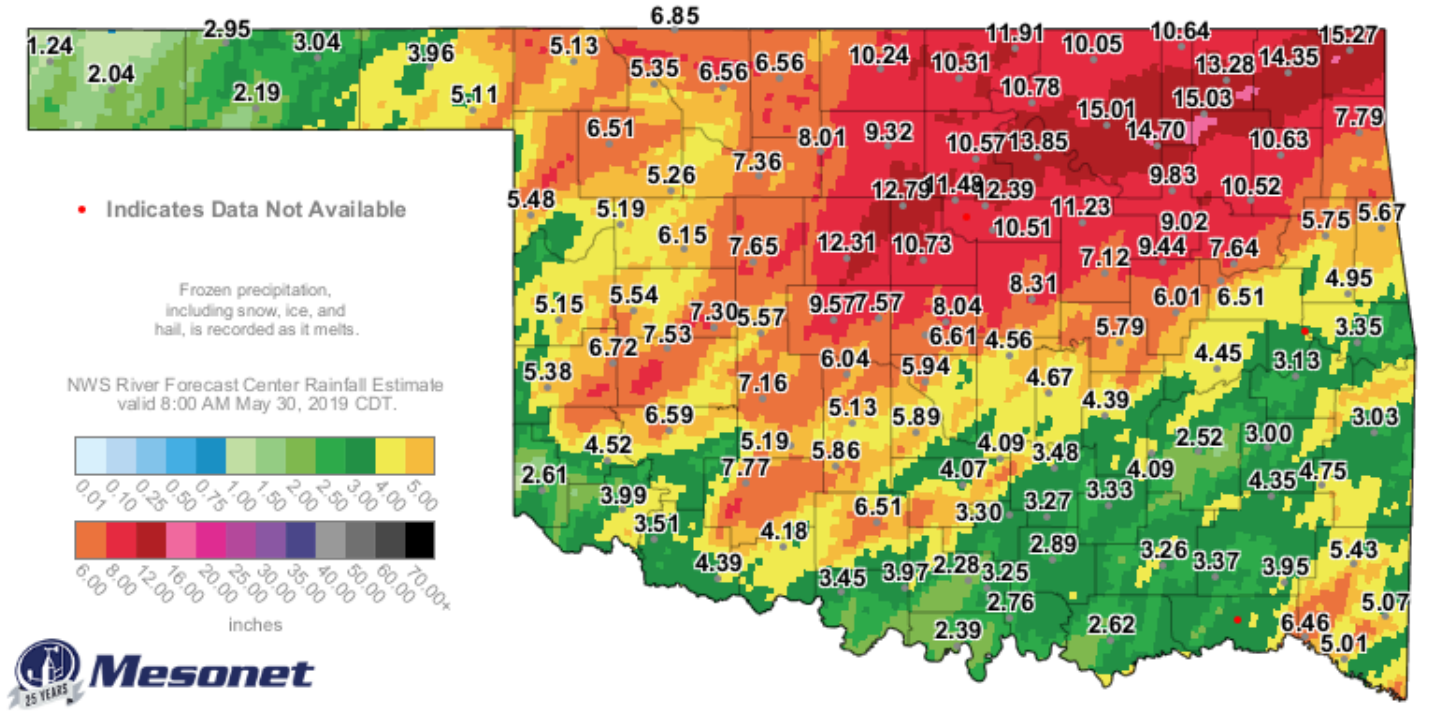


Fig. 15. OK Mesonet (values) and NWS RFC rainfall estimate (image) 14-day rainfall ending at 9:05 am CDT 05/30/2019.

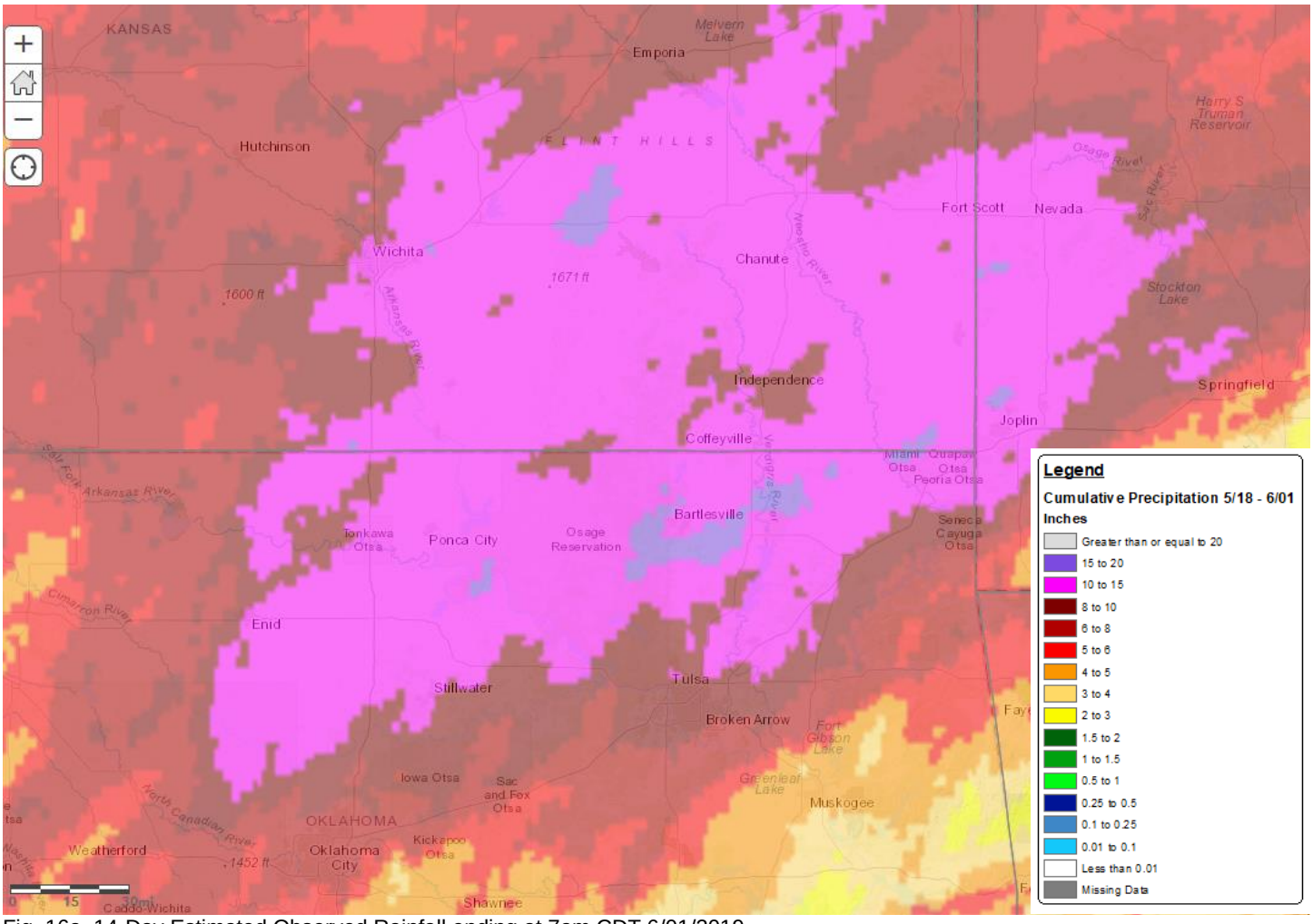


Fig. 16a. 14-Day Estimated Observed Rainfall ending at 7am CDT 6/01/2019.

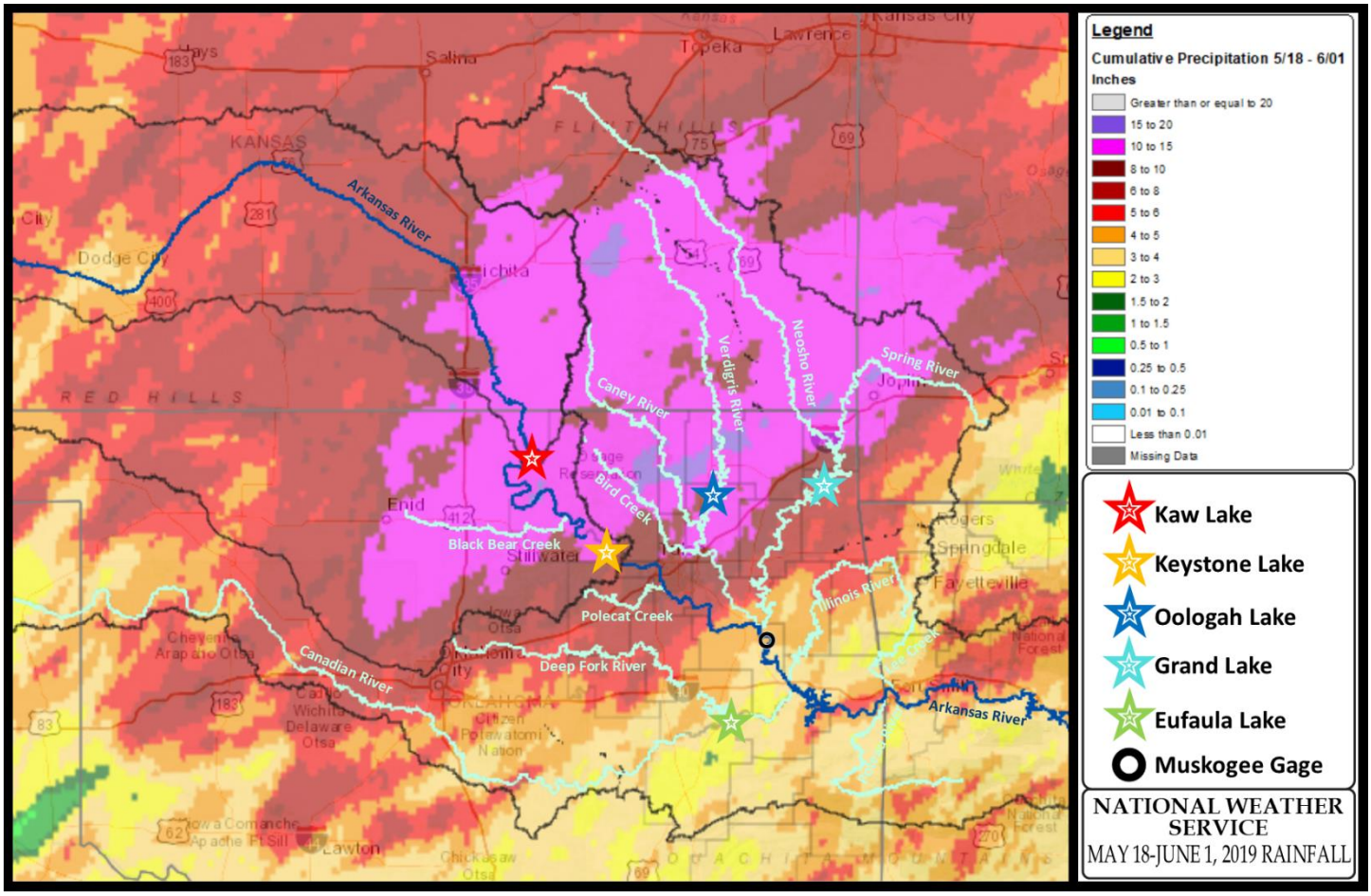


Fig. 16b. 14-Day Estimated Observed Rainfall ending at 7am CDT 6/01/2019.

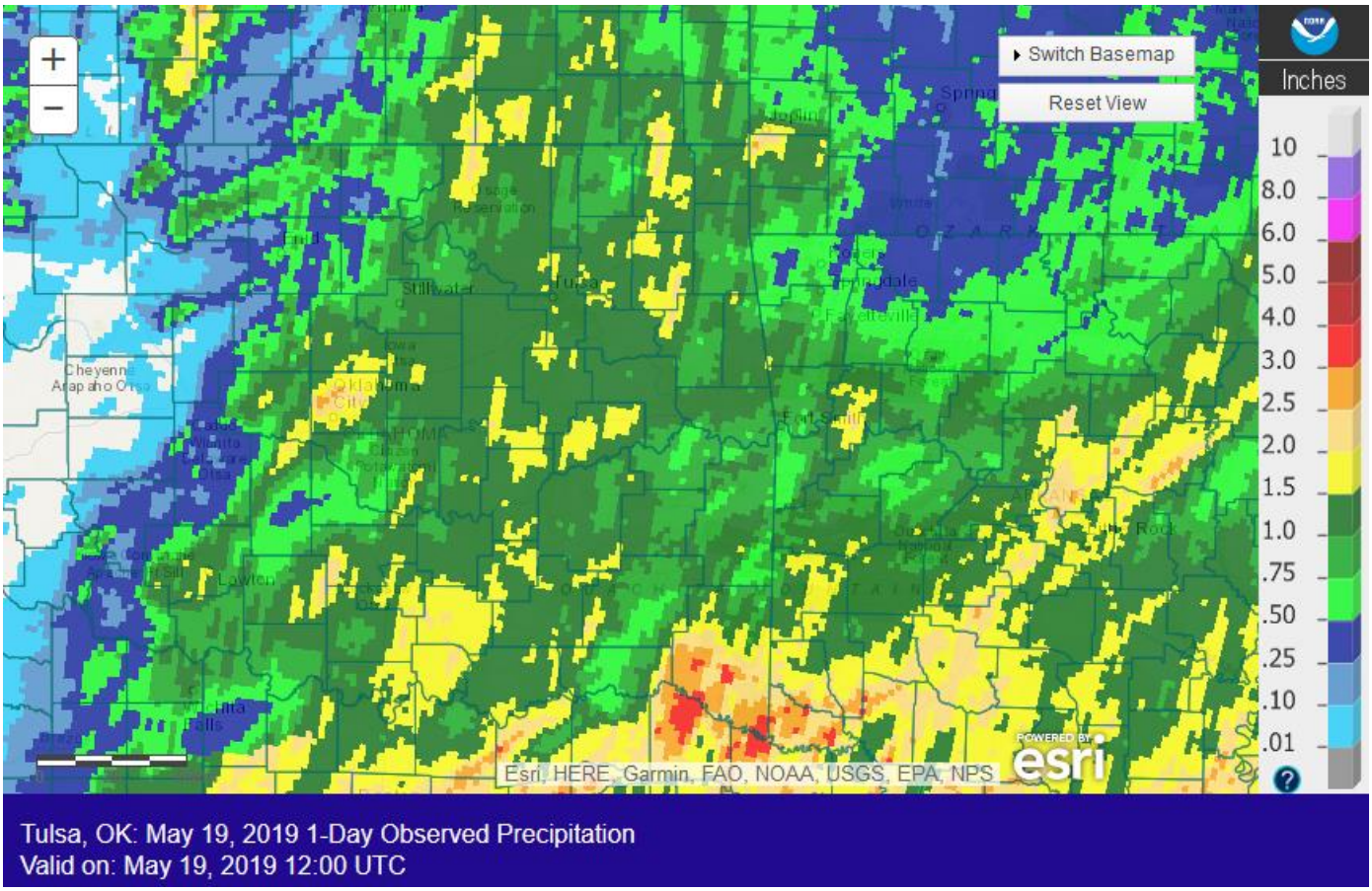


Fig. 17. 24-hour Estimated Observed Rainfall ending at 7am CDT 5/19/2019.

May 18:
An upper-level low began to shift into the Central Plains on the 18th. Ahead of the low, the first round of showers and thunderstorms moved into eastern OK during the mid-morning hours of the 18th as a line of convective storms moved northeast out of central OK/north central TX. This squall line continued eastward, entering western AR in the early afternoon. Very strong low-level wind shear and moderately strong instability ahead of the squall line resulted in the development of 10 tornadoes (2 were rated EF-0; 8 were rated EF-1) and damaging wind (see https://arcg.is/1X8eW1 for details). The trailing stratiform rain behind the squall line exited the area by mid-evening. Meanwhile, additional storm development during the evening occurred across south central KS in association with the main upper-level low, which then moved into northeast OK just before midnight on the 19th. This activity moved quickly east through the early morning hours, affecting locations along and north of Hwy 412 in northeast OK and northwest AR. Nearly all of eastern OK and northwest AR had rainfall totals of 0.50"-1.5", though several locations received 1.5" to around 2" (Fig. 17). This rainfall caused a brief rise above flood stage for the Arkansas River near Muskogee (which was continuing to hover just below flood stage prior to this rain; see preliminary hydrographs at the end of this report; see E3 Report for details).

May 20-21:
While the area had received a lot of rainfall up until this point, which effectively "primed the pump," the rain that occurred on May 20th into the 21st caused severe flash flooding and was the catalyst for widespread major river flooding. The May 20th morning surface analysis depicted a warm front draped across northern TX, separating dewpoints in the 70s to its south and 50s across OK/AR. Precipitable water content was near 2", meaning heavy rain was likely with any thunderstorm activity. Thunderstorms began developing across northwest OK during the morning hours of the 20th, with increasing development further east. By mid-morning, elevated convection had entered northeast OK, bringing rain to locations along and north of I-44 (as well as further north across north central OK and southern KS) through the early afternoon. Meanwhile, the warm front was lifting north during the day in response to a powerful upper-low swinging through the 4-corners region. By mid-afternoon, the warm front was located near a Drumright to Bixby to Inola line, with scattered convection continuing north of it through the afternoon hours. The atmosphere south of the warm front was extremely unstable, and impressive 0-6km/0-1km shear was supportive of supercells and tornadoes. Isolated storms tried to develop south of the front, but were not able to realize the full energy potential to become large supercells. By early evening, the convection from southwest OK into southeast KS congealed into a complex of storms and eventually developed into a line. Individual cells within the line were training while the entire line slowly moved southeast across northeast OK and far northwest AR during the evening. A few supercells developed near the warm front, and 6 tornadoes (rated EF-0 to EF-2) impacted northeast OK (see https://arcg.is/1X8eW1 for details). Very heavy rain, on the order of 3"-6", had already fallen along and northwest of a line from Bristow to Miami, with widespread flash flooding occurring. At 11:14 pm CDT, the Tulsa NWS issued a Flash Flood Emergency for southern Osage, Washington, Pawnee, and northwestern Tulsa Counties. Emergency managers were reporting numerous closed roadways, water rescues, and homes being evacuated. By this point, 4"-6" of rain had already fallen over this area and more rain was coming. At 11:44 pm CDT, another Flash Flood Emergency was issued for Rogers, southeastern Osage, western Mayes, northern Wagoner, and Tulsa Counties. This area had received 3"-5" of rain so far, and emergency managers in this area were also reporting numerous water rescues, road closures, and home evacuations.

By midnight on the 21st, the portion of the thunderstorm complex over southwest into central OK began to move to the northeast, into northeast OK, training for a few hours over the same area that had just received heavy rain. Finally, in the pre-dawn hours of the 21st, a third round of thunderstorms entered eastern OK as another squall line had formed from central KS to central TX in response to the main upper-level storm system lifting northeast into KS. The convective line moved east across all of eastern OK and western AR through the morning and afternoon hours. The heaviest rainfall was once again across northeast OK (and north central OK/southern KS). Low-level wind fields and modest instability over the area resulted in 5 quasi-linear convective system (QLCS) tornadoes in the Tulsa metro area on the morning of the 21st (see https://arcg.is/1X8eW1 for details).

By 7 am CDT on the 21st, much of north central and northeast OK, as well as south central and southeast KS, had received widespread 4"-8" of rain (Figs. 18-20). A large part of northern Pawnee County received 8"-10", and a rain gage in Pawnee measured 9.52" of rain by 7am. A combination of flash flooding and flooding along

Bird Creek resulted in severe flooding in and around Skiatook. Amazingly, no fatalities occurred during this event (as of the time of this report). While there were some tornadoes during this event, the strong, long-lived tornadoes that were expected did not materialize. Numerous events and activities, including graduation ceremonies, scheduled for the evening of the 20th were cancelled or rescheduled, and many people stayed home that night. It is quite possible that by reacting to the tornado potential and staying off the roads, people's lives were ultimately saved from the extreme flash flooding that did occur. A list of preliminary local storm reports received by the NWS Tulsa office at the time of this writing can be found at (please refer to NWS Storm Data for official reports): https://mesonet.agron.iastate.edu/lsr/#TSA/201905200500/201905211200/0100

24-hour precipitation reports >6" ending at 7am CDT May 21, 2019:

Pawnee, OK	9.52	Talala 0.5W, OK	8.86	Ralston, OK	8.20
Pawhuska 1ESE, OK	7.92	Skiatook 4NW, OK	7.74	Okesa 3E, OK	7.72
Avant, OK	7.65	Ramona 5SE, OK	7.40	Wynona 2S, OK	7.35
Ochelata 5.6N, OK	7.28	Hominy 4NNE, OK	7.10	Drumright 7ENE, OK	6.98
Pawhuska 9.4ENE, OK	6.84	Bartlesville 2W, OK	6.80	Collinsville 3NE, OK	6.76
Broken Arrow 3NNW, OK	6.65	Tulsa 12.2SE, OK	6.61	Skiatook 6WSW, OK	6.59
Drumright 0.6SW, OK	6.38	Tulsa 8.4ESE, OK	6.23	Talala 4NW, OK	6.19
Miami 1E, OK	6.16				

With soil moisture already high, this extreme rainfall quickly became runoff. Flood control reservoirs within the USACE Tulsa District were already utilizing their flood control pools, but they still had some room. However, Grand and Hudson Lakes reached the top to their respective flood control pools due to this rainfall. With no surcharge capacity, releases were necessary from these dams, resulting in flooding downstream of Pensacola Dam/Grand Lake and Kerr Dam/Lake Hudson. Birch, Skiatook, and Ft. Gibson Lakes also filled a significant portion of their flood control pools from this rainfall, but did not completely fill. The maximum release from Skiatook Dam of 5,866 cfs occurred on the morning of the 21st.

Rivers and creeks began to rise quickly. Bird Creek at Avant (Osage Co.) rose 30.5' in just 12 hours! Bird Creek at Avant crested at 36.52' at 7 am CDT on the 21st, setting a new record crest (previous record was 32.03' on 3/11/1974). This rainfall, combined with required reservoir releases, resulted in Major flooding along Bird Creek at Avant, near Sperry, and near Owasso-Mingo, Black Bear Creek at Pawnee, the Verdigris River near Lenapah, Arkansas River near Ralston and near Muskogee, Caney River near Collinsville; moderate flooding along the Arkansas River at Tulsa, Polecat Creek near Sapulpa, Caney River at Bartlesville and near Ramona, Neosho River near Commerce, Spring River near Quapaw, Deep Fork River near Beggs; and Minor flooding along the Arkansas River near Ponca City and near Haskell, Polecat Creek near Jenks (see preliminary hydrographs at the end of this report; see E3 Report for details).

This widespread heavy rain and runoff affected three major river basins, the Upper Arkansas, Verdigris, and Neosho, all of which have their confluence into the Arkansas River just north of Muskogee. The Arkansas River near Muskogee rose above flood stage on the evening of the 20th, reached Major flood stage late night on the 21st, and then just kept rising. The water continued downstream, causing flooding all along the Arkansas River through east central OK and through AR.

May 22-23:

Low-level moisture increased areawide on the 22nd as southerly winds increased in response to an upper-level trough swinging into the southwestern U. S. and increasingly amplified flow aloft. Very high instability developed by mid- to late-afternoon, with the highest values along and north of I-44. Increased ridging into the areas south of I-44 kept convection suppressed in that area. So, after only about 24-hours of rain-free time in the HSA, supercells developed over Okfuskee and Okmulgee Counties during the late afternoon of the 22nd, with additional thunderstorms rapidly developing over the next couple of hours near and just north of I-44 along a consolidating frontal zone stretching roughly parallel and just north of I-44. These storms moved to the northeast, while new development occurred across Osage and Pawnee Counties in northeast OK in the vicinity of a meso-low near Stillwater. This activity moved east-northeast, also impacting locations near and northwest of I-44. Numerous storms continued to train over this area through the evening and overnight hours due to warm air advection, a strengthening low-level jet increasing the moisture flux, and convergence near the nearly stationary front, before coming to an end in the pre-sunrise hours of the 23rd. Given the very high instability and sufficient deep layer shear (0-1km shear values from 30-40 knots), the atmosphere was more than supportive of a strong tornado threat, and 20 tornadoes (EF-0 to EF-2) occurred during the afternoon through

late evening hours (see https://arcg.is/1X8eW1 for details). Rainfall totals north of a Stillwater to Tulsa to Jay line were widespread 0.5"-1.5", with a heavy rain corridor from Pawnee to Bartlesville to Nowata to Miami where 2.5"-6" of rain fell (Figs. 21-22). The 4-day rainfall total from May 20-23 was 5"-12" along and north of the I-44 corridor (Fig. 23). A list of preliminary local storm reports received by the NWS Tulsa office at the time of this writing can be found at (please refer to NWS Storm Data for official reports): https://mesonet.agron.iastate.edu/lsr/#TSA/201905221700/201905231200/0100

24-hour precipitation reports >3.5" ending at 7am CDT May 23, 2019:

Ramona 5SE, OK	4.90	Talala 4NW, OK	4.22	Nowata 3NNE, OK	4.14
Vinita 10NNW, OK	4.06	Talala 0.5W, OK	4.04	Commerce 5W, OK	3.94
Ochelata 5.6N, OK	3.93	Childers 2SSE, OK	3.91	Miami 1E, OK	3.87
Avant, OK	3.65	Wyandotte 7.3NE, OK	3.56		

This additional heavy rain caused the lake levels at Kaw, Keystone, and Oologah to exceed the top of their flood control pools and go into the surcharge pool, necessitating higher releases from the dams. At this point, the additional inflow, peaking at 165,816 cfs on the 20th, caused Kaw Lake to continue to rise above the top of the flood pool into surcharge, with the pool peaking at 1047.31 feet or 112.16% of the flood pool (top of the surcharge pool), on the 24th. This set a new pool of record for Kaw Lake. This also necessitated even higher releases out of the dam and resulted in a new record flood along the Arkansas River near Ponca City of 22.26 feet on May 24 (previous record was 20.11' on 5/14/1993). Likewise, the maximum inflow into Keystone Lake, 317,052 cfs on the 23rd, caused the lake level to rise above the top of the flood control pool and into surcharge, peaking just under 756 feet. Releases out of Keystone Dam had to be increased to approximately 250,000 cfs, the second highest in the dam's history so far (record release occurred in Oct. 1986) as the lake level went into surcharge. This release resulted in the Arkansas River at Tulsa exceeding the Major flood category stage of 22 feet on the afternoon of the 23rd. The release held steady near this level for about 3 days, with the stage at Tulsa remaining between approximately 22.2-21.8 feet during that time.

The maximum inflow for Oologah Lake of 165,883 cfs also occurred on the 23rd, causing the lake to rise to near 665', well into the surcharge pool, by the afternoon of the 24th. Copan and Birch Lakes also reached the top of their flood control pools (Copan did not go into surcharge at this point) due to this rainfall, resulting in higher releases as well. Skiatook Lake also went above the top of its flood control pool early on the 23rd. The Grand Lake pool elevation remained high during this time, and the maximum release out of Pensacola Dam of approximately 190,000 cfs occurred on the afternoon of the 23rd.

Any rivers that had crested from the last rainfall event and had begun to fall, quickly began to rise again, while other rivers continued to rise even higher. Major river flooding occurred along the entire Arkansas River in the Tulsa HSA from near Ponca City, OK, through Ralston, Tulsa, Haskell, Muskogee, Van Buren, and finally Ozark, AR, which in total is approximately 396 river miles. Major flooding then continued on downstream through AR. From near Muskogee and downstream, the Arkansas River is part of the McClellan-Kerr Navigation System (MKARNS). The high flows and flooding had resulted in all barge traffic ceasing, and the ports along the river had to tie up the barges as the river levels rose. Unfortunately, two barges that were tethered together broke loose from the Port of Muskogee on the evening of the 22nd and floated downstream. They got caught on some rocks and became stuck, but as the river continued to rise, they once again began to float downstream. At noon on the 23rd, the barges collided with Webbers Falls Lock & Dam 16 and immediately sank. Thankfully, the dam did not fail from this impact. By the evening of the 23rd, the Arkansas River near Muskogee river gage went under water, between approximately 42'-43'. The U. S. Geological Survey (USGS) Tulsa Field Office was able to establish a new temporary gage, allowing for no loss of river height measurements as the river continued to rise (by several more feet by the time the river finally crested a few days later). As the Arkansas River continued to climb, exceeding major flood stage at Van Buren, water from the river backed up Lee Creek to the reservoir, causing major flooding there as well.

Major river flooding also occurred along Bird Creek at Avant and Owasso-Mingo, Caney River near Collinsville, Verdigris River near Lenapah, Neosho River near Commerce, Spring River near Quapaw, and Lee Creek near Van Buren; Moderate river flooding along Black Bear Creek at Pawnee, Bird Creek near Sperry, Caney River at Bartlesville and near Ramona, and the Verdigris River near Claremore; Minor river flooding along Verdigris River near Inola (see Figs. 24-26 and preliminary hydrographs at the end of this report; see E3 Report for details).

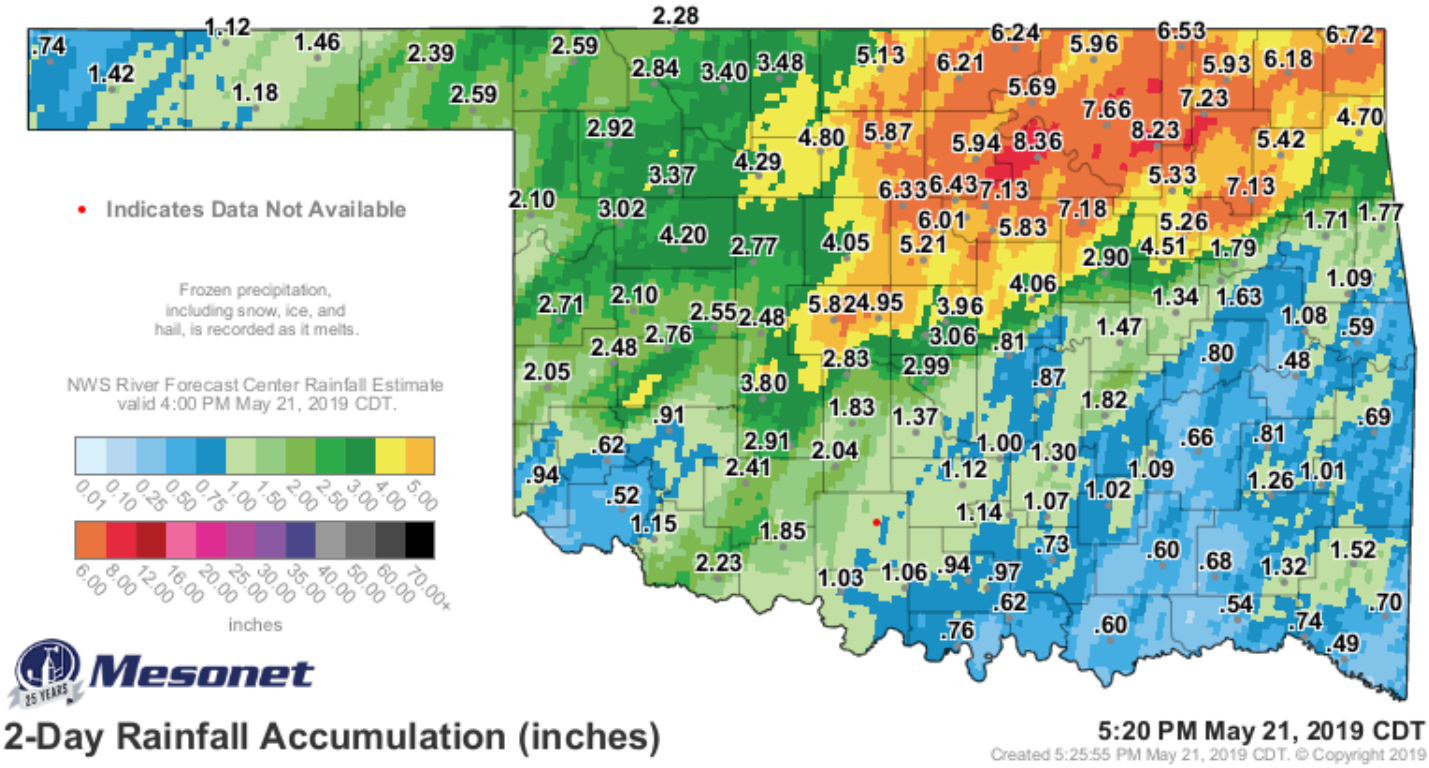


Fig. 18. OK Mesonet (values) and NWS RFC rainfall estimate (image) 2-day rainfall ending at 5:20 pm CDT 05/21/2019.

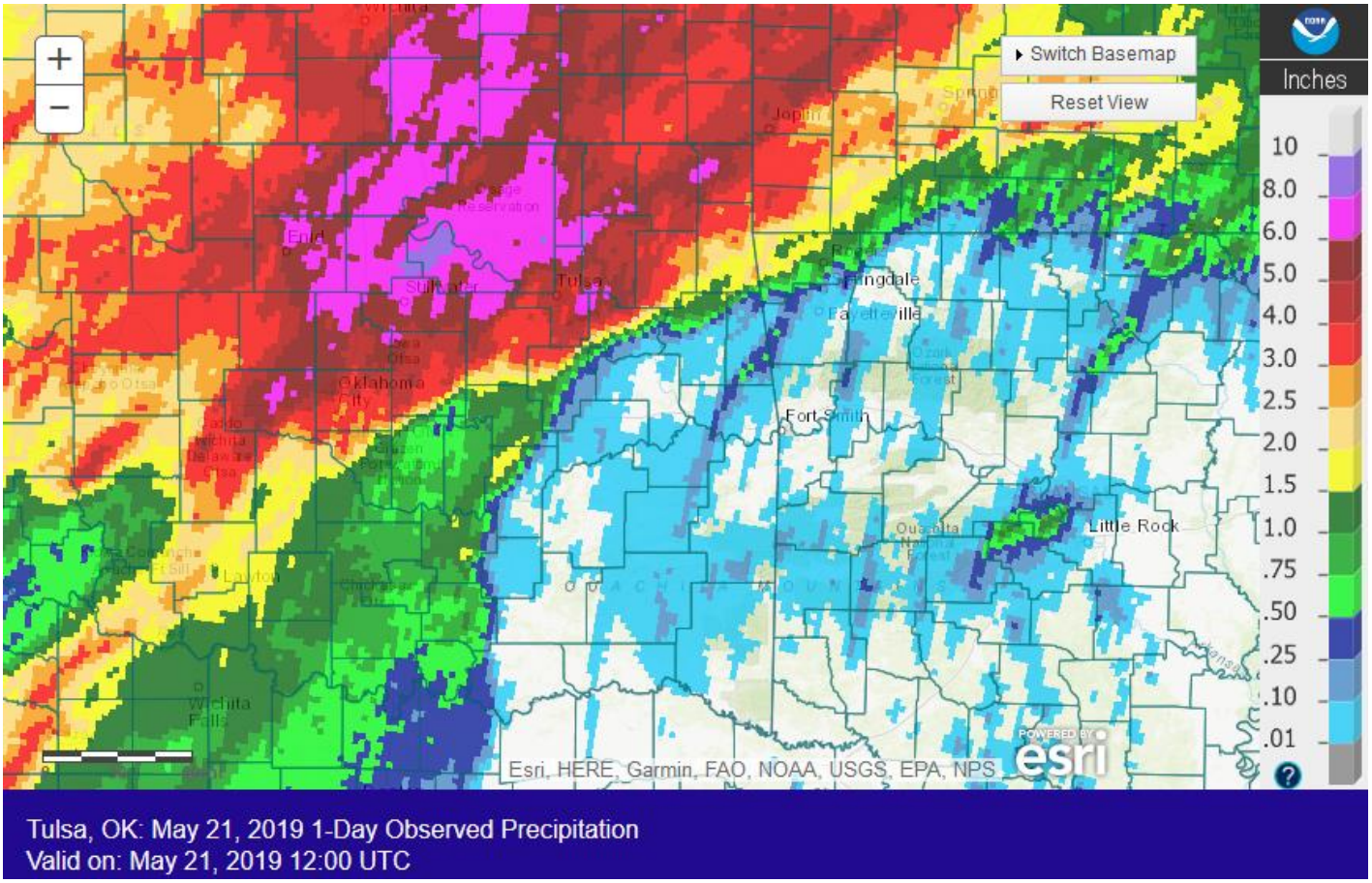


Fig. 19. 24-hour Estimated Observed Rainfall ending at 7am CDT 5/21/2019.

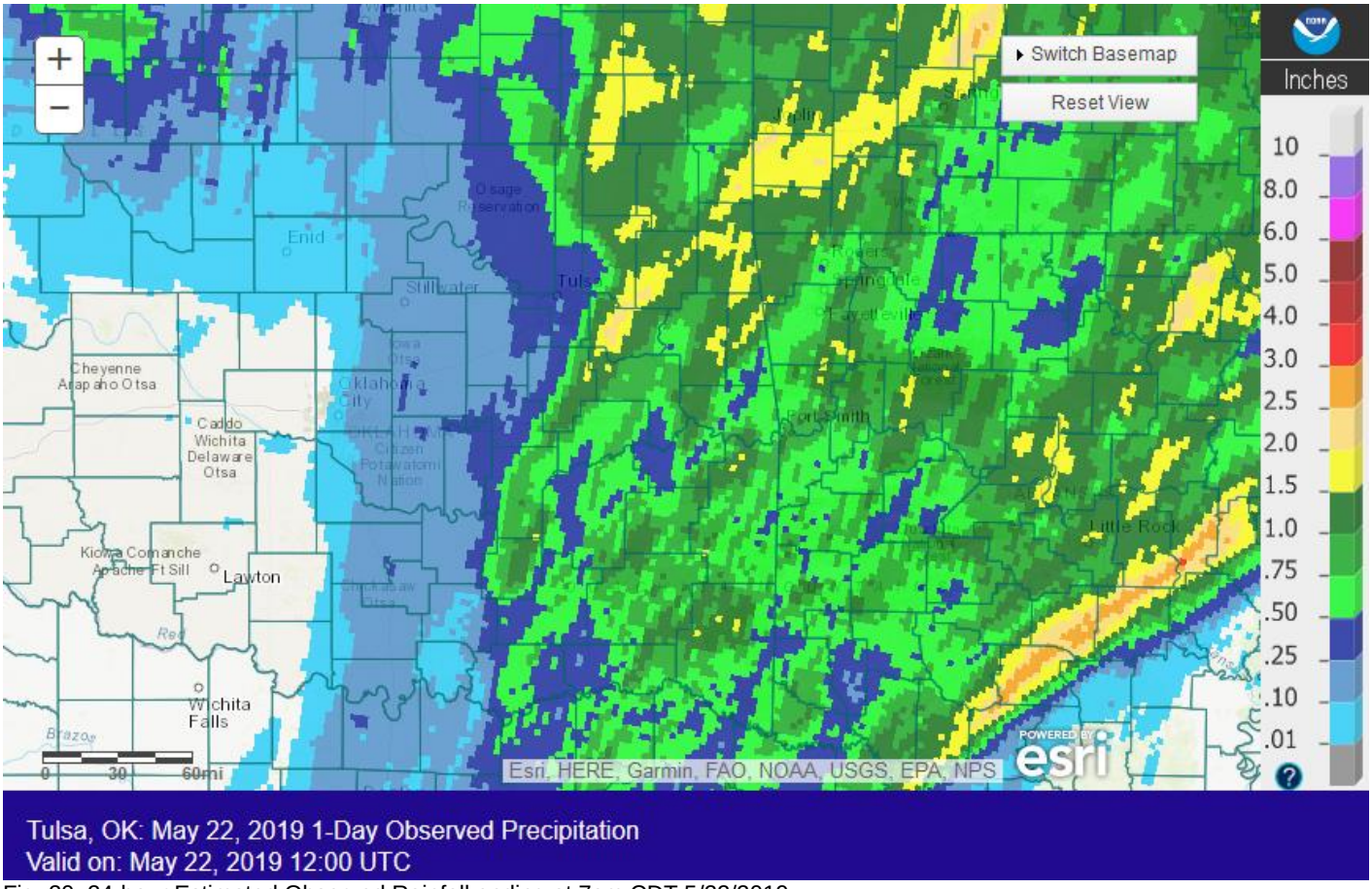


Fig. 20. 24-hour Estimated Observed Rainfall ending at 7am CDT 5/22/2019.

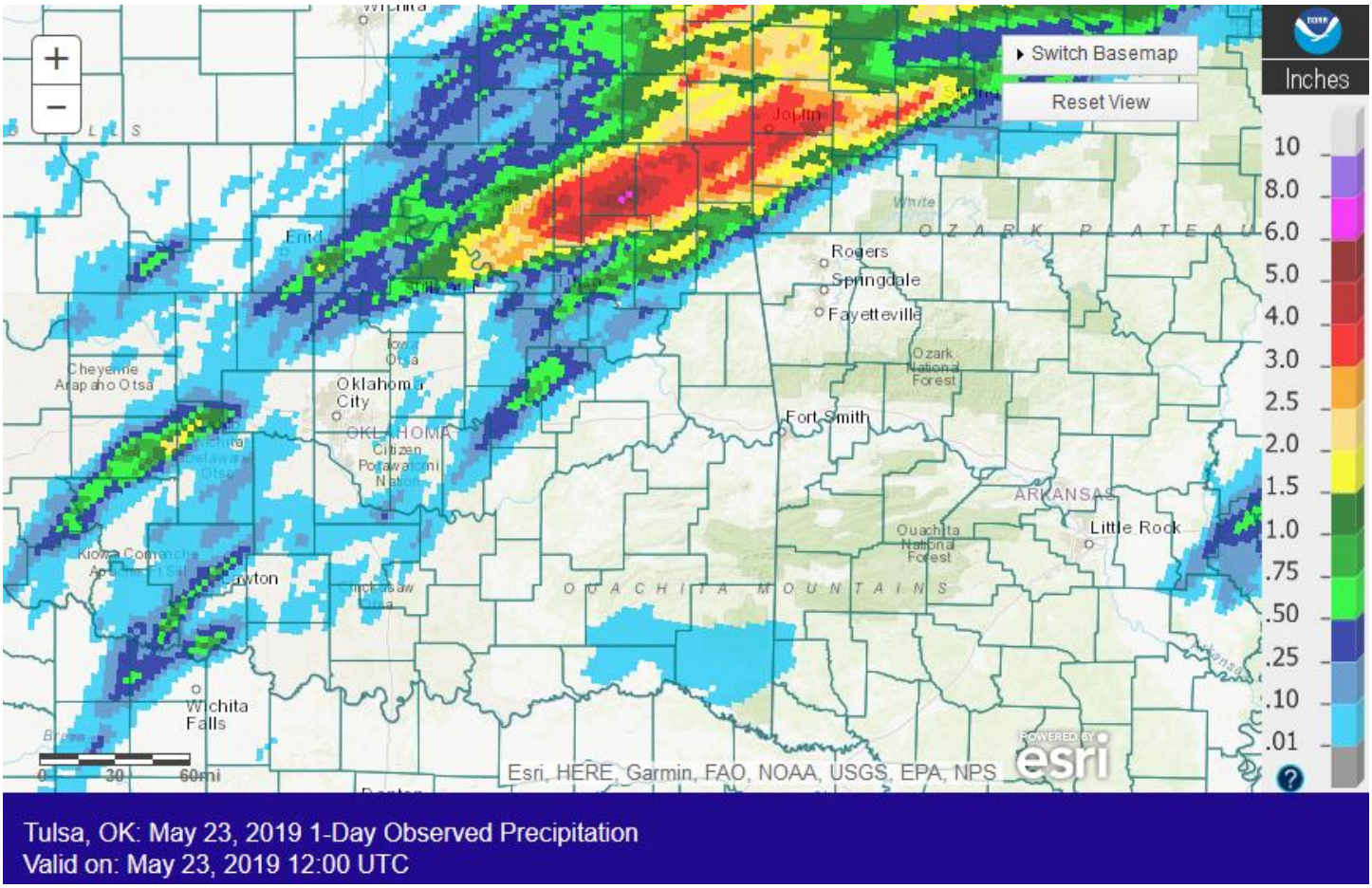


Fig. 21. 24-hour Estimated Observed Rainfall ending at 7am CDT 5/23/2019.

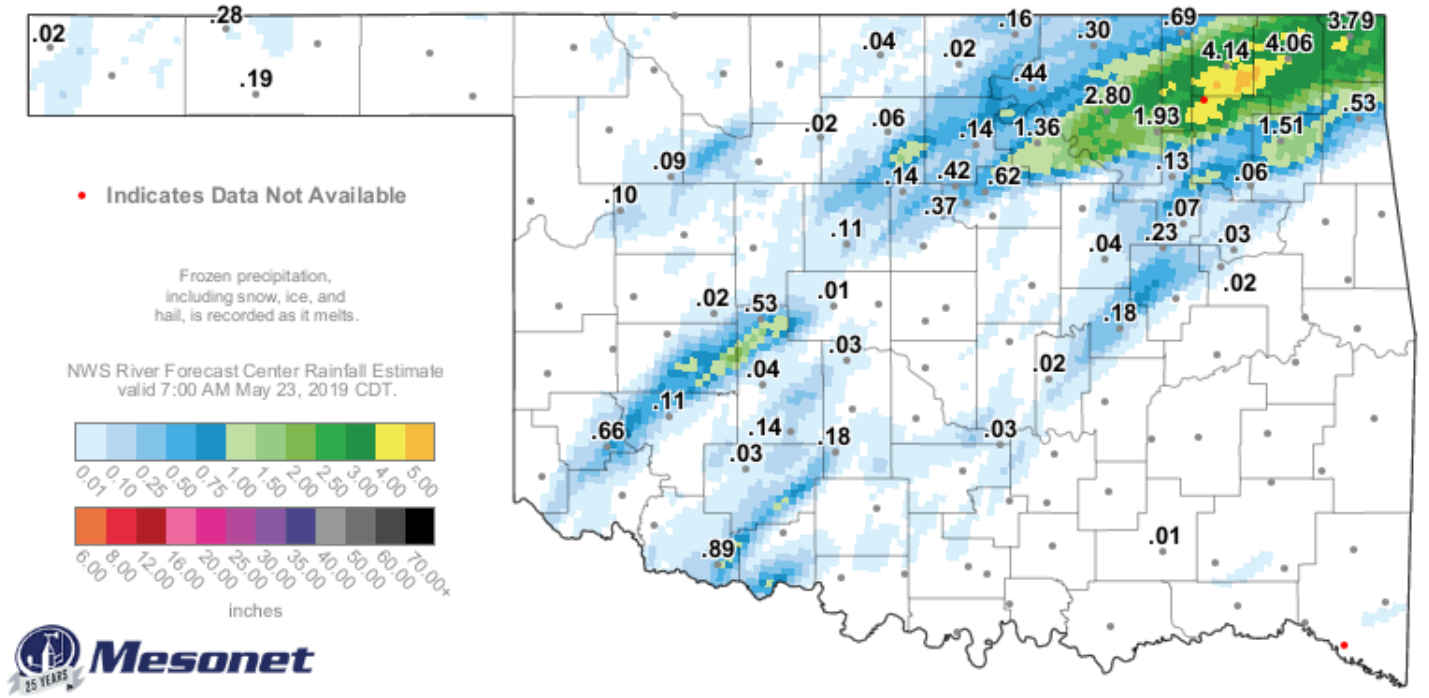


Fig. 22. OK Mesonet (values) and NWS RFC rainfall estimate (image) 24-hour rainfall ending at 8:35 am CDT 05/23/2019.

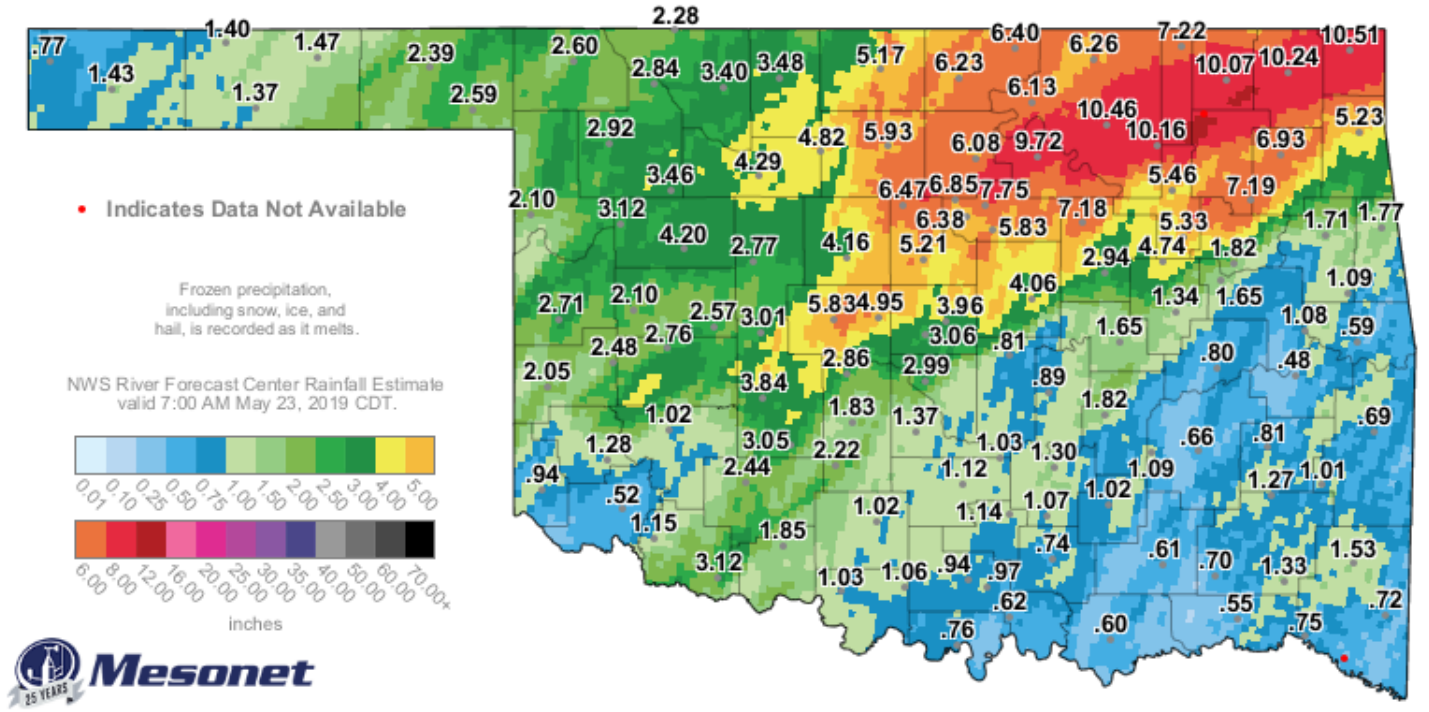


Fig. 23. OK Mesonet (values) and NWS RFC rainfall estimate (image) 4-day rainfall ending at 8:35 am CDT 05/23/2019.

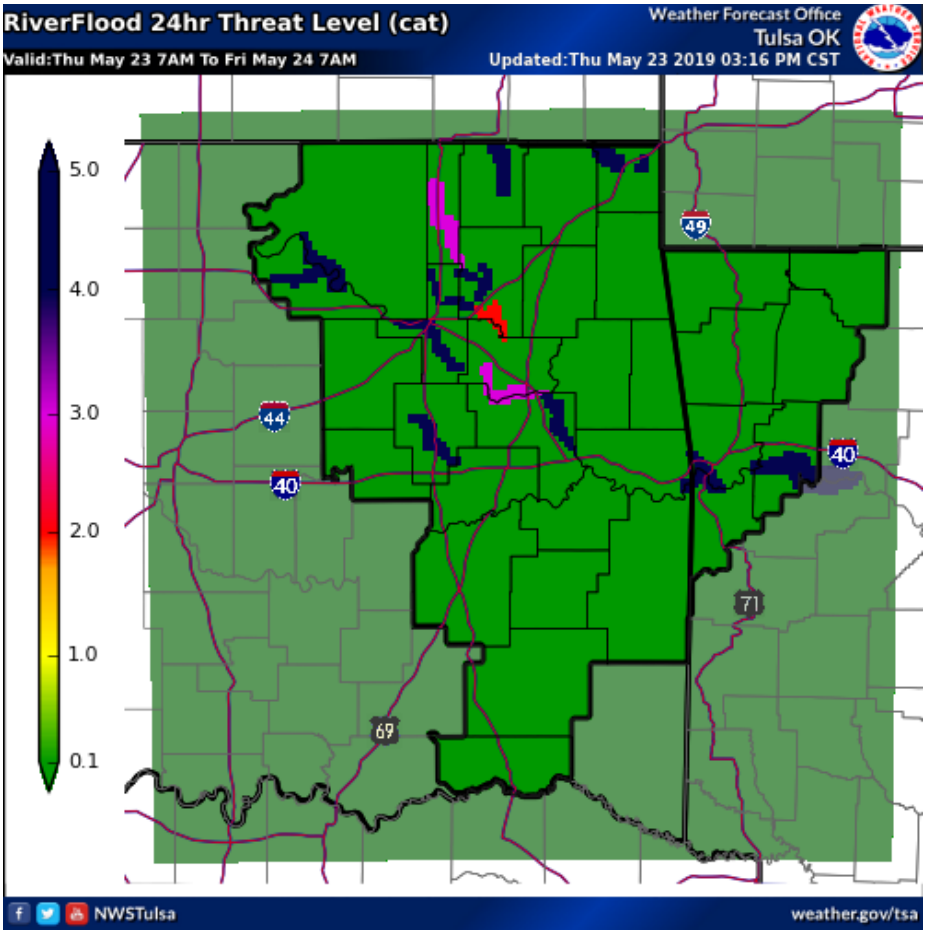


Fig. 24. River reach polygons color-coded by threat level (maximum observed and/or forecast) as of 3:16pm May 23, 2019.

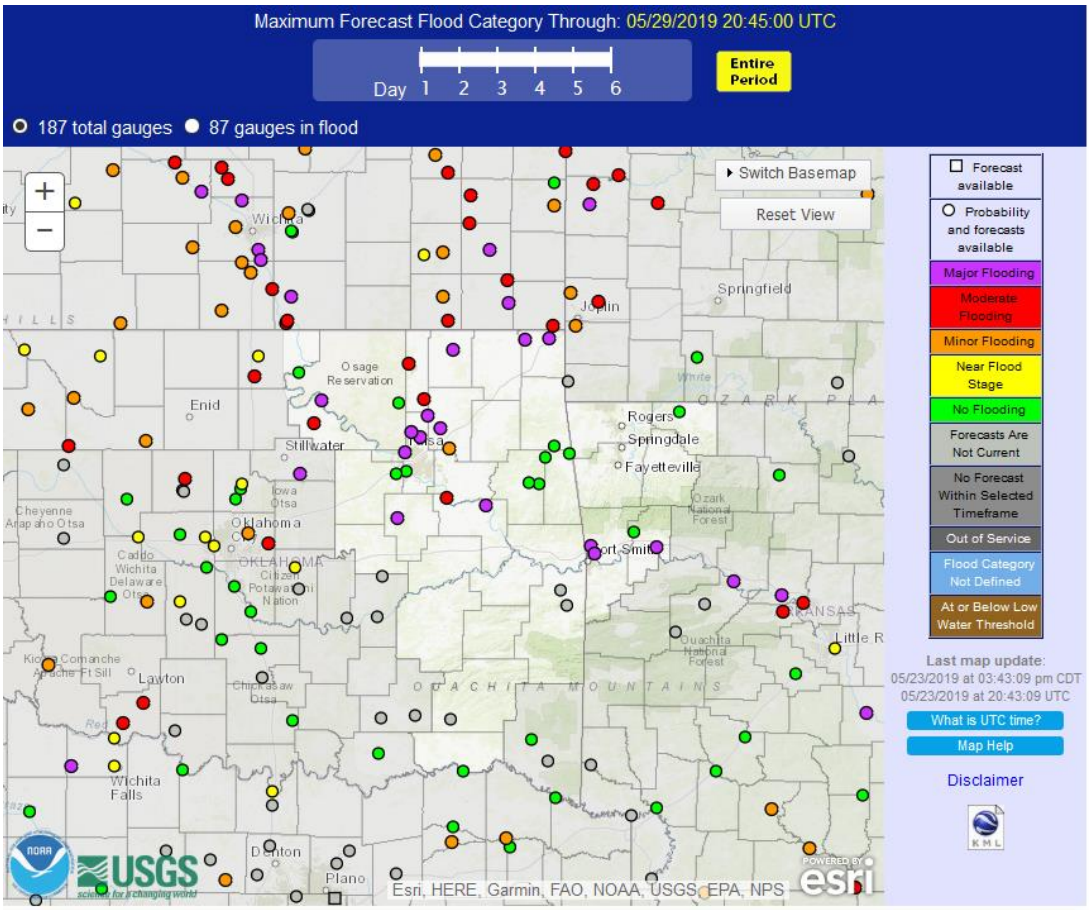


Fig. 25. NWS river forecast points color-coded based on the forecast river crest category as of 3:43 pm CDT May 23, 2019.

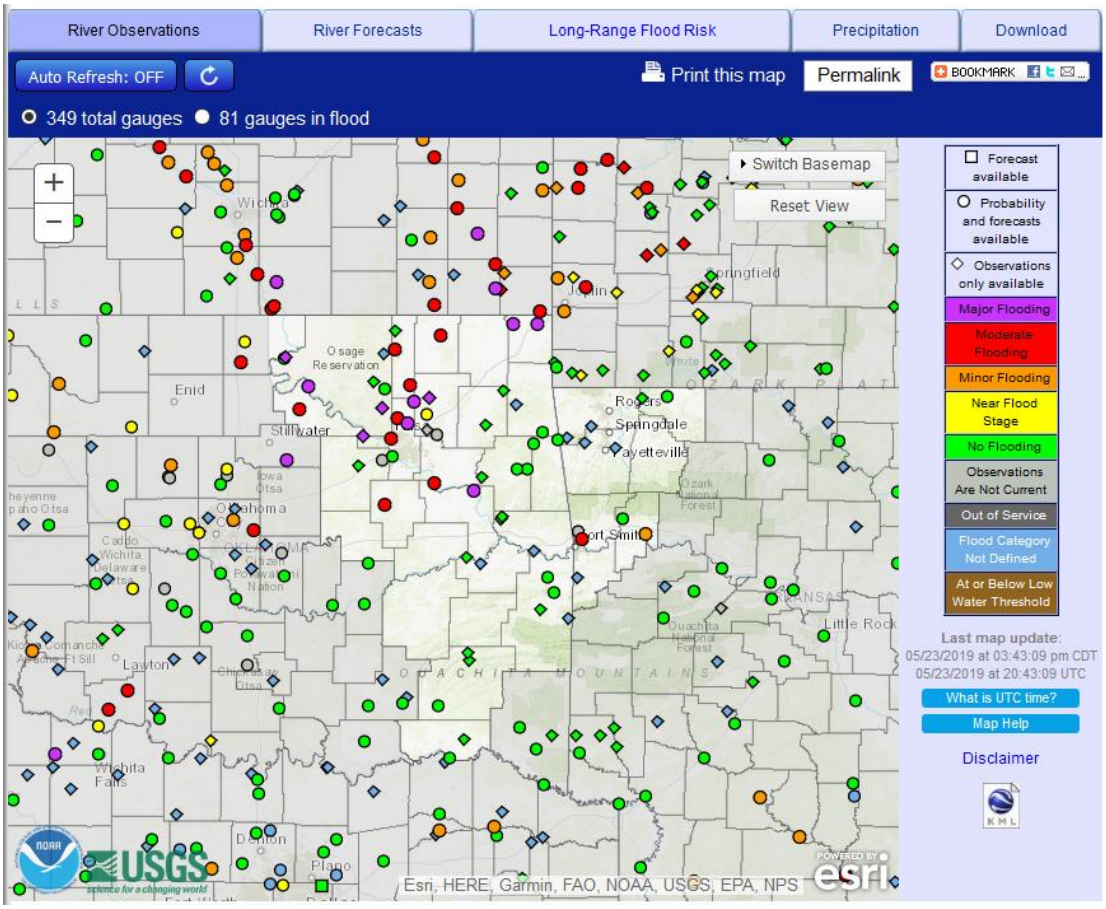


Fig. 26. NWS river forecast points color-coded based on the observed river level category as of 3:43 pm CDT May 23, 2019. ("Major" flooding at lake/dam locations = at or above the top of flood control pool).

May 24-25:

Just before sunrise on the 24th, a weakening line of showers and thunderstorms moved southeast out of KS into north central and northeast OK, primarily affecting locations from Pawnee to Nowata Counties through the morning hours. The heaviest rain occurred over western Osage and western Pawnee Counties. By noon, new convection began developing from southwest OK to northeast KS. These storms increased in coverage during the afternoon hours, and by mid-evening, had developed into a line of storms stretching from Altus (in southwest OK), through north central OK, to Kansas City, MO. Precipitable water (PWAT) values were at least 2 standard deviations above normal across north-central Oklahoma and south-central Kansas, with 1.80" PWAT values over western portions of Osage and Pawnee Counties. Additionally, largely unidirectional wind profiles in the mid-levels resulted in back-building thunderstorms in this zone, and therefore, heavy rain in the upper Arkansas River basin upstream of Kaw and Keystone Lakes. This thunderstorm complex moved into northeast OK during the late evening hours, weakening as it moved east across the area. Showers and thunderstorms continued overnight across northeast and east central OK and far northwest AR as the storms continued eastward. The rain exited the area before sunrise on the 25th. Rainfall totals along and northwest of I-44 ranged from around 0.75" to 3" within the Tulsa HSA (Fig. 27). Widespread 1.5"-4" occurred across north central OK (Fig. 27), which is in the upper Arkansas River basin upstream of Kaw and Keystone Lakes, and over the Deep Fork basin upstream of Beggs.

Even though the rain was relatively "light" by normal May standards across northeast OK, most of this rain became runoff, exacerbating the already full hydrologic system. Lakes rose even higher, reservoir releases had to be increased further, and the combination of runoff and releases caused additional and/or higher crests across most of the already flooded rivers. As the Arkansas River continued to rise, the tributaries that normally drain into the river began to backup. Effectively, these tributaries were flowing backward with Arkansas River water. This backwater resulted in flooding along the Poteau River near Panama, and rises along the Poteau River upstream to Wister Lake.

Major flooding continued along the Arkansas River near Ponca City, at Ralston, at Tulsa, near Haskell, near Muskogee, at Van Buren, and at Ozark; Lee Creek near Van Buren, Caney River near Collinsville, Neosho River near Commerce, and the Spring River near Quapaw. Moderate flooding occurred along the Caney River near Ramona, Verdigris River near Lenapah and near Claremore, and the Deep Fork River near Beggs. Minor flooding occurred along the Black Bear Creek at Pawnee, Bird Creek near Sperry, Caney River at Bartlesville, Verdigris River near Inola, and the Poteau River near Panama (see preliminary hydrographs at the end of this report; see E3 Report for details).

Lake Hudson rose to a maximum pool elevation of 636.05' (100.39% of the flood control pool) on the 24th, setting a new pool of record. The maximum inflow into Lake Hudson was 233,079 cfs and the maximum release out of the Kerr Dam on Lake Hudson was 226,701 cfs, also on the 24th. Similarly, the pool elevation of Ft. Gibson Lake peaked at 582.04' (100% of the flood control pool) on the 25th. The maximum inflow into Ft. Gibson lake was 253,299 cfs and the maximum release was 228,329 cfs, both on the 25th. This water from the Grand-Neosho basin then flows into the Arkansas River just upstream of Muskogee.

May 25-27:
The upper-level trough persisted across the west, leaving the Plains in southwest flow aloft. So, once again, a shortwave trough set off a line of thunderstorms over western OK/western KS along a dry line and synoptic front during the evening of the 25th, which then moved into eastern OK by late evening. A bow echo intensified over Creek County around midnight on the 26th and moved swiftly through the Tulsa metro area. Several QLCS tornadoes developed along the leading edge of the bow, producing a total of 7 tornadoes (EF-0 to EF-1; see https://arcg.is/1X8eW1 for details). A long-lived circulation occurred along the convective line where it intersected an outflow boundary from storms that weakened to the north. That circulation resulted in several tornadoes from Bristow to likely near the Arkansas state line. In addition to the tornadoes, there was a lot of straight-line wind damage across the region. The storm complex continued east through the overnight hours, affecting locations primarily along and north of I-40, before exiting the area in the pre-dawn hours. The moist atmosphere remained in place, with precipitable water values of 1.5"-2", allowing for heavy rain. Rainfall was highest west of a Pawhuska to Tulsa to Okmulgee line, where totals were 1"-2" in the Tulsa HSA by 7 am CDT on the 26th (Fig. 28). 1"-3" fell further west in the upper Arkansas River basin upstream of Kaw and Keystone Lakes, and in the Deep Fork basin upstream of Beggs. This water resulted in Keystone Lake rising to a peak pool elevation of 757.19' (115.73% of the flood control pool and top of the surcharge pool) on the 28th, setting a new pool of record. The maximum release of 276,891 cfs from Keystone Dam occurred on the 29th, resulting in Major flooding along the Arkansas River at Tulsa. The Arkansas River at Tulsa crested at 23.41' on the 29th, ranking as the second highest crest on record (record crest is 25.21' from 10/05/1986). Kaw Dam also reached its maximum release of 105,040 cfs on the 29th. Further downstream, this rainfall combined with the reservoir releases resulted in the peak crest of 46.39' along the Arkansas River near Muskogee on the morning of the 26th. The is the second highest crest on record for this river gage (record is 48.20' on 5/21/1943). This also pushed the Arkansas River at Van Buren above the previous flood of record (38.10' on 4/16/1945) on the afternoon of the 26th. The entire towns of Webbers Falls, OK and Moffett, OK were inundated by the Arkansas River (see Images B, C). The 10-day rainfall ending at 10:05 am CDT 5/26/2019 was 6"-16" across most of the Upper Arkansas River basin in Oklahoma and across a large portion of the Canadian River basin, as shown in Fig. 29.

New convection developed just before sunrise on the 26th across north central OK and south central KS. These storms moved east across southeast KS and slightly across the state line into OK through the morning, coming to an end by early afternoon. Later that evening, another (yes another!) line of thunderstorms developed across western OK/western KS and moved northeast into north central OK/south central KS after midnight on the 27th. These storms again moved through southeast KS and just across the state line in OK through the morning hours. The two rounds of storms across this region resulted in 0.50"-3" of rain across southern KS to the OK/KS state line (Fig. 30), and added more rain to the upper portions of the Arkansas River (upstream of Kaw Lake), Verdigris River (upstream of Lenapah), and Neosho River (upstream of Commerce).

Birch Lake rose to a peak pool elevation of 774.17' (101.04% of the flood control pool) on the 25th, setting a new pool of record.
Skiatook Lake rose to a peak pool elevation of 731.23' (117.23% of the flood control pool) on the 26th, setting a new pool of record.

Oologah Lake rose to a peak pool elevation of 665.86' (130.41% of the flood control pool) on the 26th, setting a new pool of record. The maximum release of 64,457 cfs from Oologah Dam also occurred on the 26th, resulting in Major flooding along the Verdigris River near Claremore, which crested on the evening of the 26th.
Grand Lake reached its maximum pool elevation of 755.01' (99.69% of the flood control pool) on the 26th, with a maximum inflow of 189,441 cfs on the 25th.
Copan Lake reached its maximum pool elevation of 732.45' (103.27% of the flood control pool) on the 26th, with a maximum release of 7,317.6 cfs on the 27th.
Hulah Lake reached its maximum pool elevation of 765.74' (103.9% of the flood control pool) on the 26th, with a maximum release of 12,353 cfs on the 27th.

Major flooding continued along the Arkansas River near Ponca City, at Ralston, at Tulsa, near Haskell, near Muskogee, at Van Buren, and at Ozark; Lee Creek near Van Buren, Caney River near Collinsville, Verdigris River near Lenapah and near Claremore, and the Neosho River near Commerce. Moderate flooding occurred along Bird Creek near Owasso-Mingo, Caney River at Bartlesville, Deep Fork River near Beggs, and the Poteau River near Panama. Minor flooding occurred along the Black Bear Creek at Pawnee, Bird Creek near Sperry, Caney River near Ramona, Verdigris River near Inola, and the Spring River near Quapaw (see preliminary hydrographs at the end of this report; see E3 Report for details).

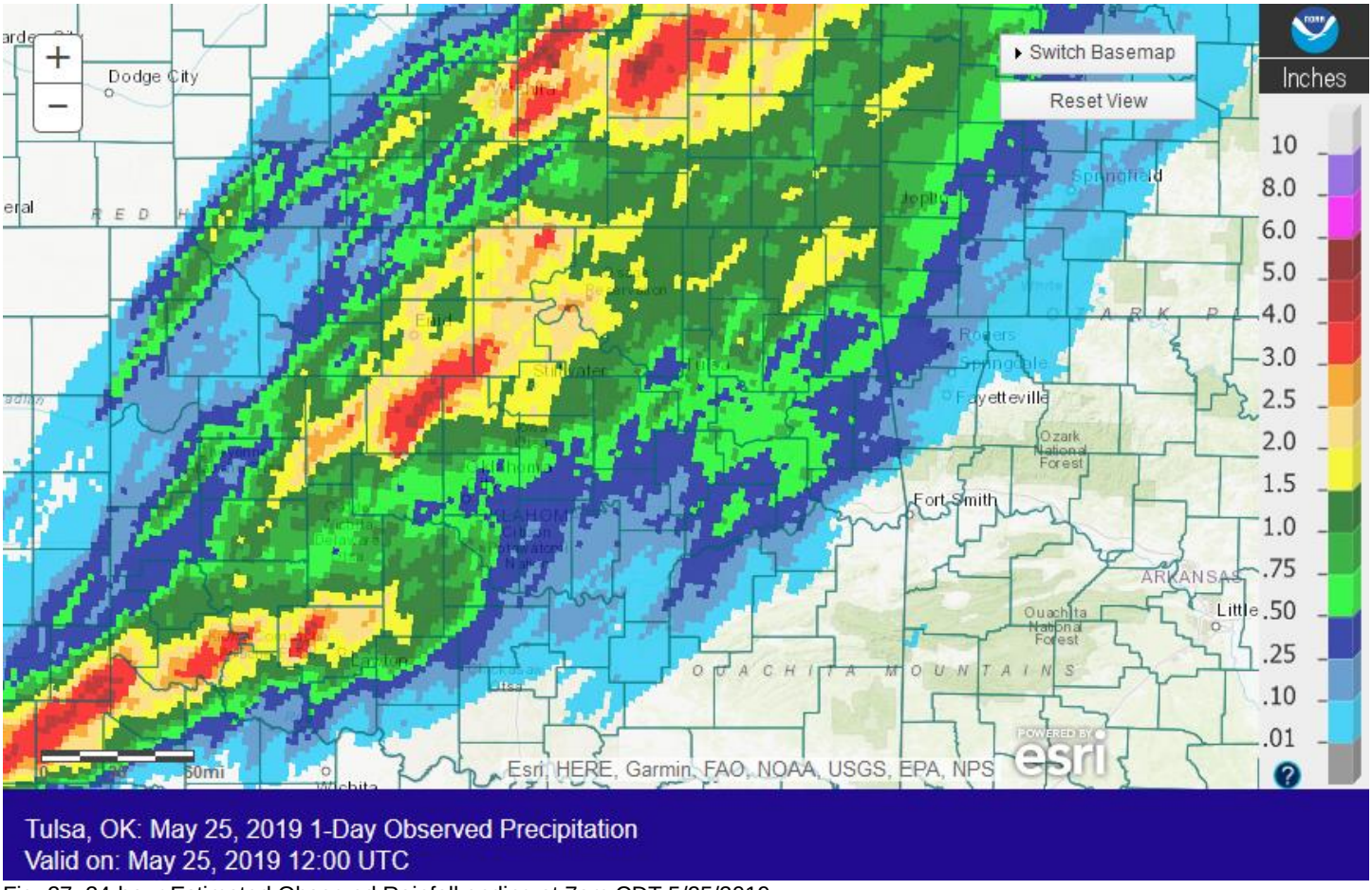


Fig. 27. 24-hour Estimated Observed Rainfall ending at 7am CDT 5/25/2019.

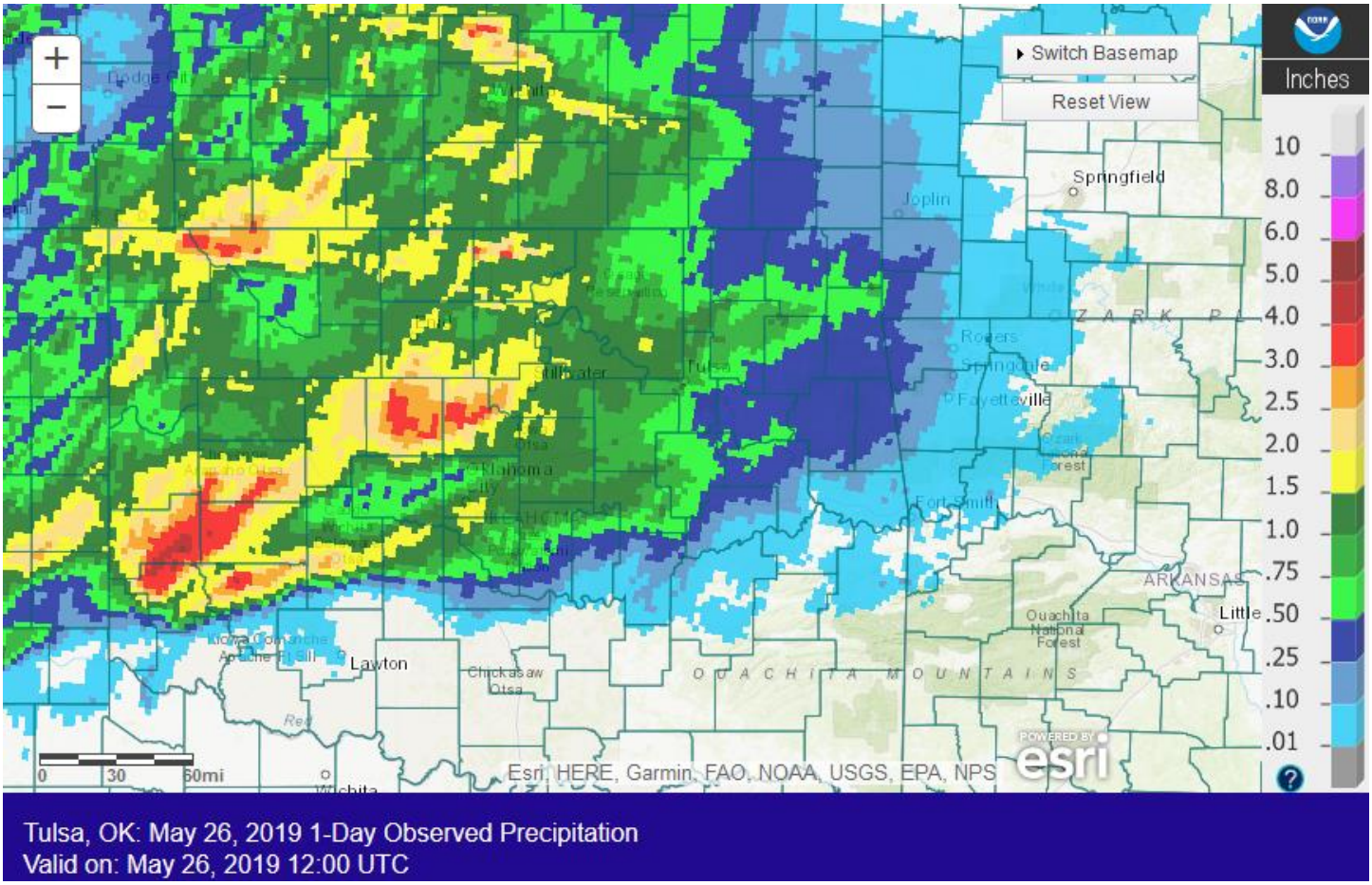


Fig. 28. 24-hour Estimated Observed Rainfall ending at 7am CDT 5/26/2019.

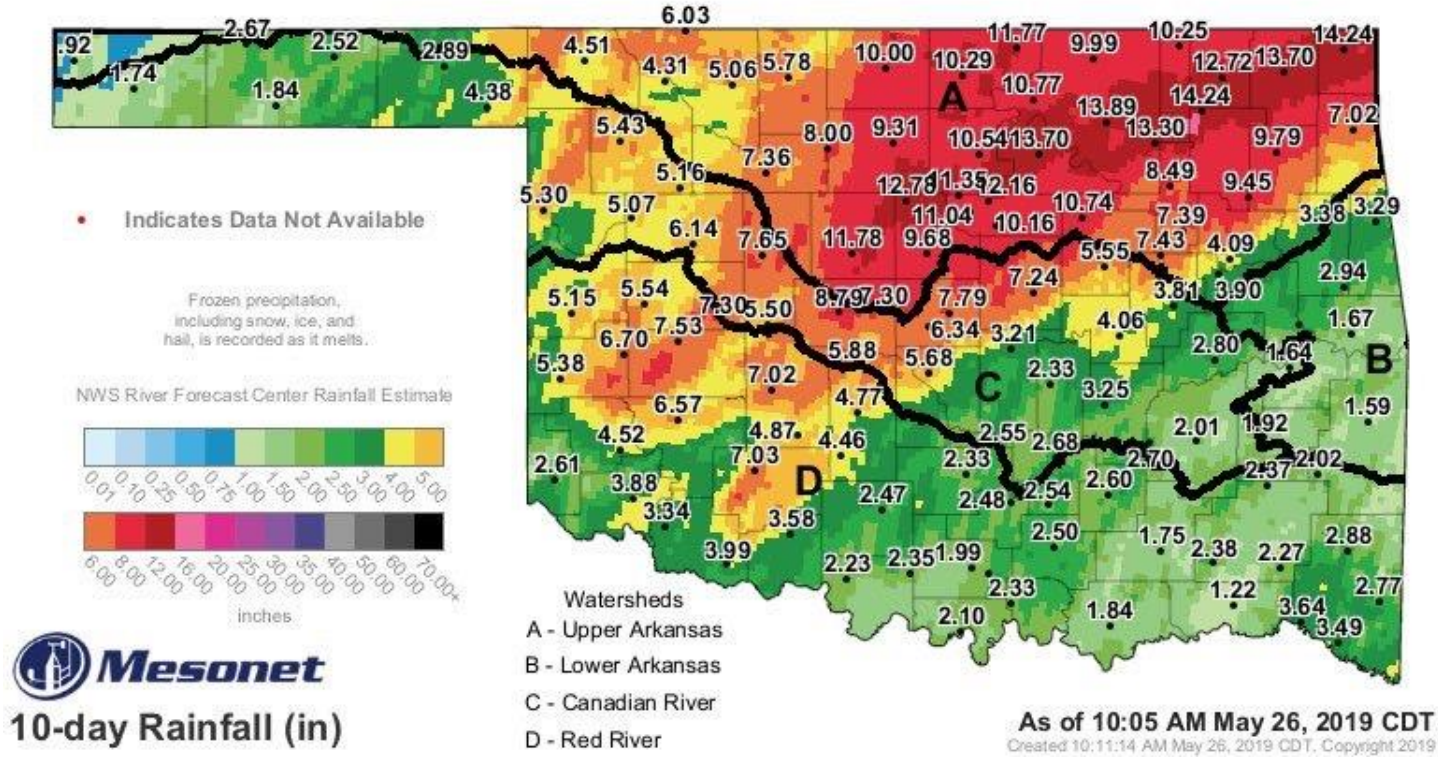


Fig. 29. OK Mesonet (values) and NWS RFC rainfall estimate (image) 10-day rainfall ending at 10:05 am CDT 05/26/2019 with river basin boundaries.

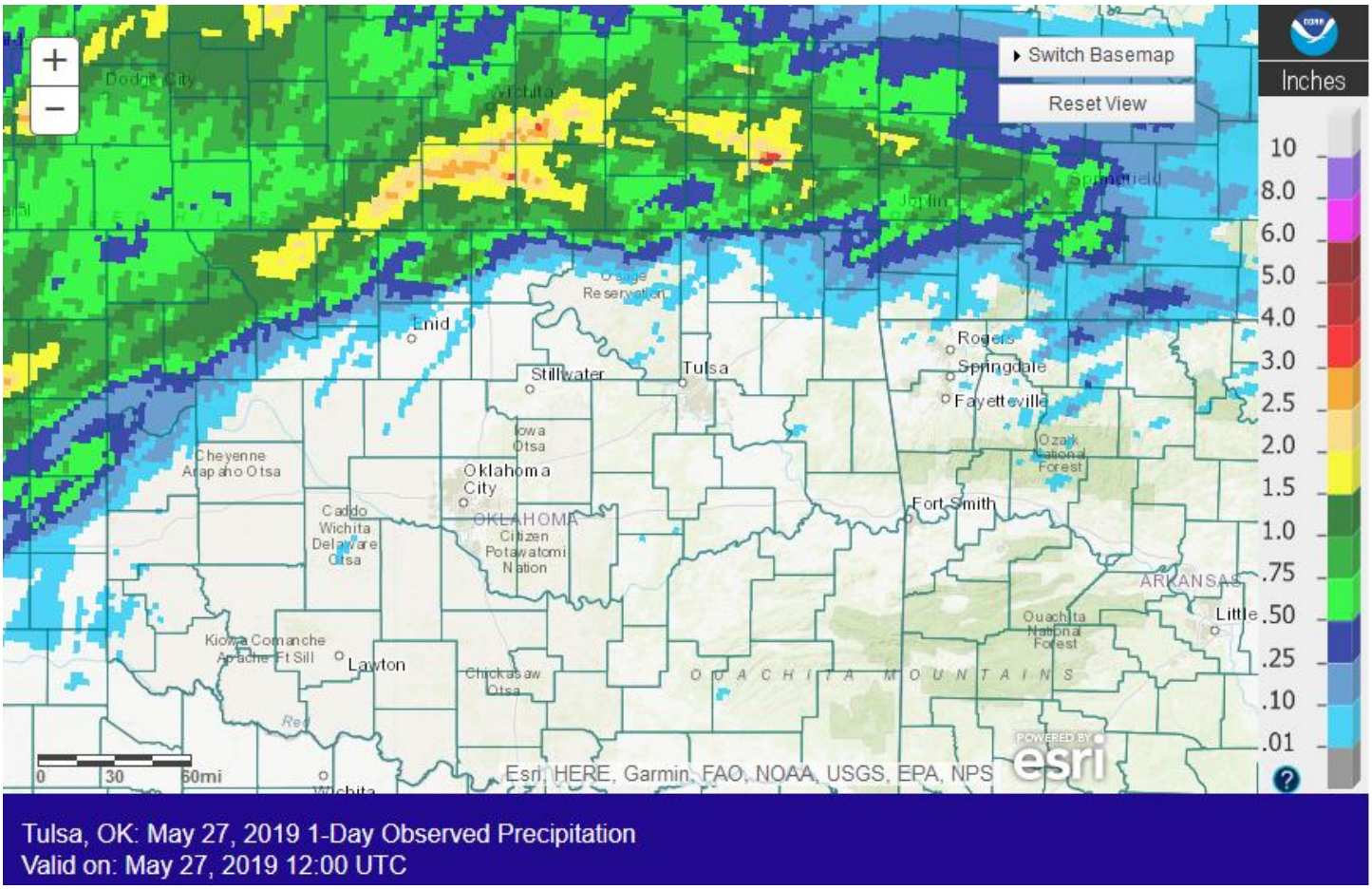


Fig. 30. 24-hour Estimated Observed Rainfall ending at 7am CDT 5/27/2019.

May 28-29:
A strong, especially this far south at this time of year, shortwave trough ejected into the Plains on the 28th, initiating isolated to scattered thunderstorms during the evening hours from central to northeast OK ahead of a dry line. These storms organized into a cluster across east central OK during the late evening, and with the aid of a sustained low-level jet, continued to move east into northwest AR through the overnight and early morning hours of the 29th. Rainfall totals were highest, 0.50" to around 2", across east central OK and west central AR (Fig. 31). Unfortunately, the body of a 64-year-old man was found floating in flood water over Highway 22 near Fort Chaffee, AR on the evening of the 28th. A van was found submerged nearby, in water that was estimated to be 7'-8' deep. At the time of this report, officials were unsure how long the man and vehicle had been in the water, but suspected it was around an hour. This road had been flooded and barricades had been in place since the 25th. No other victims were found.

May 29-30:
The risk for flash flooding increased markedly again on the 29th as convection developed mid-morning along a slow-moving cold front located near the I-44 corridor. These showers and thunderstorms continued to expand in coverage, affecting all of eastern OK and northwest AR by early afternoon. By mid-evening most of the rain had shifted southeast over west central AR and southeast OK, exiting the area by midnight. Some scattered showers lingered further north through the evening, persisting into the early morning hours of the 30th before finally pushing east of the area. Most of eastern OK and northwest AR received 0.50"-2" of rain, with several locations getting 2"-4" (Figs. 32, 33). Even though much of southeast and east central OK and northwest AR had been spared the heaviest rains for much of May, locations near the Arkansas River experienced flash flooding again due to already high tributaries from backwater issues. Similarly, flash flooding occurred even more rapidly than usual further north due to saturated soils, high river levels, and no place for the additional water to drain. A Flash Flood Emergency was issued at 1:09 pm on the 29th for central Okfuskee, Okmulgee, and northwestern Muskogee Counties due to emergency management reports of extensive flooding across Okmulgee County. Travel was not advised throughout the County as more rain was expected. Urban locations in Tulsa near the Arkansas River experienced flash flooding due to water unable to properly drain,

with a report of storm water drainage backing up through manhole covers and several reports of street flooding. A list of preliminary local storm reports received by the NWS Tulsa office at the time of this writing can be found at (please refer to NWS Storm Data for official reports):
https://mesonet.agron.iastate.edu/lsr/#TSA/201905291200/201905301200/0100

24-hour precipitation reports >3" ending at 7am CDT May 30, 2019:

Porter, OK	3.51	Hulbert 6.2WNW, OK	3.29	Porter 3 ESE, OK	3.11
Okay L&D 17, OK	3.11				

This rain, combined with the necessary reservoir releases, resulted in a second major crest at Muskogee, just slightly lower than the previous crest about four days prior. Heavy rain directly over and upstream of Lake Eufaula May 28-30 caused the pool elevation to rise above the top of the flood control pool into the surcharge pool, reaching a peak elevation of 597.67' (106.78% of the flood control pool) on June 1. Because of this, releases were needed out of Lake Eufaula. This water flows into the Arkansas River as well. The additional rainfall and resultant combined upstream releases resulted in the highest river levels along the Arkansas River in east central OK and west central AR, as well as Lee Creek and the Poteau River. Birch Lake once again went above the top of its flood control pool.

Major flooding occurred along the Verdigris River near Claremore, Neosho River near Commerce, Arkansas River near Muskogee, at Van Buren, and at Ozark, and Lee Creek near Van Buren. Moderate flooding occurred along the Caney River near Ramona and near Collinsville, Deep Fork near Beggs, and the Poteau River near Panama. Minor flooding occurred along Polecat Creek near Sapulpa and the Verdigris River near Inola (see preliminary hydrographs at the end of this report; see E3 Report for details).

The 7-day rainfall total ending at 9 am CDT 5/30/2019 was widespread 1.5"-4" across eastern OK and northwest AR, with pockets of 4"-6". Just west of the HSA, higher totals of 4"-8" fell in the Upper Arkansas and Canadian River basins (Fig. 34). The 10-day rainfall total ending at 9 am CDT 5/30/2019 was widespread 5"-16" from southwest OK through northeast OK and into far northwest AR, as well as southern KS and southwest MO (Fig. 35). By the afternoon of May 30, widespread flooding was impacting a large portion of the HSA (Fig. 36). See Images A-E for aerial photos of the Arkansas River on May 31, 2019.

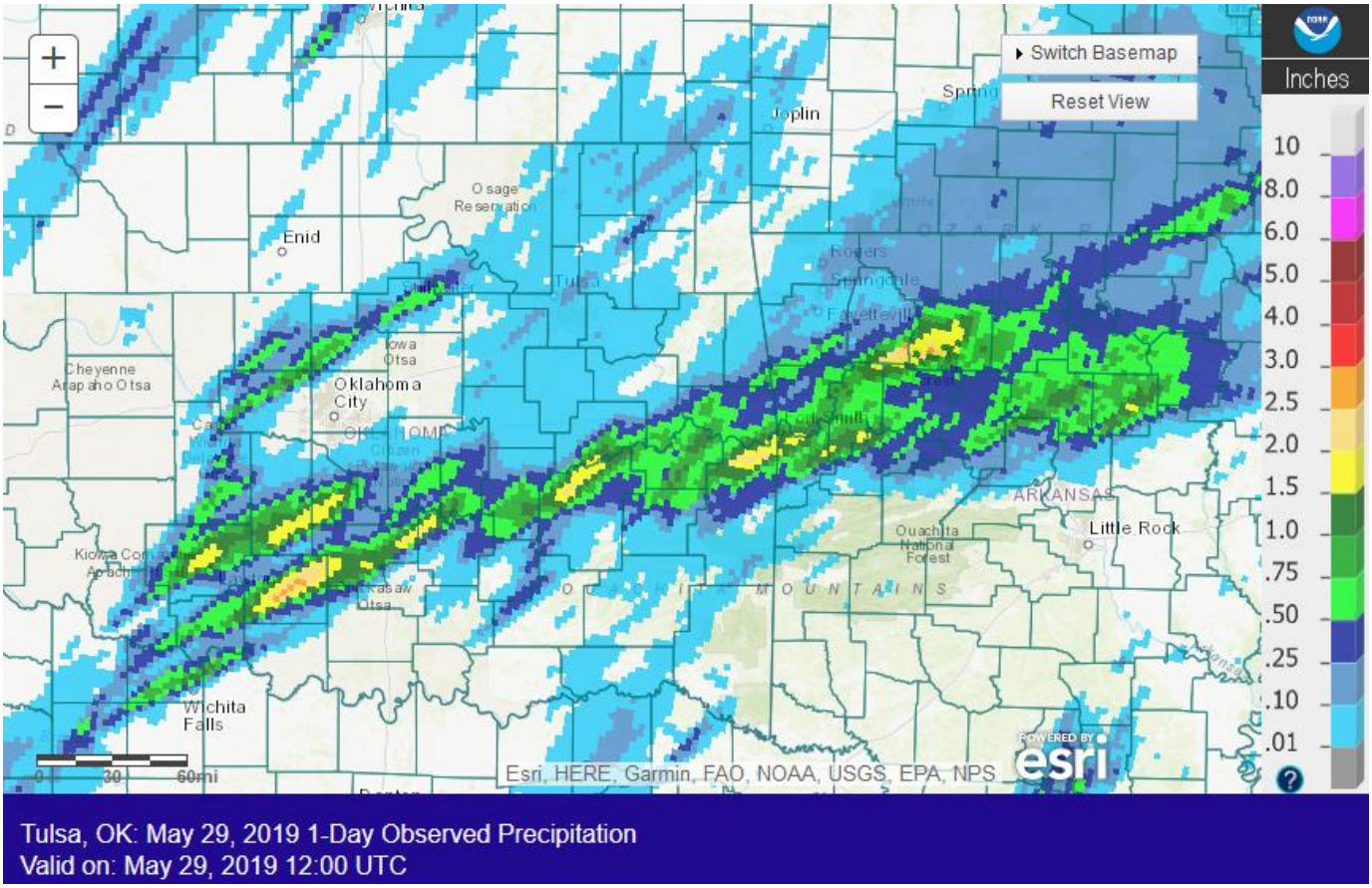


Fig. 31. 24-hour Estimated Observed Rainfall ending at 7am CDT 5/29/2019.

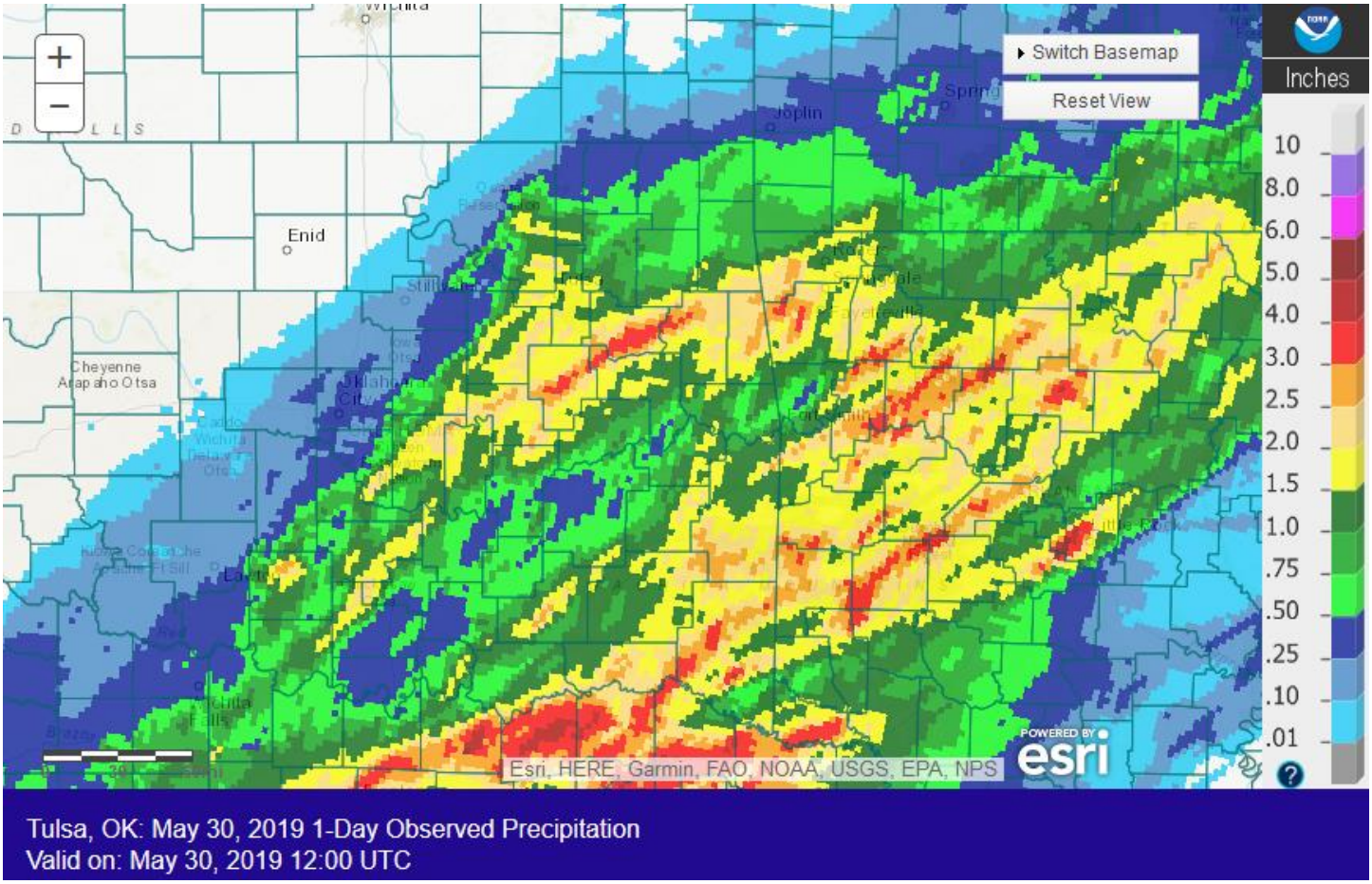


Fig. 32. 24-hour Estimated Observed Rainfall ending at 7am CDT 5/30/2019.

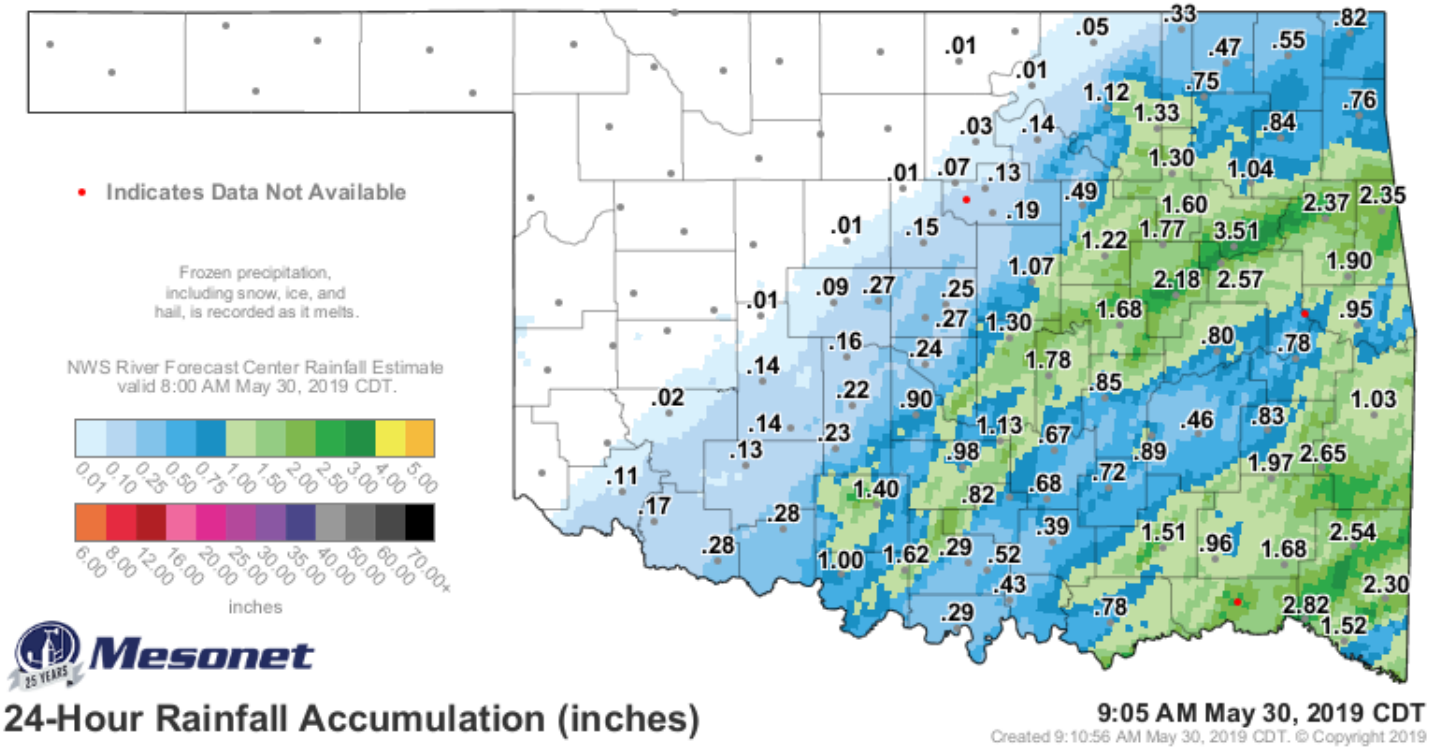


Fig. 33. OK Mesonet (values) and NWS RFC rainfall estimate (image) 24-hour rainfall ending at 9:05 am CDT 05/30/2019.

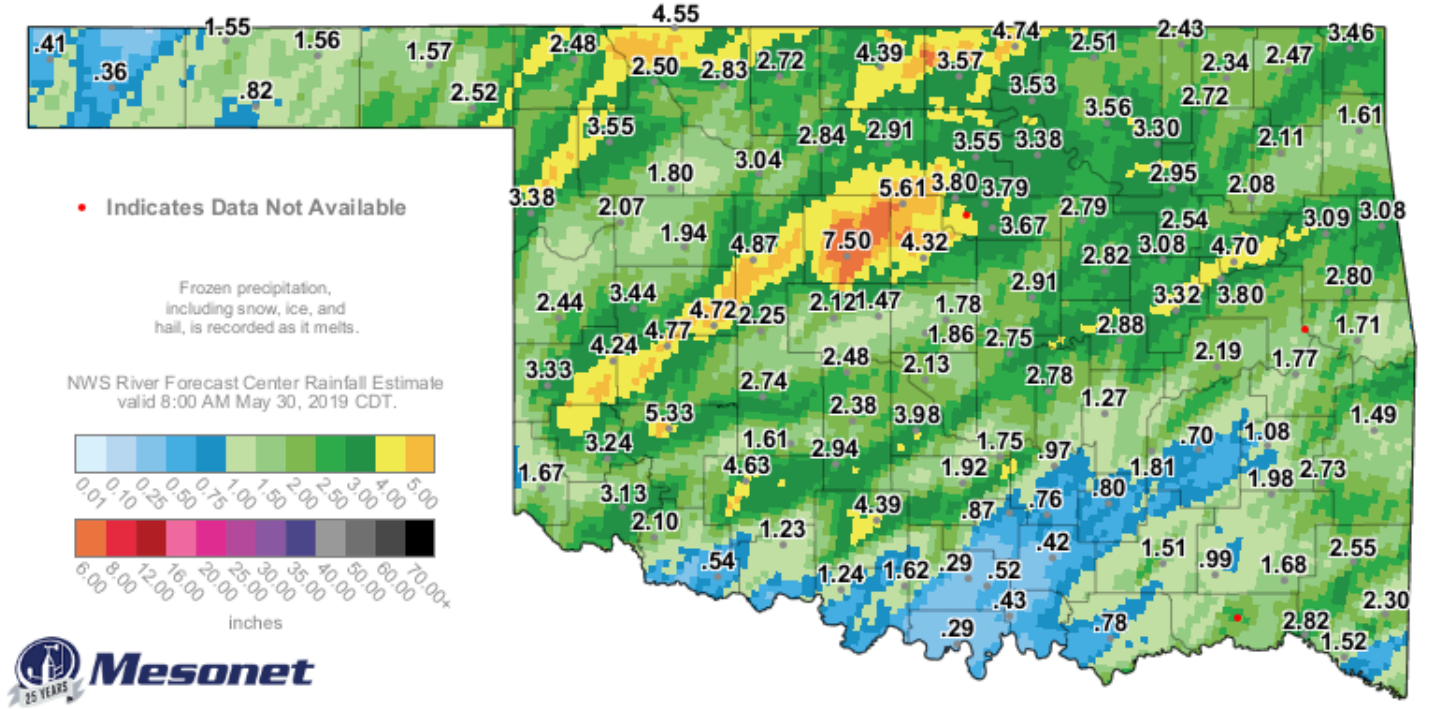


Fig. 34. OK Mesonet (values) and NWS RFC rainfall estimate (image) 7-day rainfall ending at 9:05 am CDT 05/30/2019.

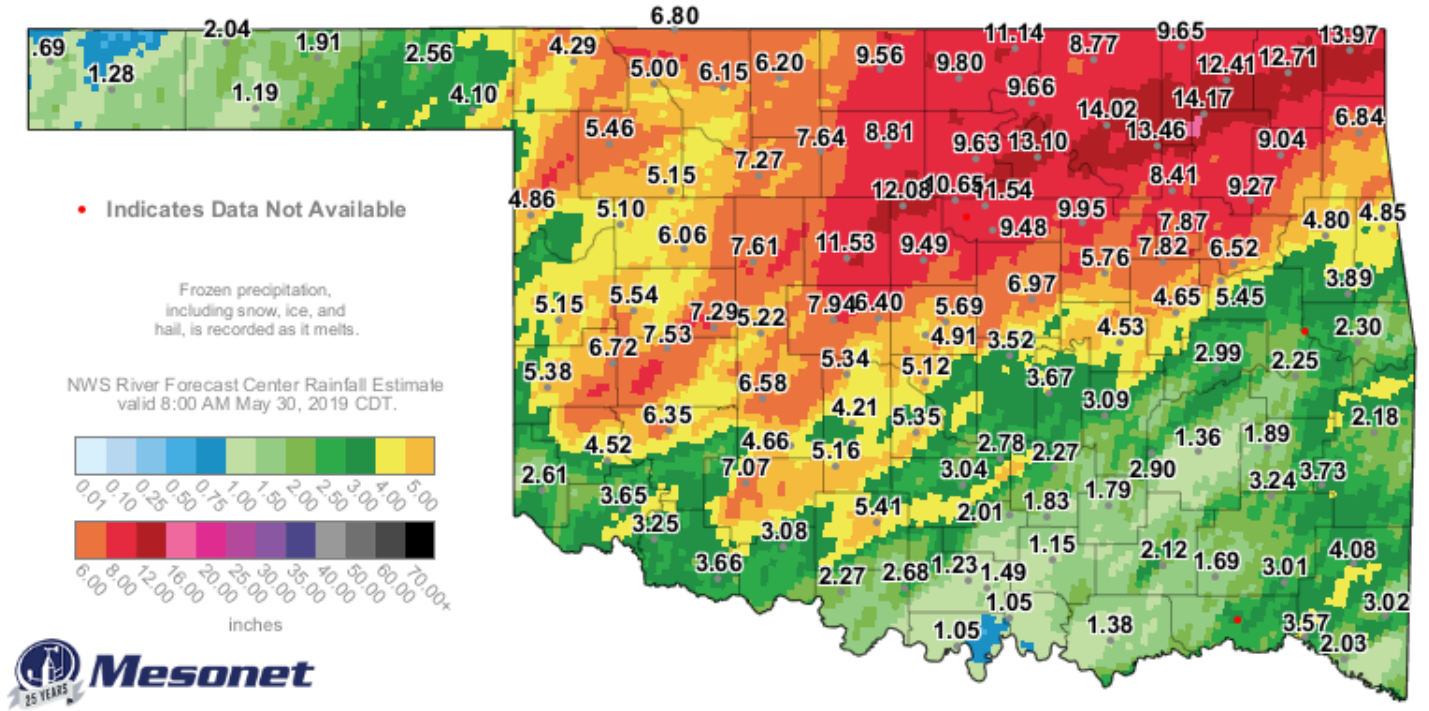


Fig. 35. OK Mesonet (values) and NWS RFC rainfall estimate (image) 10-day rainfall ending at 9:05 am CDT 05/30/2019.

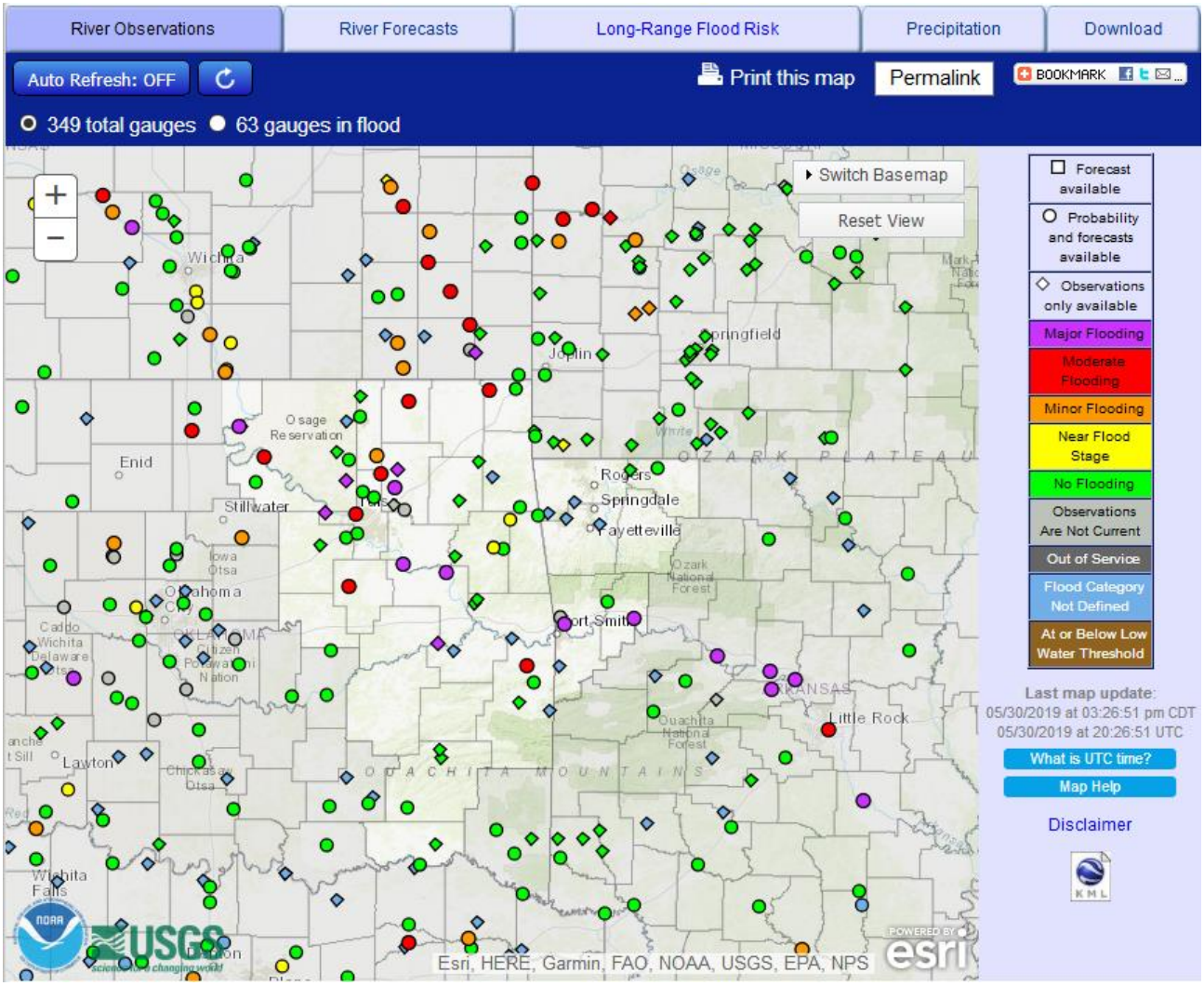


Fig. 36. NWS river forecast points color-coded based on the actual river level category as of 3:27 pm CDT May 30, 2019. ("Major" flooding at lake/dam locations = at or above the top of flood control pool).

Image A. View of the confluence of 3 rivers, Arkansas River (far left), Verdigris River (center), and Grand-Neosho River (right), merging into the Arkansas River (far right) at Muskogee on May 31, 2019, looking north/upstream. Photo credit: Steve Piltz Inset from Google Earth.

Image B. View of the Arkansas River flooding Webbers Falls, OK on May 31, 2019, looking southeast/downstream. Photo credit: Steve Piltz Inset from Google Earth.

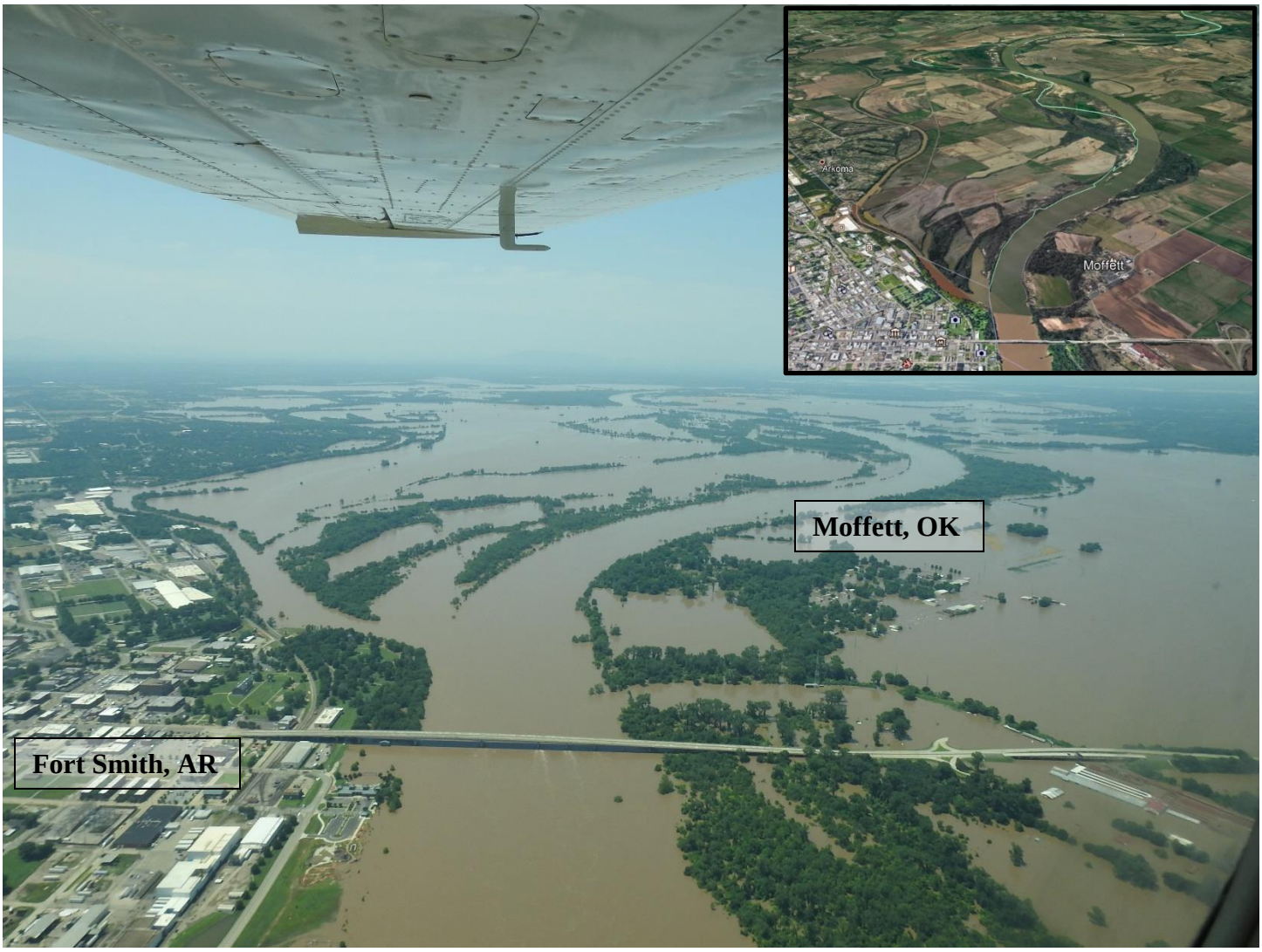


Image C. View of the Arkansas River at its crest on May 31, 2019 along the OK/AR state line, looking west. Fort Smith, AR is on the left; Moffett, OK completely under water on the right. Photo credit: Steve Piltz Inset from Google Earth.

Image D. View of the Arkansas River at its crest on May 31, 2019 flooding a neighborhood in Fort Smith, AR, looking south. Photo credit: Steve Piltz

Image E. View of Lee Creek near its crest on May 31, 2019, flooding the Field of Dreams Ballpark in Van Buren, AR. Looking north just upstream of confluence with the Arkansas River. Photo credit: Steve Piltz Inset from Google Earth.

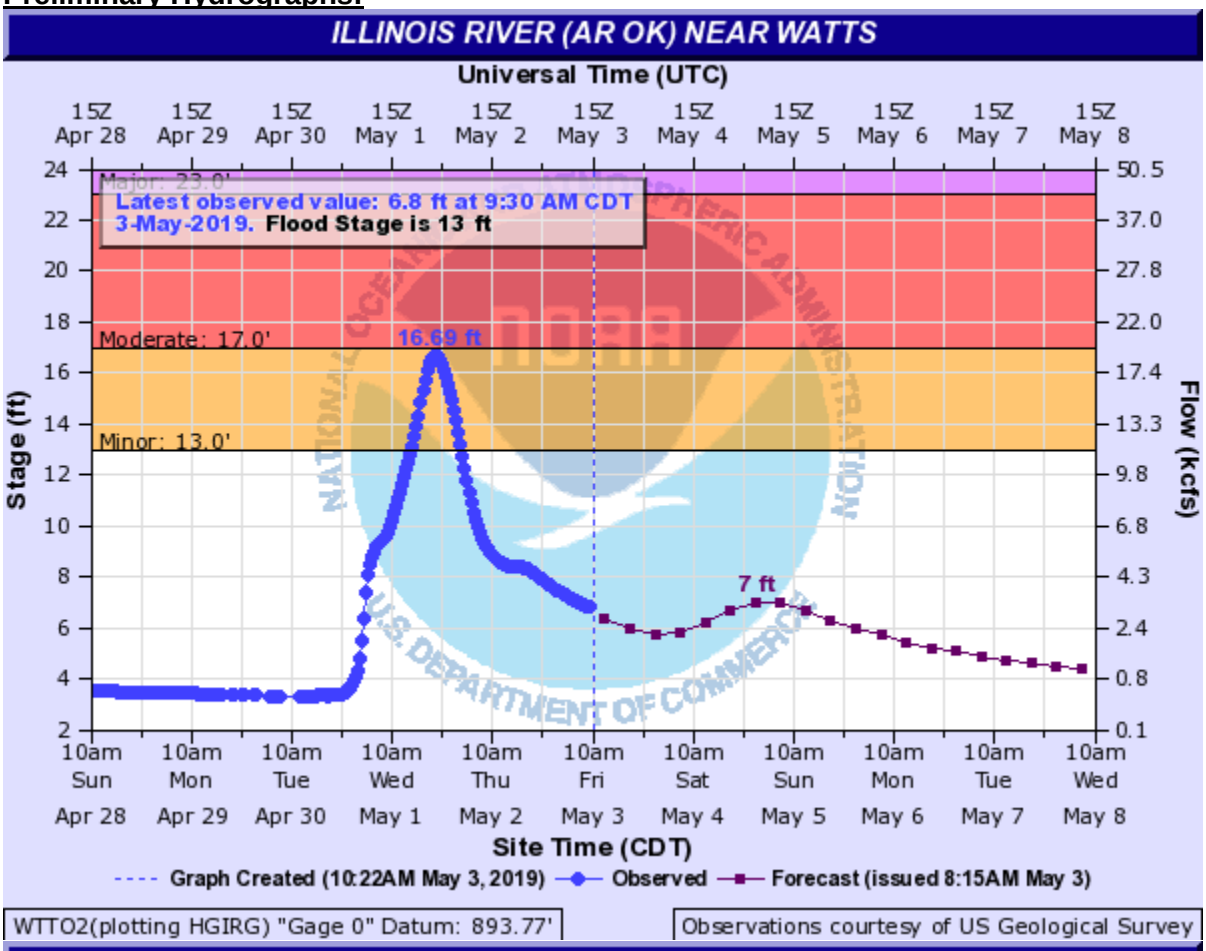
Written by:
Nicole McGavock
Service Hydrologist
WFO Tulsa

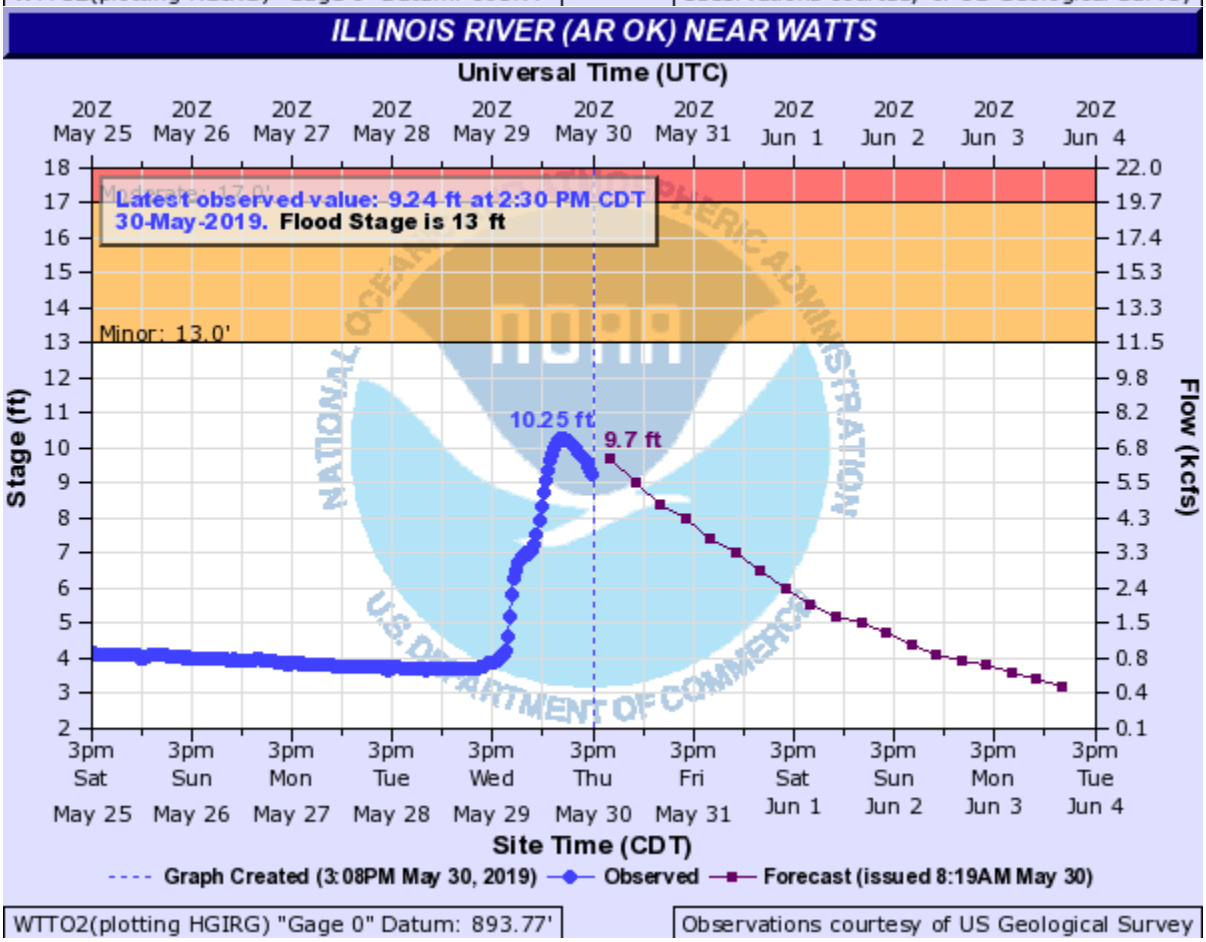
Products issued in May 2019:

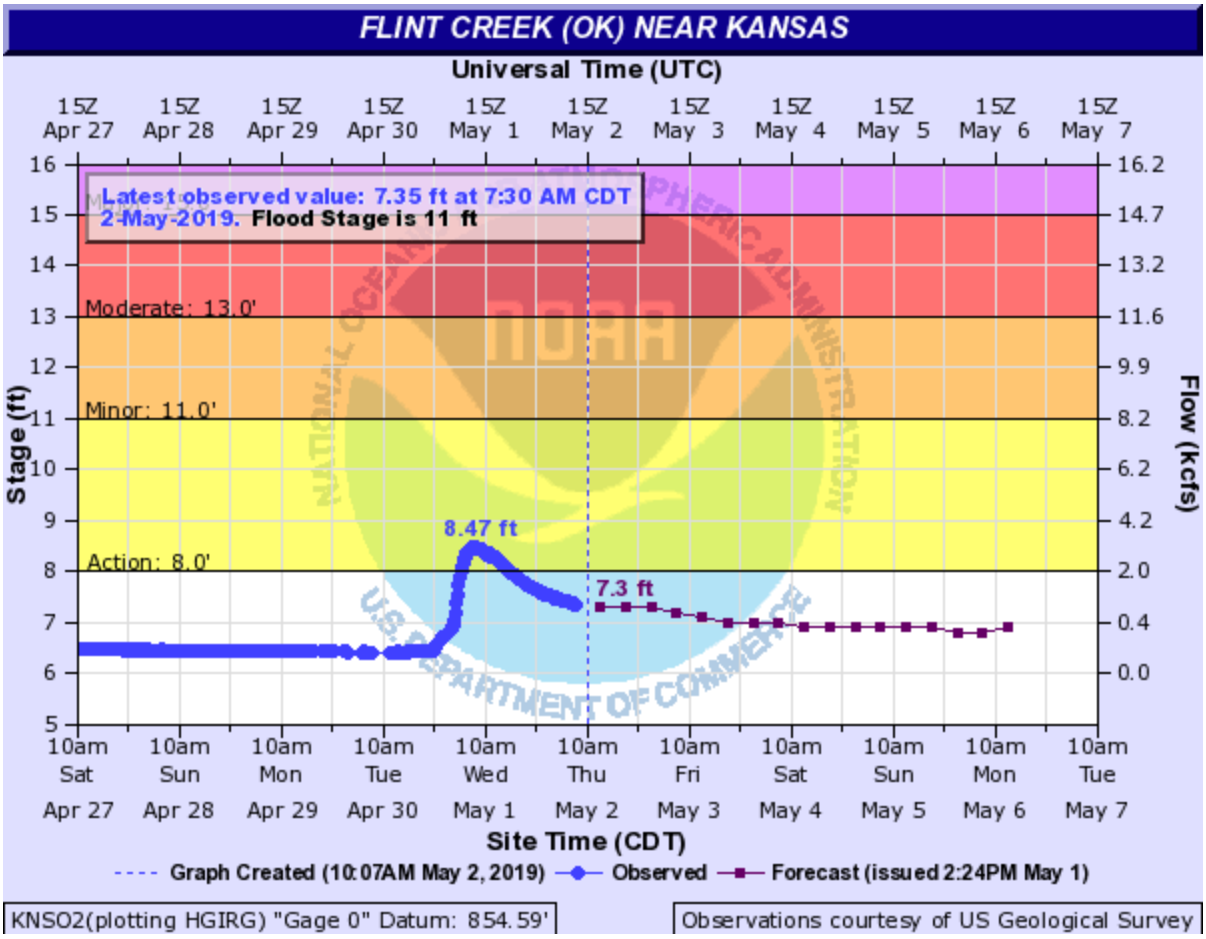
*CWYO2 became a daily river forecast point September 7, 2016
*MLBA4 and OZGA4 transferred to NWS Tulsa HSA February 5, 2014
*Mixed case River Flood products began July 31, 2013

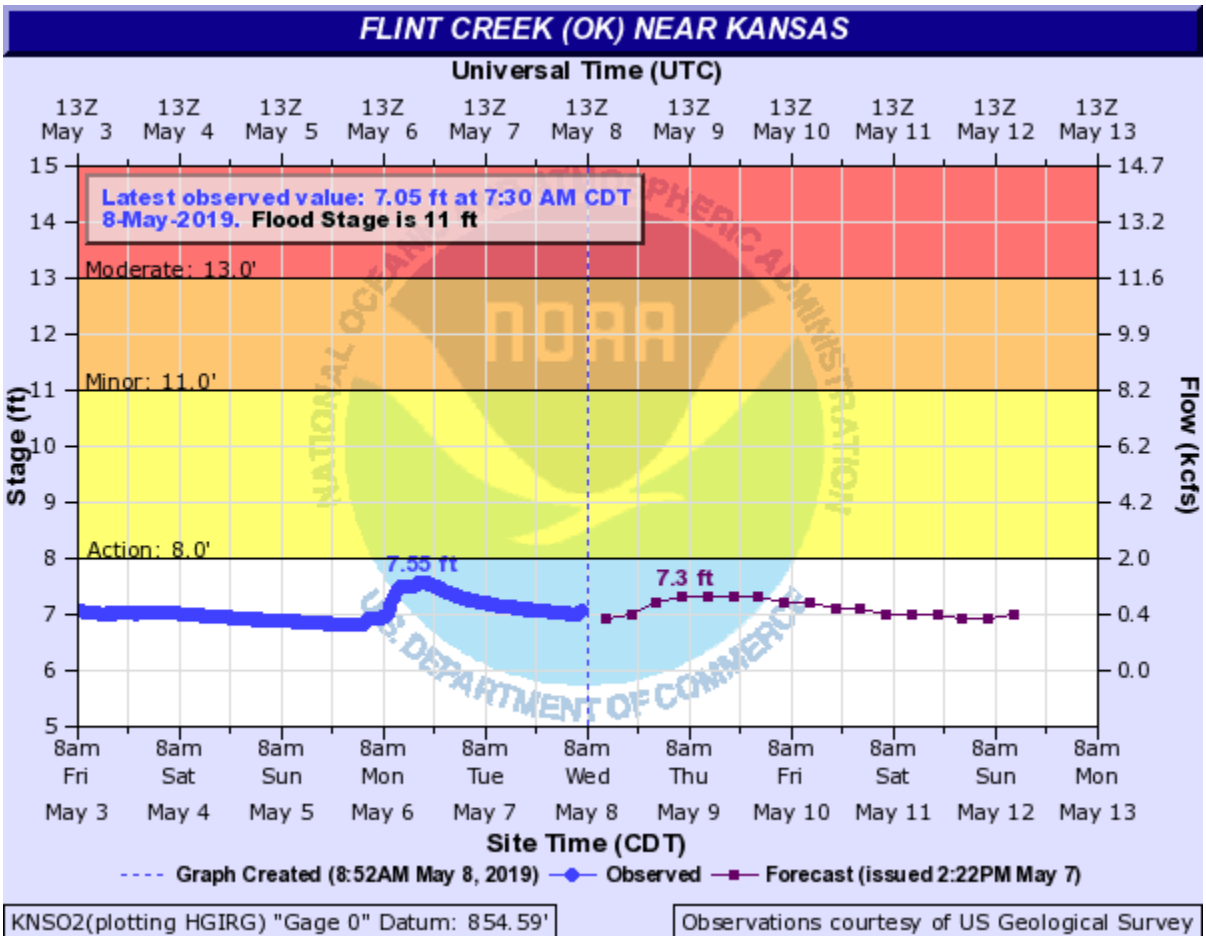
48	Flash Flood Warnings (FFW)
26	Flash Flood Statements (FFS)
7	Flash/Areal Flood Watches (FFA) (23 Watch FFA CON/EXT/EXA/EXB/CAN)
37	Urban and Small Stream Advisories (FLS)
31	Areal Flood Warnings (FLW)
3	Areal Flood Statements (FLS)
87	River Flood Warnings (FLW) (includes category increases)
1111	River Flood Statements (FLS)
13	River Flood Advisories (FLS) (142 Advisory FLS CON/EXT/CAN)
0	River Flood Watches (FFA) (2 Watch FFA CON/EXT/CAN)
0	River Statements (RVS)
0	Hydrologic Outlooks (ESF)
0	Drought Information Statements (DGT)

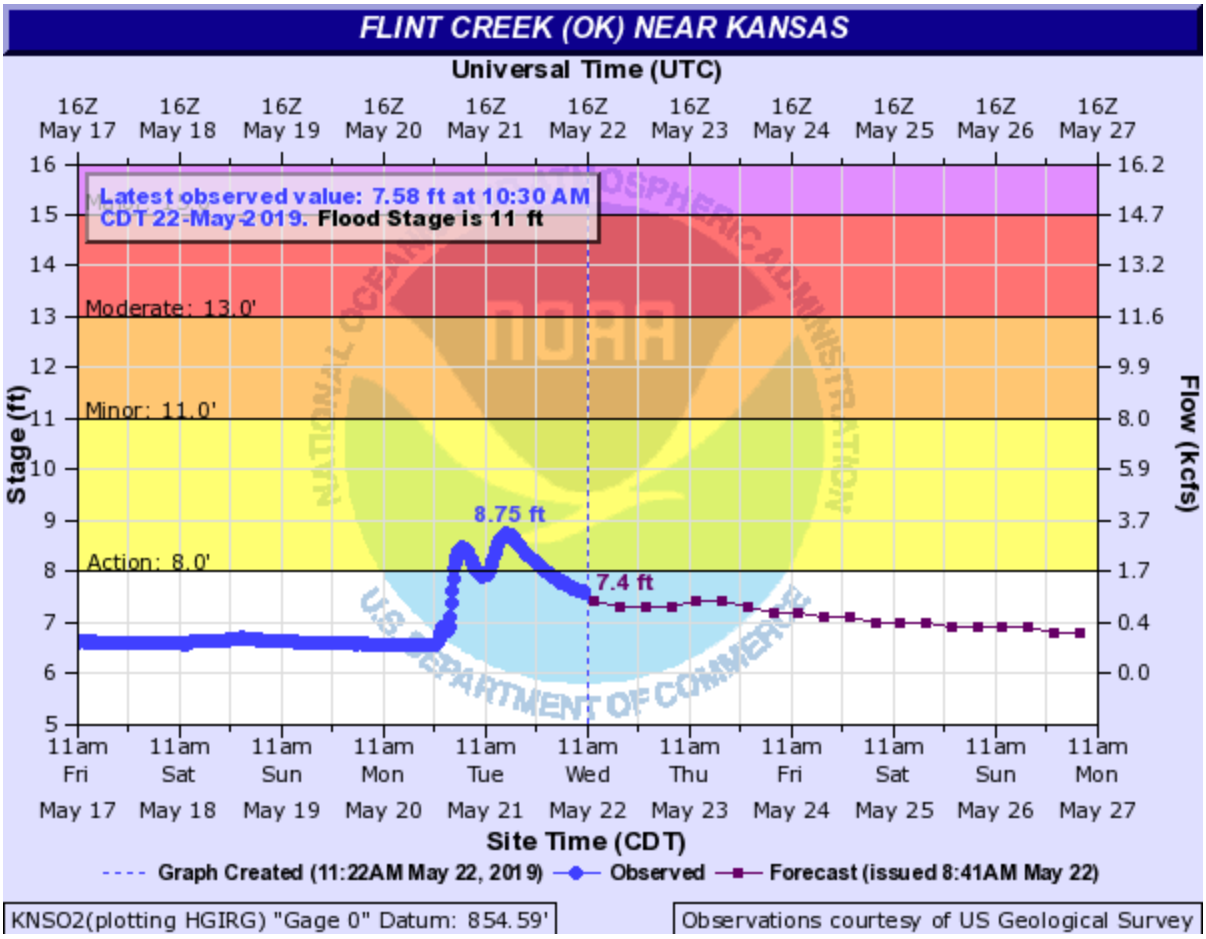
Preliminary Hydrographs:

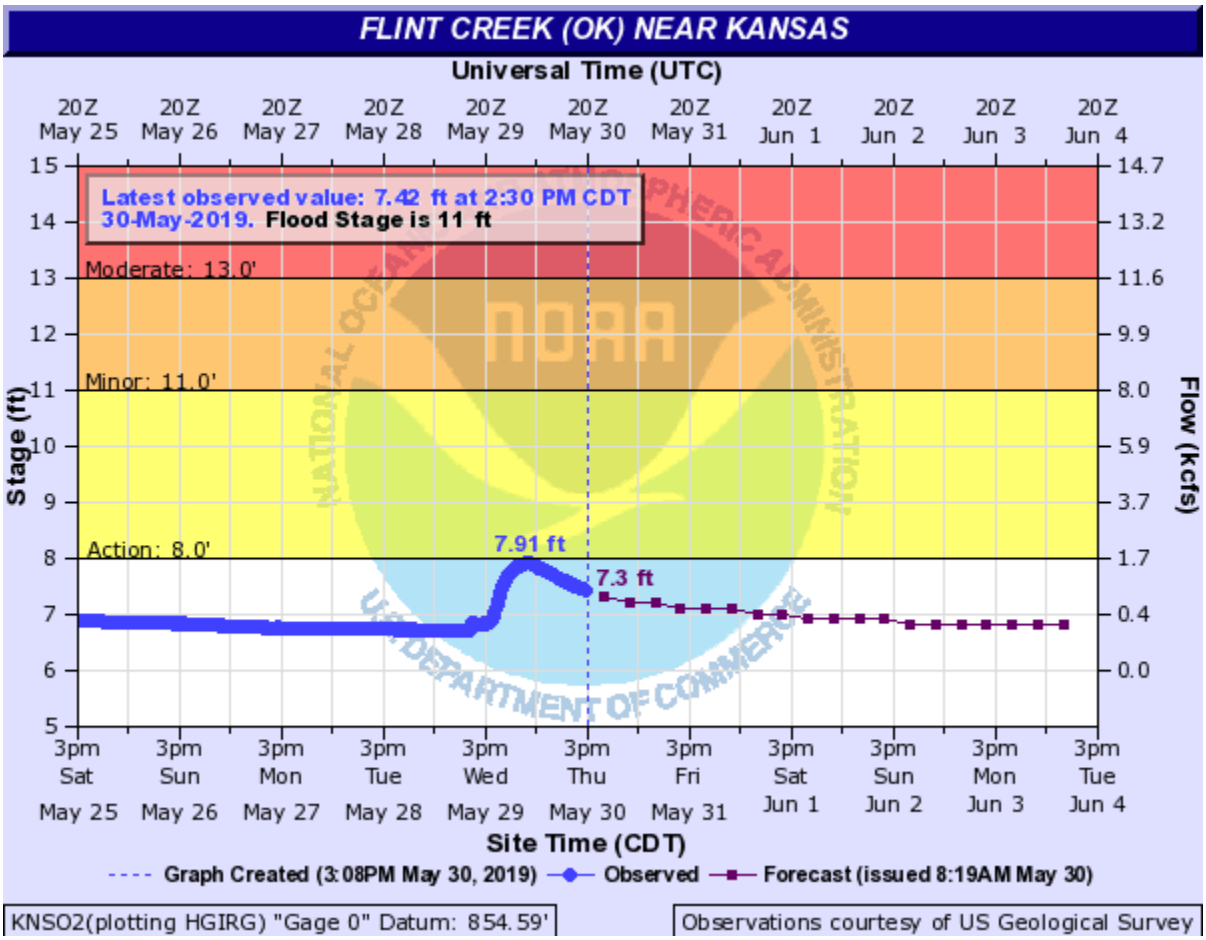


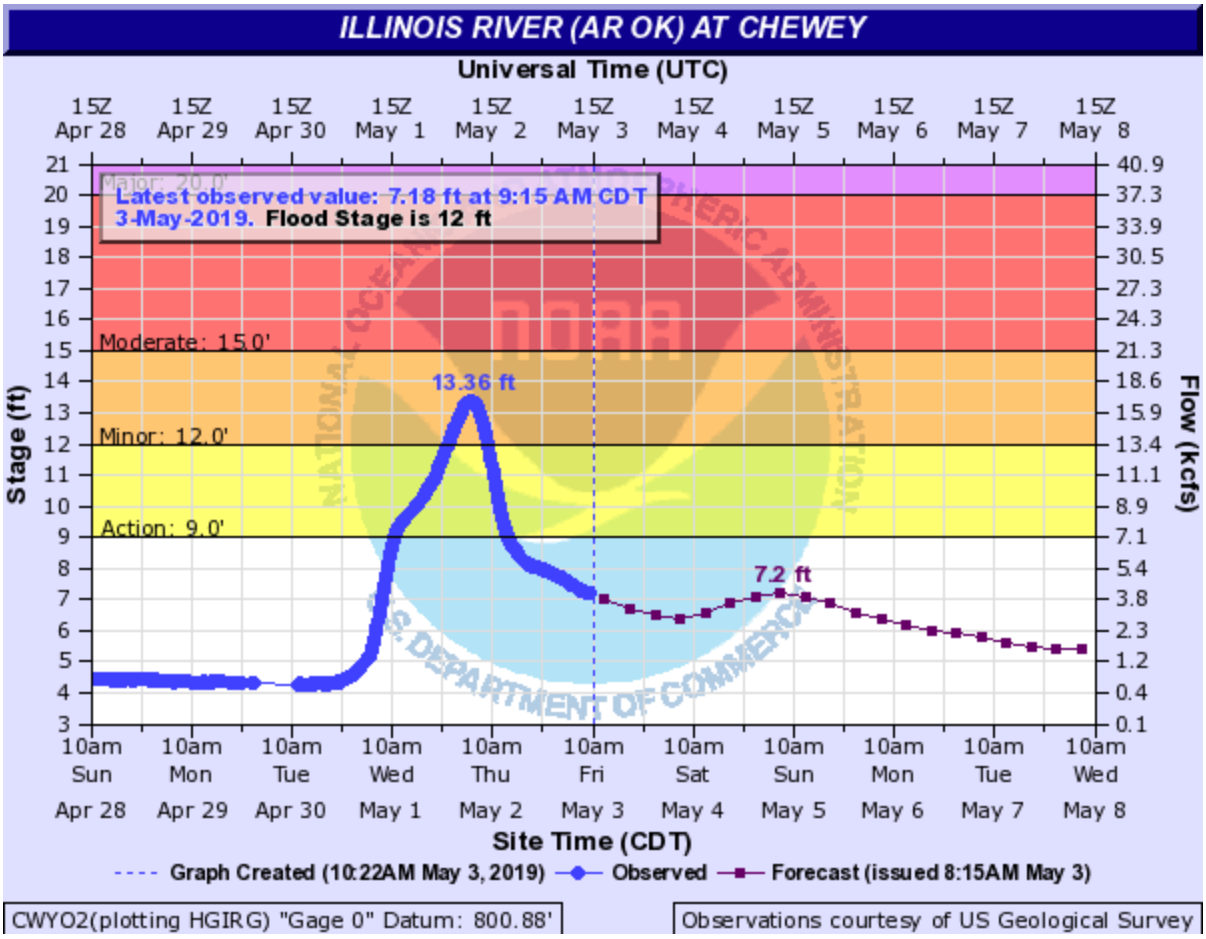


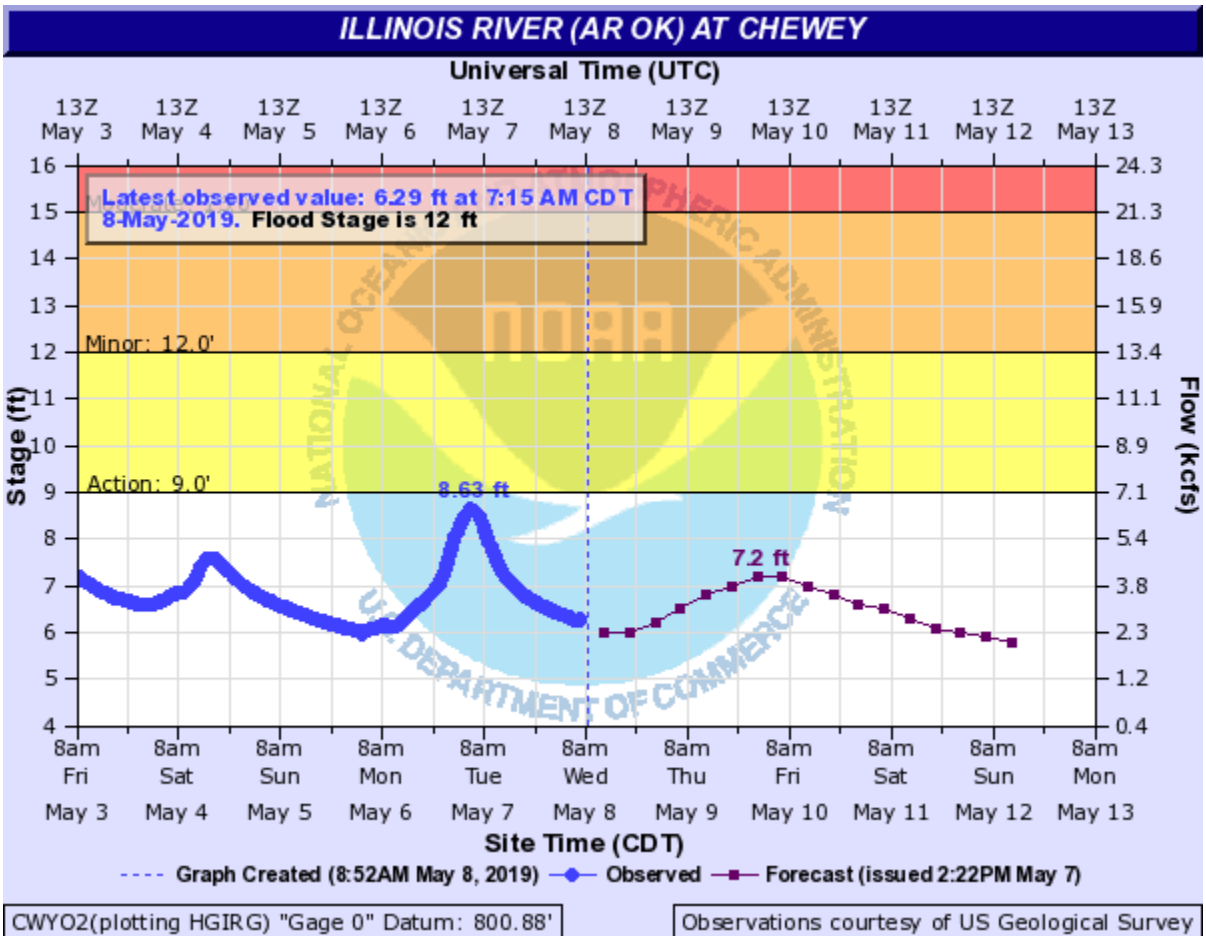

FLINT CREEK (OK) NEAR KANSAS
Universal Time (UTC)
15Z Apr 27
15Z Apr 28
15Z Apr 29
15Z Apr 30
15Z May 1
15Z May 2
15Z May 3
15Z May 4
15Z May 5
15Z May 6
15Z May 7
Latest observed value: 7.35 ft at 7:30 AM CDT 2-May-2019. Flood Stage is 11 ft
Moderate: 13.0'
Minor: 11.0'
Action: 8.0'
8.47 ft
7.3 ft
Stage (ft)
Flow (kcfs)
16
15
14
13
12
11
10
9
8
7
6
5
16.2
14.7
13.2
11.6
9.9
8.2
6.2
4.2
2.0
0.4
0.0
10am Sat Apr 27
10am Sun Apr 28
10am Mon Apr 29
10am Tue Apr 30
10am Wed May 1
10am Thu May 2
10am Fri May 3
10am Sat May 4
10am Sun May 5
10am Mon May 6
10am Tue May 7
Site Time (CDT)
Graph Created (10:07AM May 2, 2019)
Observed
Forecast (issued 2:24PM May 1)
KNSO2(plotting HGIRG) "Gage 0" Datum: 854.59'
Observations courtesy of US Geological Survey

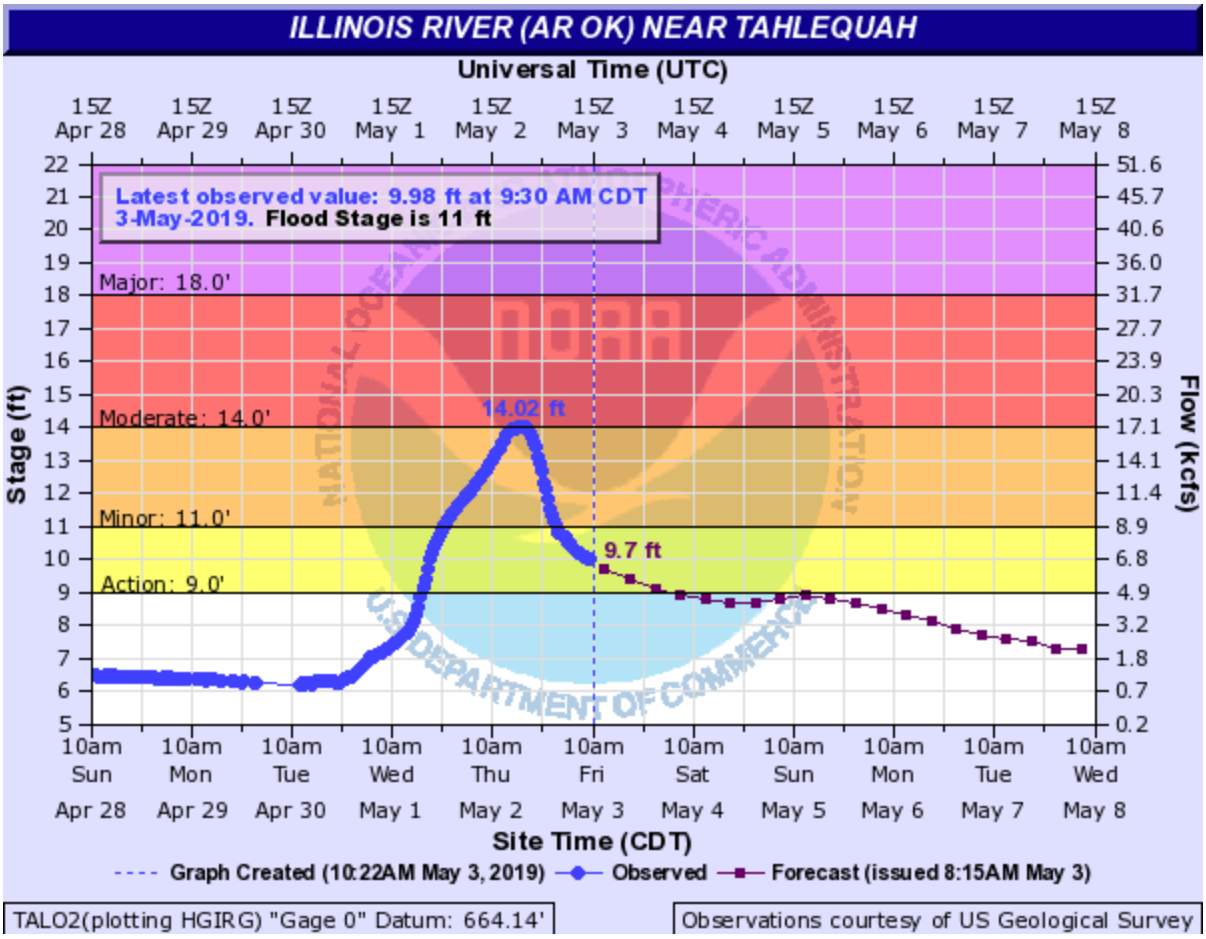

FLINT CREEK (OK) NEAR KANSAS
Universal Time (UTC)
13Z May 3
13Z May 4
13Z May 5
13Z May 6
13Z May 7
13Z May 8
13Z May 9
13Z May 10
13Z May 11
13Z May 12
13Z May 13
Latest observed value: 7.05 ft at 7:30 AM CDT 8-May-2019. Flood Stage is 11 ft
Moderate: 13.0'
Minor: 11.0'
Action: 8.0'
7.55 ft
7.3 ft
Stage (ft)
Flow (kcfs)
15
14
13
12
11
10
9
8
7
6
5
14.7
13.2
11.6
9.9
8.2
6.2
4.2
2.0
0.4
0.0
8am Fri May 3
8am Sat May 4
8am Sun May 5
8am Mon May 6
8am Tue May 7
8am Wed May 8
8am Thu May 9
8am Fri May 10
8am Sat May 11
8am Sun May 12
8am Mon May 13
Site Time (CDT)
Graph Created (8:52AM May 8, 2019)
Observed
Forecast (issued 2:22PM May 7)
KNSO2(plotting HGIRG) "Gage 0" Datum: 854.59'
Observations courtesy of US Geological Survey

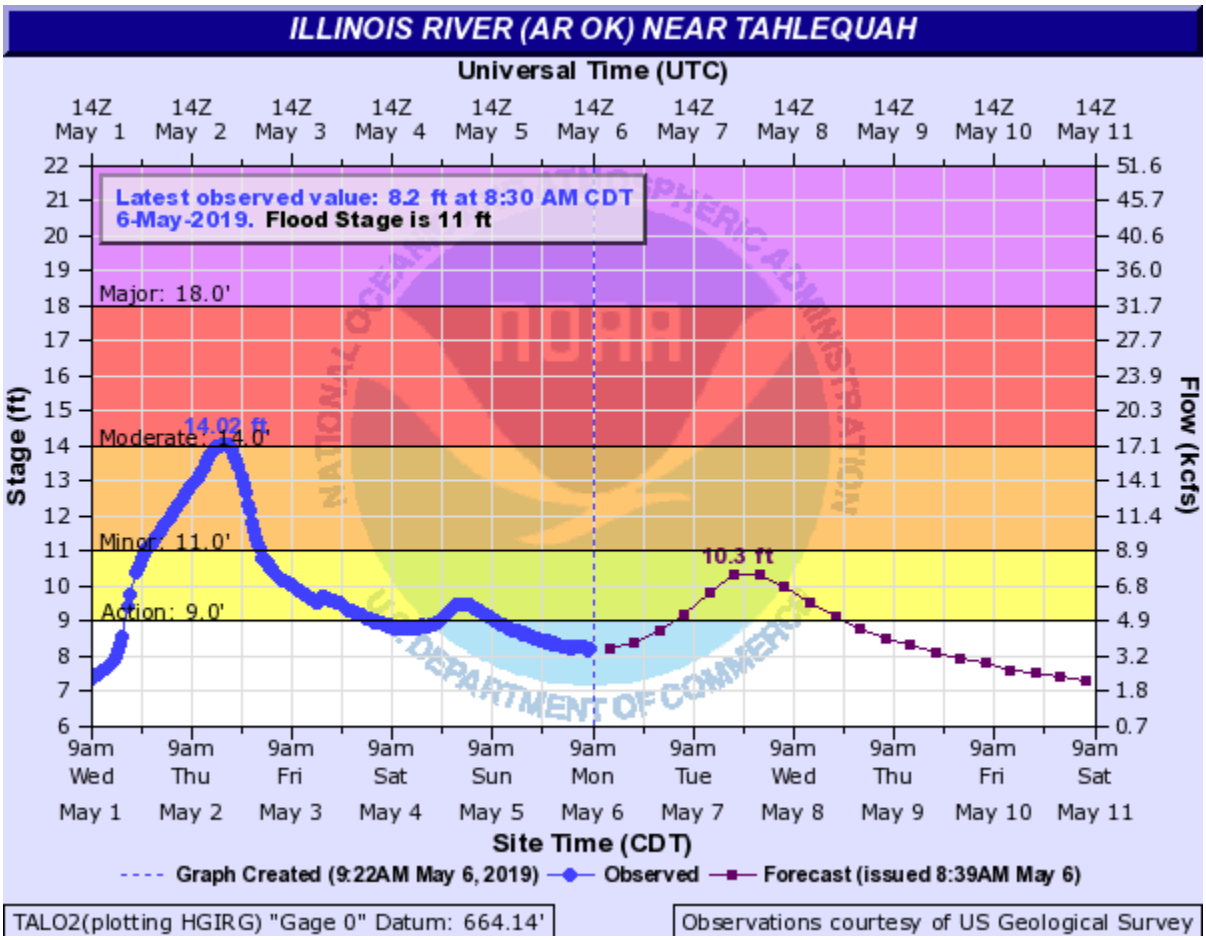

FLINT CREEK (OK) NEAR KANSAS
Universal Time (UTC)
16Z May 17
16Z May 18
16Z May 19
16Z May 20
16Z May 21
16Z May 22
16Z May 23
16Z May 24
16Z May 25
16Z May 26
16Z May 27
Latest observed value: 7.58 ft at 10:30 AM CDT 22-May-2019. Flood Stage is 11 ft
Moderate: 13.0'
Minor: 11.0'
Action: 8.0'
8.75 ft
7.4 ft
Stage (ft)
Flow (kcfs)
16
15
14
13
12
11
10
9
8
7
6
5
16.2
14.7
13.2
11.6
9.9
8.0
5.9
3.7
1.7
0.4
0.0
11am Fri May 17
11am Sat May 18
11am Sun May 19
11am Mon May 20
11am Tue May 21
11am Wed May 22
11am Thu May 23
11am Fri May 24
11am Sat May 25
11am Sun May 26
11am Mon May 27
Site Time (CDT)
Graph Created (11:22AM May 22, 2019)
Observed
Forecast (issued 8:41AM May 22)
KNSO2(plotting HGIRG) "Gage 0" Datum: 854.59'
Observations courtesy of US Geological Survey

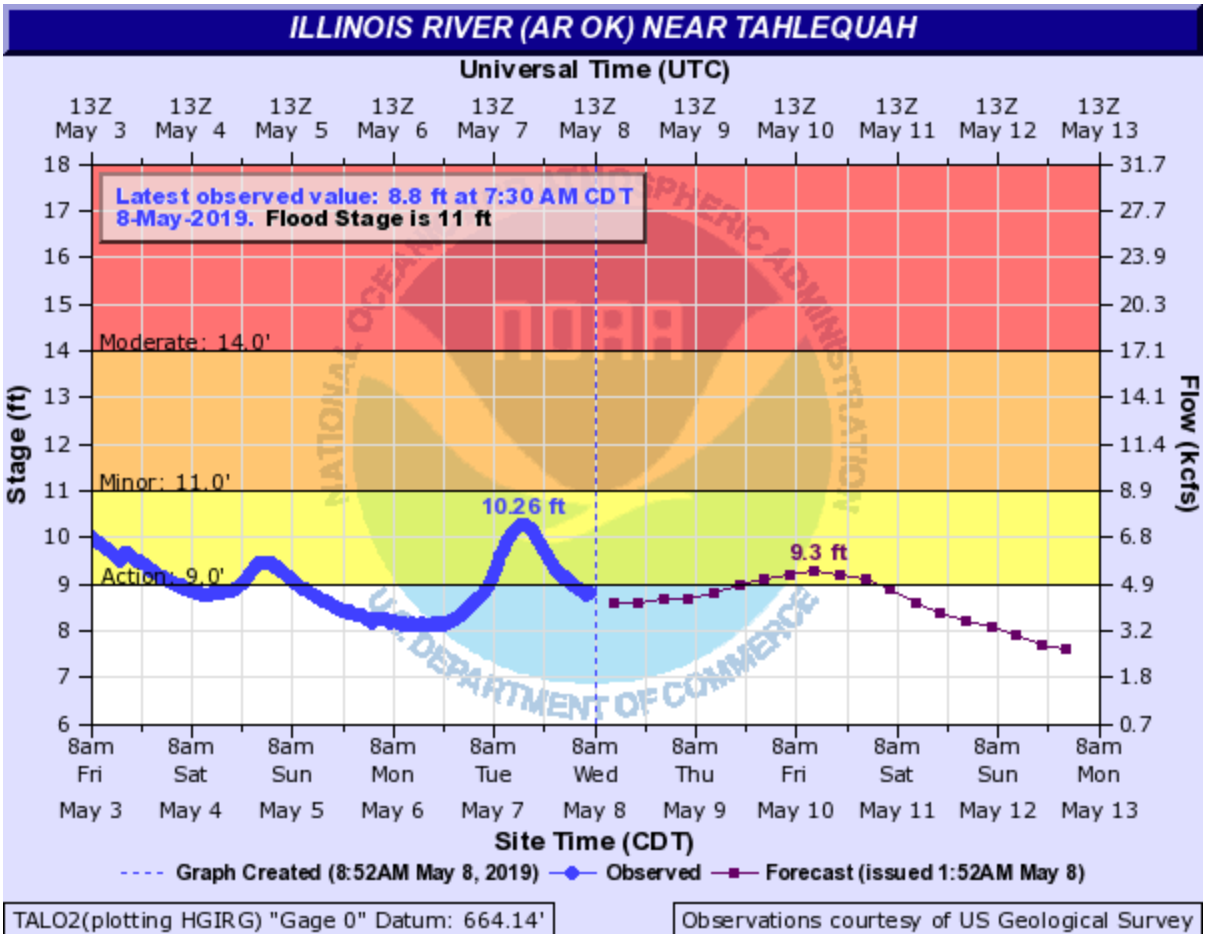

FLINT CREEK (OK) NEAR KANSAS
Universal Time (UTC)
20Z May 25
20Z May 26
20Z May 27
20Z May 28
20Z May 29
20Z May 30
20Z May 31
20Z Jun 1
20Z Jun 2
20Z Jun 3
20Z Jun 4
Latest observed value: 7.42 ft at 2:30 PM CDT 30-May-2019. Flood Stage is 11 ft
Moderate: 13.0'
Minor: 11.0'
Action: 8.0'
7.91 ft
7.3 ft
Stage (ft)
Flow (kcfs)
15
14
13
12
11
10
9
8
7
6
5
14.7
13.2
11.6
9.9
8.0
5.9
3.7
1.7
0.4
0.0
3pm Sat May 25
3pm Sun May 26
3pm Mon May 27
3pm Tue May 28
3pm Wed May 29
3pm Thu May 30
3pm Fri May 31
3pm Sat Jun 1
3pm Sun Jun 2
3pm Mon Jun 3
3pm Tue Jun 4
Site Time (CDT)
Graph Created (3:08PM May 30, 2019)
Observed
Forecast (issued 8:19AM May 30)
KNSO2(plotting HGIRG) "Gage 0" Datum: 854.59'
Observations courtesy of US Geological Survey

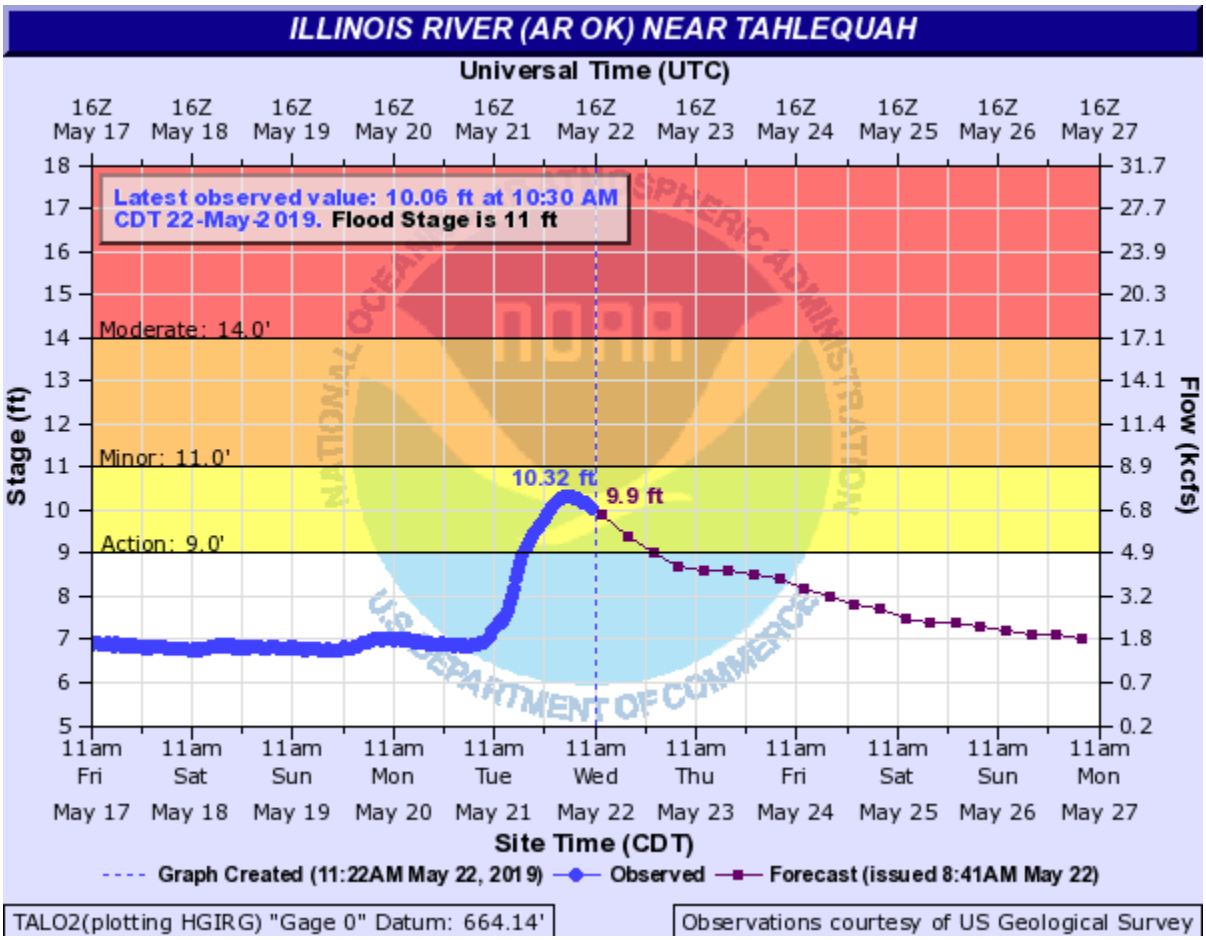

ILLINOIS RIVER (AR OK) AT CHEWEY
Universal Time (UTC)
15Z Apr 28
15Z Apr 29
15Z Apr 30
15Z May 1
15Z May 2
15Z May 3
15Z May 4
15Z May 5
15Z May 6
15Z May 7
15Z May 8
Latest observed value: 7.18 ft at 9:15 AM CDT 3-May-2019. Flood Stage is 12 ft
Major: 20.0'
Moderate: 15.0'
Minor: 12.0'
Action: 9.0'
13.36 ft
7.2 ft
Stage (ft)
Flow (kcfs)
10am Sun Apr 28
10am Mon Apr 29
10am Tue Apr 30
10am Wed May 1
10am Thu May 2
10am Fri May 3
10am Sat May 4
10am Sun May 5
10am Mon May 6
10am Tue May 7
10am Wed May 8
Site Time (CDT)
Graph Created (10:22AM May 3, 2019)
Observed
Forecast (issued 8:15AM May 3)
CWYO2(plotting HGIRG) "Gage 0" Datum: 800.88'
Observations courtesy of US Geological Survey

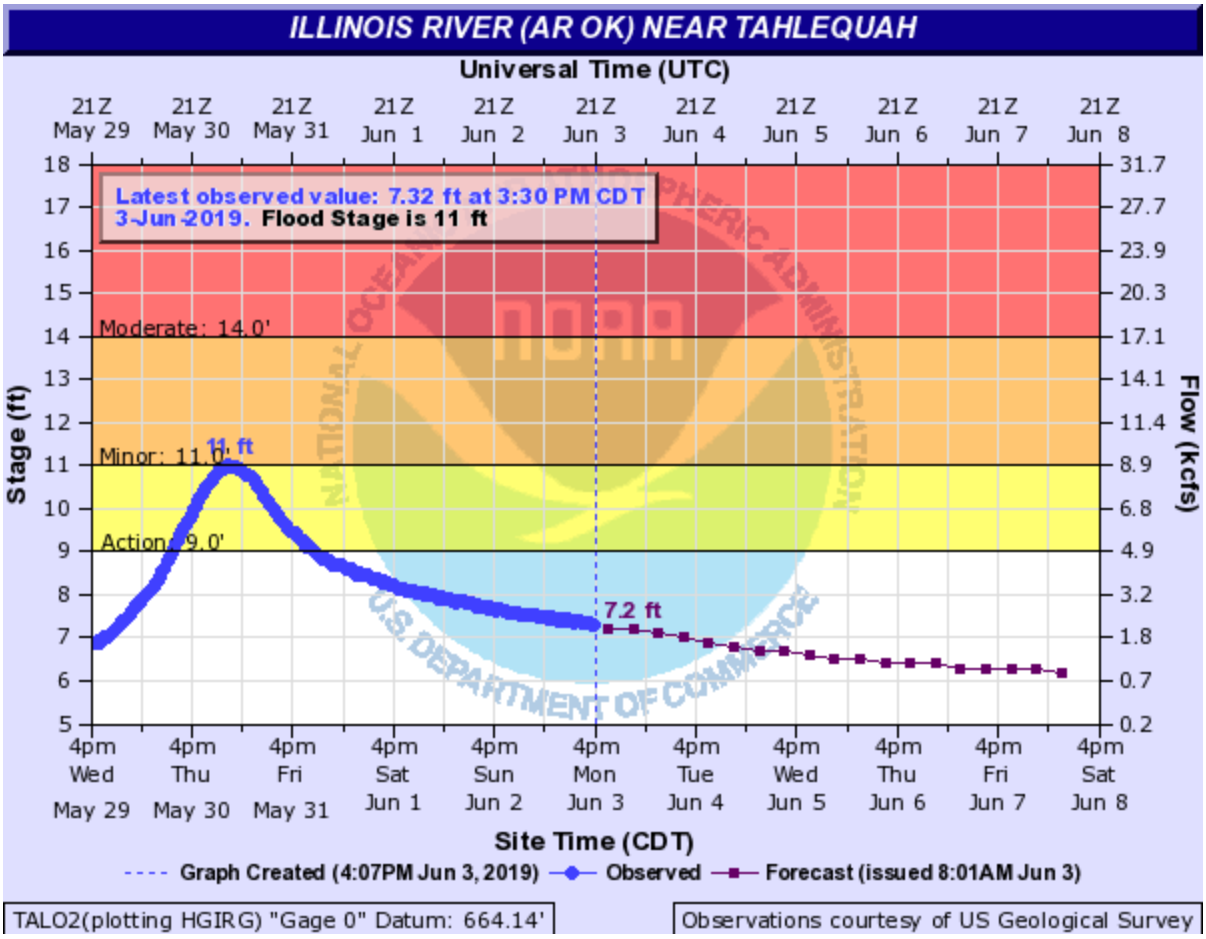

ILLINOIS RIVER (AR OK) AT CHEWEY
Universal Time (UTC)
13Z May 3
13Z May 4
13Z May 5
13Z May 6
13Z May 7
13Z May 8
13Z May 9
13Z May 10
13Z May 11
13Z May 12
13Z May 13
Latest observed value: 6.29 ft at 7:15 AM CDT 8-May-2019. Flood Stage is 12 ft
Minor: 12.0'
Action: 9.0'
8.63 ft
7.2 ft
Stage (ft)
Flow (kcfs)
8am Fri May 3
8am Sat May 4
8am Sun May 5
8am Mon May 6
8am Tue May 7
8am Wed May 8
8am Thu May 9
8am Fri May 10
8am Sat May 11
8am Sun May 12
8am Mon May 13
Site Time (CDT)
Graph Created (8:52AM May 8, 2019)
Observed
Forecast (issued 2:22PM May 7)
CWYO2(plotting HGIRG) "Gage 0" Datum: 800.88'
Observations courtesy of US Geological Survey

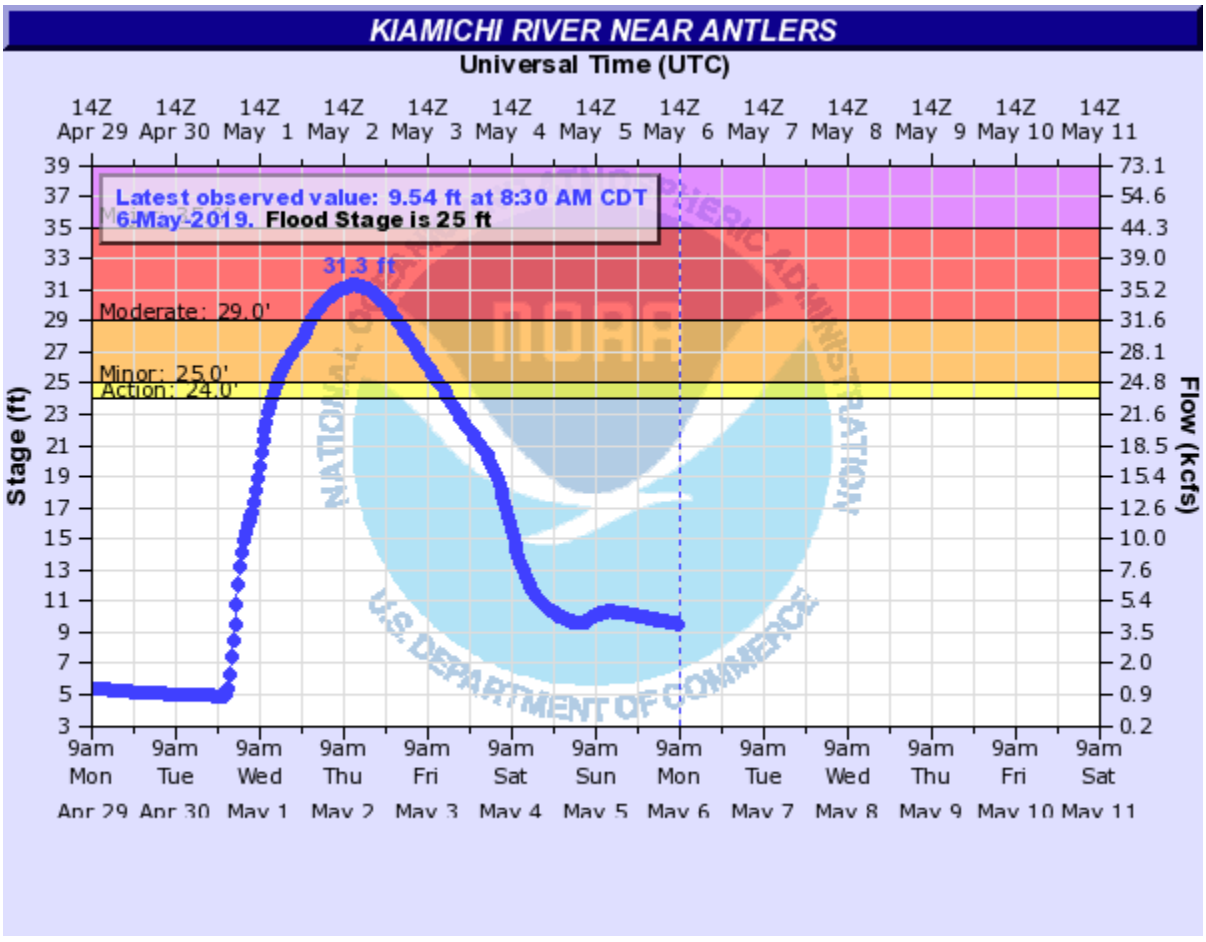

ILLINOIS RIVER (AR OK) NEAR TAHLEQUAH
Universal Time (UTC)
15Z Apr 28
15Z Apr 29
15Z Apr 30
15Z May 1
15Z May 2
15Z May 3
15Z May 4
15Z May 5
15Z May 6
15Z May 7
15Z May 8
Latest observed value: 9.98 ft at 9:30 AM CDT 3-May-2019. Flood Stage is 11 ft
Major: 18.0'
Moderate: 14.0'
Minor: 11.0'
Action: 9.0'
14.02 ft
9.7 ft
Stage (ft)
Flow (kcfs)
10am Sun Apr 28
10am Mon Apr 29
10am Tue Apr 30
10am Wed May 1
10am Thu May 2
10am Fri May 3
10am Sat May 4
10am Sun May 5
10am Mon May 6
10am Tue May 7
10am Wed May 8
Site Time (CDT)
Graph Created (10:22AM May 3, 2019)
Observed
Forecast (issued 8:15AM May 3)
TALO2(plotting HGIRG) "Gage 0" Datum: 664.14'
Observations courtesy of US Geological Survey

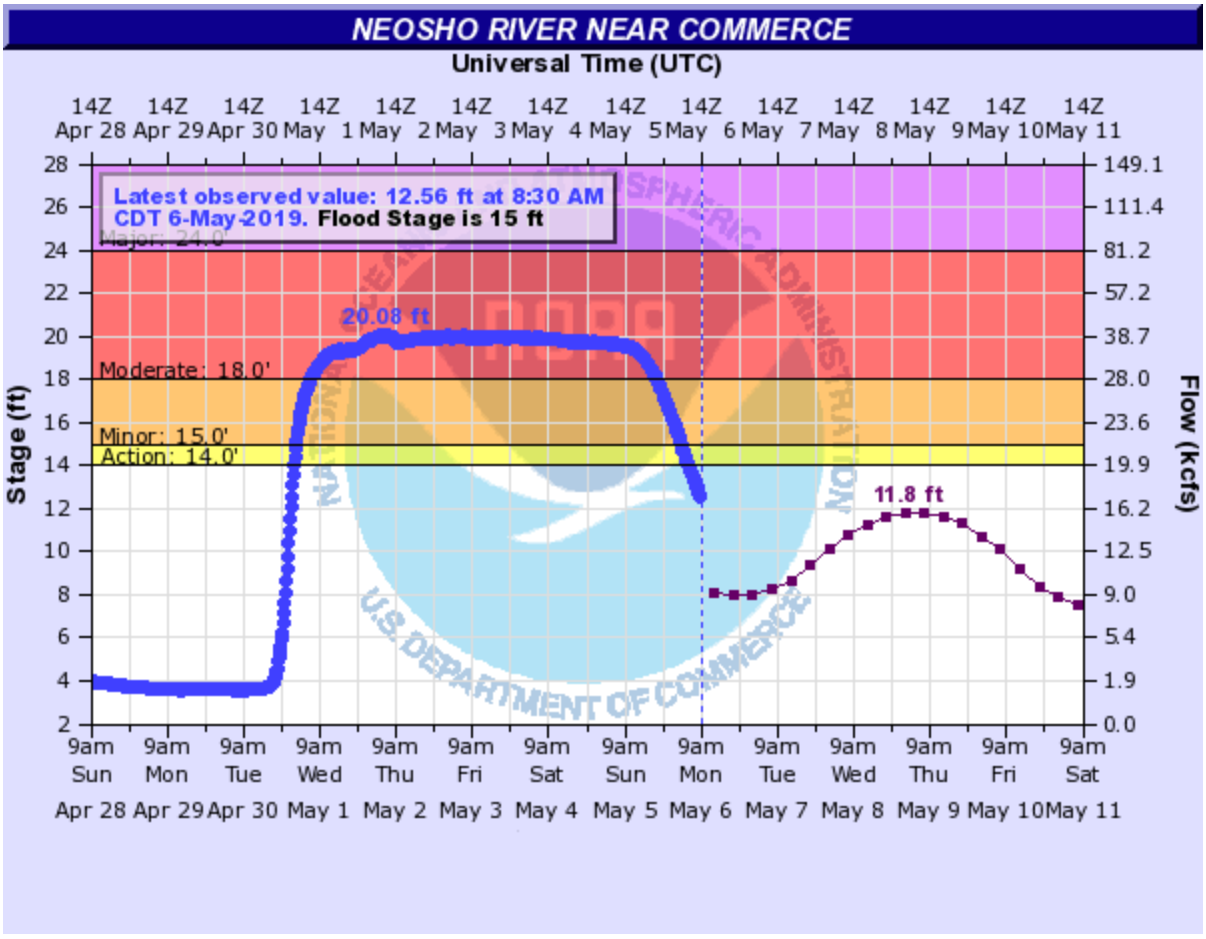

ILLINOIS RIVER (AR OK) NEAR TAHLEQUAH
Universal Time (UTC)
14Z May 1
14Z May 2
14Z May 3
14Z May 4
14Z May 5
14Z May 6
14Z May 7
14Z May 8
14Z May 9
14Z May 10
14Z May 11
Latest observed value: 8.2 ft at 8:30 AM CDT 6-May-2019. Flood Stage is 11 ft
Major: 18.0'
Moderate: 14.0'
Minor: 11.0'
Action: 9.0'
14.02 ft
10.3 ft
Stage (ft)
Flow (kcfs)
9am Wed May 1
9am Thu May 2
9am Fri May 3
9am Sat May 4
9am Sun May 5
9am Mon May 6
9am Tue May 7
9am Wed May 8
9am Thu May 9
9am Fri May 10
9am Sat May 11
Site Time (CDT)
Graph Created (9:22AM May 6, 2019)
Observed
Forecast (issued 8:39AM May 6)
TALO2(plotting HGIRG) "Gage 0" Datum: 664.14'
Observations courtesy of US Geological Survey

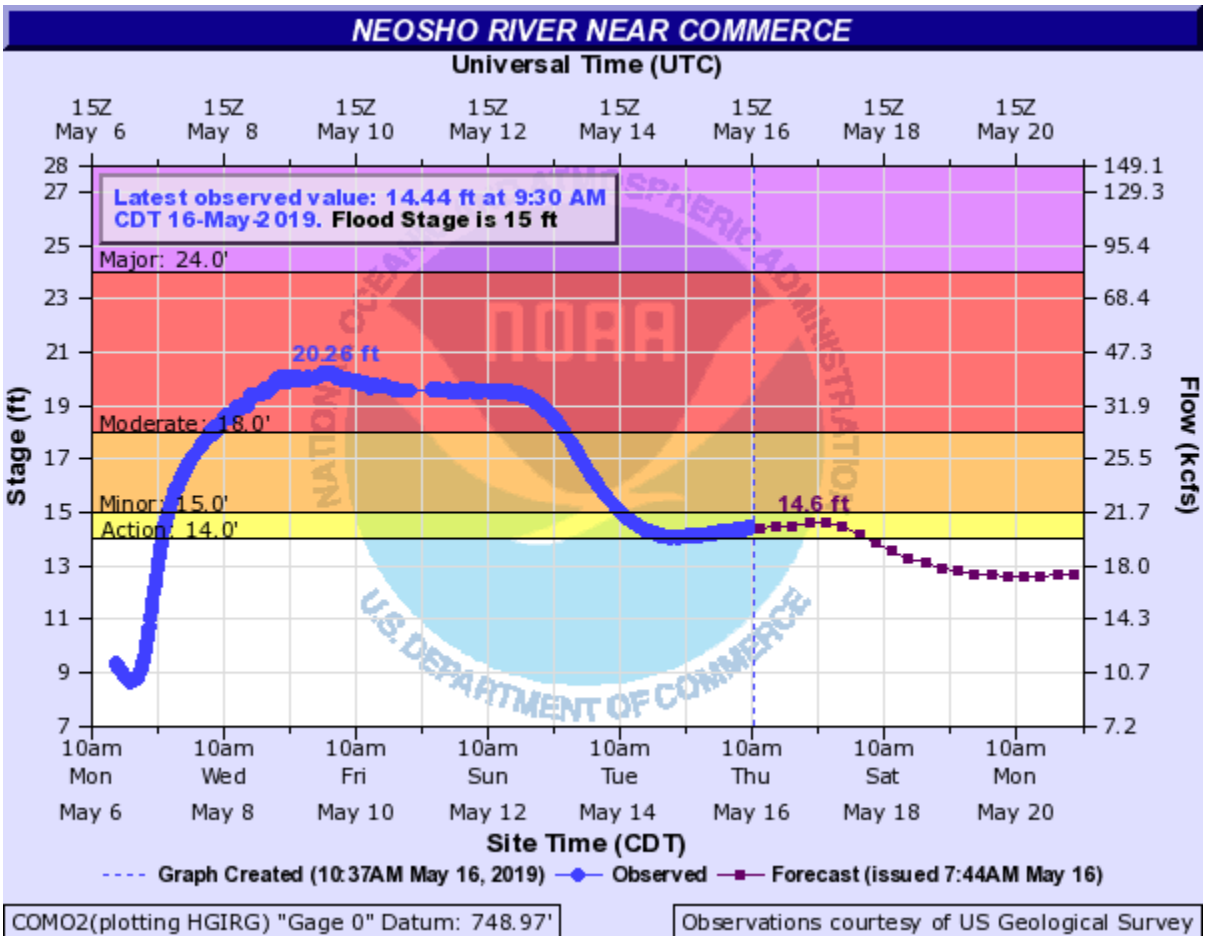

ILLINOIS RIVER (AR OK) NEAR TAHLEQUAH
Universal Time (UTC)
13Z May 3
13Z May 4
13Z May 5
13Z May 6
13Z May 7
13Z May 8
13Z May 9
13Z May 10
13Z May 11
13Z May 12
13Z May 13
Latest observed value: 8.8 ft at 7:30 AM CDT 8-May-2019. Flood Stage is 11 ft
Moderate: 14.0'
Minor: 11.0'
Action: 9.0'
10.26 ft
9.3 ft
Stage (ft)
Flow (kcfs)
18
17
16
15
14
13
12
11
10
9
8
7
6
31.7
27.7
23.9
20.3
17.1
14.1
11.4
8.9
6.8
4.9
3.2
1.8
0.7
8am Fri May 3
8am Sat May 4
8am Sun May 5
8am Mon May 6
8am Tue May 7
8am Wed May 8
8am Thu May 9
8am Fri May 10
8am Sat May 11
8am Sun May 12
8am Mon May 13
Site Time (CDT)
Graph Created (8:52AM May 8, 2019)
Observed
Forecast (issued 1:52AM May 8)
TALO2(plotting HGIRG) "Gage 0" Datum: 664.14'
Observations courtesy of US Geological Survey

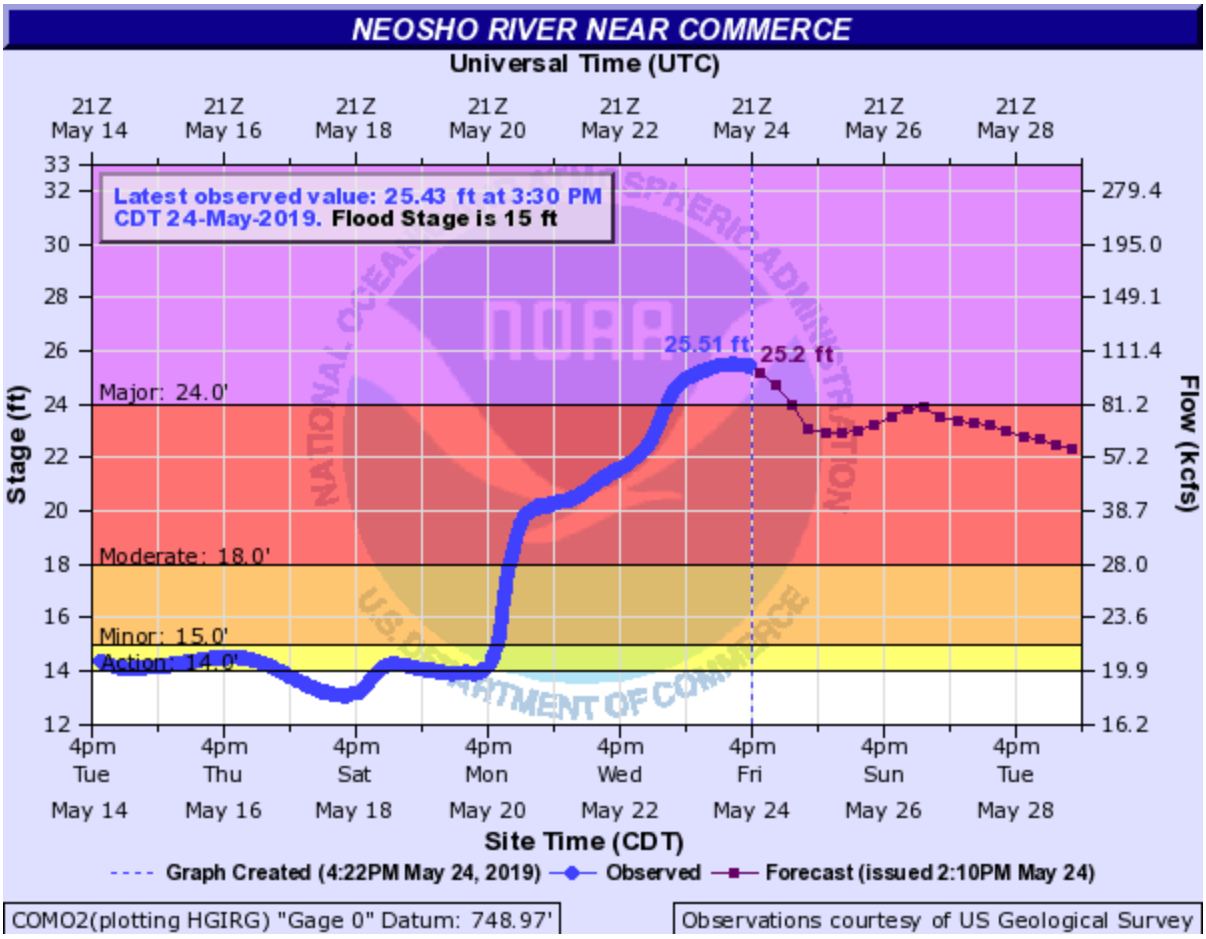

ILLINOIS RIVER (AR OK) NEAR TAHLEQUAH
Universal Time (UTC)
16Z May 17
16Z May 18
16Z May 19
16Z May 20
16Z May 21
16Z May 22
16Z May 23
16Z May 24
16Z May 25
16Z May 26
16Z May 27
Latest observed value: 10.06 ft at 10:30 AM CDT 22-May-2019. Flood Stage is 11 ft
Moderate: 14.0'
Minor: 11.0'
Action: 9.0'
10.32 ft
9.9 ft
Stage (ft)
Flow (kcfs)
18
17
16
15
14
13
12
11
10
9
8
7
6
5
31.7
27.7
23.9
20.3
17.1
14.1
11.4
8.9
6.8
4.9
3.2
1.8
0.7
0.2
11am Fri May 17
11am Sat May 18
11am Sun May 19
11am Mon May 20
11am Tue May 21
11am Wed May 22
11am Thu May 23
11am Fri May 24
11am Sat May 25
11am Sun May 26
11am Mon May 27
Site Time (CDT)
Graph Created (11:22AM May 22, 2019)
Observed
Forecast (issued 8:41AM May 22)
TALO2(plotting HGIRG) "Gage 0" Datum: 664.14'
Observations courtesy of US Geological Survey

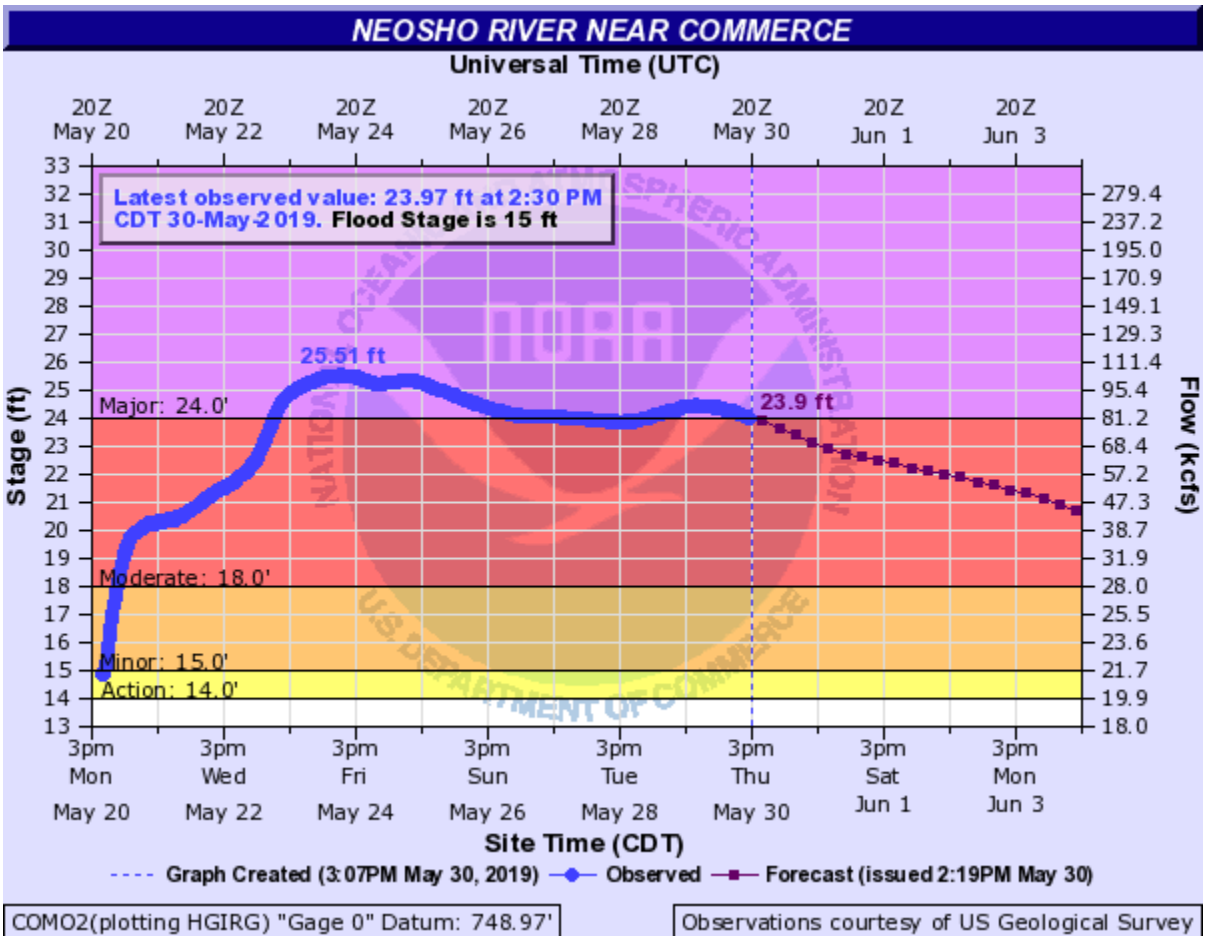

ILLINOIS RIVER (AR OK) NEAR TAHLEQUAH
Universal Time (UTC)
21Z May 29
21Z May 30
21Z May 31
21Z Jun 1
21Z Jun 2
21Z Jun 3
21Z Jun 4
21Z Jun 5
21Z Jun 6
21Z Jun 7
21Z Jun 8
Latest observed value: 7.32 ft at 3:30 PM CDT 3-Jun-2019. Flood Stage is 11 ft
Moderate: 14.0'
Minor: 11.0'
Action: 9.0'
11 ft
7.2 ft
Stage (ft)
Flow (kcfs)
4pm Wed May 29
4pm Thu May 30
4pm Fri May 31
4pm Sat Jun 1
4pm Sun Jun 2
4pm Mon Jun 3
4pm Tue Jun 4
4pm Wed Jun 5
4pm Thu Jun 6
4pm Fri Jun 7
4pm Sat Jun 8
Site Time (CDT)
Graph Created (4:07PM Jun 3, 2019)
Observed
Forecast (issued 8:01AM Jun 3)
TALO2(plotting HGIRG) "Gage 0" Datum: 664.14'
Observations courtesy of US Geological Survey

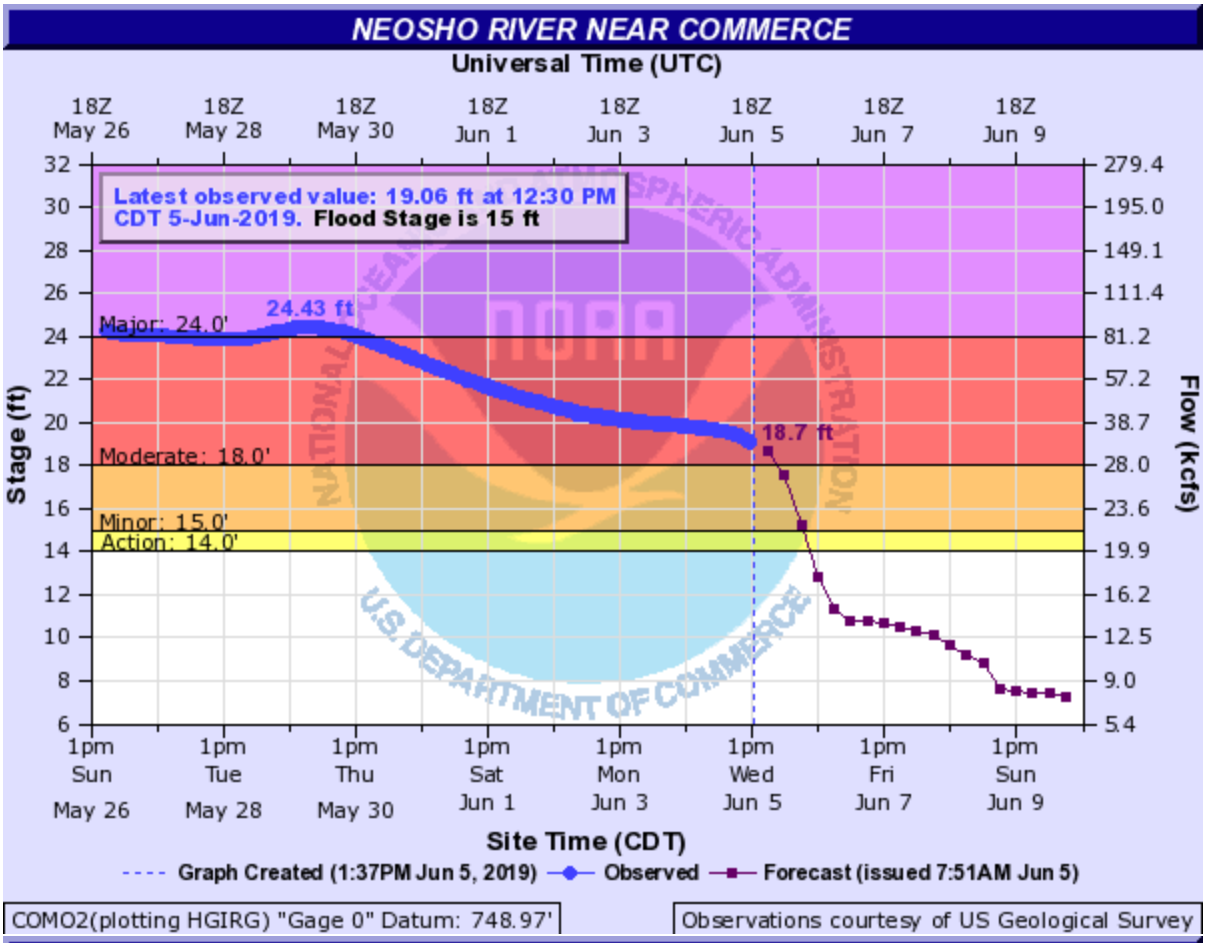

KIAMICHI RIVER NEAR ANTLERS
Universal Time (UTC)
14Z Apr 29
14Z Apr 30
14Z May 1
14Z May 2
14Z May 3
14Z May 4
14Z May 5
14Z May 6
14Z May 7
14Z May 8
14Z May 9
14Z May 10
14Z May 11
Latest observed value: 9.54 ft at 8:30 AM CDT 6-May-2019. Flood Stage is 25 ft
Moderate: 29.0'
Minor: 25.0'
Action: 24.0'
31.3 ft
Stage (ft)
Flow (kcfs)
9am Mon Apr 29
9am Tue Apr 30
9am Wed May 1
9am Thu May 2
9am Fri May 3
9am Sat May 4
9am Sun May 5
9am Mon May 6
9am Tue May 7
9am Wed May 8
9am Thu May 9
9am Fri May 10
9am Sat May 11

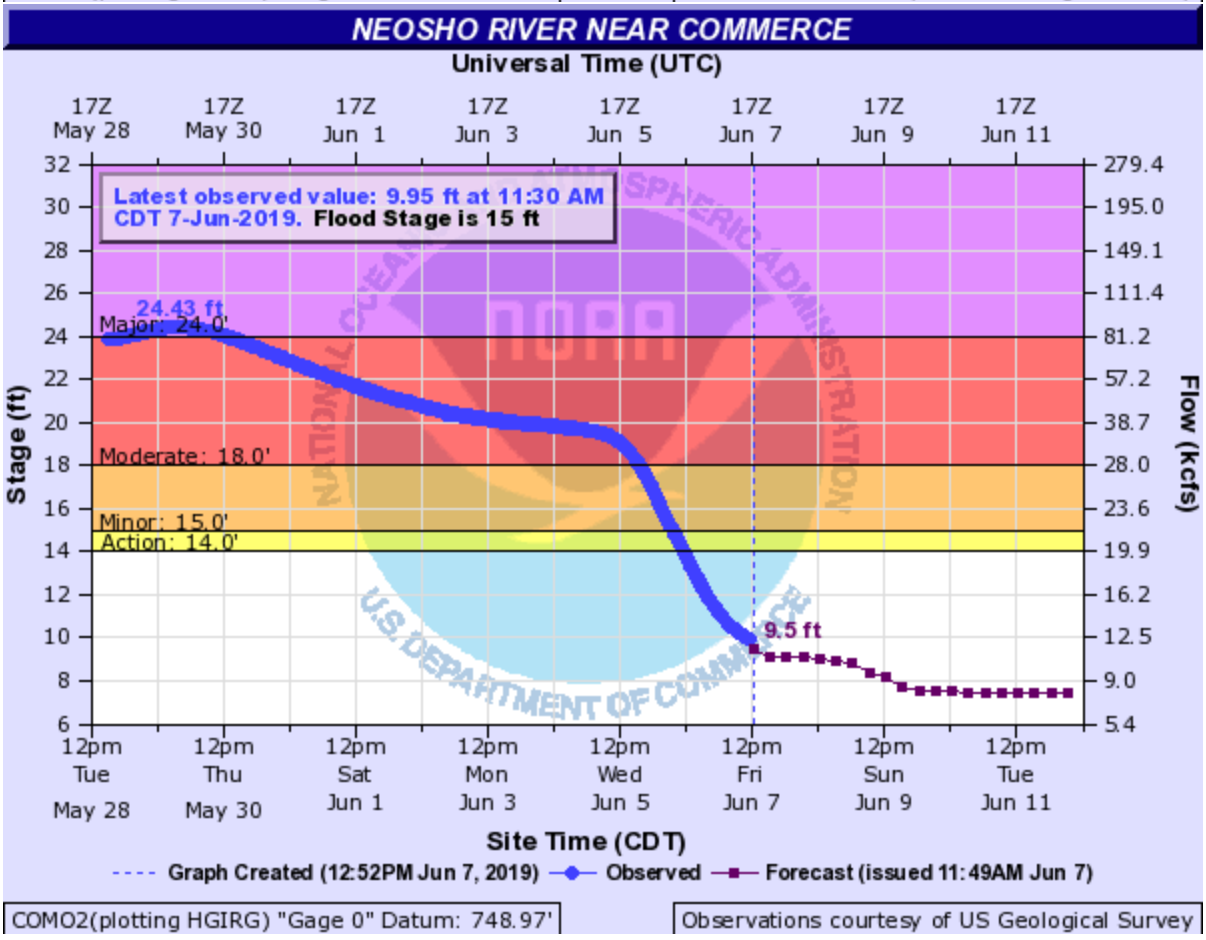

NEOSHO RIVER NEAR COMMERCE
Universal Time (UTC)
14Z Apr 28 14Z Apr 29 14Z Apr 30 14Z May 1 14Z May 2 14Z May 3 14Z May 4 14Z May 5 14Z May 6 14Z May 7 14Z May 8 14Z May 9 14Z May 10 14Z May 11
Latest observed value: 12.56 ft at 8:30 AM CDT 6-May-2019. Flood Stage is 15 ft
Major: 24.0'
Moderate: 18.0'
Minor: 15.0'
Action: 14.0'
20.08 ft
11.8 ft
Stage (ft)
Flow (kcfs)
28 26 24 22 20 18 16 14 12 10 8 6 4 2
149.1 111.4 81.2 57.2 38.7 28.0 23.6 19.9 16.2 12.5 9.0 5.4 1.9 0.0
9am Sun Apr 28 9am Mon Apr 29 9am Tue Apr 30 9am Wed May 1 9am Thu May 2 9am Fri May 3 9am Sat May 4 9am Sun May 5 9am Mon May 6 9am Tue May 7 9am Wed May 8 9am Thu May 9 9am Fri May 10 9am Sat May 11
U.S. DEPARTMENT OF COMMERCE

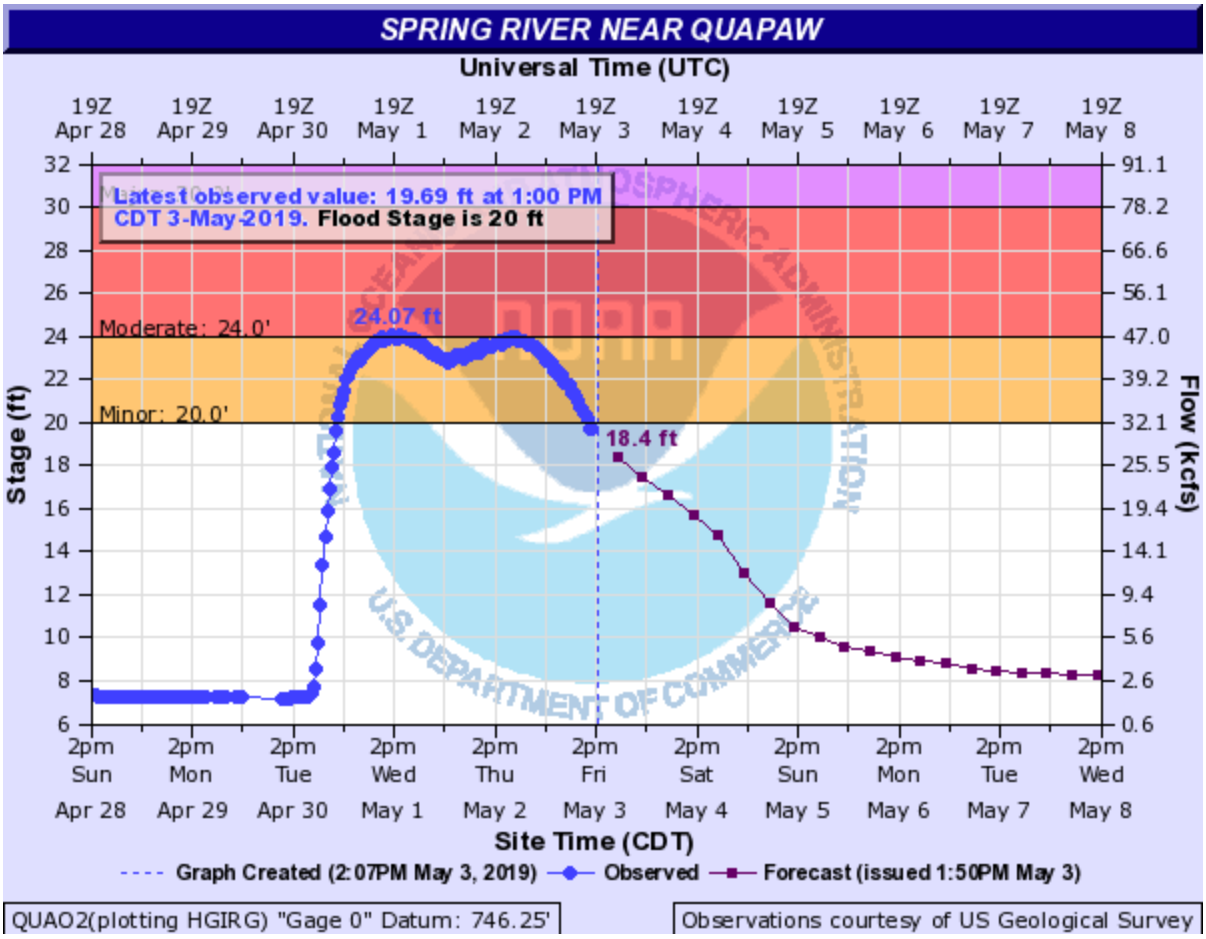

NEOSHO RIVER NEAR COMMERCE
Universal Time (UTC)
15Z May 6 15Z May 8 15Z May 10 15Z May 12 15Z May 14 15Z May 16 15Z May 18 15Z May 20
Latest observed value: 14.44 ft at 9:30 AM CDT 16-May-2019. Flood Stage is 15 ft
Major: 24.0'
Moderate: 18.0'
Minor: 15.0'
Action: 14.0'
20.26 ft
14.6 ft
Stage (ft)
Flow (kcfs)
28 27 25 23 21 19 17 15 13 11 9 7
149.1 129.3 95.4 68.4 47.3 31.9 25.5 21.7 18.0 14.3 10.7 7.2
10am Mon May 6 10am Wed May 8 10am Fri May 10 10am Sun May 12 10am Tue May 14 10am Thu May 16 10am Sat May 18 10am Mon May 20
Site Time (CDT)
Graph Created (10:37AM May 16, 2019) Observed Forecast (issued 7:44AM May 16)
COMO2(plotting HGIRG) "Gage 0" Datum: 748.97'
Observations courtesy of US Geological Survey
U.S. DEPARTMENT OF COMMERCE

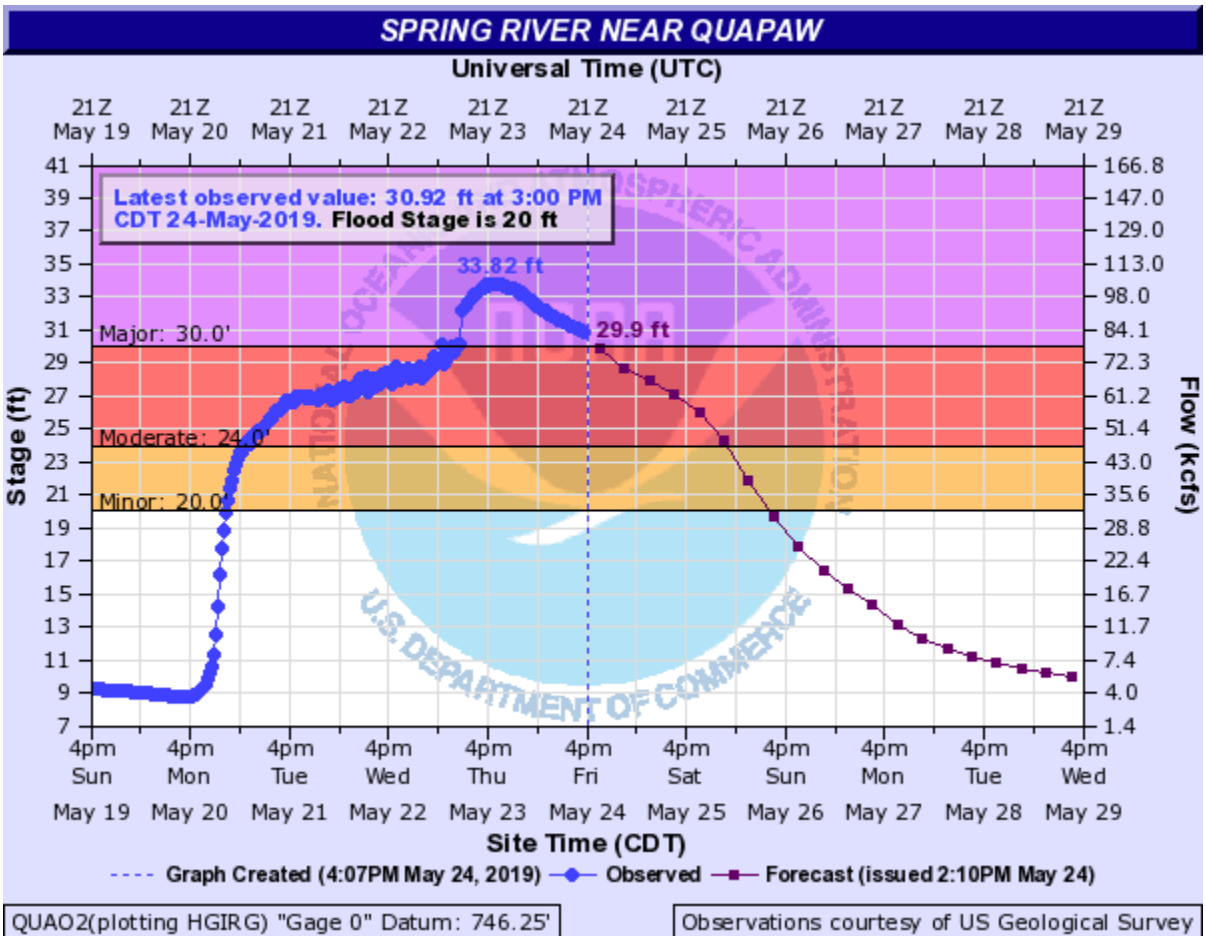

NEOSHO RIVER NEAR COMMERCE
Universal Time (UTC)
21Z May 14
21Z May 16
21Z May 18
21Z May 20
21Z May 22
21Z May 24
21Z May 26
21Z May 28
Latest observed value: 25.43 ft at 3:30 PM CDT 24-May-2019. Flood Stage is 15 ft
25.51 ft
25.2 ft
Major: 24.0'
Moderate: 18.0'
Minor: 15.0'
Action: 14.0'
Stage (ft)
Flow (kcfs)
33
32
30
28
26
24
22
20
18
16
14
12
279.4
195.0
149.1
111.4
81.2
57.2
38.7
28.0
23.6
19.9
16.2
4pm Tue May 14
4pm Thu May 16
4pm Sat May 18
4pm Mon May 20
4pm Wed May 22
4pm Fri May 24
4pm Sun May 26
4pm Tue May 28
Site Time (CDT)
Graph Created (4:22PM May 24, 2019)
Observed
Forecast (issued 2:10PM May 24)
COMO2(plotting HGIRG) "Gage 0" Datum: 748.97'
Observations courtesy of US Geological Survey

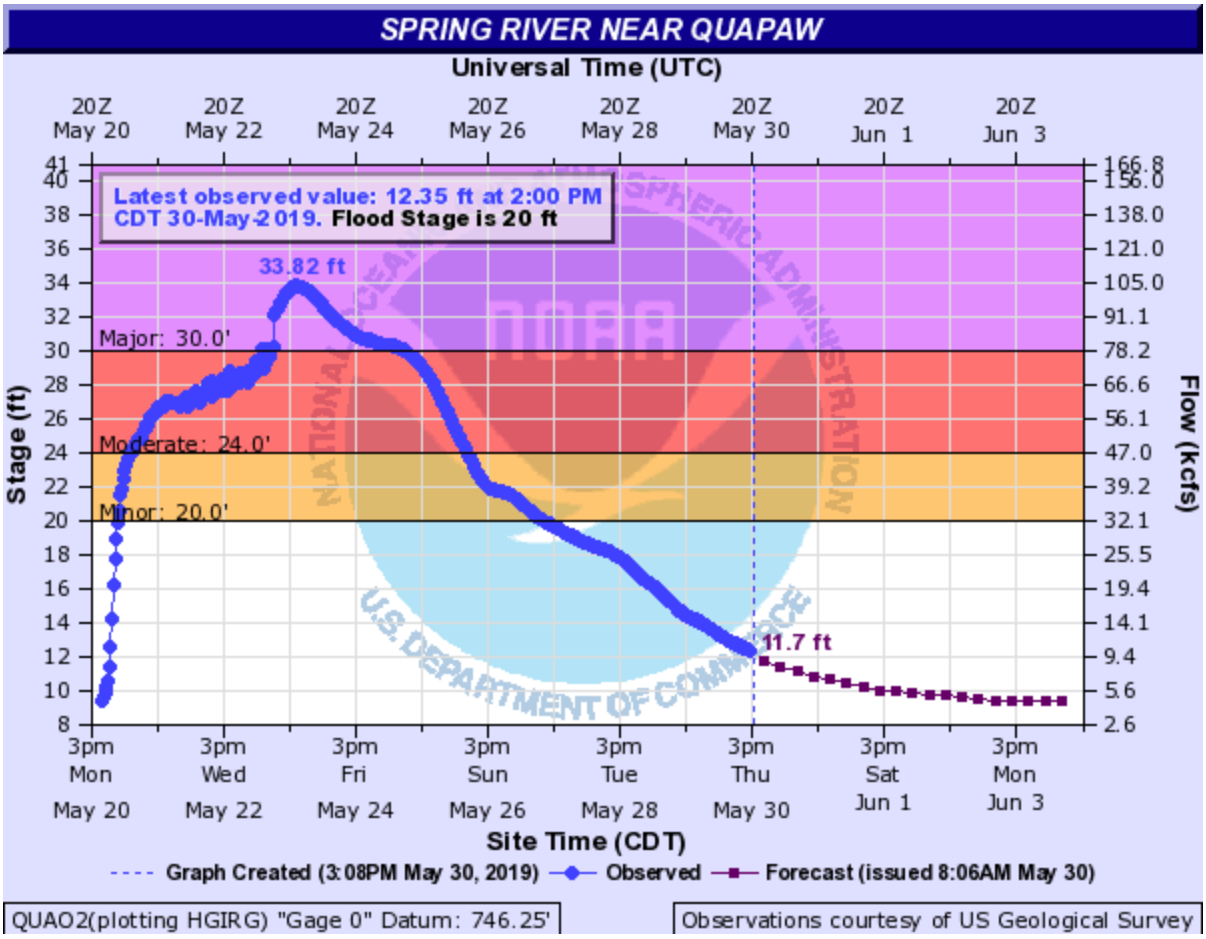

NEOSHO RIVER NEAR COMMERCE
Universal Time (UTC)
20Z May 20
20Z May 22
20Z May 24
20Z May 26
20Z May 28
20Z May 30
20Z Jun 1
20Z Jun 3
Latest observed value: 23.97 ft at 2:30 PM CDT 30-May-2019. Flood Stage is 15 ft
25.51 ft
23.9 ft
Major: 24.0'
Moderate: 18.0'
Minor: 15.0'
Action: 14.0'
Stage (ft)
Flow (kcfs)
33
32
31
30
29
28
27
26
25
24
23
22
21
20
19
18
17
16
15
14
13
279.4
237.2
195.0
170.9
149.1
129.3
111.4
95.4
81.2
68.4
57.2
47.3
38.7
31.9
28.0
25.5
23.6
21.7
19.9
18.0
3pm Mon May 20
3pm Wed May 22
3pm Fri May 24
3pm Sun May 26
3pm Tue May 28
3pm Thu May 30
3pm Sat Jun 1
3pm Mon Jun 3
Site Time (CDT)
Graph Created (3:07PM May 30, 2019)
Observed
Forecast (issued 2:19PM May 30)
COMO2(plotting HGIRG) "Gage 0" Datum: 748.97'
Observations courtesy of US Geological Survey

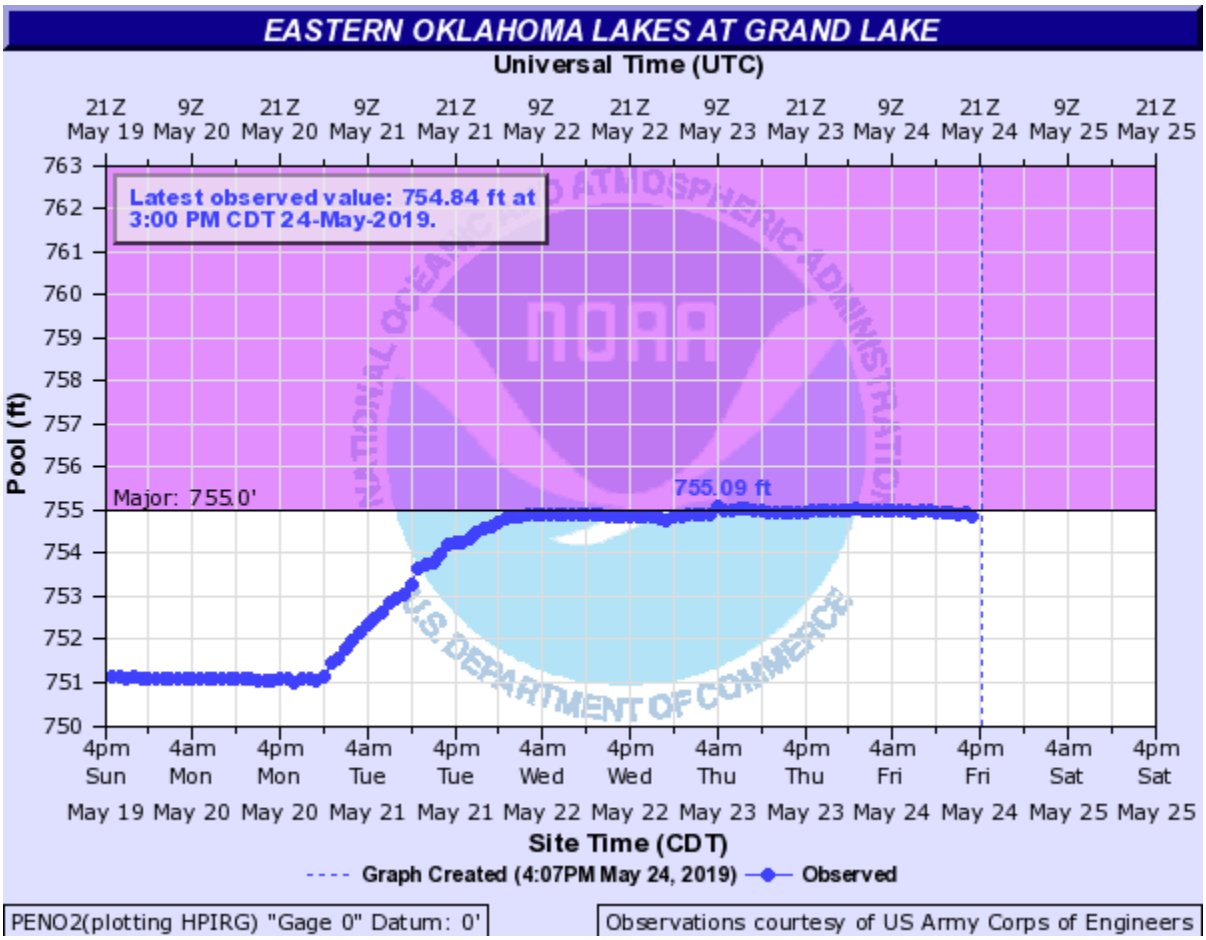

NEOSHO RIVER NEAR COMMERCE
Universal Time (UTC)
18Z May 26
18Z May 28
18Z May 30
18Z Jun 1
18Z Jun 3
18Z Jun 5
18Z Jun 7
18Z Jun 9
Latest observed value: 19.06 ft at 12:30 PM CDT 5-Jun-2019. Flood Stage is 15 ft
24.43 ft
18.7 ft
Major: 24.0'
Moderate: 18.0'
Minor: 15.0'
Action: 14.0'
Stage (ft)
Flow (kcfs)
32 30 28 26 24 22 20 18 16 14 12 10 8 6
279.4 195.0 149.1 111.4 81.2 57.2 38.7 28.0 23.6 19.9 16.2 12.5 9.0 5.4
1pm Sun May 26
1pm Tue May 28
1pm Thu May 30
1pm Sat Jun 1
1pm Mon Jun 3
1pm Wed Jun 5
1pm Fri Jun 7
1pm Sun Jun 9
Site Time (CDT)
Graph Created (1:37PM Jun 5, 2019)
Observed
Forecast (issued 7:51AM Jun 5)
COMO2(plotting HGIRG) "Gage 0" Datum: 748.97'
Observations courtesy of US Geological Survey

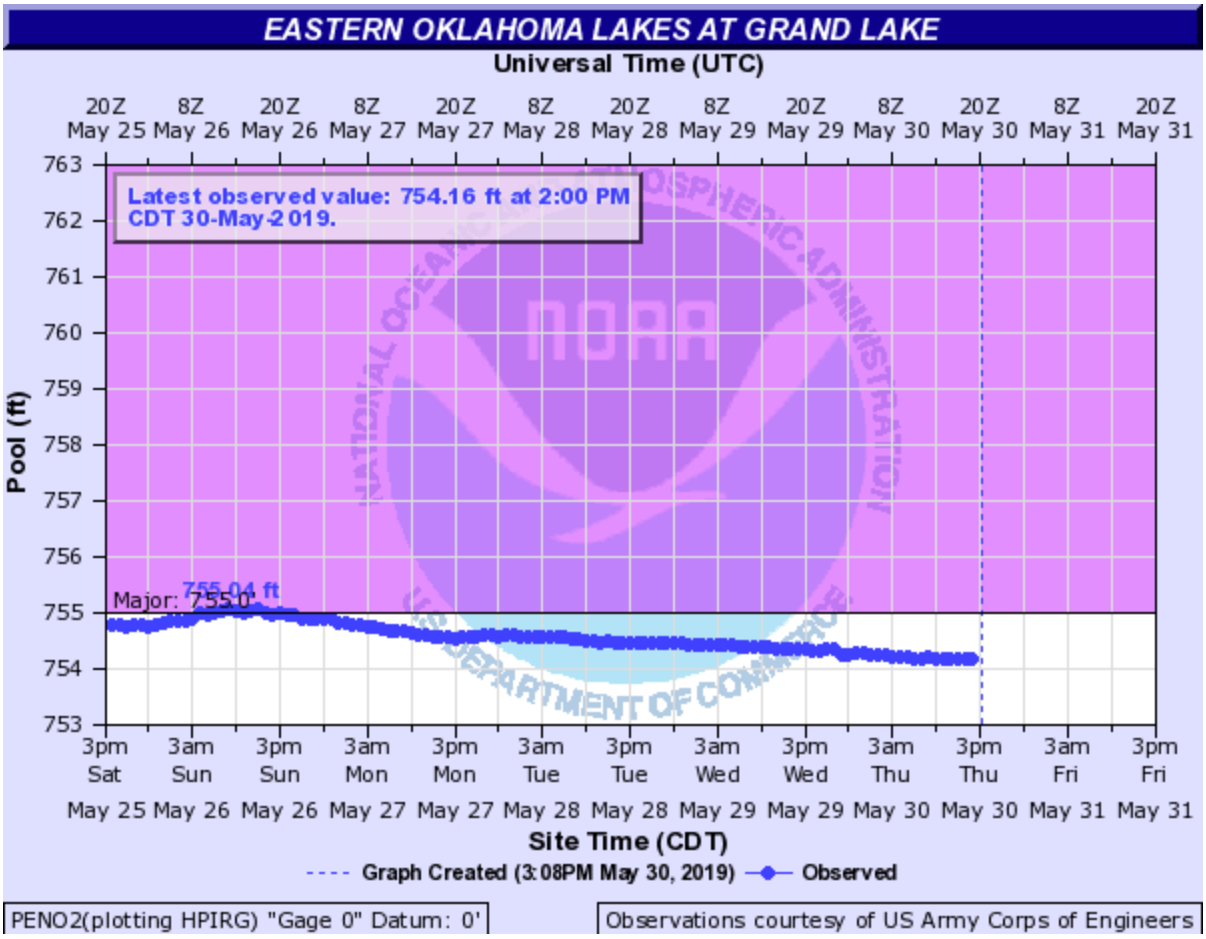

NEOSHO RIVER NEAR COMMERCE
Universal Time (UTC)
17Z May 28
17Z May 30
17Z Jun 1
17Z Jun 3
17Z Jun 5
17Z Jun 7
17Z Jun 9
17Z Jun 11
Latest observed value: 9.95 ft at 11:30 AM CDT 7-Jun-2019. Flood Stage is 15 ft
24.43 ft
9.5 ft
Major: 24.0'
Moderate: 18.0'
Minor: 15.0'
Action: 14.0'
Stage (ft)
Flow (kcfs)
32 30 28 26 24 22 20 18 16 14 12 10 8 6
279.4 195.0 149.1 111.4 81.2 57.2 38.7 28.0 23.6 19.9 16.2 12.5 9.0 5.4
12pm Tue May 28
12pm Thu May 30
12pm Sat Jun 1
12pm Mon Jun 3
12pm Wed Jun 5
12pm Fri Jun 7
12pm Sun Jun 9
12pm Tue Jun 11
Site Time (CDT)
Graph Created (12:52PM Jun 7, 2019)
Observed
Forecast (issued 11:49AM Jun 7)
COMO2(plotting HGIRG) "Gage 0" Datum: 748.97'
Observations courtesy of US Geological Survey

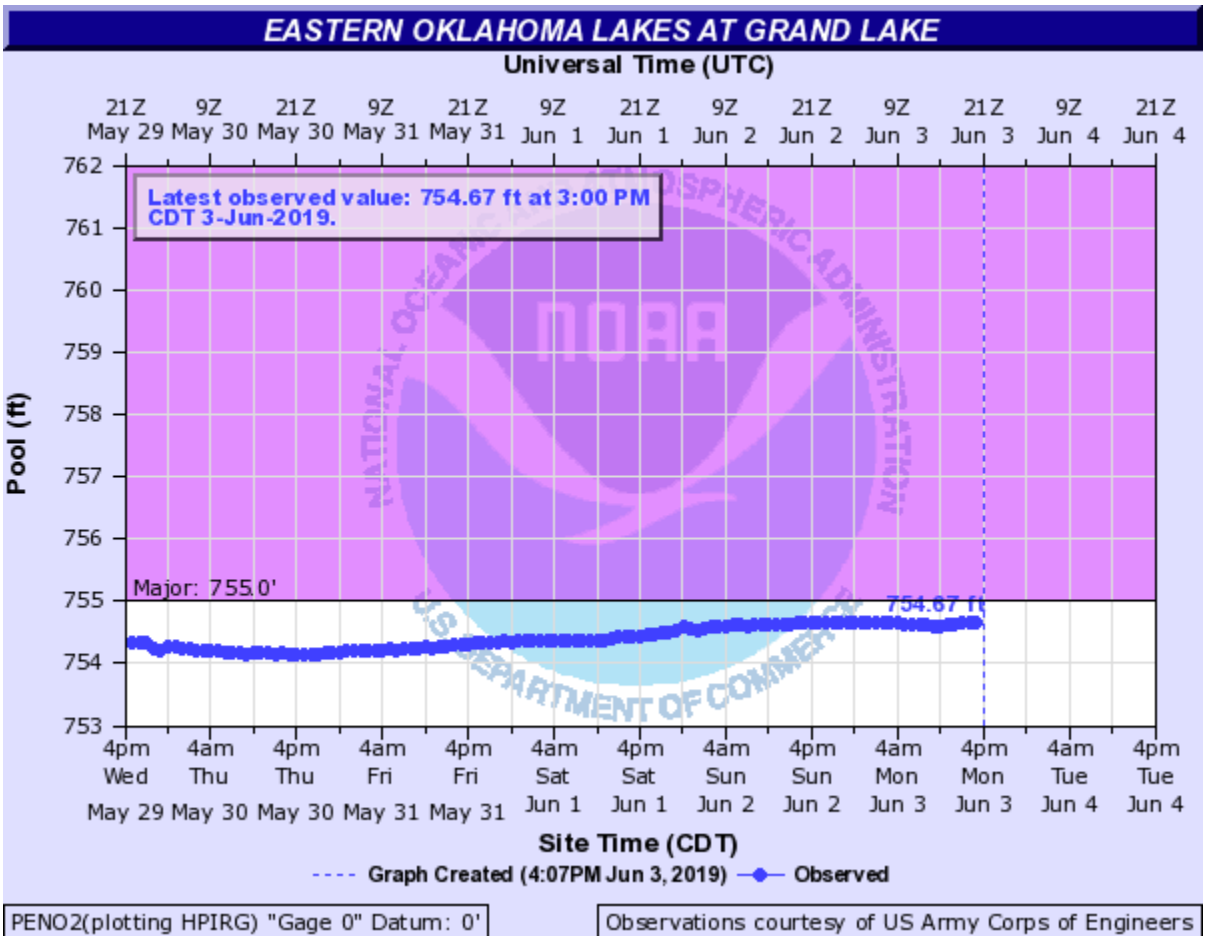

SPRING RIVER NEAR QUAPAW
Universal Time (UTC)
19Z Apr 28
19Z Apr 29
19Z Apr 30
19Z May 1
19Z May 2
19Z May 3
19Z May 4
19Z May 5
19Z May 6
19Z May 7
19Z May 8
Latest observed value: 19.69 ft at 1:00 PM CDT 3-May-2019. Flood Stage is 20 ft
24.07 ft
18.4 ft
Moderate: 24.0'
Minor: 20.0'
Stage (ft)
Flow (kcfs)
2pm Sun Apr 28
2pm Mon Apr 29
2pm Tue Apr 30
2pm Wed May 1
2pm Thu May 2
2pm Fri May 3
2pm Sat May 4
2pm Sun May 5
2pm Mon May 6
2pm Tue May 7
2pm Wed May 8
Site Time (CDT)
Graph Created (2:07PM May 3, 2019)
Observed
Forecast (issued 1:50PM May 3)
QUAO2(plotting HGIRG) "Gage 0" Datum: 746.25'
Observations courtesy of US Geological Survey

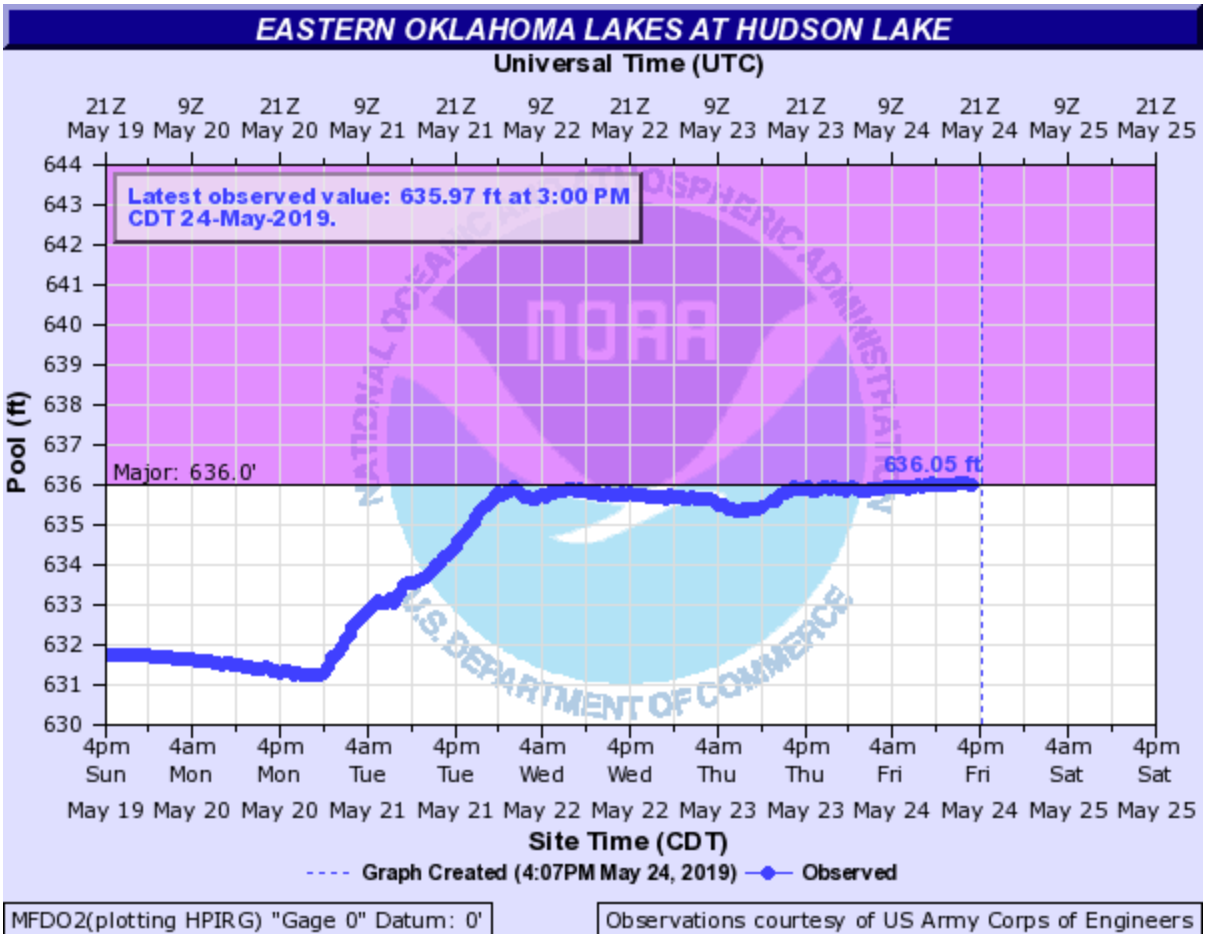

SPRING RIVER NEAR QUAPAW
Universal Time (UTC)
21Z May 19
21Z May 20
21Z May 21
21Z May 22
21Z May 23
21Z May 24
21Z May 25
21Z May 26
21Z May 27
21Z May 28
21Z May 29
Latest observed value: 30.92 ft at 3:00 PM CDT 24-May-2019. Flood Stage is 20 ft
33.82 ft
29.9 ft
Major: 30.0'
Moderate: 24.0'
Minor: 20.0'
Stage (ft)
Flow (kcfs)
4pm Sun May 19
4pm Mon May 20
4pm Tue May 21
4pm Wed May 22
4pm Thu May 23
4pm Fri May 24
4pm Sat May 25
4pm Sun May 26
4pm Mon May 27
4pm Tue May 28
4pm Wed May 29
Site Time (CDT)
Graph Created (4:07PM May 24, 2019)
Observed
Forecast (issued 2:10PM May 24)
QUAO2(plotting HGIRG) "Gage 0" Datum: 746.25'
Observations courtesy of US Geological Survey

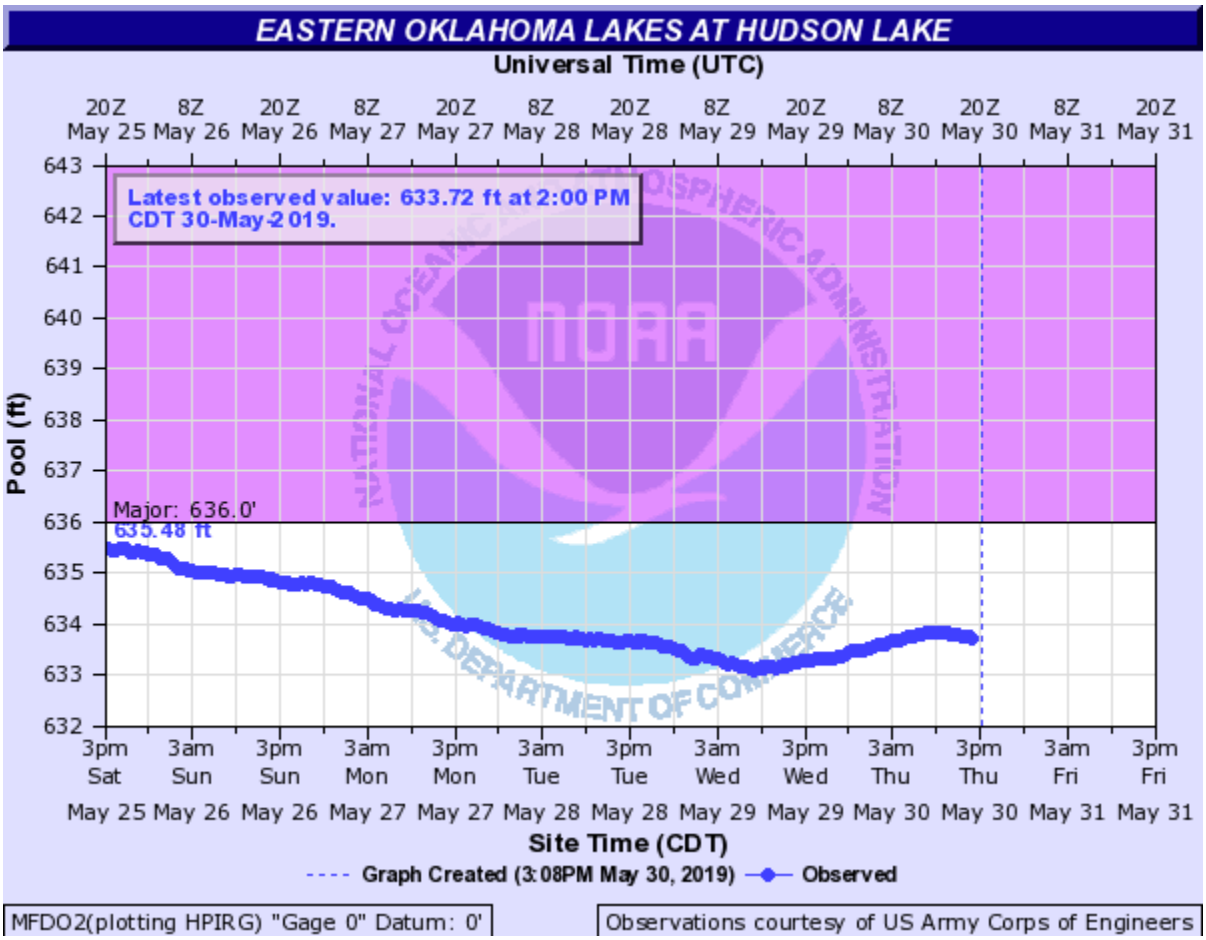

SPRING RIVER NEAR QUAPAW
Universal Time (UTC)
20Z May 20
20Z May 22
20Z May 24
20Z May 26
20Z May 28
20Z May 30
20Z Jun 1
20Z Jun 3
Latest observed value: 12.35 ft at 2:00 PM CDT 30-May-2019. Flood Stage is 20 ft
33.82 ft
Major: 30.0'
Moderate: 24.0'
Minor: 20.0'
11.7 ft
Stage (ft)
Flow (kcfs)
41 40 38 36 34 32 30 28 26 24 22 20 18 16 14 12 10 8
166.8 156.0 138.0 121.0 105.0 91.1 78.2 66.6 56.1 47.0 39.2 32.1 25.5 19.4 14.1 9.4 5.6 2.6
3pm Mon May 20
3pm Wed May 22
3pm Fri May 24
3pm Sun May 26
3pm Tue May 28
3pm Thu May 30
3pm Sat Jun 1
3pm Mon Jun 3
Site Time (CDT)
Graph Created (3:08PM May 30, 2019)
Observed
Forecast (issued 8:06AM May 30)
QUAO2(plotting HGIRG) "Gage 0" Datum: 746.25'
Observations courtesy of US Geological Survey

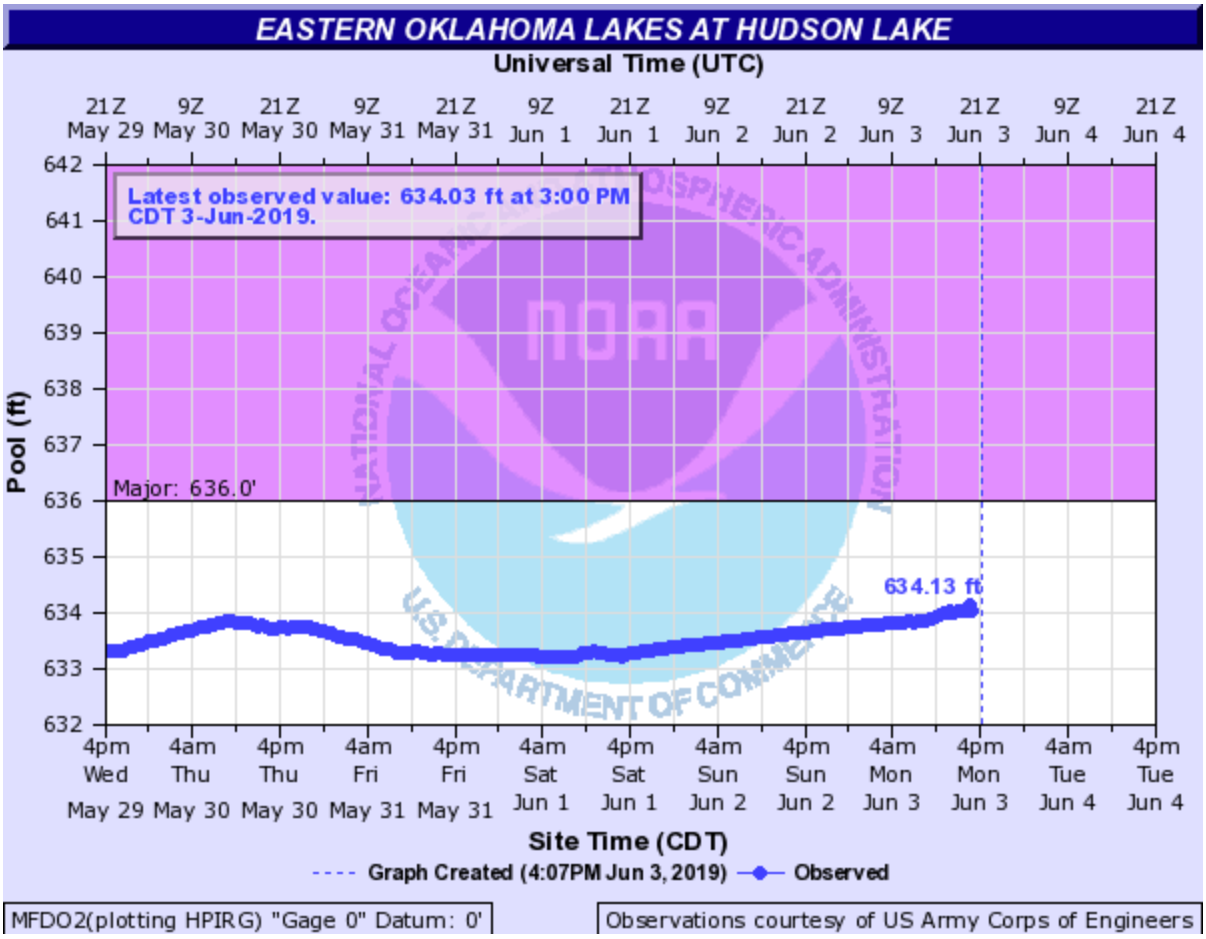

EASTERN OKLAHOMA LAKES AT GRAND LAKE
Universal Time (UTC)
21Z May 19
9Z May 20
21Z May 20
9Z May 21
21Z May 21
9Z May 22
21Z May 22
9Z May 23
21Z May 23
9Z May 24
21Z May 24
9Z May 25
21Z May 25
Latest observed value: 754.84 ft at 3:00 PM CDT 24-May-2019.
755.09 ft
Major: 755.0'
Pool (ft)
763 762 761 760 759 758 757 756 755 754 753 752 751 750
4pm Sun May 19
4am Mon May 20
4pm Mon May 20
4am Tue May 21
4pm Tue May 21
4am Wed May 22
4pm Wed May 22
4am Thu May 23
4pm Thu May 23
4am Fri May 24
4pm Fri May 24
4am Sat May 25
4pm Sat May 25
Site Time (CDT)
Graph Created (4:07PM May 24, 2019)
Observed
PENO2(plotting HPIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers

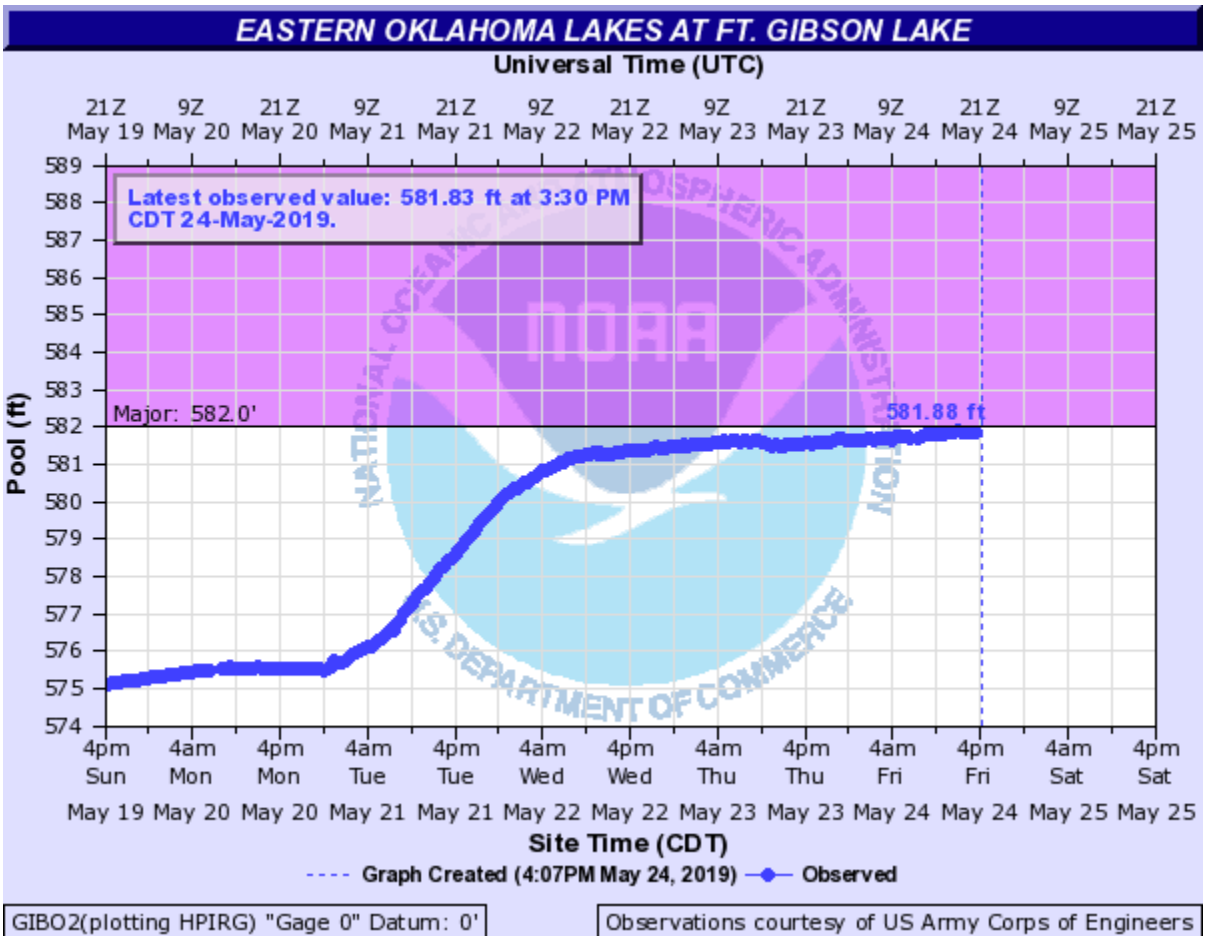

EASTERN OKLAHOMA LAKES AT GRAND LAKE
Universal Time (UTC)
20Z May 25 8Z May 26 20Z May 26 8Z May 27 20Z May 27 8Z May 28 20Z May 28 8Z May 29 20Z May 29 8Z May 30 20Z May 30 8Z May 31 20Z May 31
Latest observed value: 754.16 ft at 2:00 PM CDT 30-May-2019.
Pool (ft)
763
762
761
760
759
758
757
756
755
754
753
Major: 755.0'
755.04 ft
3pm Sat May 25
3am Sun May 26
3pm Sun May 26
3am Mon May 27
3pm Mon May 27
3am Tue May 28
3pm Tue May 28
3am Wed May 29
3pm Wed May 29
3am Thu May 30
3pm Thu May 30
3am Fri May 31
3pm Fri May 31
Site Time (CDT)
Graph Created (3:08PM May 30, 2019)
Observed
PENO2(plotting HPIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers

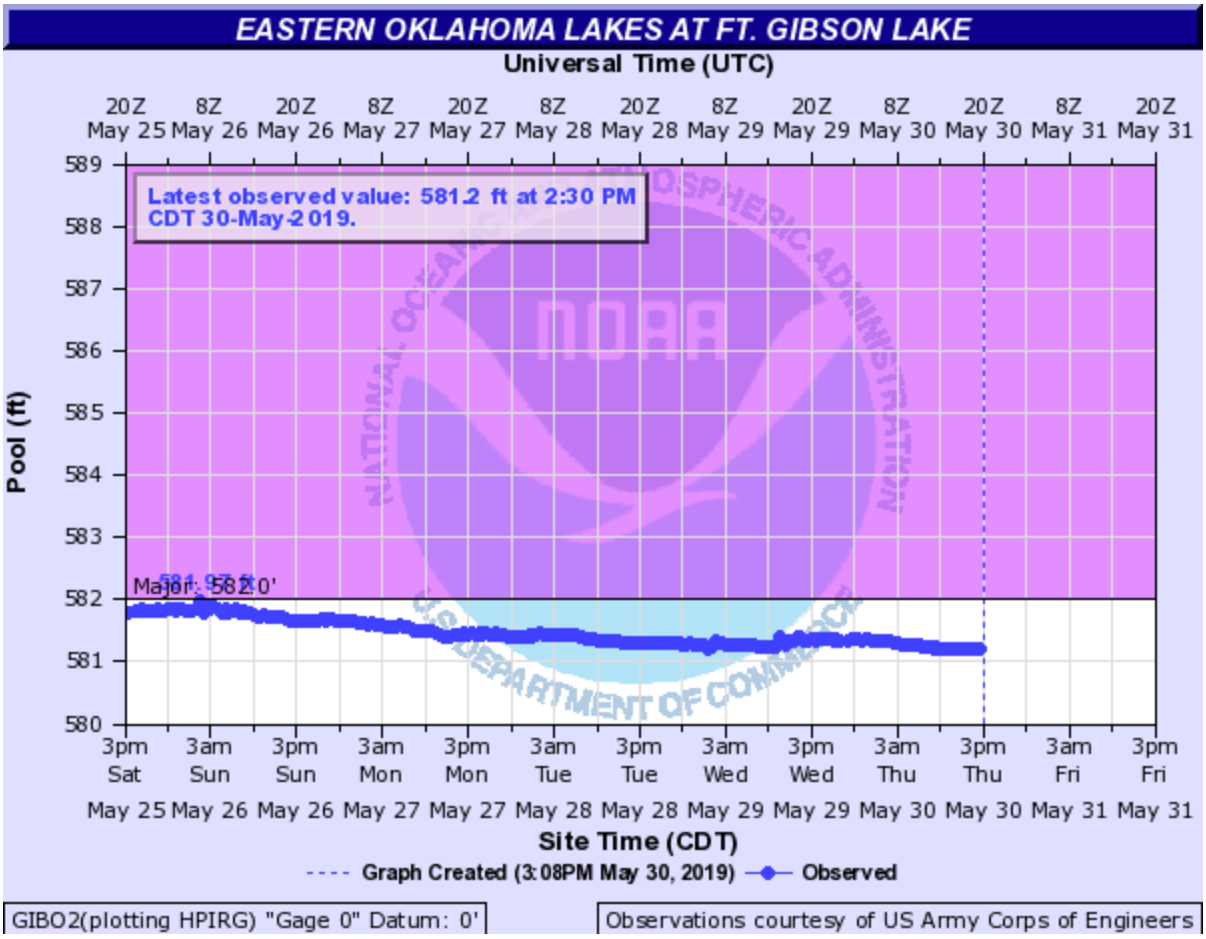

EASTERN OKLAHOMA LAKES AT GRAND LAKE
Universal Time (UTC)
21Z May 29 9Z May 30 21Z May 30 9Z May 31 21Z May 31 9Z Jun 1 21Z Jun 1 9Z Jun 2 21Z Jun 2 9Z Jun 3 21Z Jun 3 9Z Jun 4 21Z Jun 4
Latest observed value: 754.67 ft at 3:00 PM CDT 3-Jun-2019.
Pool (ft)
762
761
760
759
758
757
756
755
754
753
Major: 755.0'
754.67 ft
4pm Wed May 29
4am Thu May 30
4pm Thu May 30
4am Fri May 31
4pm Fri May 31
4am Sat Jun 1
4pm Sat Jun 1
4am Sun Jun 2
4pm Sun Jun 2
4am Mon Jun 3
4pm Mon Jun 3
4am Tue Jun 4
4pm Tue Jun 4
Site Time (CDT)
Graph Created (4:07PM Jun 3, 2019)
Observed
PENO2(plotting HPIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers

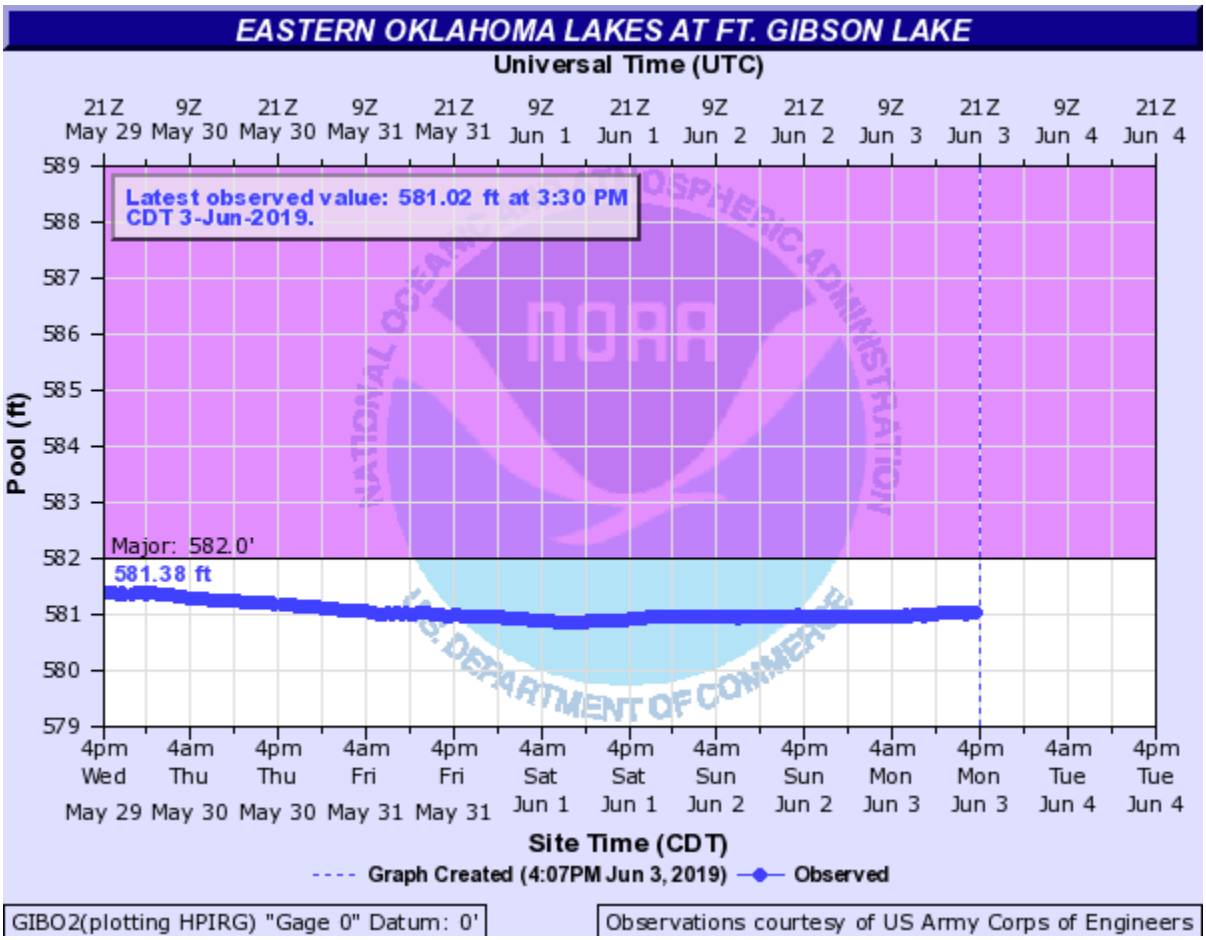

EASTERN OKLAHOMA LAKES AT HUDSON LAKE
Universal Time (UTC)
21Z May 19 9Z May 20 21Z May 20 9Z May 21 21Z May 21 9Z May 22 21Z May 22 9Z May 23 21Z May 23 9Z May 24 21Z May 24 9Z May 25 21Z May 25
Latest observed value: 635.97 ft at 3:00 PM CDT 24-May-2019.
Pool (ft)
644 643 642 641 640 639 638 637 636 635 634 633 632 631 630
Major: 636.0'
636.05 ft
4pm Sun 4am Mon 4pm Mon 4am Tue 4pm Tue 4am Wed 4pm Wed 4am Thu 4pm Thu 4am Fri 4pm Fri 4am Sat 4pm Sat
May 19 May 20 May 20 May 21 May 21 May 22 May 22 May 23 May 23 May 24 May 24 May 25 May 25
Site Time (CDT)
Graph Created (4:07PM May 24, 2019)
Observed
MFDO2(plotting HPIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers

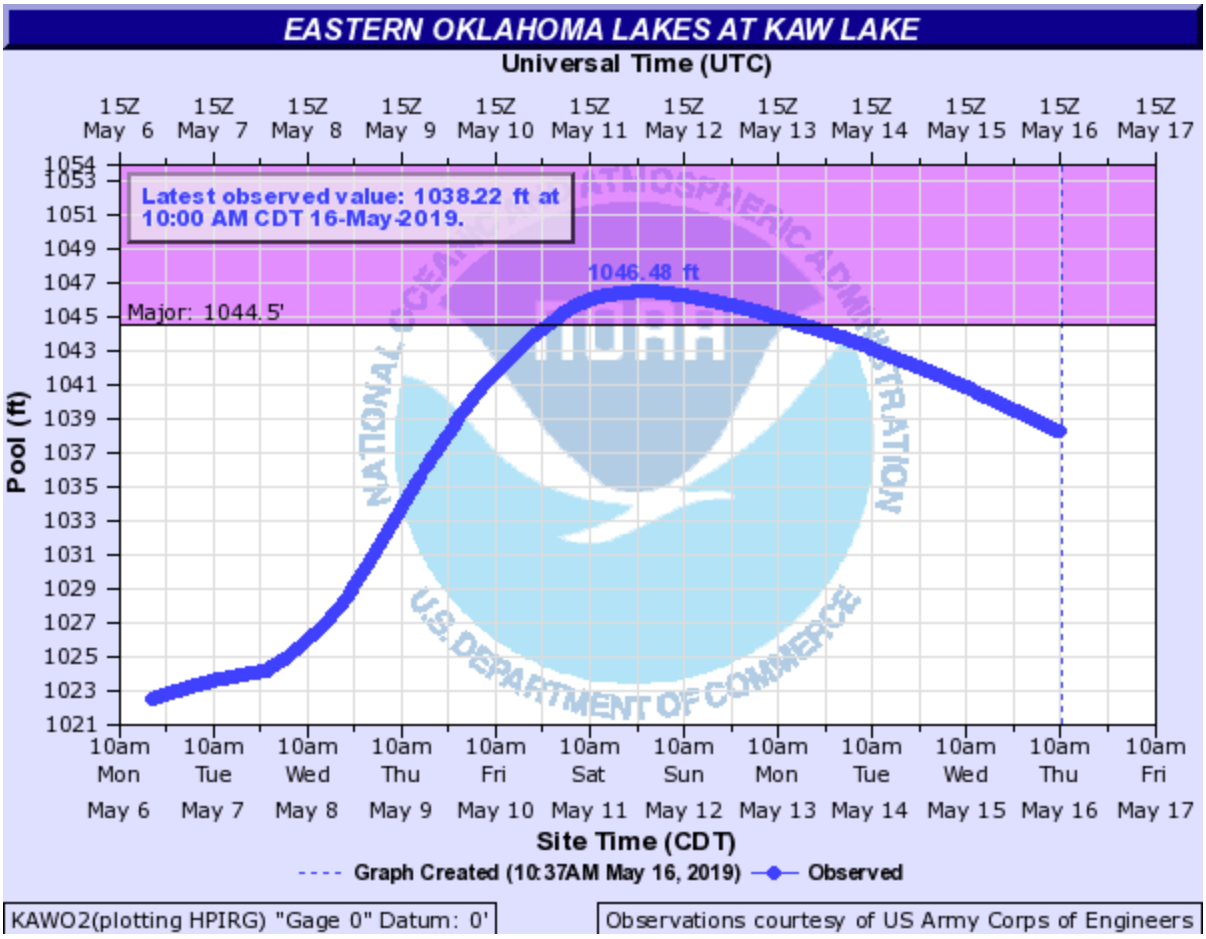

EASTERN OKLAHOMA LAKES AT HUDSON LAKE
Universal Time (UTC)
20Z May 25 8Z May 26 20Z May 26 8Z May 27 20Z May 27 8Z May 28 20Z May 28 8Z May 29 20Z May 29 8Z May 30 20Z May 30 8Z May 31 20Z May 31
Latest observed value: 633.72 ft at 2:00 PM CDT 30-May-2019.
Pool (ft)
643 642 641 640 639 638 637 636 635 634 633 632
Major: 636.0'
635.48 ft
3pm Sat 3am Sun 3pm Sun 3am Mon 3pm Mon 3am Tue 3pm Tue 3am Wed 3pm Wed 3am Thu 3pm Thu 3am Fri 3pm Fri
May 25 May 26 May 26 May 27 May 27 May 28 May 28 May 29 May 29 May 30 May 30 May 31 May 31
Site Time (CDT)
Graph Created (3:08PM May 30, 2019)
Observed
MFDO2(plotting HPIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers

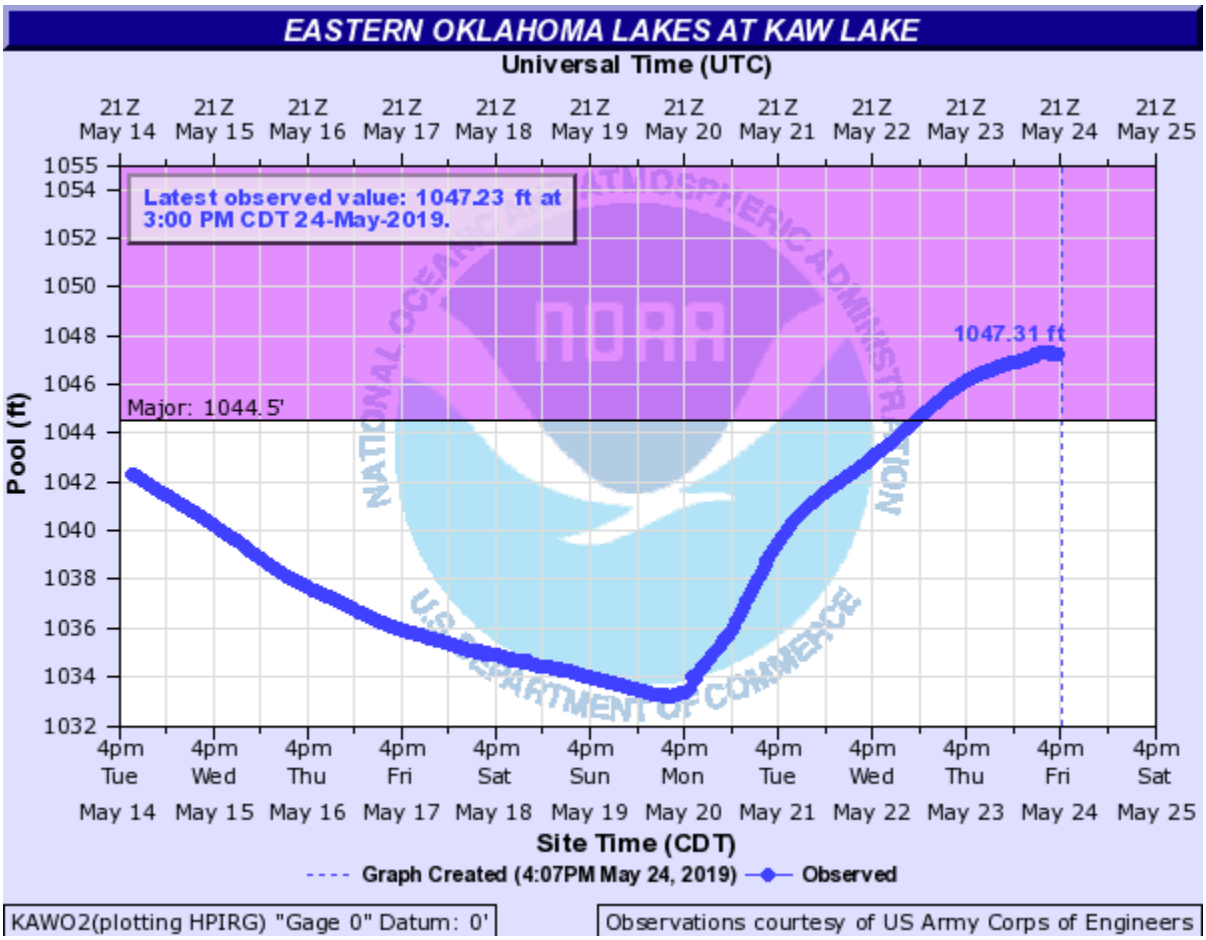

EASTERN OKLAHOMA LAKES AT HUDSON LAKE
Universal Time (UTC)
21Z May 29 9Z May 30 21Z May 30 9Z May 31 21Z May 31 9Z Jun 1 21Z Jun 1 9Z Jun 2 21Z Jun 2 9Z Jun 3 21Z Jun 3 9Z Jun 4 21Z Jun 4
Latest observed value: 634.03 ft at 3:00 PM CDT 3-Jun-2019.
Major: 636.0'
634.13 ft
Pool (ft)
642 641 640 639 638 637 636 635 634 633 632
4pm Wed May 29 4am Thu May 30 4pm Thu May 30 4am Fri May 31 4pm Fri May 31 4am Sat Jun 1 4pm Sat Jun 1 4am Sun Jun 2 4pm Sun Jun 2 4am Mon Jun 3 4pm Mon Jun 3 4am Tue Jun 4 4pm Tue Jun 4
Site Time (CDT)
Graph Created (4:07PM Jun 3, 2019)
Observed
MFDO2(plotting HPIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers

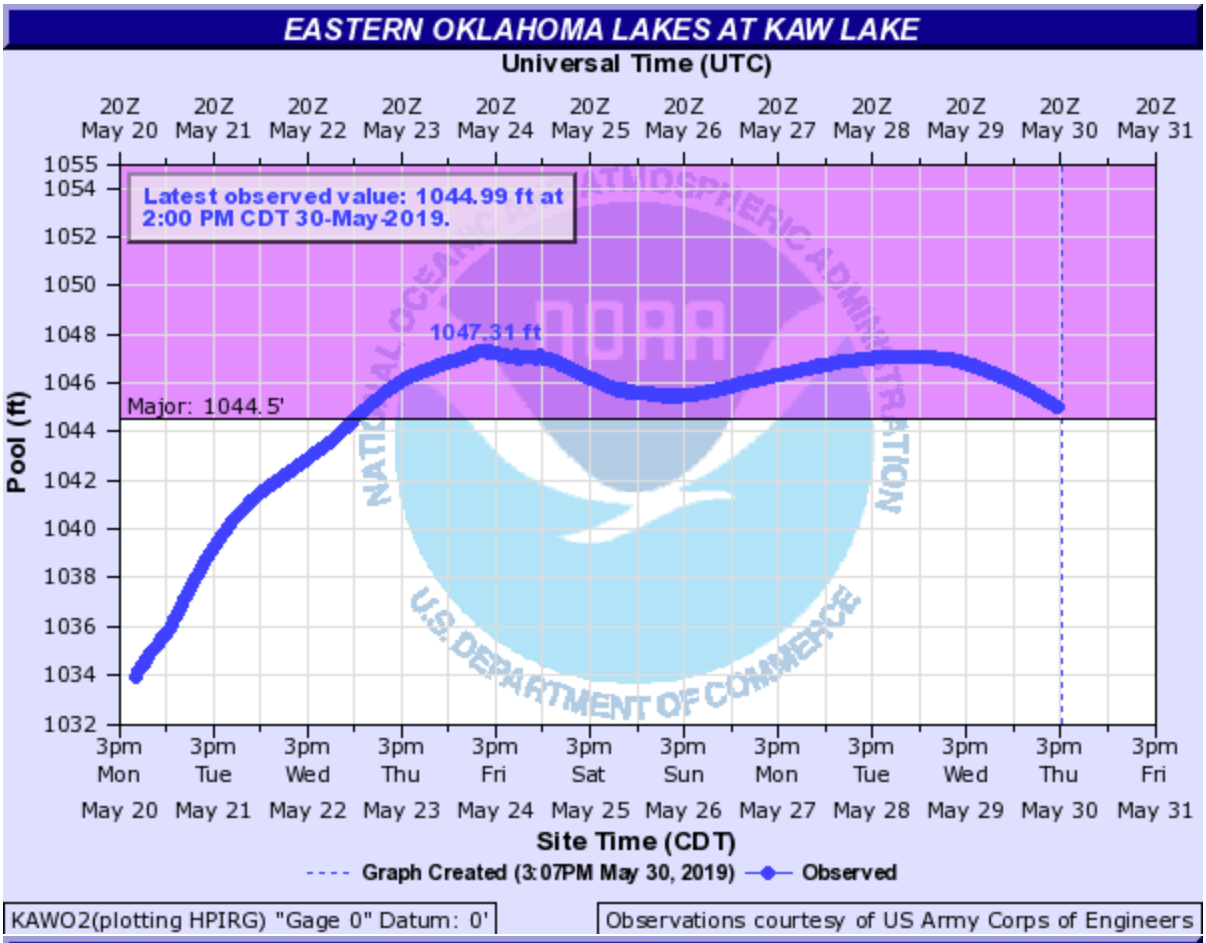

EASTERN OKLAHOMA LAKES AT FT. GIBSON LAKE
Universal Time (UTC)
21Z May 19 9Z May 20 21Z May 20 9Z May 21 21Z May 21 9Z May 22 21Z May 22 9Z May 23 21Z May 23 9Z May 24 21Z May 24 9Z May 25 21Z May 25
Latest observed value: 581.83 ft at 3:30 PM CDT 24-May-2019.
Major: 582.0'
581.88 ft
Pool (ft)
589 588 587 586 585 584 583 582 581 580 579 578 577 576 575 574
4pm Sun May 19 4am Mon May 20 4pm Mon May 20 4am Tue May 21 4pm Tue May 21 4am Wed May 22 4pm Wed May 22 4am Thu May 23 4pm Thu May 23 4am Fri May 24 4pm Fri May 24 4am Sat May 25 4pm Sat May 25
Site Time (CDT)
Graph Created (4:07PM May 24, 2019)
Observed
GIBO2(plotting HPIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers

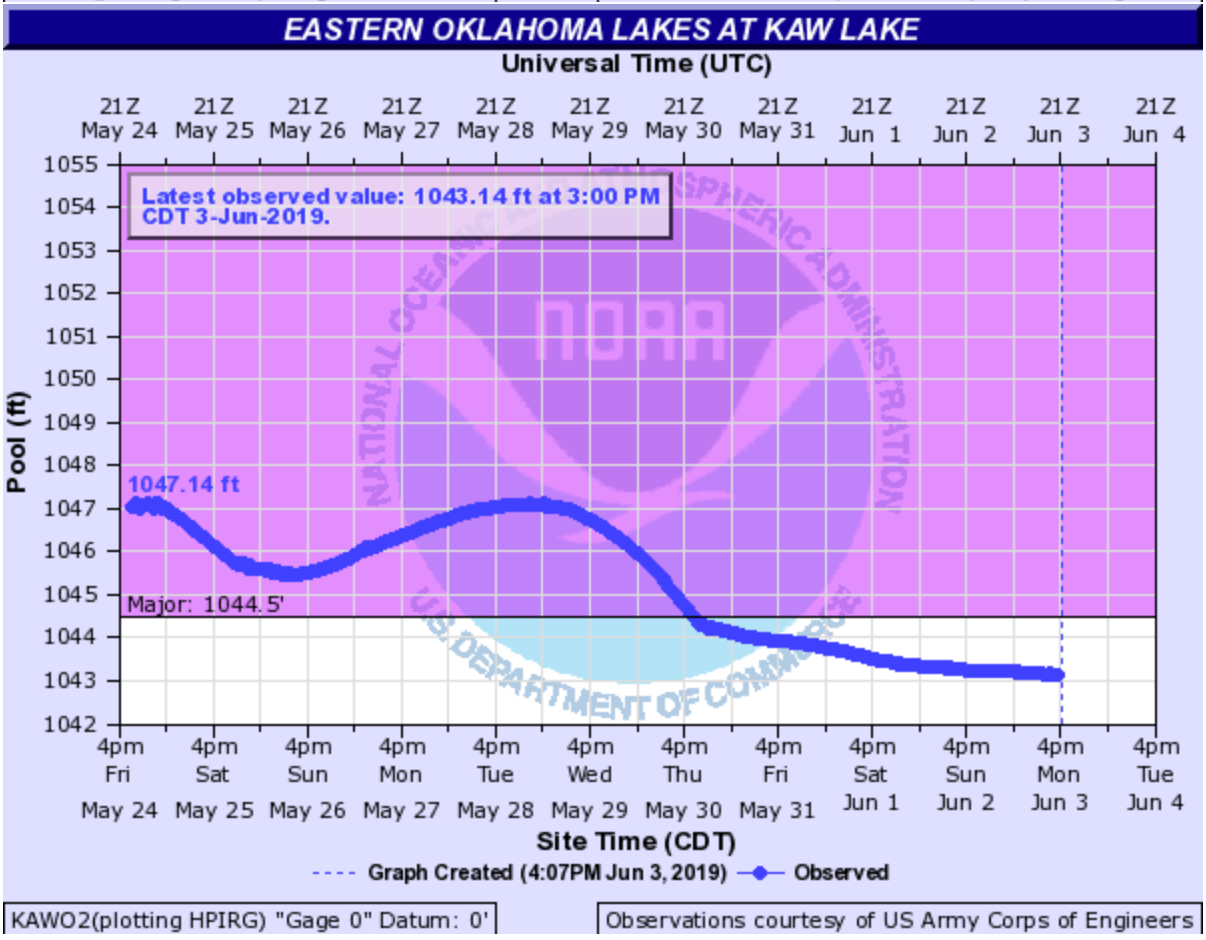

EASTERN OKLAHOMA LAKES AT FT. GIBSON LAKE
Universal Time (UTC)
20Z May 25 8Z May 26 20Z May 26 8Z May 27 20Z May 27 8Z May 28 20Z May 28 8Z May 29 20Z May 29 8Z May 30 20Z May 30 8Z May 31 20Z May 31
Latest observed value: 581.2 ft at 2:30 PM CDT 30-May-2019.
Pool (ft)
589
588
587
586
585
584
583
582
581
580
Major: 582.0'
3pm Sat May 25
3am Sun May 26
3pm Sun May 26
3am Mon May 27
3pm Mon May 27
3am Tue May 28
3pm Tue May 28
3am Wed May 29
3pm Wed May 29
3am Thu May 30
3pm Thu May 30
3am Fri May 31
3pm Fri May 31
Site Time (CDT)
Graph Created (3:08PM May 30, 2019)
Observed
GIBO2(plotting HPIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers

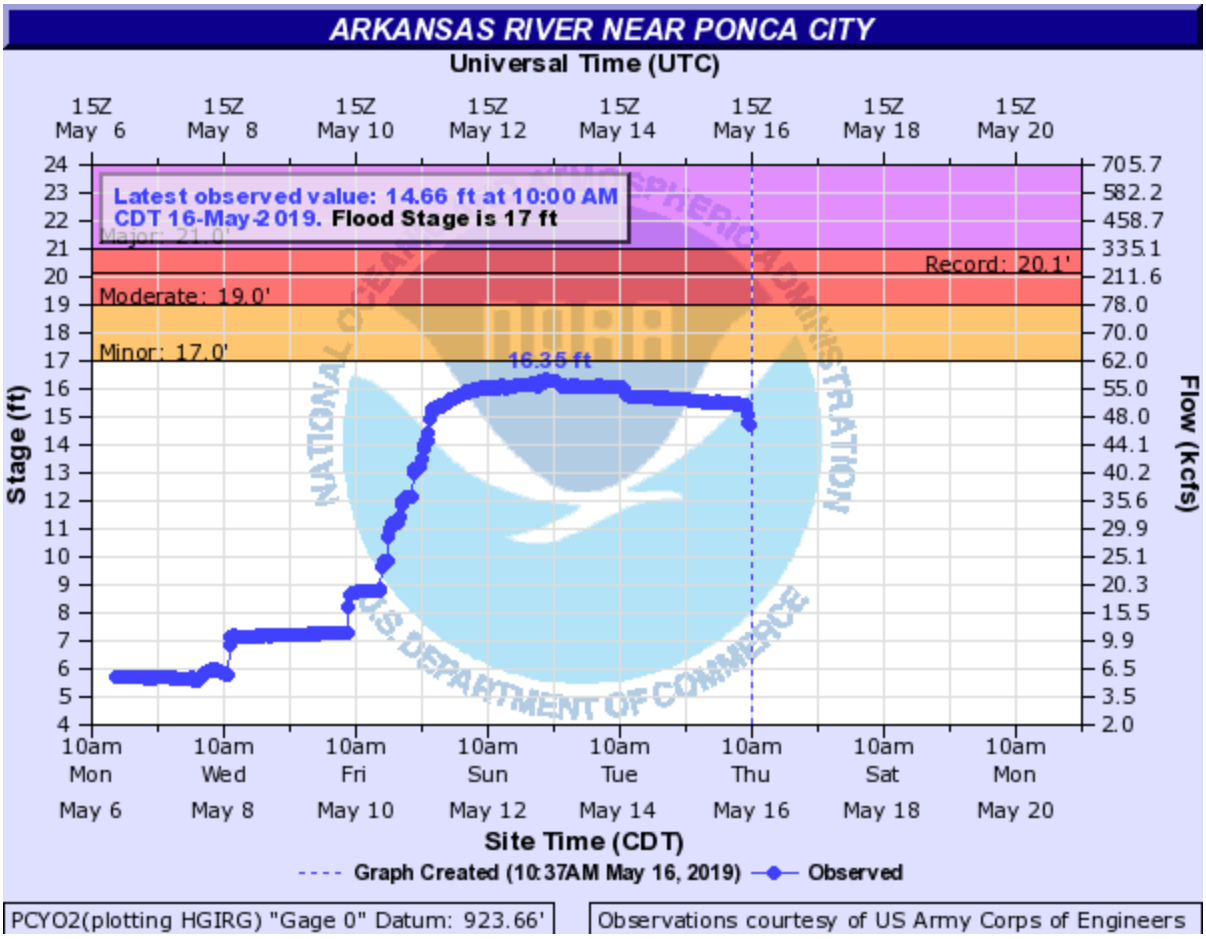

EASTERN OKLAHOMA LAKES AT FT. GIBSON LAKE
Universal Time (UTC)
21Z May 29 9Z May 30 21Z May 30 9Z May 31 21Z May 31 9Z Jun 1 21Z Jun 1 9Z Jun 2 21Z Jun 2 9Z Jun 3 21Z Jun 3 9Z Jun 4 21Z Jun 4
Latest observed value: 581.02 ft at 3:30 PM CDT 3-Jun-2019.
Pool (ft)
589
588
587
586
585
584
583
582
581
580
579
Major: 582.0'
581.38 ft
4pm Wed May 29
4am Thu May 30
4pm Thu May 30
4am Fri May 31
4pm Fri May 31
4am Sat Jun 1
4pm Sat Jun 1
4am Sun Jun 2
4pm Sun Jun 2
4am Mon Jun 3
4pm Mon Jun 3
4am Tue Jun 4
4pm Tue Jun 4
Site Time (CDT)
Graph Created (4:07PM Jun 3, 2019)
Observed
GIBO2(plotting HPIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers

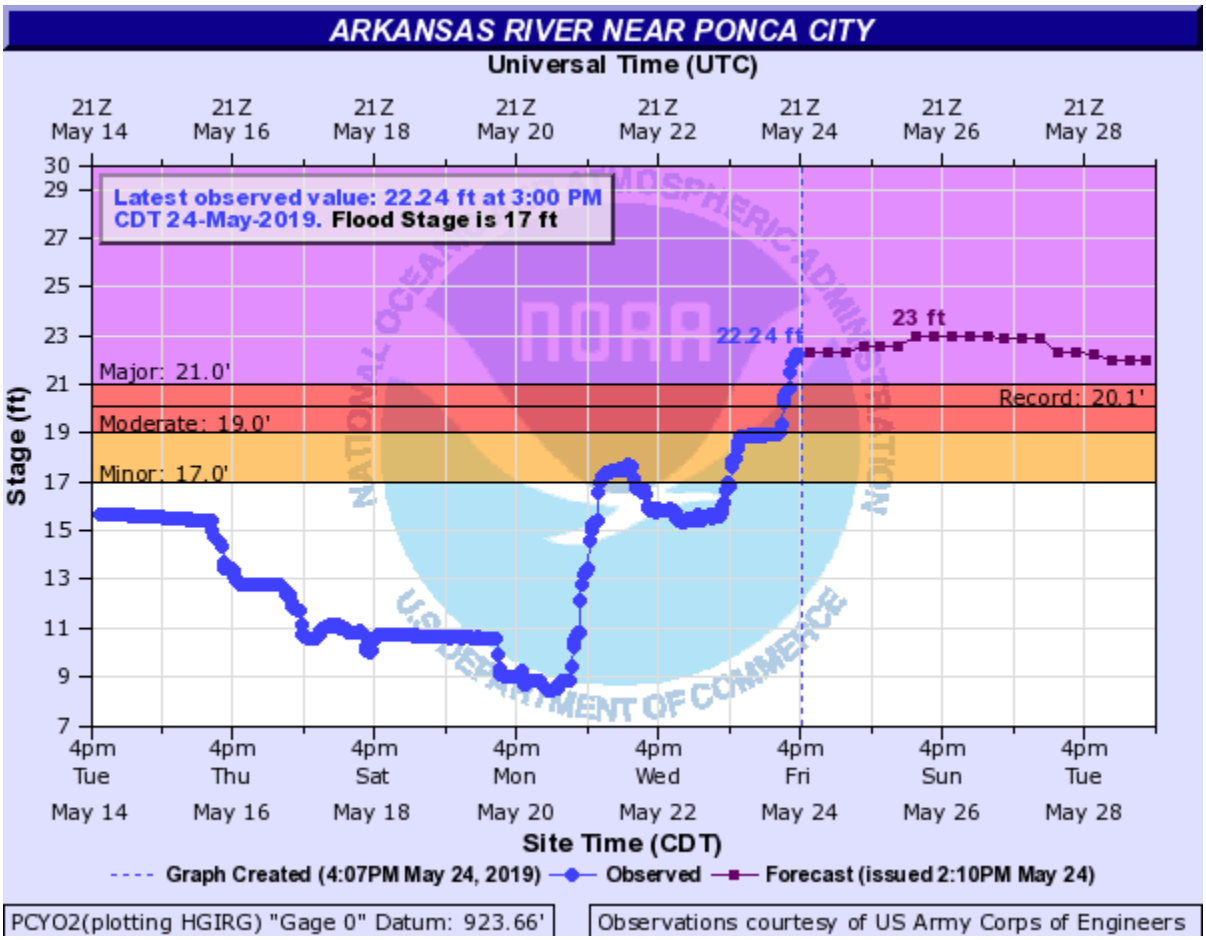

EASTERN OKLAHOMA LAKES AT KAW LAKE
Universal Time (UTC)
15Z May 6
15Z May 7
15Z May 8
15Z May 9
15Z May 10
15Z May 11
15Z May 12
15Z May 13
15Z May 14
15Z May 15
15Z May 16
15Z May 17
Latest observed value: 1038.22 ft at 10:00 AM CDT 16-May-2019.
1046.48 ft
Major: 1044.5'
Pool (ft)
1054
1053
1051
1049
1047
1045
1043
1041
1039
1037
1035
1033
1031
1029
1027
1025
1023
1021
10am Mon May 6
10am Tue May 7
10am Wed May 8
10am Thu May 9
10am Fri May 10
10am Sat May 11
10am Sun May 12
10am Mon May 13
10am Tue May 14
10am Wed May 15
10am Thu May 16
10am Fri May 17
Site Time (CDT)
Graph Created (10:37AM May 16, 2019)
Observed
KAWO2(plotting HPIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers

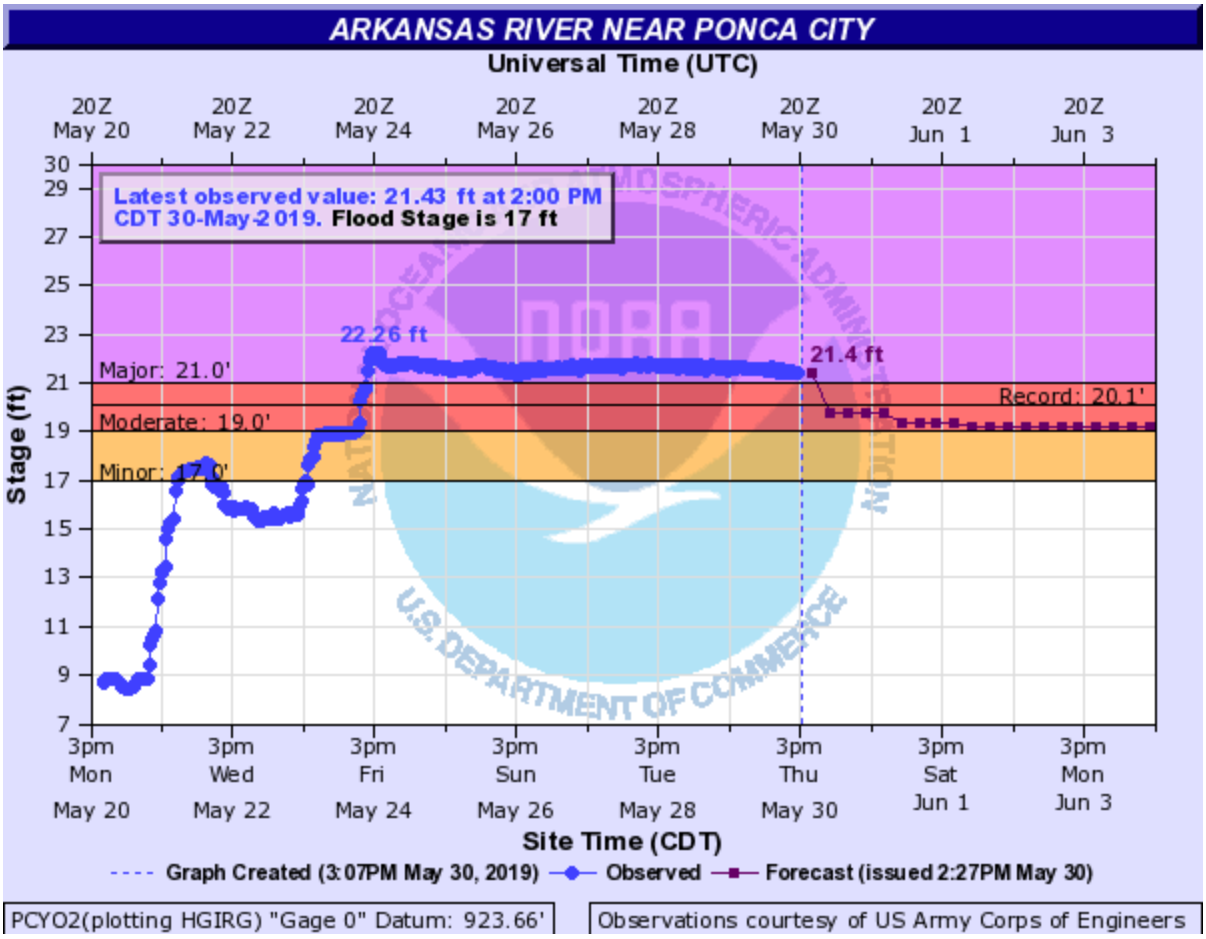

EASTERN OKLAHOMA LAKES AT KAW LAKE
Universal Time (UTC)
21Z May 14
21Z May 15
21Z May 16
21Z May 17
21Z May 18
21Z May 19
21Z May 20
21Z May 21
21Z May 22
21Z May 23
21Z May 24
21Z May 25
Latest observed value: 1047.23 ft at 3:00 PM CDT 24-May-2019.
1047.31 ft
Major: 1044.5'
Pool (ft)
1055
1054
1052
1050
1048
1046
1044
1042
1040
1038
1036
1034
1032
4pm Tue May 14
4pm Wed May 15
4pm Thu May 16
4pm Fri May 17
4pm Sat May 18
4pm Sun May 19
4pm Mon May 20
4pm Tue May 21
4pm Wed May 22
4pm Thu May 23
4pm Fri May 24
4pm Sat May 25
Site Time (CDT)
Graph Created (4:07PM May 24, 2019)
Observed
KAWO2(plotting HPIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers

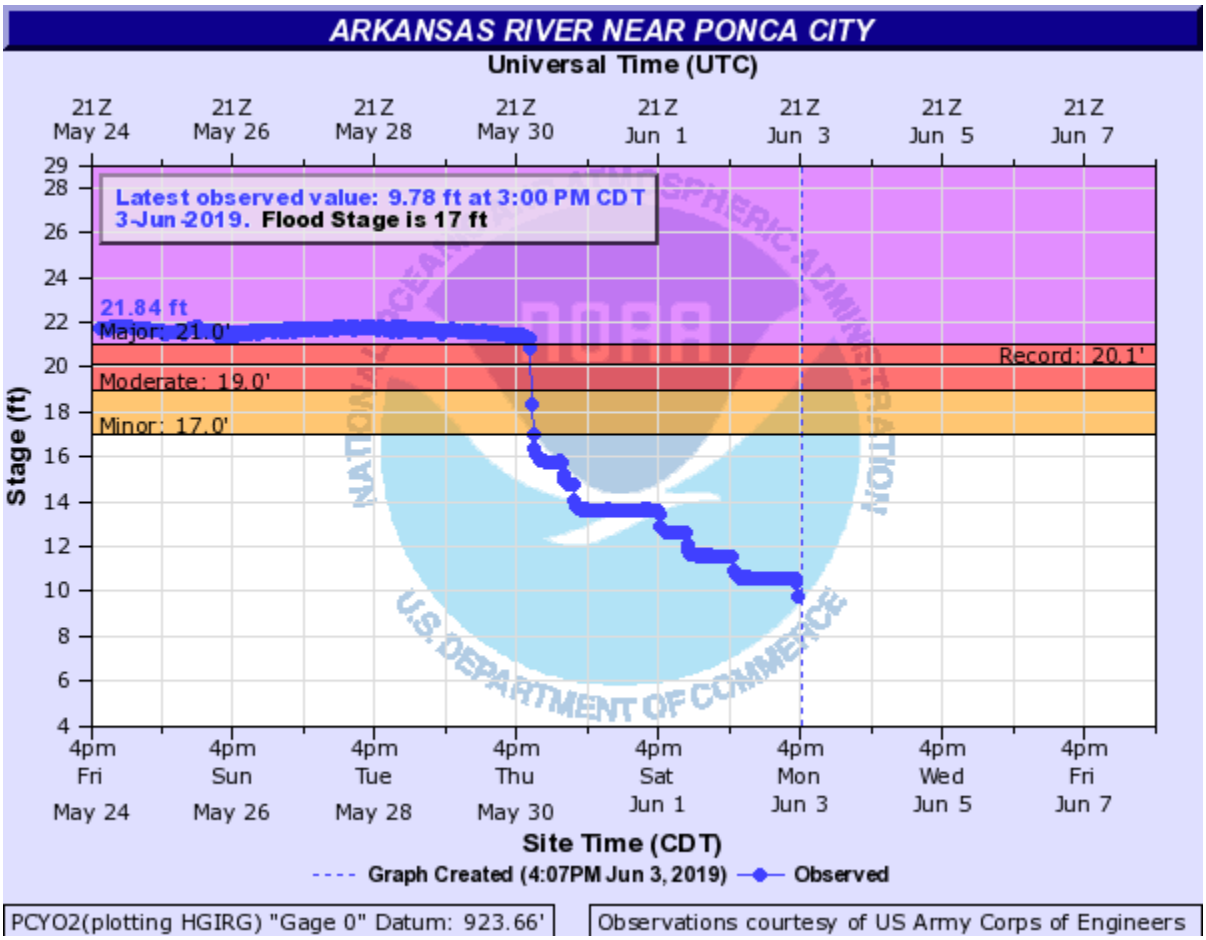

EASTERN OKLAHOMA LAKES AT KAW LAKE
Universal Time (UTC)
20Z May 20 20Z May 21 20Z May 22 20Z May 23 20Z May 24 20Z May 25 20Z May 26 20Z May 27 20Z May 28 20Z May 29 20Z May 30 20Z May 31
Latest observed value: 1044.99 ft at 2:00 PM CDT 30-May-2019.
1047.31 ft
Major: 1044.5'
Pool (ft)
1055 1054 1052 1050 1048 1046 1044 1042 1040 1038 1036 1034 1032
3pm Mon May 20 3pm Tue May 21 3pm Wed May 22 3pm Thu May 23 3pm Fri May 24 3pm Sat May 25 3pm Sun May 26 3pm Mon May 27 3pm Tue May 28 3pm Wed May 29 3pm Thu May 30 3pm Fri May 31
Site Time (CDT)
Graph Created (3:07PM May 30, 2019)
Observed
KAWO2(plotting HPIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers

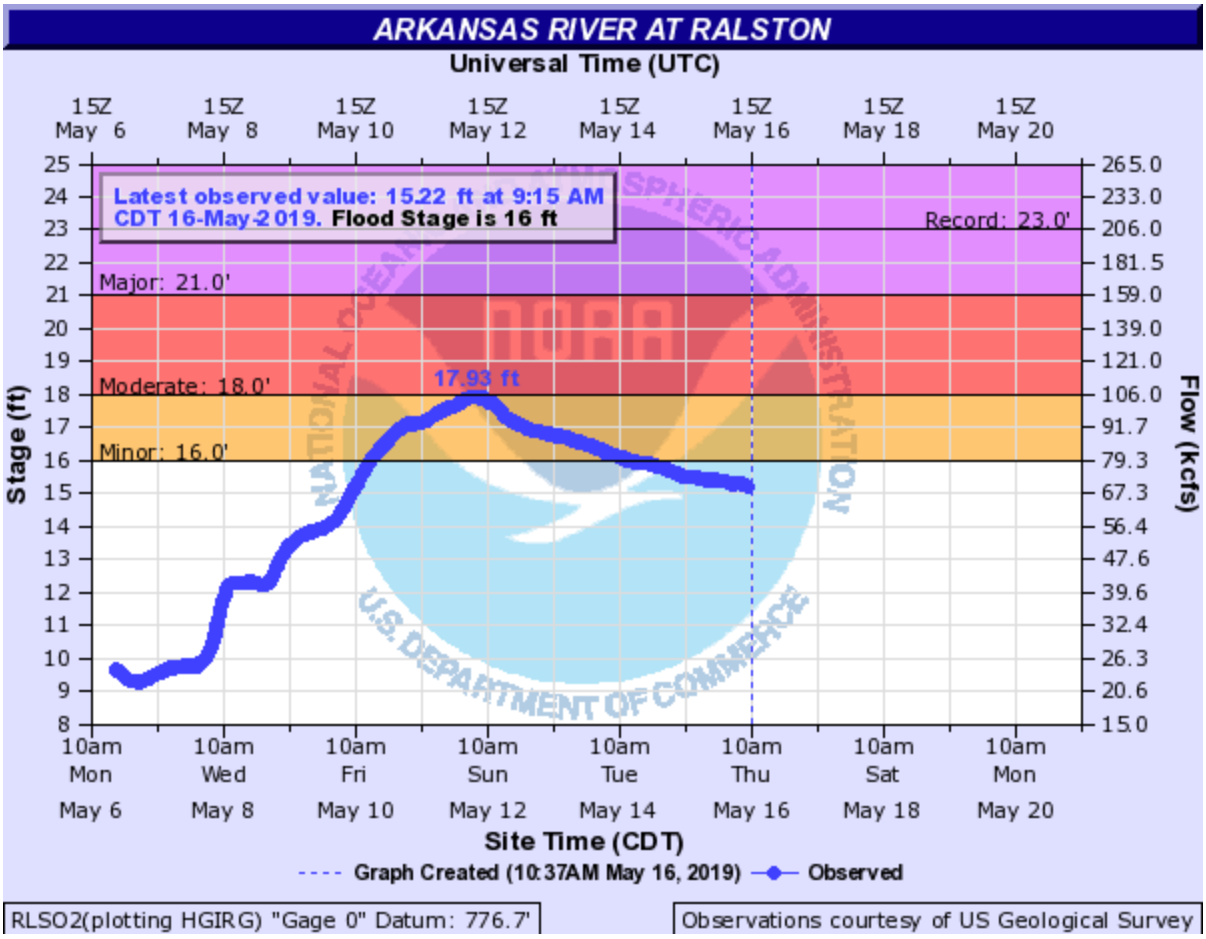

EASTERN OKLAHOMA LAKES AT KAW LAKE
Universal Time (UTC)
21Z May 24 21Z May 25 21Z May 26 21Z May 27 21Z May 28 21Z May 29 21Z May 30 21Z May 31 21Z Jun 1 21Z Jun 2 21Z Jun 3 21Z Jun 4
Latest observed value: 1043.14 ft at 3:00 PM CDT 3-Jun-2019.
1047.14 ft
Major: 1044.5'
Pool (ft)
1055 1054 1053 1052 1051 1050 1049 1048 1047 1046 1045 1044 1043 1042
4pm Fri May 24 4pm Sat May 25 4pm Sun May 26 4pm Mon May 27 4pm Tue May 28 4pm Wed May 29 4pm Thu May 30 4pm Fri May 31 4pm Sat Jun 1 4pm Sun Jun 2 4pm Mon Jun 3 4pm Tue Jun 4
Site Time (CDT)
Graph Created (4:07PM Jun 3, 2019)
Observed
KAWO2(plotting HPIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers

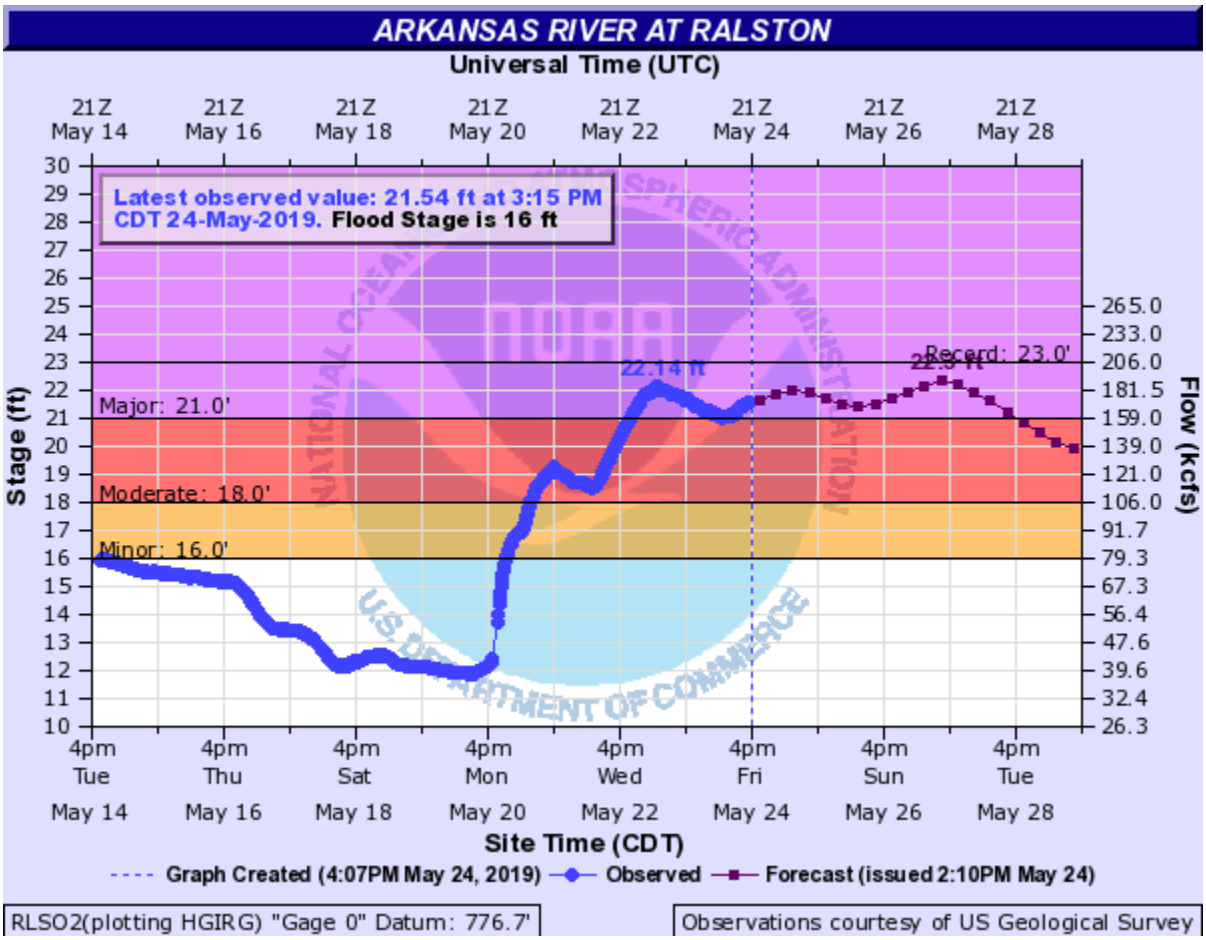

ARKANSAS RIVER NEAR PONCA CITY
Universal Time (UTC)
15Z May 6
15Z May 8
15Z May 10
15Z May 12
15Z May 14
15Z May 16
15Z May 18
15Z May 20
Latest observed value: 14.66 ft at 10:00 AM CDT 16-May-2019. Flood Stage is 17 ft
Major: 21.0'
Record: 20.1'
Moderate: 19.0'
Minor: 17.0'
16.35 ft
Stage (ft)
Flow (kcfs)
24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4
705.7 582.2 458.7 335.1 211.6 78.0 70.0 62.0 55.0 48.0 44.1 40.2 35.6 29.9 25.1 20.3 15.5 9.9 6.5 3.5 2.0
10am Mon May 6
10am Wed May 8
10am Fri May 10
10am Sun May 12
10am Tue May 14
10am Thu May 16
10am Sat May 18
10am Mon May 20
Site Time (CDT)
Graph Created (10:37AM May 16, 2019)
Observed
PCYO2(plotting HGIRG) "Gage 0" Datum: 923.66'
Observations courtesy of US Army Corps of Engineers

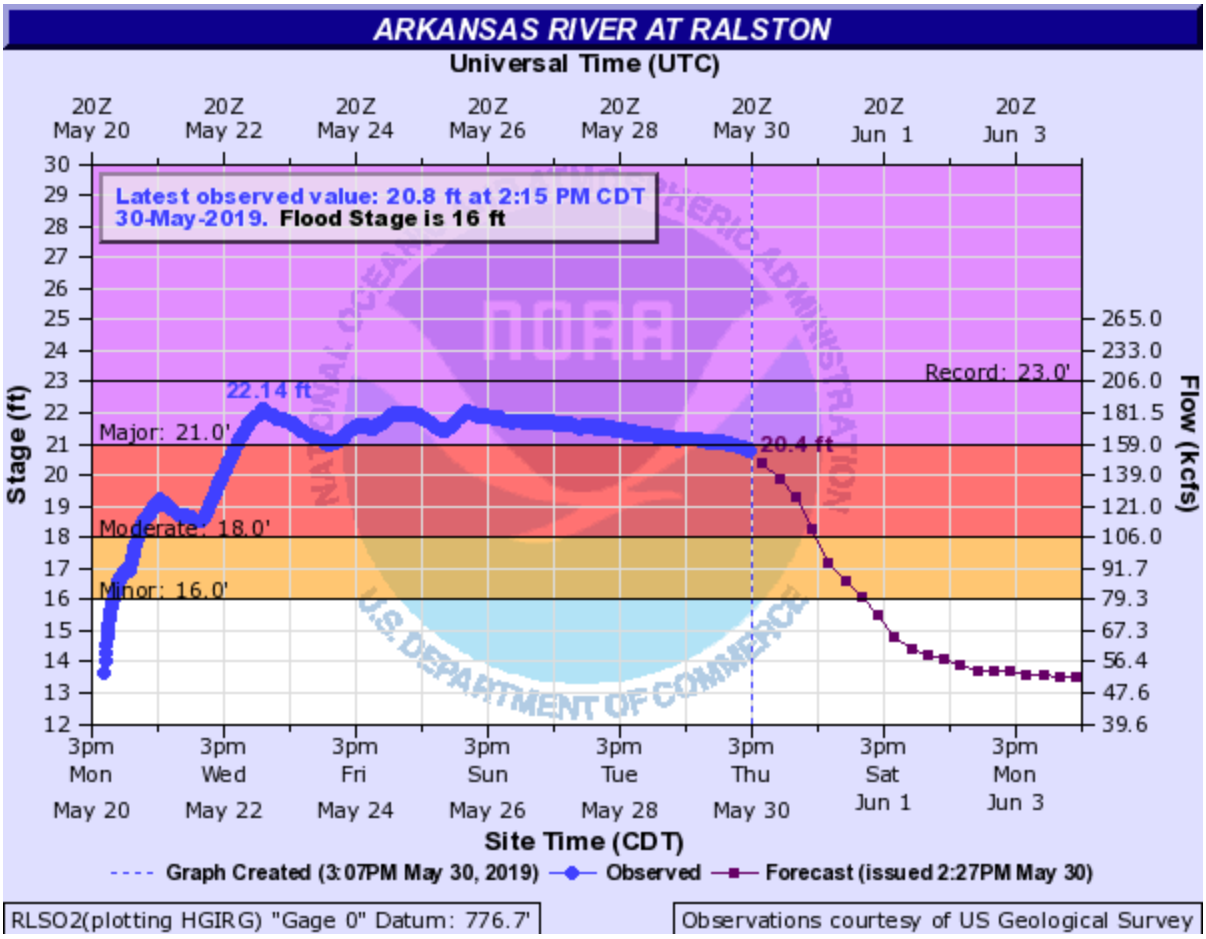

ARKANSAS RIVER NEAR PONCA CITY
Universal Time (UTC)
21Z May 14
21Z May 16
21Z May 18
21Z May 20
21Z May 22
21Z May 24
21Z May 26
21Z May 28
Latest observed value: 22.24 ft at 3:00 PM CDT 24-May-2019. Flood Stage is 17 ft
22.24 ft
23 ft
Major: 21.0'
Record: 20.1'
Moderate: 19.0'
Minor: 17.0'
Stage (ft)
30 29 27 25 23 21 19 17 15 13 11 9 7
4pm Tue May 14
4pm Thu May 16
4pm Sat May 18
4pm Mon May 20
4pm Wed May 22
4pm Fri May 24
4pm Sun May 26
4pm Tue May 28
Site Time (CDT)
Graph Created (4:07PM May 24, 2019)
Observed
Forecast (issued 2:10PM May 24)
PCYO2(plotting HGIRG) "Gage 0" Datum: 923.66'
Observations courtesy of US Army Corps of Engineers

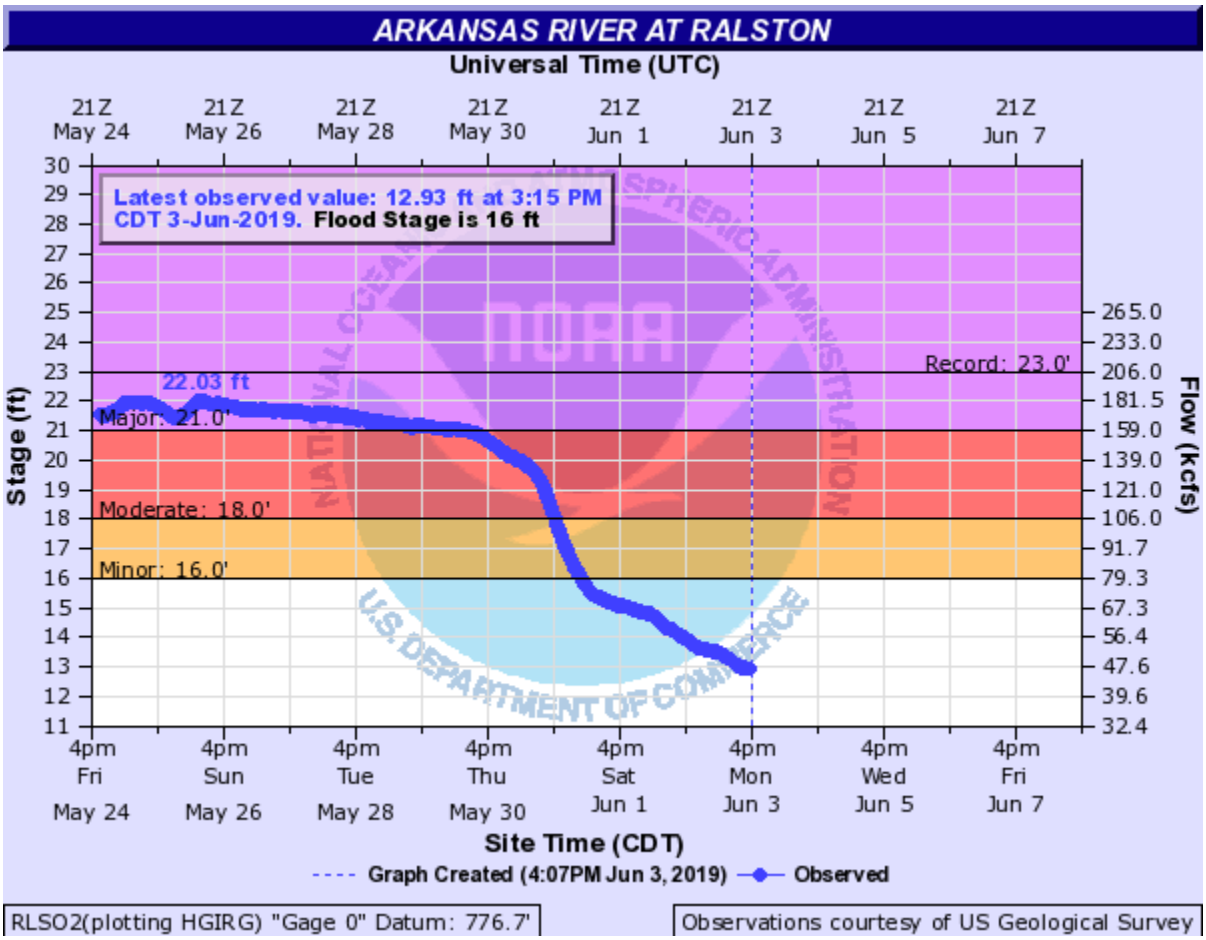

ARKANSAS RIVER NEAR PONCA CITY
Universal Time (UTC)
20Z May 20
20Z May 22
20Z May 24
20Z May 26
20Z May 28
20Z May 30
20Z Jun 1
20Z Jun 3
Latest observed value: 21.43 ft at 2:00 PM CDT 30-May-2019. Flood Stage is 17 ft
22.26 ft
21.4 ft
Major: 21.0'
Moderate: 19.0'
Minor: 17.0'
Record: 20.1'
Stage (ft)
30
29
27
25
23
21
19
17
15
13
11
9
7
3pm Mon May 20
3pm Wed May 22
3pm Fri May 24
3pm Sun May 26
3pm Tue May 28
3pm Thu May 30
3pm Sat Jun 1
3pm Mon Jun 3
Site Time (CDT)
Graph Created (3:07PM May 30, 2019)
Observed
Forecast (issued 2:27PM May 30)
PCYO2(plotting HGIRG) "Gage 0" Datum: 923.66'
Observations courtesy of US Army Corps of Engineers

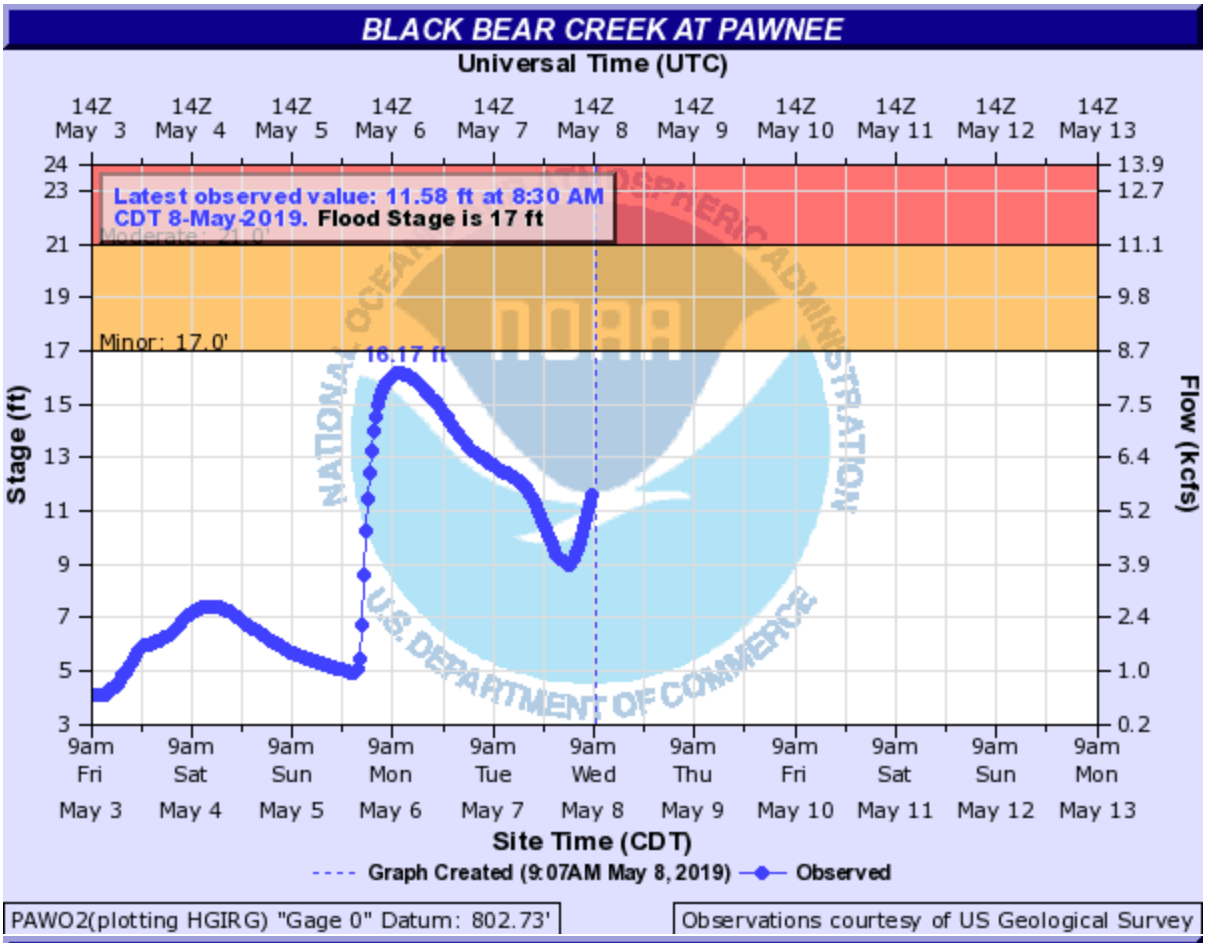

ARKANSAS RIVER NEAR PONCA CITY
Universal Time (UTC)
21Z May 24
21Z May 26
21Z May 28
21Z May 30
21Z Jun 1
21Z Jun 3
21Z Jun 5
21Z Jun 7
Latest observed value: 9.78 ft at 3:00 PM CDT 3-Jun-2019. Flood Stage is 17 ft
21.84 ft
Major: 21.0'
Moderate: 19.0'
Minor: 17.0'
Record: 20.1'
Stage (ft)
29
28
26
24
22
20
18
16
14
12
10
8
6
4
4pm Fri May 24
4pm Sun May 26
4pm Tue May 28
4pm Thu May 30
4pm Sat Jun 1
4pm Mon Jun 3
4pm Wed Jun 5
4pm Fri Jun 7
Site Time (CDT)
Graph Created (4:07PM Jun 3, 2019)
Observed
PCYO2(plotting HGIRG) "Gage 0" Datum: 923.66'
Observations courtesy of US Army Corps of Engineers

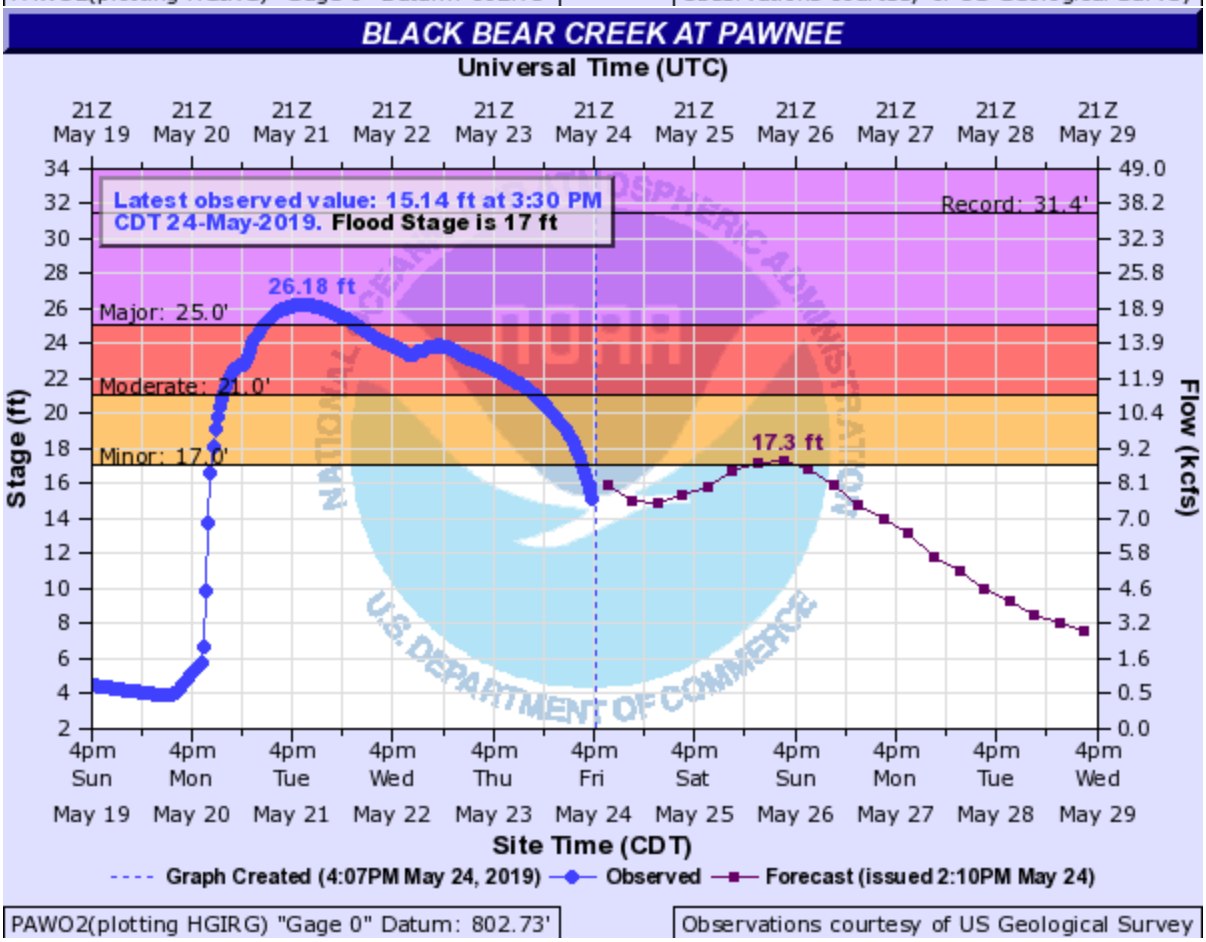

ARKANSAS RIVER AT RALSTON
Universal Time (UTC)
15Z May 6
15Z May 8
15Z May 10
15Z May 12
15Z May 14
15Z May 16
15Z May 18
15Z May 20
Latest observed value: 15.22 ft at 9:15 AM CDT 16-May-2019. Flood Stage is 16 ft
Record: 23.0'
Major: 21.0'
Moderate: 18.0'
Minor: 16.0'
17.93 ft
Stage (ft)
Flow (kcfs)
25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8
265.0 233.0 206.0 181.5 159.0 139.0 121.0 106.0 91.7 79.3 67.3 56.4 47.6 39.6 32.4 26.3 20.6 15.0
10am Mon May 6
10am Wed May 8
10am Fri May 10
10am Sun May 12
10am Tue May 14
10am Thu May 16
10am Sat May 18
10am Mon May 20
Site Time (CDT)
Graph Created (10:37AM May 16, 2019)
Observed
RLSO2(plotting HGIRG) "Gage 0" Datum: 776.7'
Observations courtesy of US Geological Survey

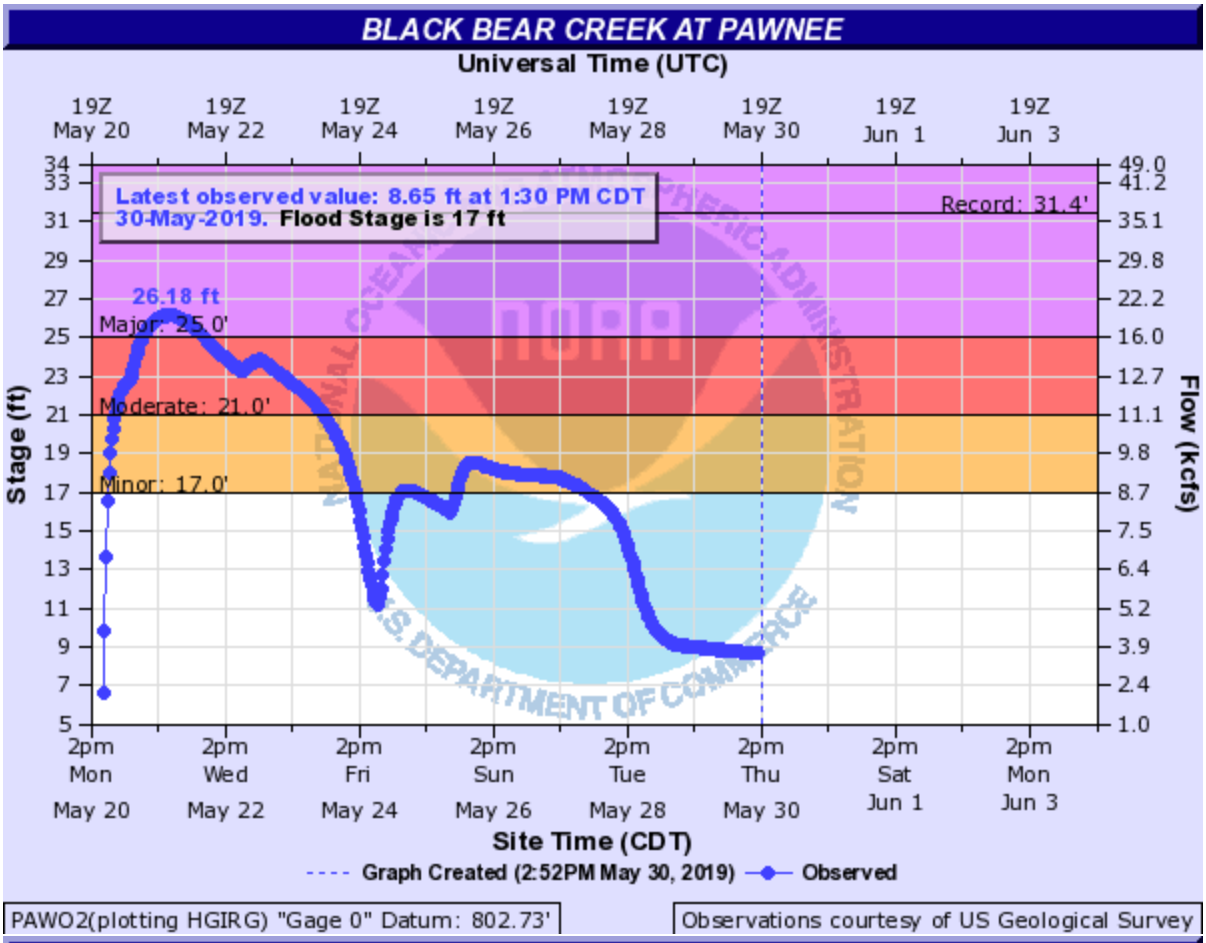

ARKANSAS RIVER AT RALSTON
Universal Time (UTC)
21Z May 14
21Z May 16
21Z May 18
21Z May 20
21Z May 22
21Z May 24
21Z May 26
21Z May 28
Latest observed value: 21.54 ft at 3:15 PM CDT 24-May-2019. Flood Stage is 16 ft
Record: 23.0'
Major: 21.0'
Moderate: 18.0'
Minor: 16.0'
22.14 ft
22.5 ft
Stage (ft)
Flow (kcfs)
30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10
265.0 233.0 206.0 181.5 159.0 139.0 121.0 106.0 91.7 79.3 67.3 56.4 47.6 39.6 32.4 26.3
4pm Tue May 14
4pm Thu May 16
4pm Sat May 18
4pm Mon May 20
4pm Wed May 22
4pm Fri May 24
4pm Sun May 26
4pm Tue May 28
Site Time (CDT)
Graph Created (4:07PM May 24, 2019)
Observed
Forecast (issued 2:10PM May 24)
RLSO2(plotting HGIRG) "Gage 0" Datum: 776.7'
Observations courtesy of US Geological Survey


ARKANSAS RIVER AT RALSTON
Universal Time (UTC)
20Z May 20
20Z May 22
20Z May 24
20Z May 26
20Z May 28
20Z May 30
20Z Jun 1
20Z Jun 3
Latest observed value: 20.8 ft at 2:15 PM CDT 30-May-2019. Flood Stage is 16 ft
22.14 ft
20.4 ft
Record: 23.0'
Major: 21.0'
Moderate: 18.0'
Minor: 16.0'
Stage (ft)
Flow (kcfs)
30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12
265.0 233.0 206.0 181.5 159.0 139.0 121.0 106.0 91.7 79.3 67.3 56.4 47.6 39.6
3pm Mon May 20
3pm Wed May 22
3pm Fri May 24
3pm Sun May 26
3pm Tue May 28
3pm Thu May 30
3pm Sat Jun 1
3pm Mon Jun 3
Site Time (CDT)
Graph Created (3:07PM May 30, 2019)
Observed
Forecast (issued 2:27PM May 30)
RLSO2(plotting HGIRG) "Gage 0" Datum: 776.7'
Observations courtesy of US Geological Survey


ARKANSAS RIVER AT RALSTON
Universal Time (UTC)
21Z May 24
21Z May 26
21Z May 28
21Z May 30
21Z Jun 1
21Z Jun 3
21Z Jun 5
21Z Jun 7
Latest observed value: 12.93 ft at 3:15 PM CDT 3-Jun-2019. Flood Stage is 16 ft
22.03 ft
Record: 23.0'
Major: 21.0'
Moderate: 18.0'
Minor: 16.0'
Stage (ft)
Flow (kcfs)
30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11
265.0 233.0 206.0 181.5 159.0 139.0 121.0 106.0 91.7 79.3 67.3 56.4 47.6 39.6 32.4
4pm Fri May 24
4pm Sun May 26
4pm Tue May 28
4pm Thu May 30
4pm Sat Jun 1
4pm Mon Jun 3
4pm Wed Jun 5
4pm Fri Jun 7
Site Time (CDT)
Graph Created (4:07PM Jun 3, 2019)
Observed
RLSO2(plotting HGIRG) "Gage 0" Datum: 776.7'
Observations courtesy of US Geological Survey

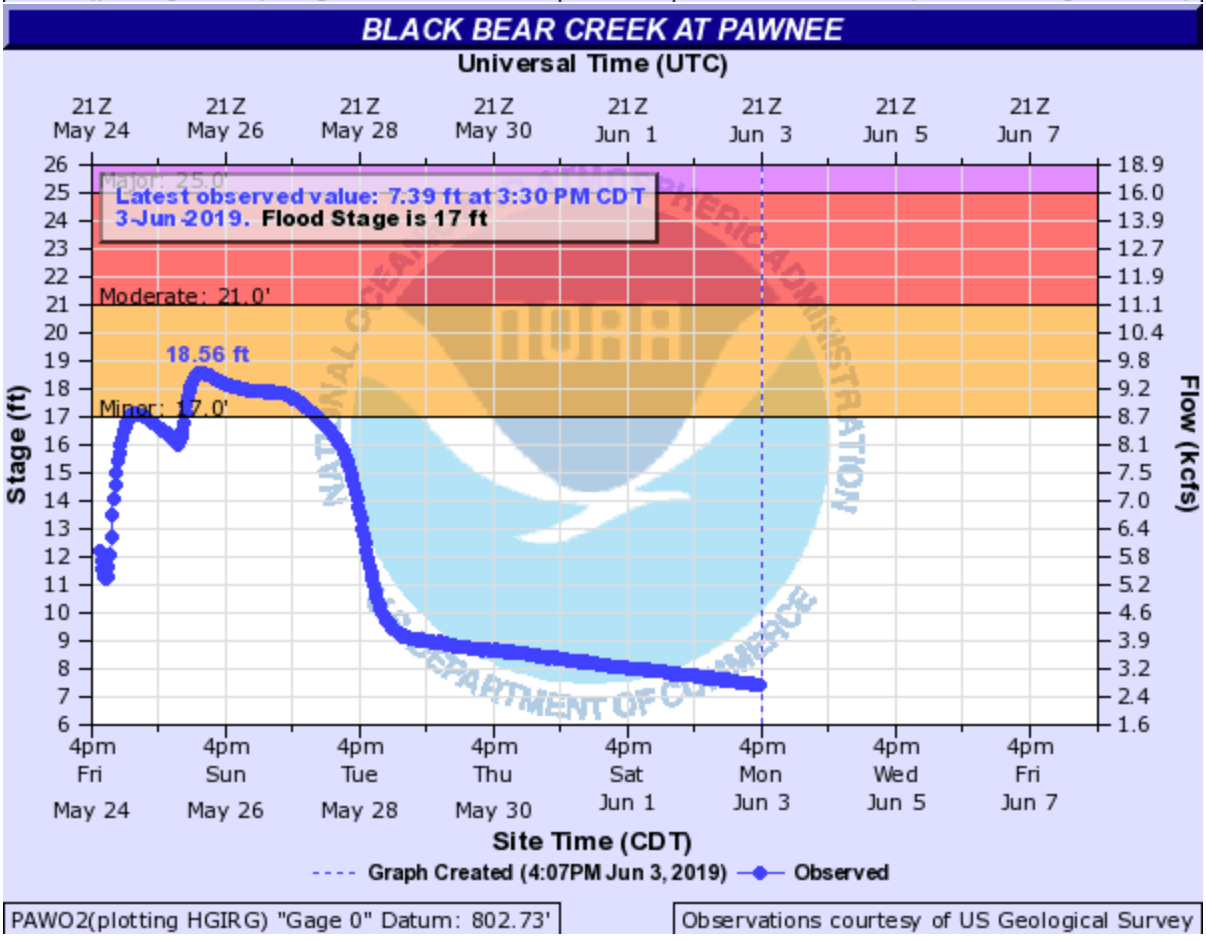

BLACK BEAR CREEK AT PAWNEE
Universal Time (UTC)
14Z May 3
14Z May 4
14Z May 5
14Z May 6
14Z May 7
14Z May 8
14Z May 9
14Z May 10
14Z May 11
14Z May 12
14Z May 13
Latest observed value: 11.58 ft at 8:30 AM CDT 8-May-2019. Flood Stage is 17 ft
Moderate: 21.0'
Minor: 17.0'
16.17 ft
Stage (ft)
Flow (kcfs)
9am Fri May 3
9am Sat May 4
9am Sun May 5
9am Mon May 6
9am Tue May 7
9am Wed May 8
9am Thu May 9
9am Fri May 10
9am Sat May 11
9am Sun May 12
9am Mon May 13
Site Time (CDT)
Graph Created (9:07AM May 8, 2019)
Observed
PAWO2(plotting HGIRG) "Gage 0" Datum: 802.73'
Observations courtesy of US Geological Survey


BLACK BEAR CREEK AT PAWNEE
Universal Time (UTC)
21Z May 19
21Z May 20
21Z May 21
21Z May 22
21Z May 23
21Z May 24
21Z May 25
21Z May 26
21Z May 27
21Z May 28
21Z May 29
Latest observed value: 15.14 ft at 3:30 PM CDT 24-May-2019. Flood Stage is 17 ft
Record: 31.4'
26.18 ft
Major: 25.0'
Moderate: 21.0'
Minor: 17.0'
17.3 ft
Stage (ft)
Flow (kcfs)
4pm Sun May 19
4pm Mon May 20
4pm Tue May 21
4pm Wed May 22
4pm Thu May 23
4pm Fri May 24
4pm Sat May 25
4pm Sun May 26
4pm Mon May 27
4pm Tue May 28
4pm Wed May 29
Site Time (CDT)
Graph Created (4:07PM May 24, 2019)
Observed
Forecast (issued 2:10PM May 24)
PAWO2(plotting HGIRG) "Gage 0" Datum: 802.73'
Observations courtesy of US Geological Survey



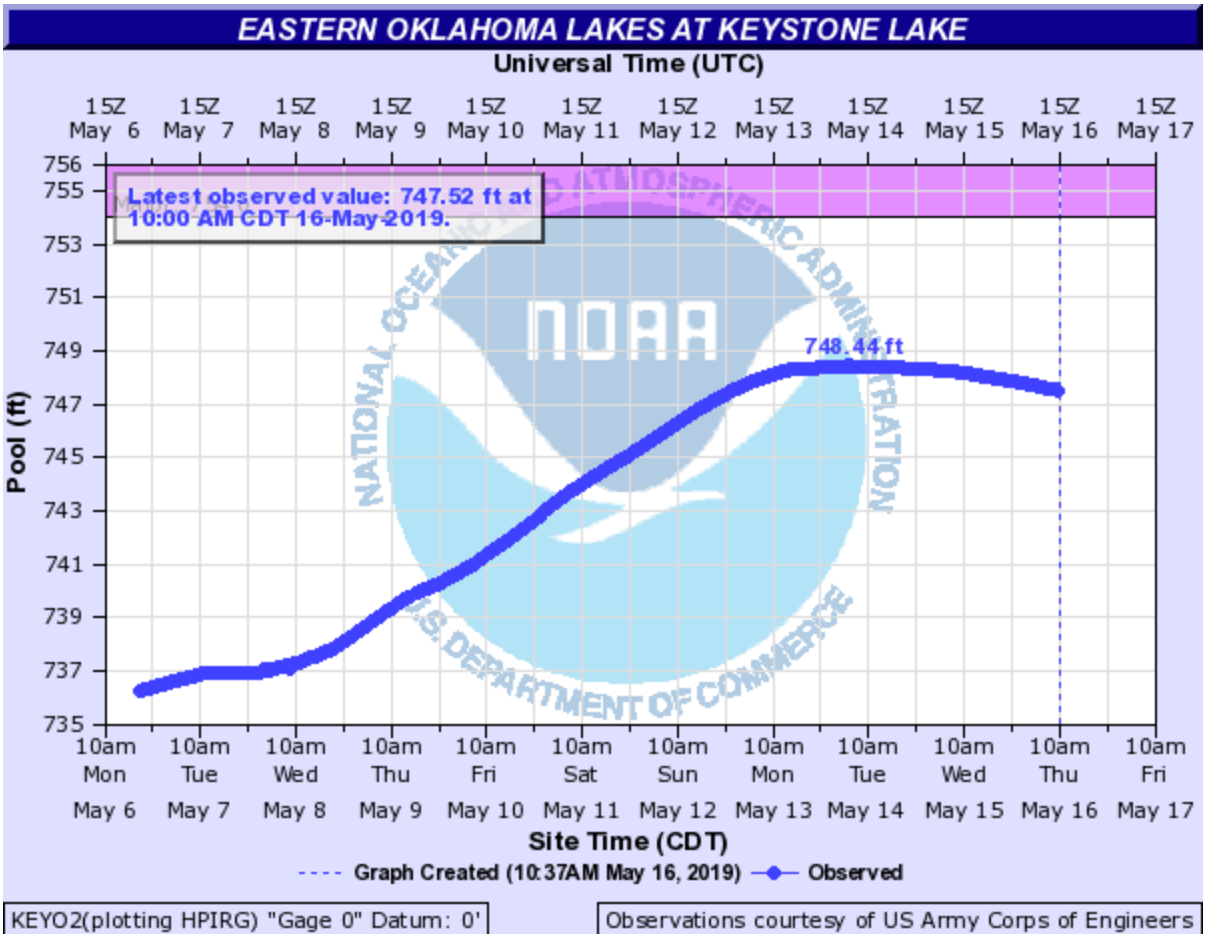
PAWO2(plotting HGIRG) "Gage 0" Datum: 802.73'

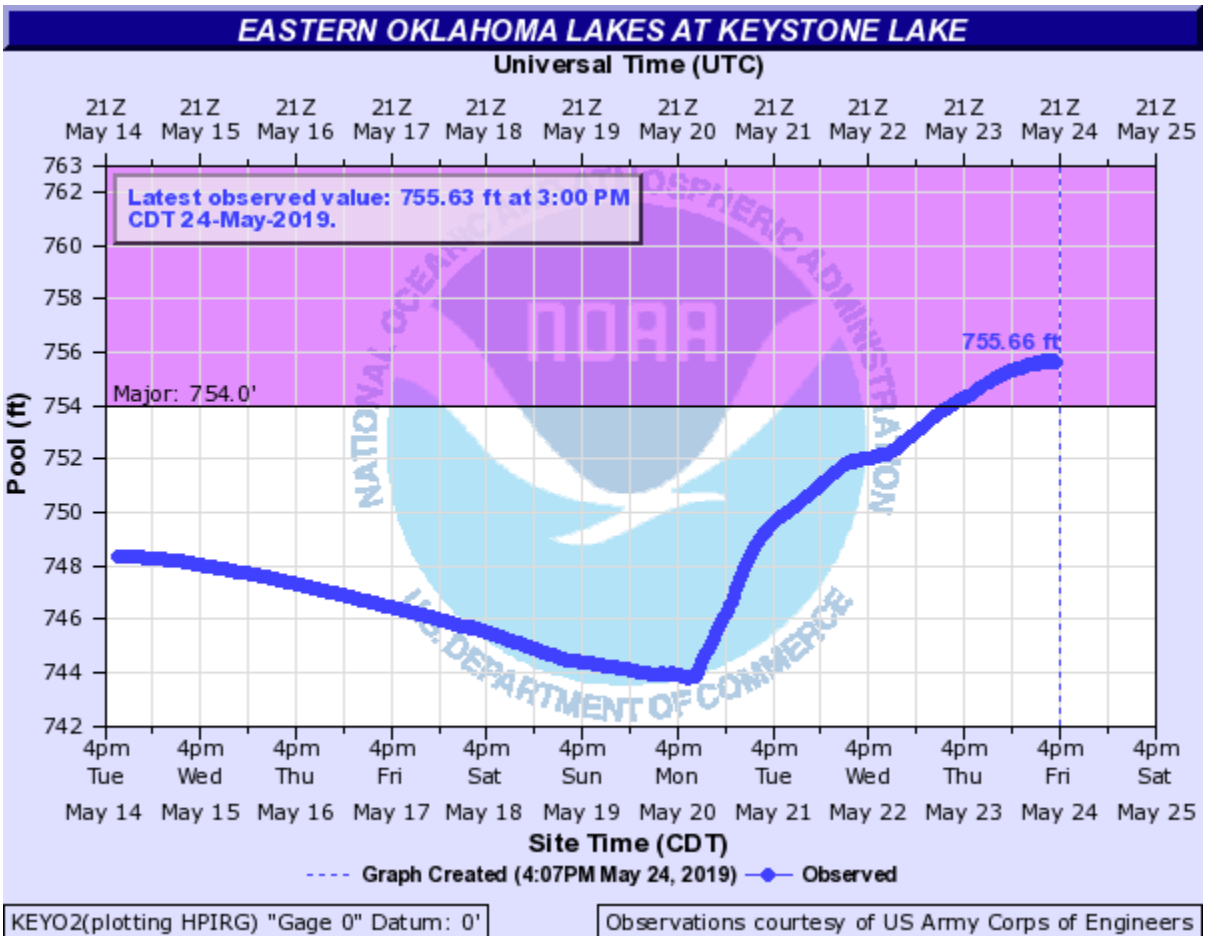
Observations courtesy of US Geological Survey

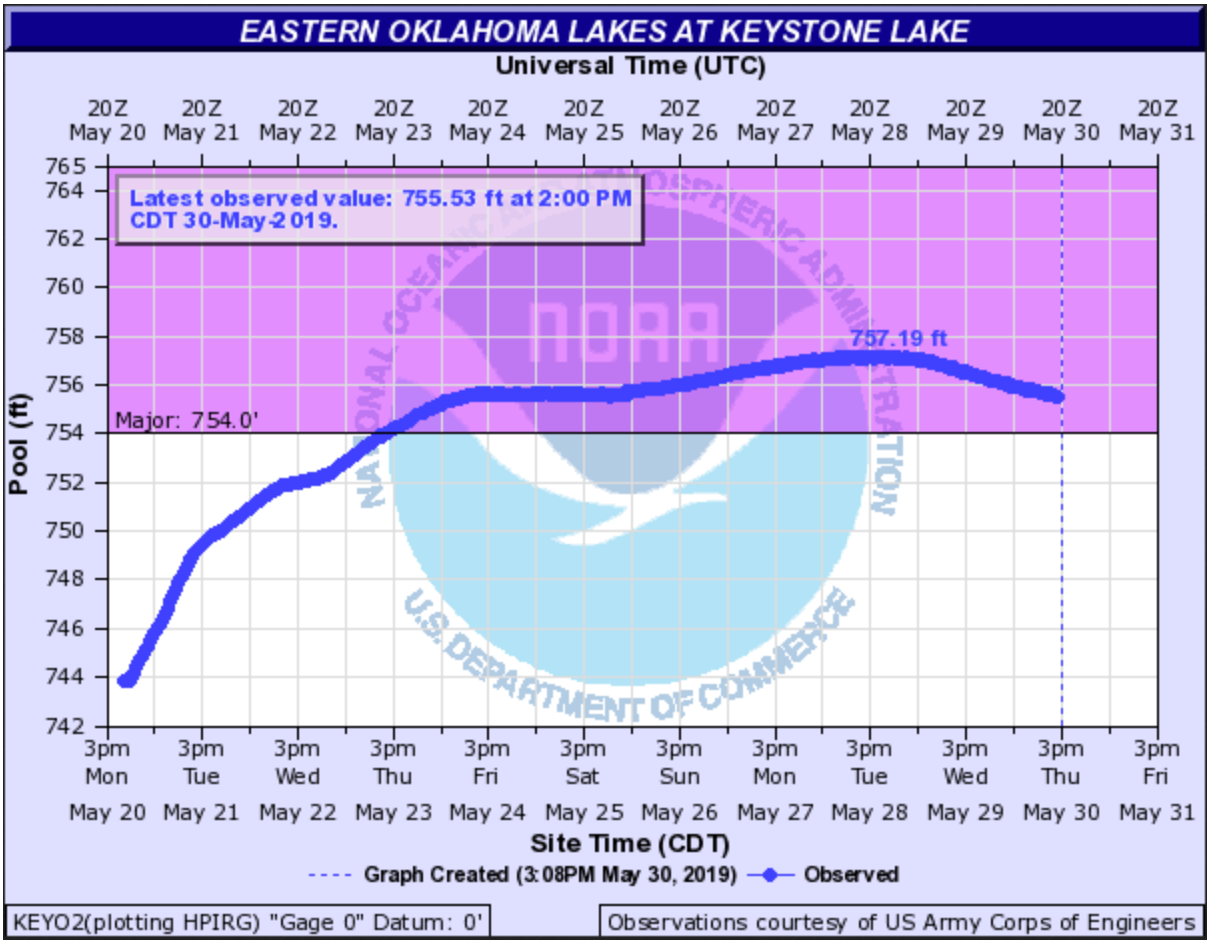


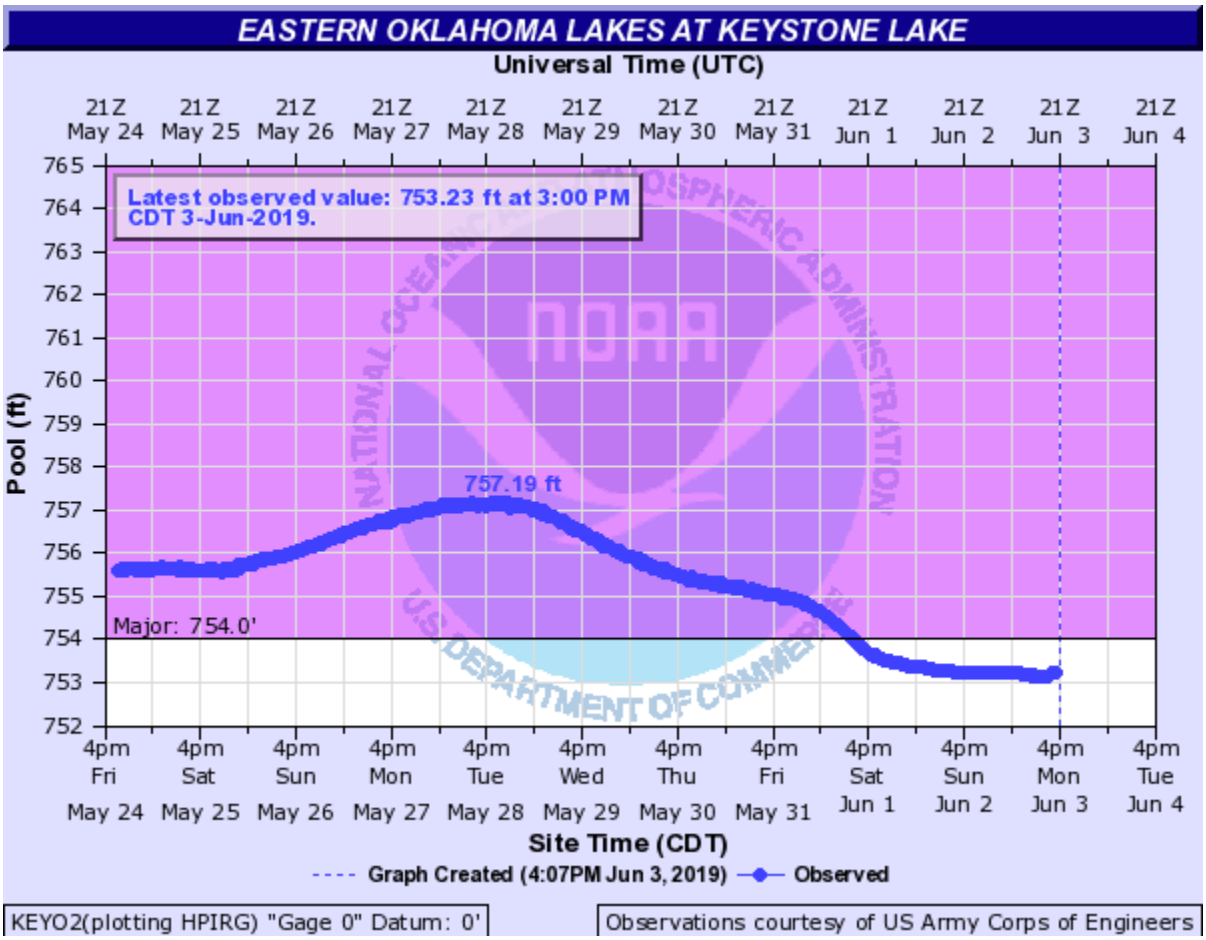
PAWO2(plotting HGIRG) "Gage 0" Datum: 802.73'

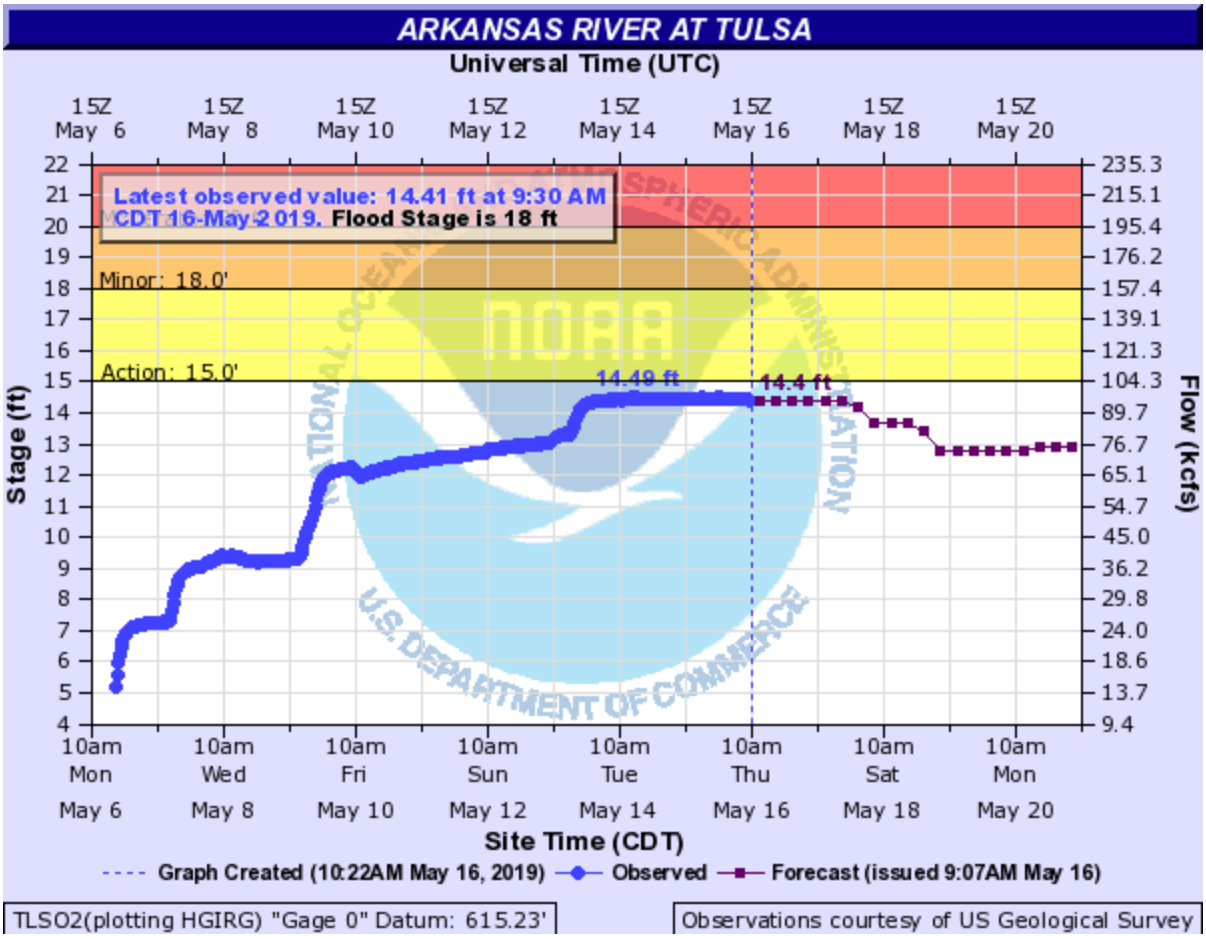
Observations courtesy of US Geological Survey

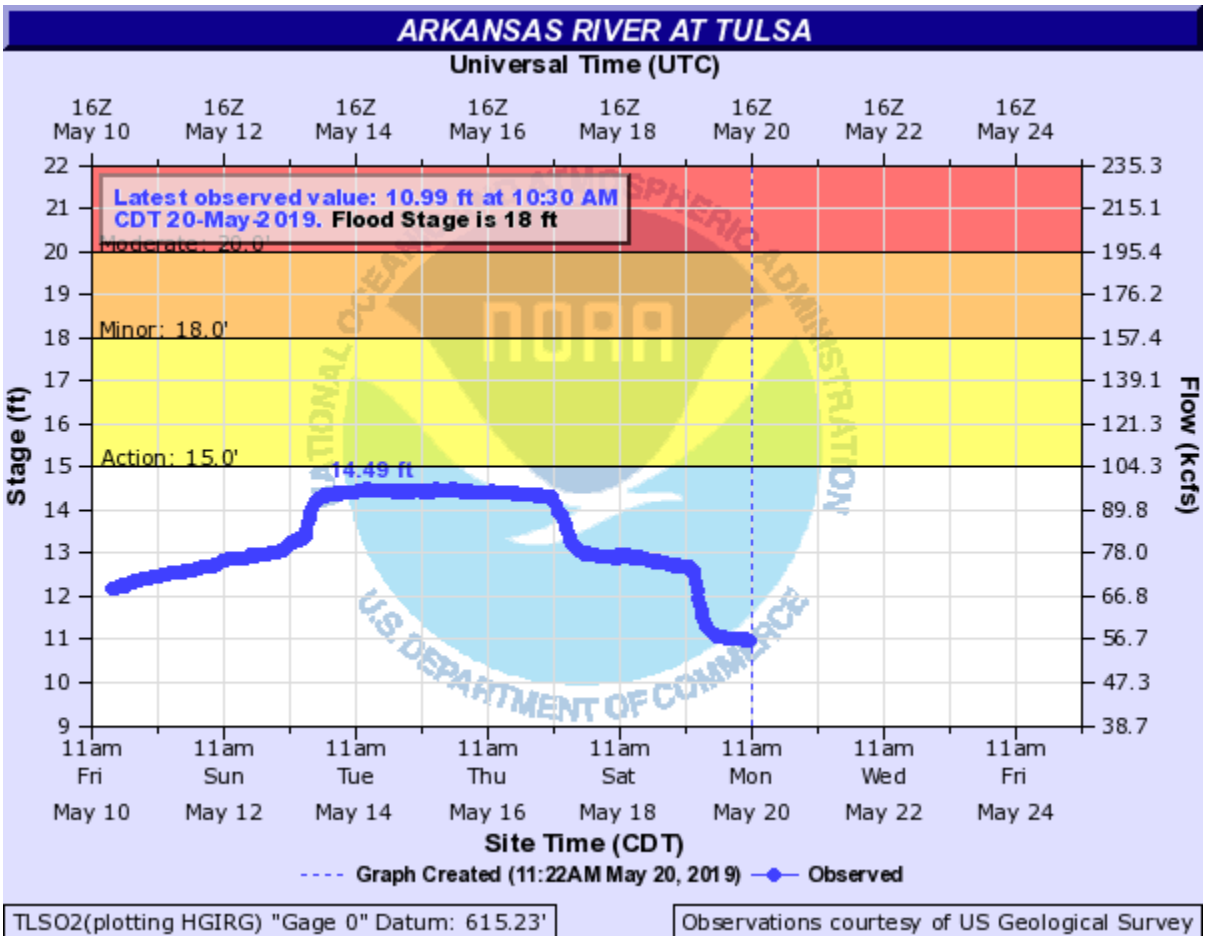

EASTERN OKLAHOMA LAKES AT KEYSTONE LAKE
Universal Time (UTC)
15Z May 6
15Z May 7
15Z May 8
15Z May 9
15Z May 10
15Z May 11
15Z May 12
15Z May 13
15Z May 14
15Z May 15
15Z May 16
15Z May 17
Latest observed value: 747.52 ft at 10:00 AM CDT 16-May-2019.
748.44 ft
Pool (ft)
756
755
753
751
749
747
745
743
741
739
737
735
10am Mon May 6
10am Tue May 7
10am Wed May 8
10am Thu May 9
10am Fri May 10
10am Sat May 11
10am Sun May 12
10am Mon May 13
10am Tue May 14
10am Wed May 15
10am Thu May 16
10am Fri May 17
Site Time (CDT)
Graph Created (10:37AM May 16, 2019)
Observed
KEYO2(plotting HPIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers

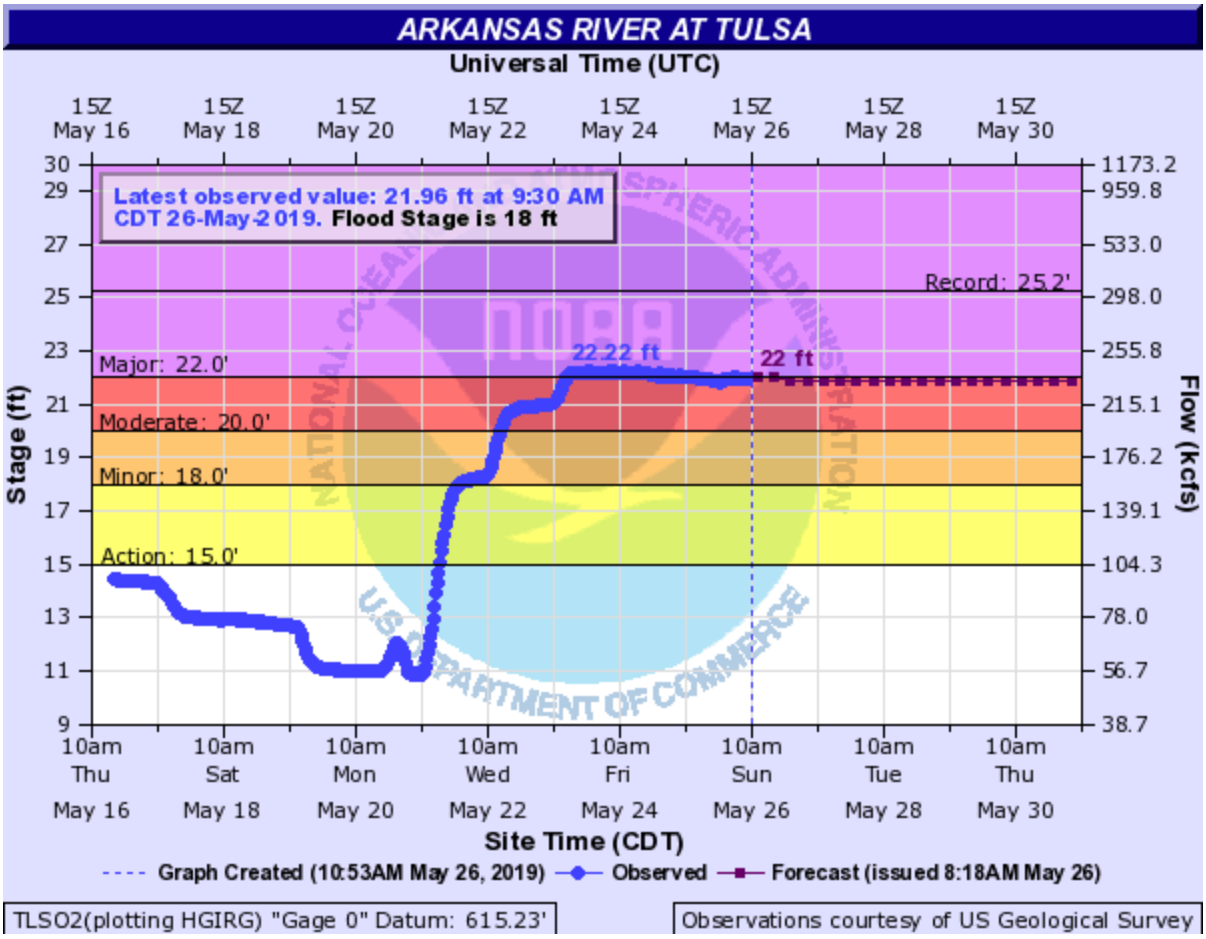

EASTERN OKLAHOMA LAKES AT KEYSTONE LAKE
Universal Time (UTC)
21Z May 14
21Z May 15
21Z May 16
21Z May 17
21Z May 18
21Z May 19
21Z May 20
21Z May 21
21Z May 22
21Z May 23
21Z May 24
21Z May 25
Latest observed value: 755.63 ft at 3:00 PM CDT 24-May-2019.
755.66 ft
Major: 754.0'
Pool (ft)
763
762
760
758
756
754
752
750
748
746
744
742
4pm Tue May 14
4pm Wed May 15
4pm Thu May 16
4pm Fri May 17
4pm Sat May 18
4pm Sun May 19
4pm Mon May 20
4pm Tue May 21
4pm Wed May 22
4pm Thu May 23
4pm Fri May 24
4pm Sat May 25
Site Time (CDT)
Graph Created (4:07PM May 24, 2019)
Observed
KEYO2(plotting HPIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers

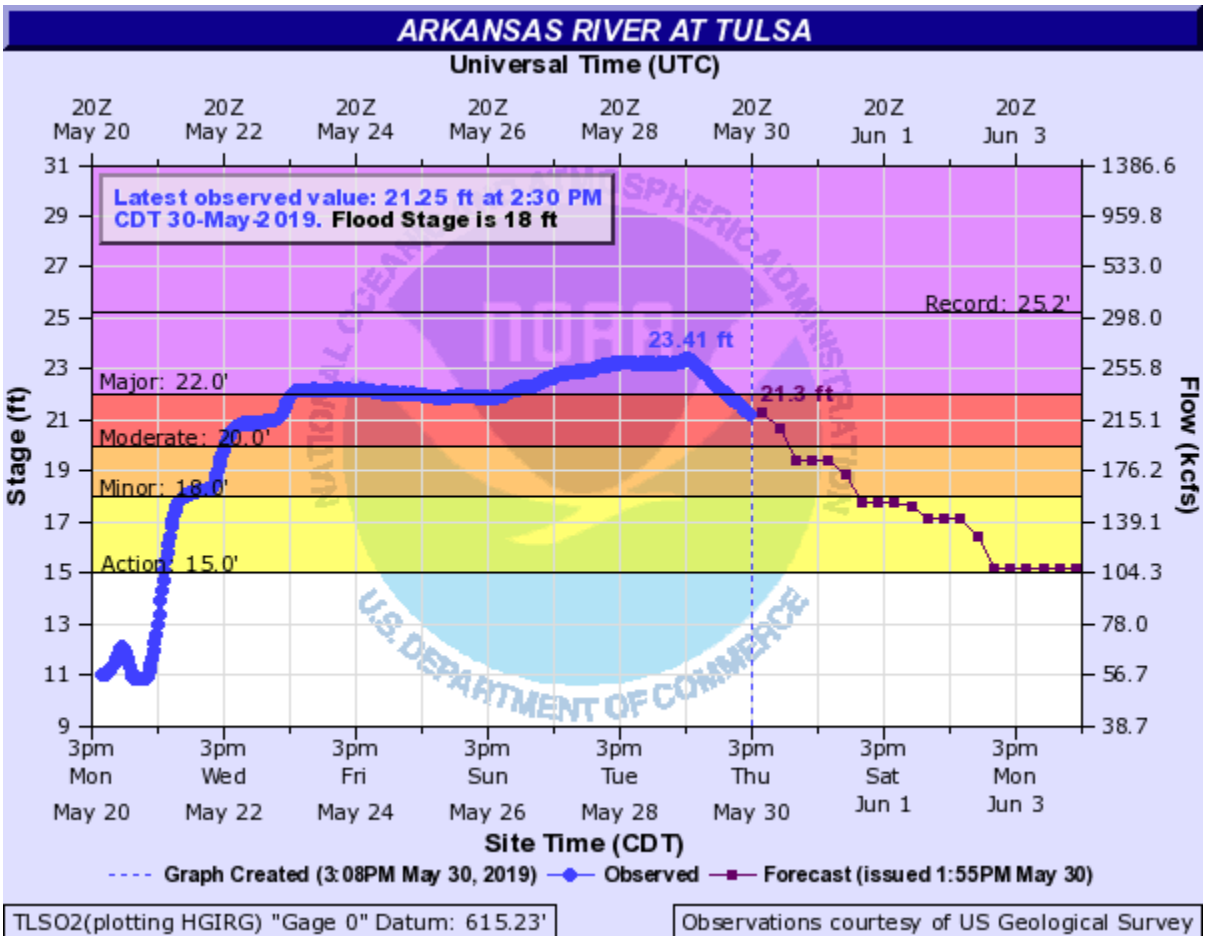

EASTERN OKLAHOMA LAKES AT KEYSTONE LAKE
Universal Time (UTC)
20Z May 20 20Z May 21 20Z May 22 20Z May 23 20Z May 24 20Z May 25 20Z May 26 20Z May 27 20Z May 28 20Z May 29 20Z May 30 20Z May 31
Latest observed value: 755.53 ft at 2:00 PM CDT 30-May-2019.
757.19 ft
Major: 754.0'
Pool (ft)
765 764 762 760 758 756 754 752 750 748 746 744 742
3pm Mon May 20 3pm Tue May 21 3pm Wed May 22 3pm Thu May 23 3pm Fri May 24 3pm Sat May 25 3pm Sun May 26 3pm Mon May 27 3pm Tue May 28 3pm Wed May 29 3pm Thu May 30 3pm Fri May 31
Site Time (CDT)
Graph Created (3:08PM May 30, 2019)
Observed
KEYO2(plotting HPIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers

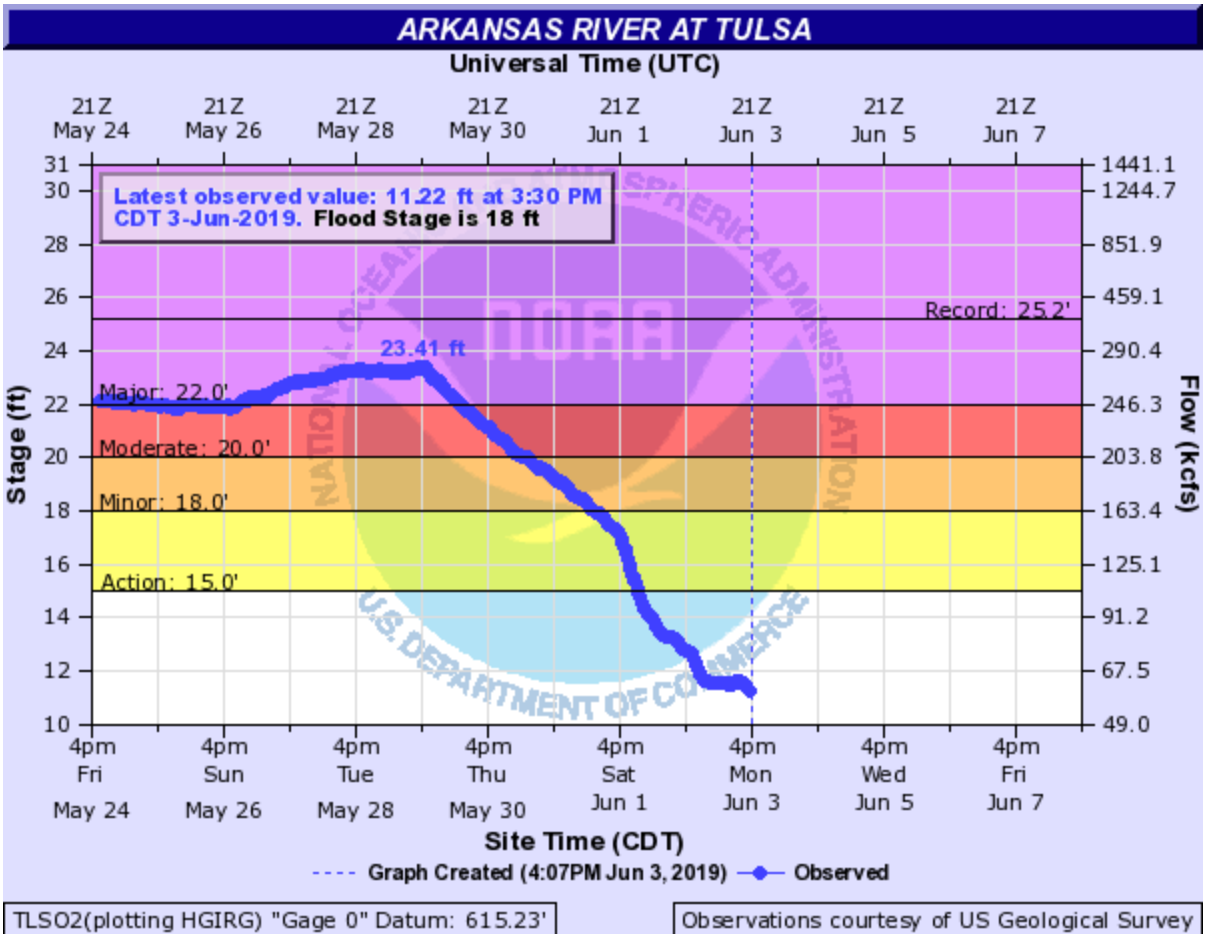

EASTERN OKLAHOMA LAKES AT KEYSTONE LAKE
Universal Time (UTC)
21Z May 24 21Z May 25 21Z May 26 21Z May 27 21Z May 28 21Z May 29 21Z May 30 21Z May 31 21Z Jun 1 21Z Jun 2 21Z Jun 3 21Z Jun 4
Latest observed value: 753.23 ft at 3:00 PM CDT 3-Jun-2019.
757.19 ft
Major: 754.0'
Pool (ft)
765 764 763 762 761 760 759 758 757 756 755 754 753 752
4pm Fri May 24 4pm Sat May 25 4pm Sun May 26 4pm Mon May 27 4pm Tue May 28 4pm Wed May 29 4pm Thu May 30 4pm Fri May 31 4pm Sat Jun 1 4pm Sun Jun 2 4pm Mon Jun 3 4pm Tue Jun 4
Site Time (CDT)
Graph Created (4:07PM Jun 3, 2019)
Observed
KEYO2(plotting HPIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers

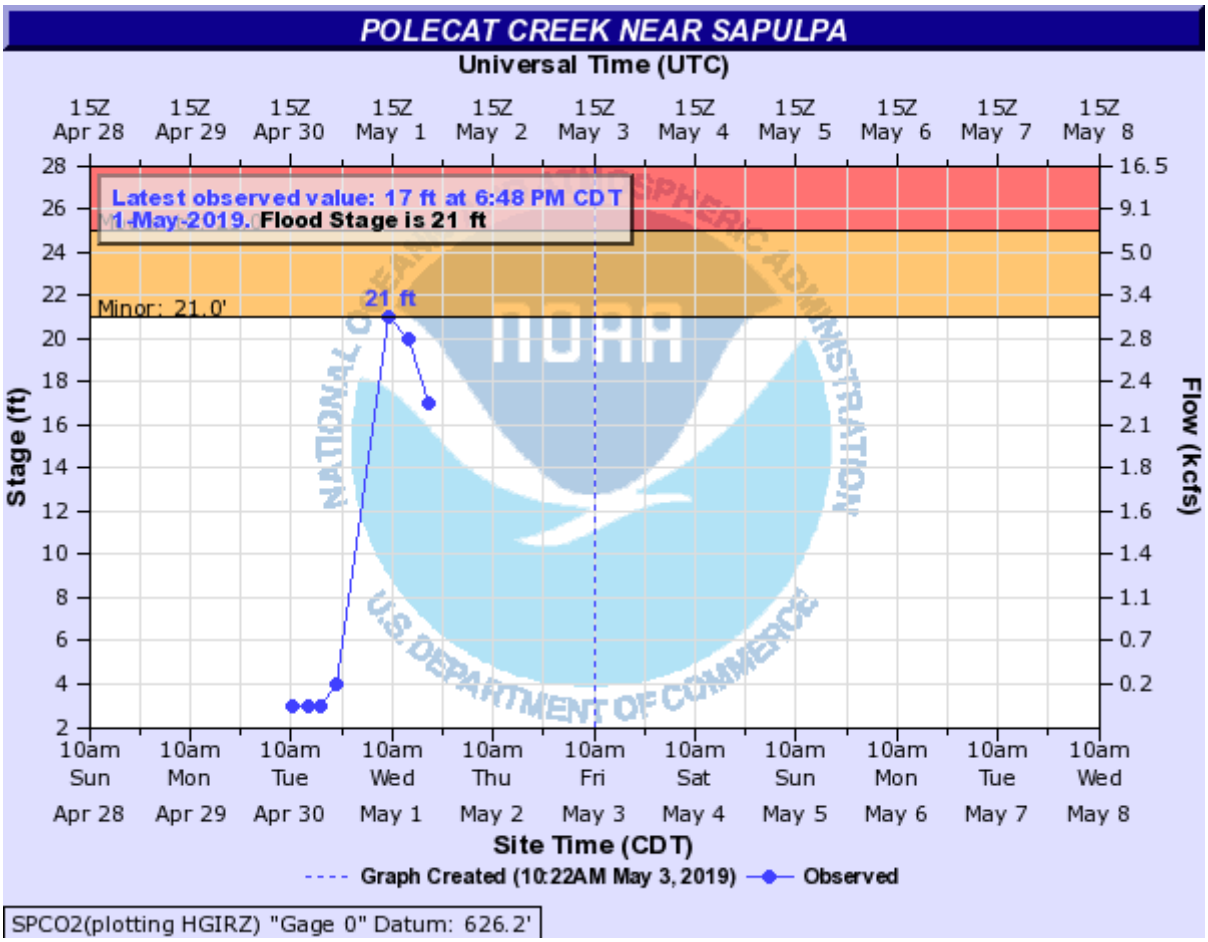

ARKANSAS RIVER AT TULSA
Universal Time (UTC)
15Z May 6
15Z May 8
15Z May 10
15Z May 12
15Z May 14
15Z May 16
15Z May 18
15Z May 20
Latest observed value: 14.41 ft at 9:30 AM CDT 16-May-2019. Flood Stage is 18 ft
Minor: 18.0'
Action: 15.0'
14.49 ft
14.4 ft
Stage (ft)
Flow (kcfs)
22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4
235.3 215.1 195.4 176.2 157.4 139.1 121.3 104.3 89.7 76.7 65.1 54.7 45.0 36.2 29.8 24.0 18.6 13.7 9.4
10am Mon May 6
10am Wed May 8
10am Fri May 10
10am Sun May 12
10am Tue May 14
10am Thu May 16
10am Sat May 18
10am Mon May 20
Site Time (CDT)
Graph Created (10:22AM May 16, 2019)
Observed
Forecast (issued 9:07AM May 16)
TLSO2(plotting HGIRG) "Gage 0" Datum: 615.23'
Observations courtesy of US Geological Survey

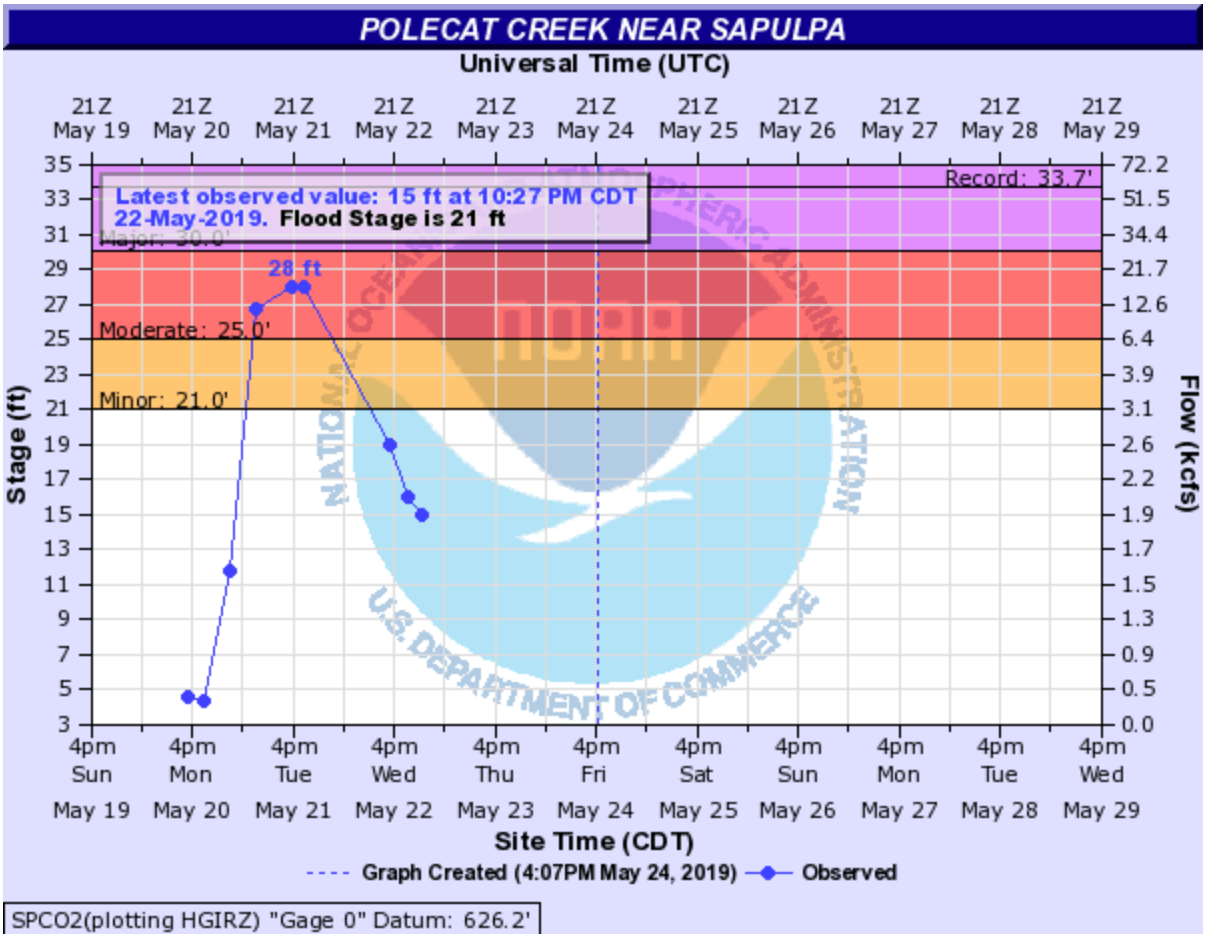

ARKANSAS RIVER AT TULSA
Universal Time (UTC)
16Z May 10
16Z May 12
16Z May 14
16Z May 16
16Z May 18
16Z May 20
16Z May 22
16Z May 24
Latest observed value: 10.99 ft at 10:30 AM CDT 20-May-2019. Flood Stage is 18 ft
Moderate: 20.0'
Minor: 18.0'
Action: 15.0'
14.49 ft
Stage (ft)
Flow (kcfs)
22 21 20 19 18 17 16 15 14 13 12 11 10 9
235.3 215.1 195.4 176.2 157.4 139.1 121.3 104.3 89.8 78.0 66.8 56.7 47.3 38.7
11am Fri May 10
11am Sun May 12
11am Tue May 14
11am Thu May 16
11am Sat May 18
11am Mon May 20
11am Wed May 22
11am Fri May 24
Site Time (CDT)
Graph Created (11:22AM May 20, 2019)
Observed
TLSO2(plotting HGIRG) "Gage 0" Datum: 615.23'
Observations courtesy of US Geological Survey

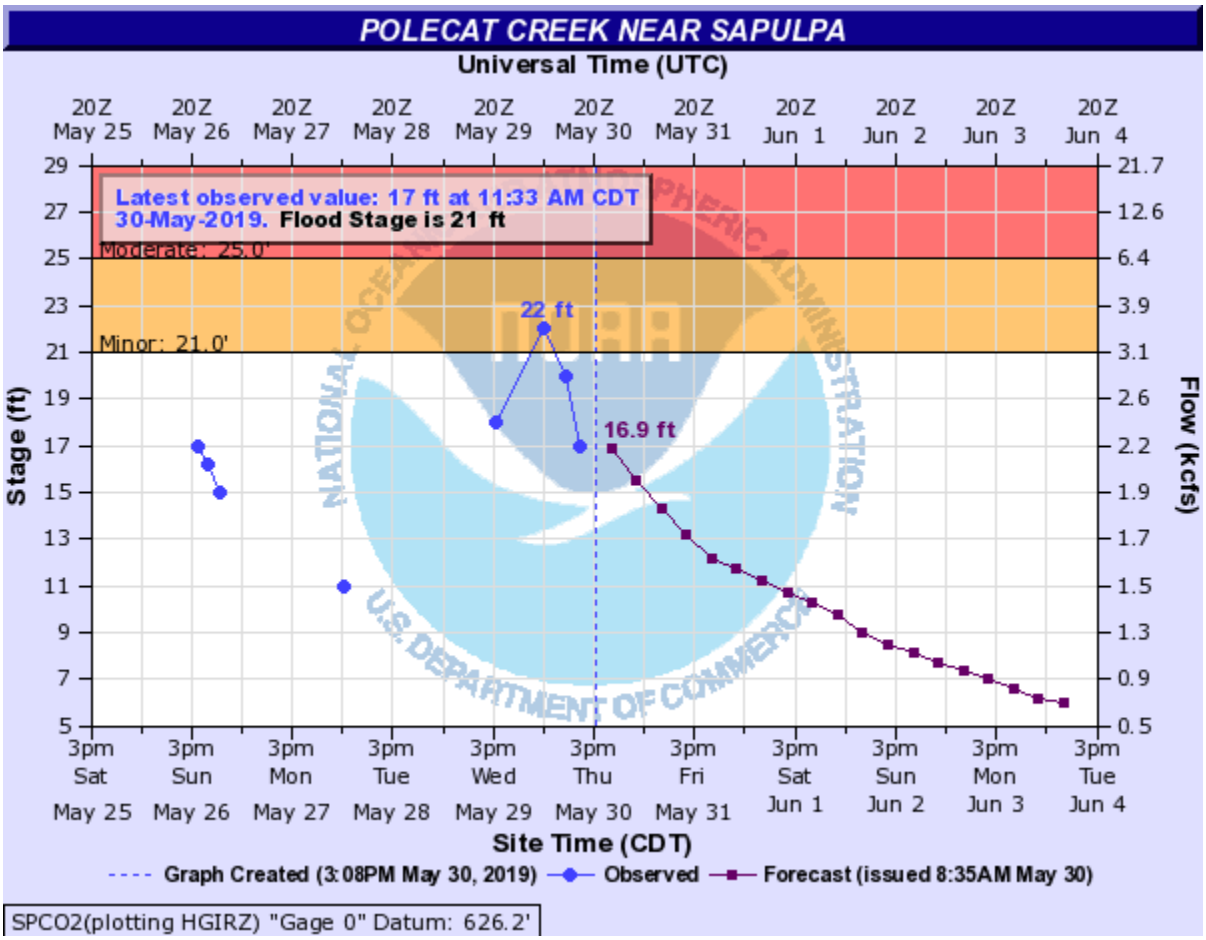

ARKANSAS RIVER AT TULSA
Universal Time (UTC)
15Z May 16
15Z May 18
15Z May 20
15Z May 22
15Z May 24
15Z May 26
15Z May 28
15Z May 30
Latest observed value: 21.96 ft at 9:30 AM CDT 26-May-2019. Flood Stage is 18 ft
Record: 25.2'
Major: 22.0'
Moderate: 20.0'
Minor: 18.0'
Action: 15.0'
22.22 ft
22 ft
Stage (ft)
Flow (kcfs)
30 29 27 25 23 21 19 17 15 13 11 9
1173.2 959.8 533.0 298.0 255.8 215.1 176.2 139.1 104.3 78.0 56.7 38.7
10am Thu May 16
10am Sat May 18
10am Mon May 20
10am Wed May 22
10am Fri May 24
10am Sun May 26
10am Tue May 28
10am Thu May 30
Site Time (CDT)
Graph Created (10:53AM May 26, 2019)
Observed
Forecast (issued 8:18AM May 26)
TLSO2(plotting HGIRG) "Gage 0" Datum: 615.23'
Observations courtesy of US Geological Survey

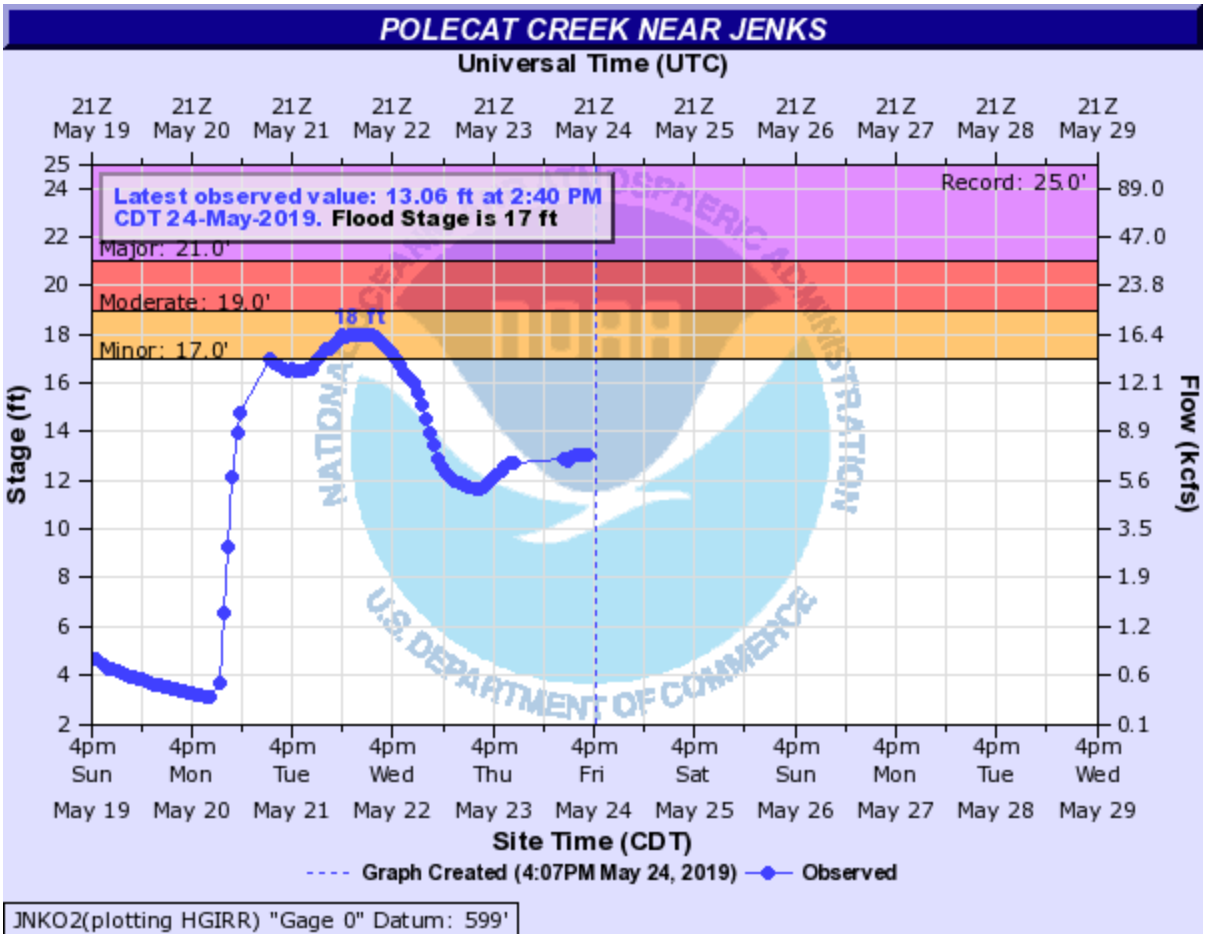

ARKANSAS RIVER AT TULSA
Universal Time (UTC)
20Z May 20
20Z May 22
20Z May 24
20Z May 26
20Z May 28
20Z May 30
20Z Jun 1
20Z Jun 3
Latest observed value: 21.25 ft at 2:30 PM CDT 30-May-2019. Flood Stage is 18 ft
Record: 25.2'
Major: 22.0'
Moderate: 20.0'
Minor: 18.0'
Action: 15.0'
23.41 ft
21.3 ft
Stage (ft)
Flow (kcfs)
31 29 27 25 23 21 19 17 15 13 11 9
1386.6 959.8 533.0 298.0 255.8 215.1 176.2 139.1 104.3 78.0 56.7 38.7
3pm Mon May 20
3pm Wed May 22
3pm Fri May 24
3pm Sun May 26
3pm Tue May 28
3pm Thu May 30
3pm Sat Jun 1
3pm Mon Jun 3
Site Time (CDT)
Graph Created (3:08PM May 30, 2019)
Observed
Forecast (issued 1:55PM May 30)
TLSO2(plotting HGIRG) "Gage 0" Datum: 615.23'
Observations courtesy of US Geological Survey

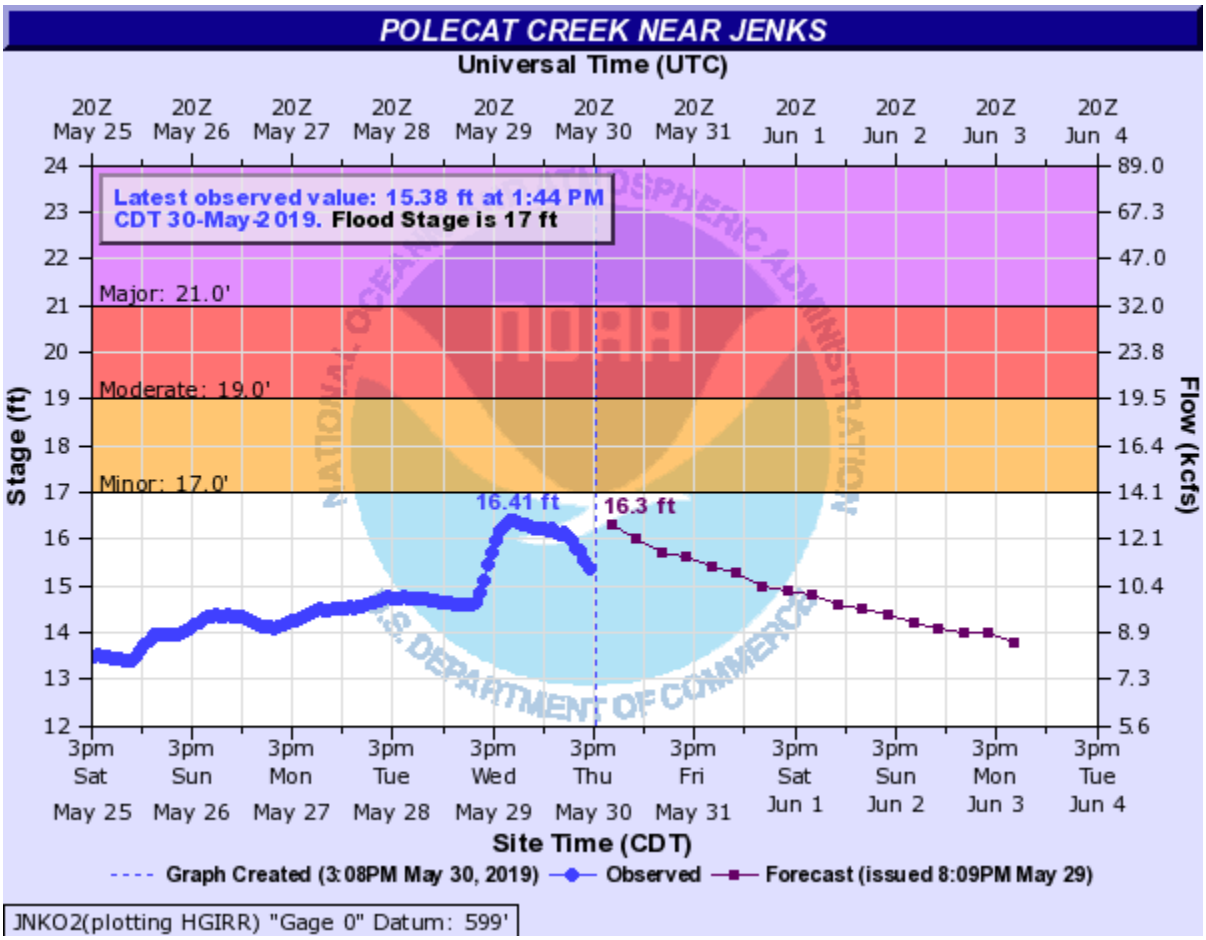

ARKANSAS RIVER AT TULSA
Universal Time (UTC)
21Z May 24
21Z May 26
21Z May 28
21Z May 30
21Z Jun 1
21Z Jun 3
21Z Jun 5
21Z Jun 7
Latest observed value: 11.22 ft at 3:30 PM CDT 3-Jun-2019. Flood Stage is 18 ft
Record: 25.2'
23.41 ft
Major: 22.0'
Moderate: 20.0'
Minor: 18.0'
Action: 15.0'
Stage (ft)
Flow (kcfs)
31 30 28 26 24 22 20 18 16 14 12 10
1441.1 1244.7 851.9 459.1 290.4 246.3 203.8 163.4 125.1 91.2 67.5 49.0
4pm Fri May 24
4pm Sun May 26
4pm Tue May 28
4pm Thu May 30
4pm Sat Jun 1
4pm Mon Jun 3
4pm Wed Jun 5
4pm Fri Jun 7
Site Time (CDT)
Graph Created (4:07PM Jun 3, 2019)
Observed
TLSO2(plotting HGIRG) "Gage 0" Datum: 615.23'
Observations courtesy of US Geological Survey

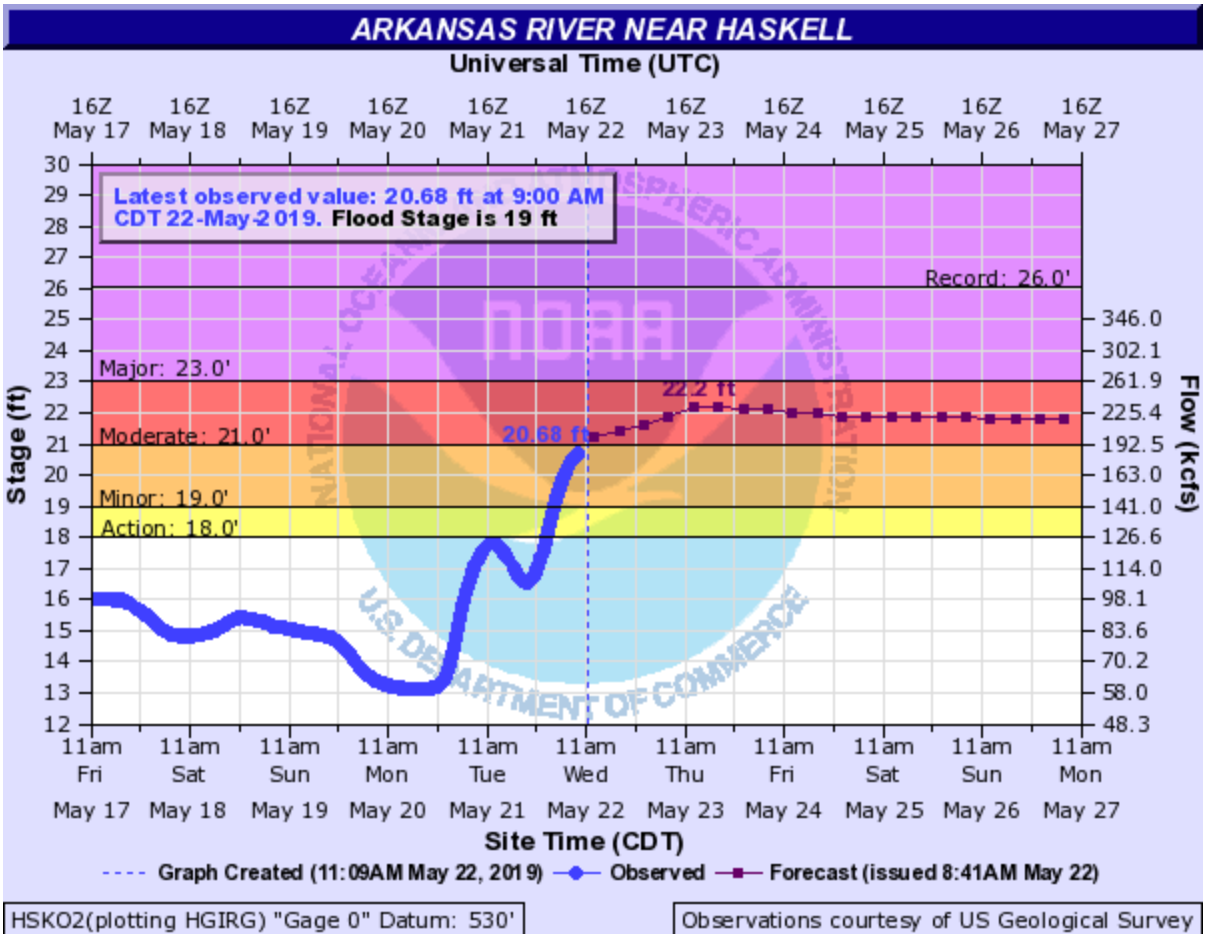

POLECAT CREEK NEAR SAPULPA
Universal Time (UTC)
15Z Apr 28
15Z Apr 29
15Z Apr 30
15Z May 1
15Z May 2
15Z May 3
15Z May 4
15Z May 5
15Z May 6
15Z May 7
15Z May 8
Latest observed value: 17 ft at 6:48 PM CDT 1-May-2019. Flood Stage is 21 ft
Minor: 21.0'
21 ft
Stage (ft)
Flow (kcfs)
28 26 24 22 20 18 16 14 12 10 8 6 4 2
16.5 9.1 5.0 3.4 2.8 2.4 2.1 1.8 1.6 1.4 1.1 0.7 0.2
10am Sun Apr 28
10am Mon Apr 29
10am Tue Apr 30
10am Wed May 1
10am Thu May 2
10am Fri May 3
10am Sat May 4
10am Sun May 5
10am Mon May 6
10am Tue May 7
10am Wed May 8
Site Time (CDT)
Graph Created (10:22AM May 3, 2019)
Observed
SPCO2(plotting HGIRZ) "Gage 0" Datum: 626.2'

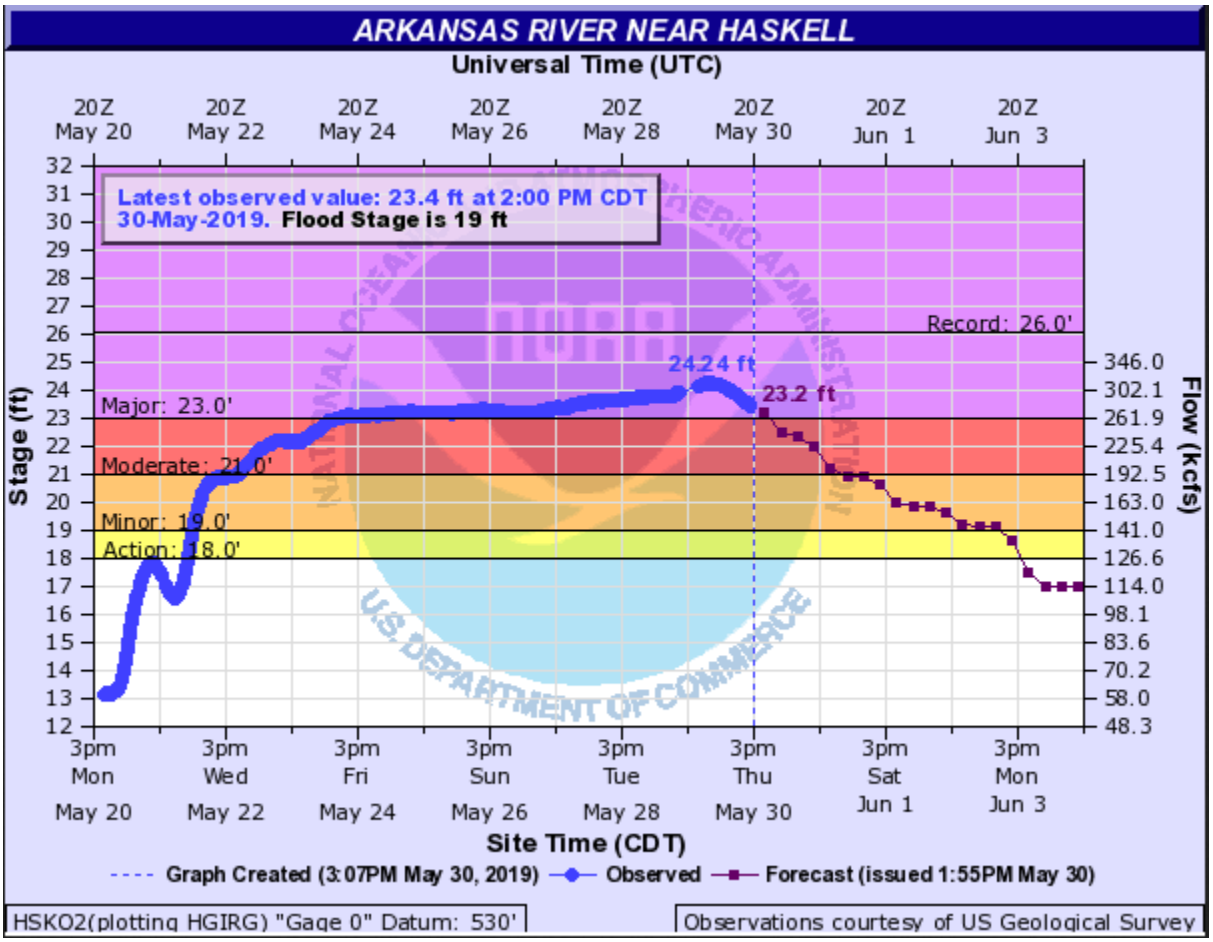

POLECAT CREEK NEAR SAPULPA
Universal Time (UTC)
21Z May 19
21Z May 20
21Z May 21
21Z May 22
21Z May 23
21Z May 24
21Z May 25
21Z May 26
21Z May 27
21Z May 28
21Z May 29
Record: 33.7'
Latest observed value: 15 ft at 10:27 PM CDT 22-May-2019. Flood Stage is 21 ft
Major: 30.0'
28 ft
Moderate: 25.0'
Minor: 21.0'
Stage (ft)
Flow (kcfs)
4pm Sun May 19
4pm Mon May 20
4pm Tue May 21
4pm Wed May 22
4pm Thu May 23
4pm Fri May 24
4pm Sat May 25
4pm Sun May 26
4pm Mon May 27
4pm Tue May 28
4pm Wed May 29
Site Time (CDT)
Graph Created (4:07PM May 24, 2019)
Observed
SPCO2(plotting HGIRZ) "Gage 0" Datum: 626.2'

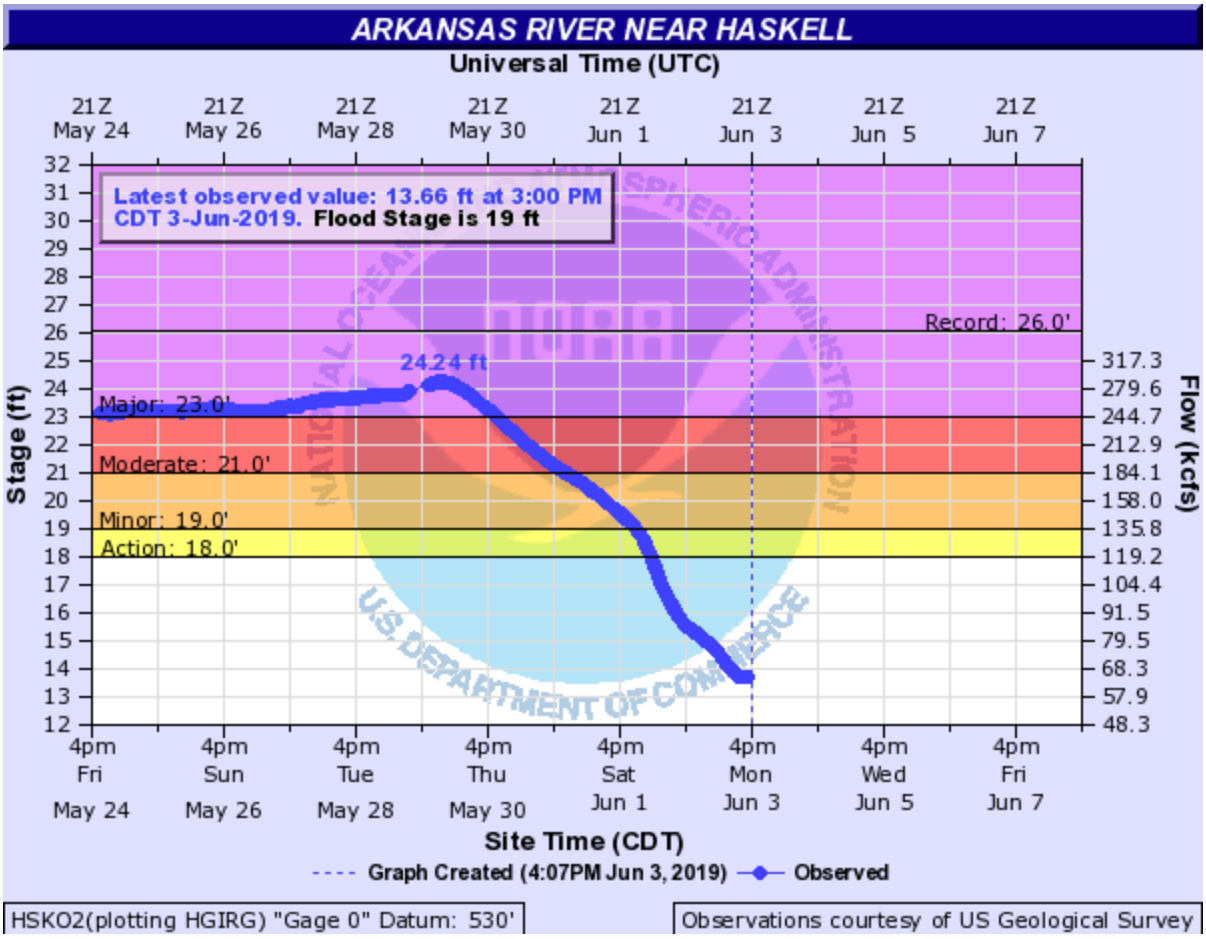

POLECAT CREEK NEAR SAPULPA
Universal Time (UTC)
20Z May 25
20Z May 26
20Z May 27
20Z May 28
20Z May 29
20Z May 30
20Z May 31
20Z Jun 1
20Z Jun 2
20Z Jun 3
20Z Jun 4
Latest observed value: 17 ft at 11:33 AM CDT 30-May-2019. Flood Stage is 21 ft
Moderate: 25.0'
22 ft
Minor: 21.0'
16.9 ft
Stage (ft)
Flow (kcfs)
3pm Sat May 25
3pm Sun May 26
3pm Mon May 27
3pm Tue May 28
3pm Wed May 29
3pm Thu May 30
3pm Fri May 31
3pm Sat Jun 1
3pm Sun Jun 2
3pm Mon Jun 3
3pm Tue Jun 4
Site Time (CDT)
Graph Created (3:08PM May 30, 2019)
Observed
Forecast (issued 8:35AM May 30)
SPCO2(plotting HGIRZ) "Gage 0" Datum: 626.2'

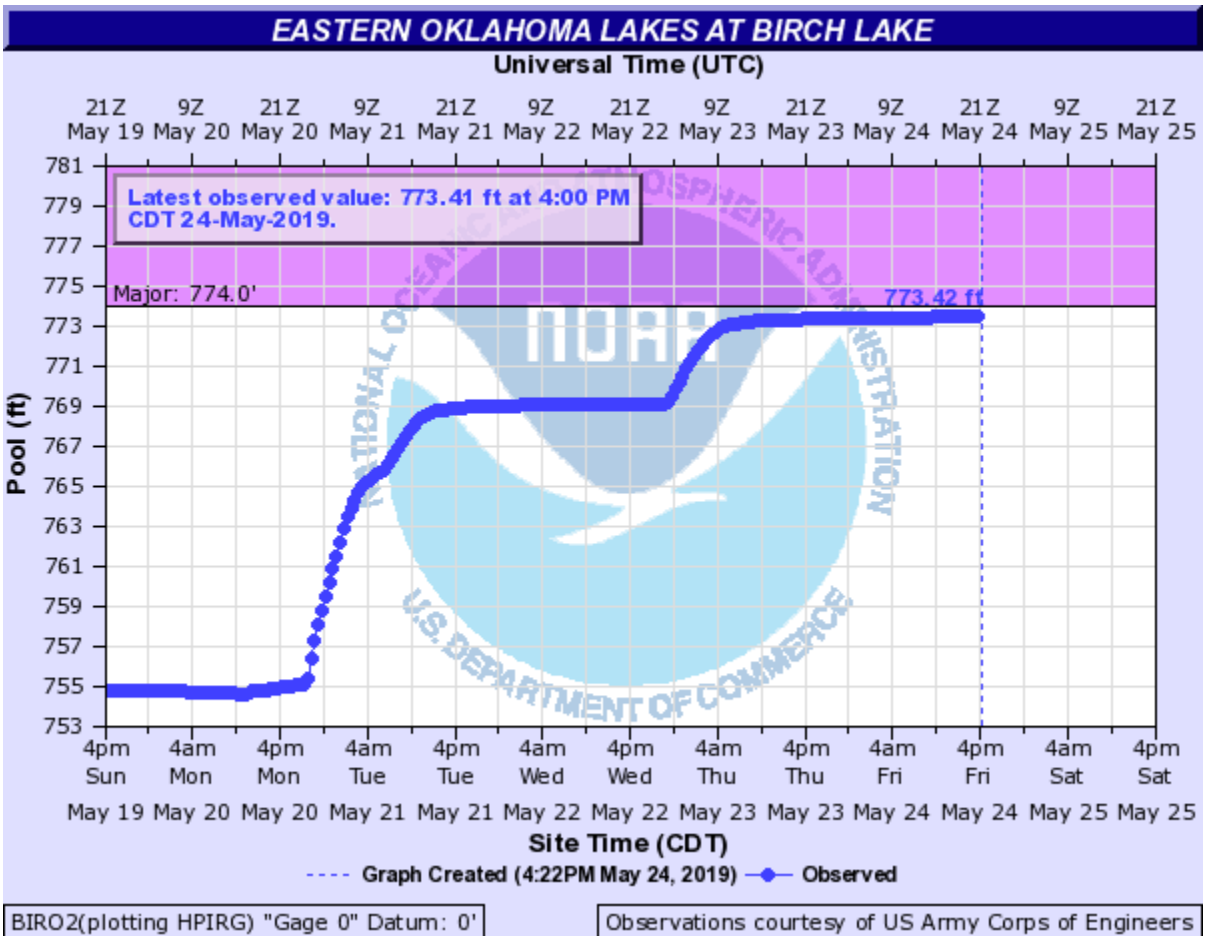

POLECAT CREEK NEAR JENKS
Universal Time (UTC)
21Z May 19
21Z May 20
21Z May 21
21Z May 22
21Z May 23
21Z May 24
21Z May 25
21Z May 26
21Z May 27
21Z May 28
21Z May 29
Latest observed value: 13.06 ft at 2:40 PM CDT 24-May-2019. Flood Stage is 17 ft
Record: 25.0'
Major: 21.0'
Moderate: 19.0'
Minor: 17.0'
18 ft
Stage (ft)
Flow (kcfs)
4pm Sun May 19
4pm Mon May 20
4pm Tue May 21
4pm Wed May 22
4pm Thu May 23
4pm Fri May 24
4pm Sat May 25
4pm Sun May 26
4pm Mon May 27
4pm Tue May 28
4pm Wed May 29
Site Time (CDT)
Graph Created (4:07PM May 24, 2019)
Observed
JNKO2(plotting HGIRR) "Gage 0" Datum: 599'

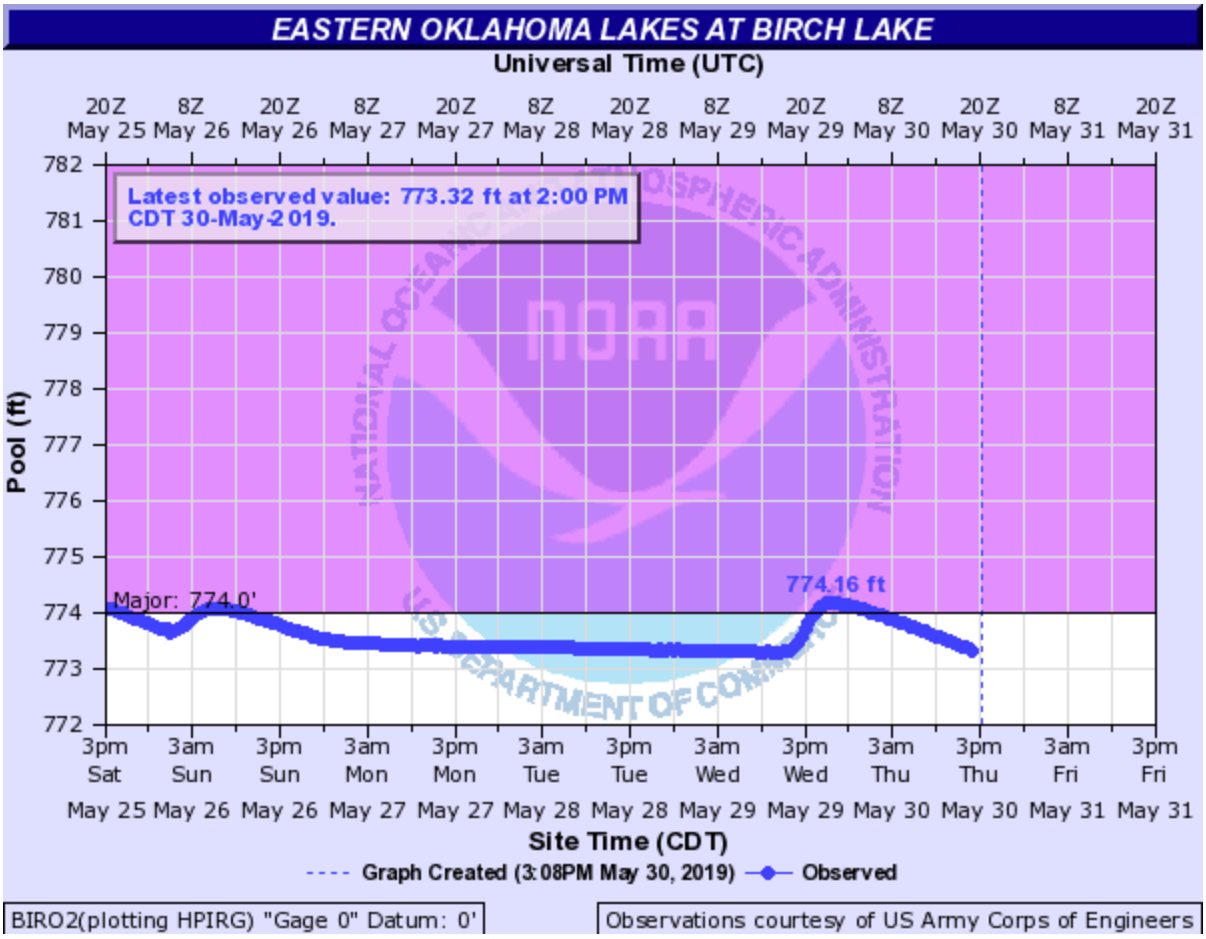

POLECAT CREEK NEAR JENKS
Universal Time (UTC)
20Z May 25
20Z May 26
20Z May 27
20Z May 28
20Z May 29
20Z May 30
20Z May 31
20Z Jun 1
20Z Jun 2
20Z Jun 3
20Z Jun 4
Latest observed value: 15.38 ft at 1:44 PM CDT 30-May-2019. Flood Stage is 17 ft
Major: 21.0'
Moderate: 19.0'
Minor: 17.0'
16.41 ft
16.3 ft
Stage (ft)
Flow (kcfs)
3pm Sat May 25
3pm Sun May 26
3pm Mon May 27
3pm Tue May 28
3pm Wed May 29
3pm Thu May 30
3pm Fri May 31
3pm Sat Jun 1
3pm Sun Jun 2
3pm Mon Jun 3
3pm Tue Jun 4
Site Time (CDT)
Graph Created (3:08PM May 30, 2019)
Observed
Forecast (issued 8:09PM May 29)
JNKO2(plotting HGIRR) "Gage 0" Datum: 599'

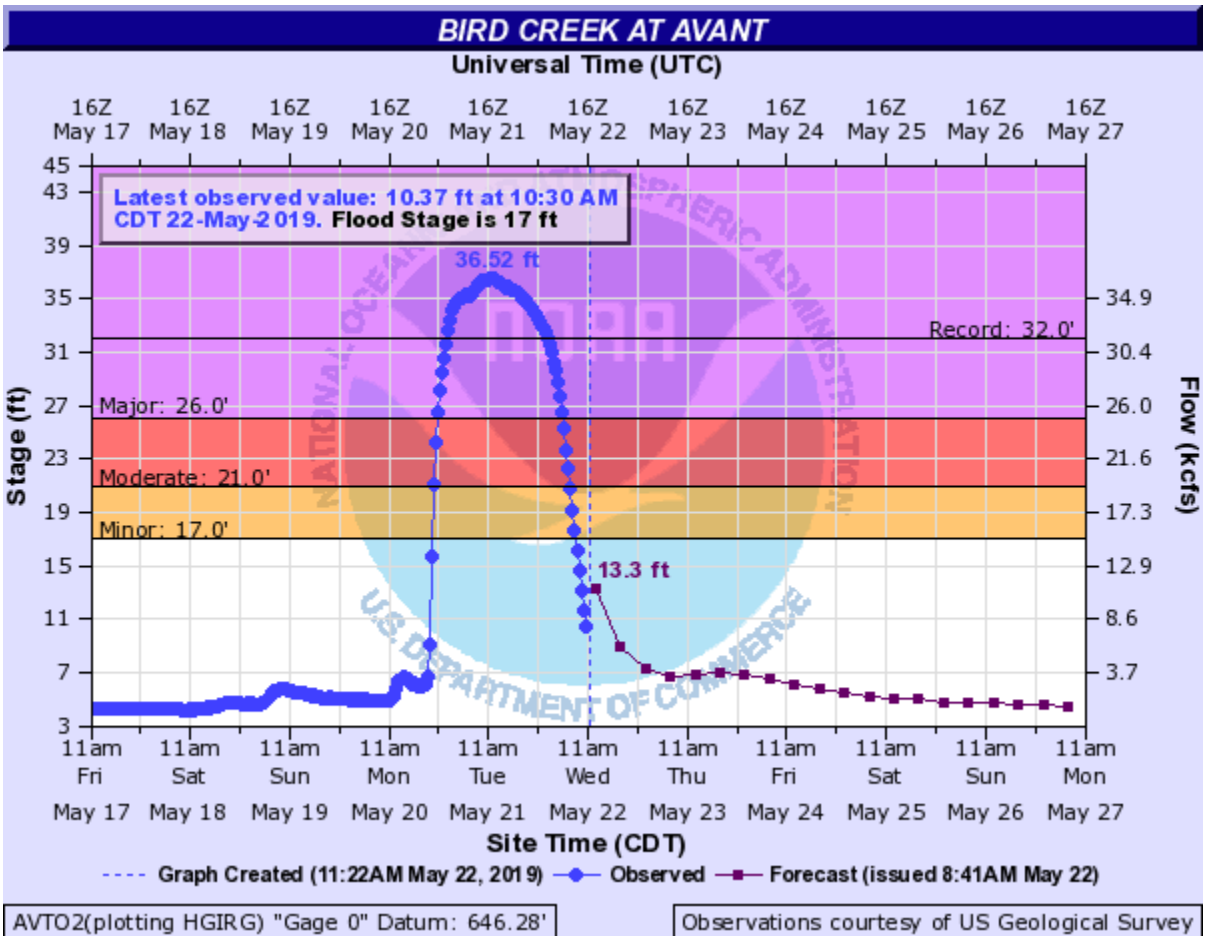

ARKANSAS RIVER NEAR HASKELL
Universal Time (UTC)
16Z May 17
16Z May 18
16Z May 19
16Z May 20
16Z May 21
16Z May 22
16Z May 23
16Z May 24
16Z May 25
16Z May 26
16Z May 27
Latest observed value: 20.68 ft at 9:00 AM CDT 22-May-2019. Flood Stage is 19 ft
Record: 26.0'
Major: 23.0'
Moderate: 21.0'
Minor: 19.0'
Action: 18.0'
22.2 ft
20.68 ft
Stage (ft)
Flow (kcfs)
30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12
346.0 302.1 261.9 225.4 192.5 163.0 141.0 126.6 114.0 98.1 83.6 70.2 58.0 48.3
11am Fri May 17
11am Sat May 18
11am Sun May 19
11am Mon May 20
11am Tue May 21
11am Wed May 22
11am Thu May 23
11am Fri May 24
11am Sat May 25
11am Sun May 26
11am Mon May 27
Site Time (CDT)
Graph Created (11:09AM May 22, 2019)
Observed
Forecast (issued 8:41AM May 22)
HSKO2(plotting HGIRG) "Gage 0" Datum: 530'
Observations courtesy of US Geological Survey

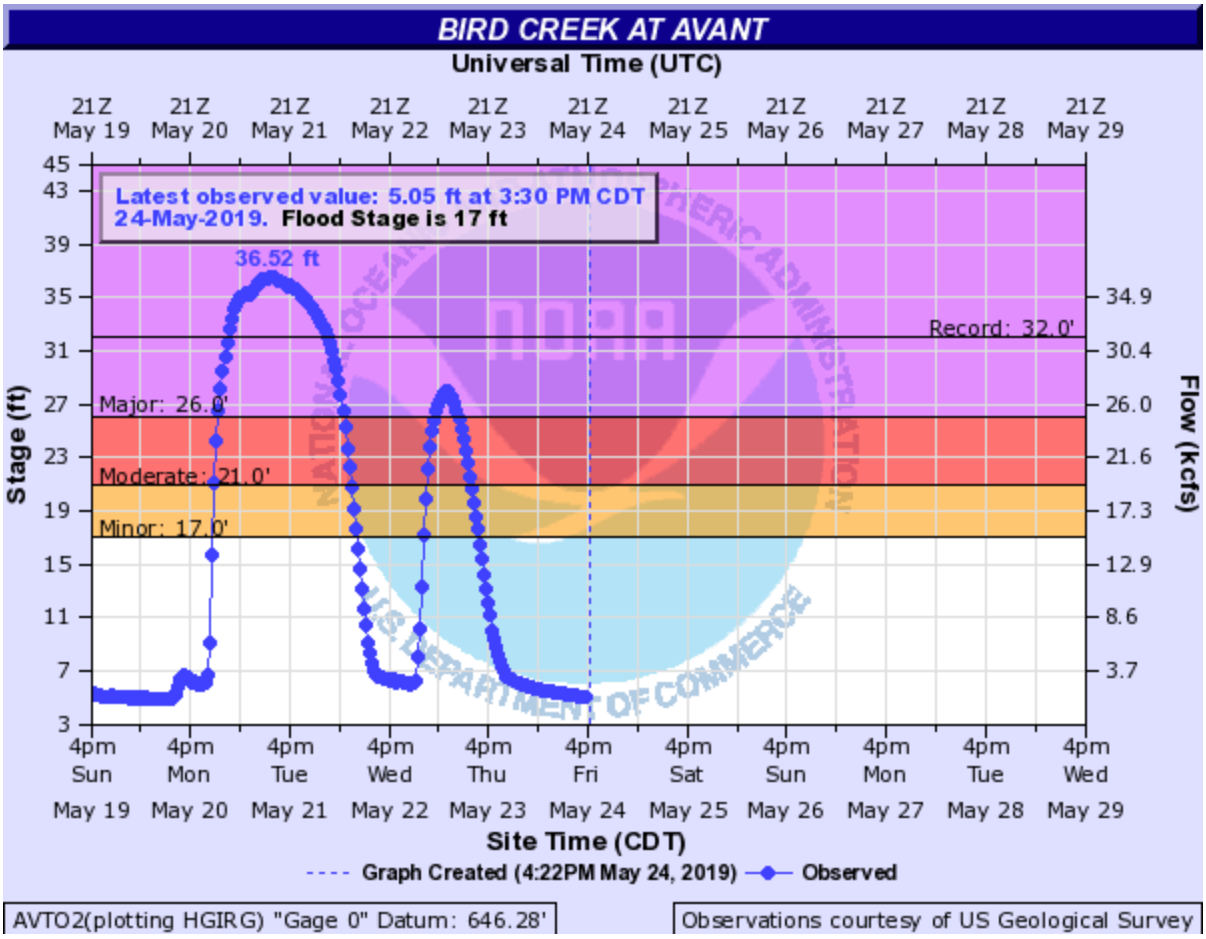

ARKANSAS RIVER NEAR HASKELL
Universal Time (UTC)
20Z May 20
20Z May 22
20Z May 24
20Z May 26
20Z May 28
20Z May 30
20Z Jun 1
20Z Jun 3
Latest observed value: 23.4 ft at 2:00 PM CDT 30-May-2019. Flood Stage is 19 ft
Record: 26.0'
Major: 23.0'
Moderate: 21.0'
Minor: 19.0'
Action: 18.0'
24.24 ft
23.2 ft
Stage (ft)
Flow (kcfs)
32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12
346.0 302.1 261.9 225.4 192.5 163.0 141.0 126.6 114.0 98.1 83.6 70.2 58.0 48.3
3pm Mon May 20
3pm Wed May 22
3pm Fri May 24
3pm Sun May 26
3pm Tue May 28
3pm Thu May 30
3pm Sat Jun 1
3pm Mon Jun 3
Site Time (CDT)
Graph Created (3:07PM May 30, 2019)
Observed
Forecast (issued 1:55PM May 30)
HSKO2(plotting HGIRG) "Gage 0" Datum: 530'
Observations courtesy of US Geological Survey

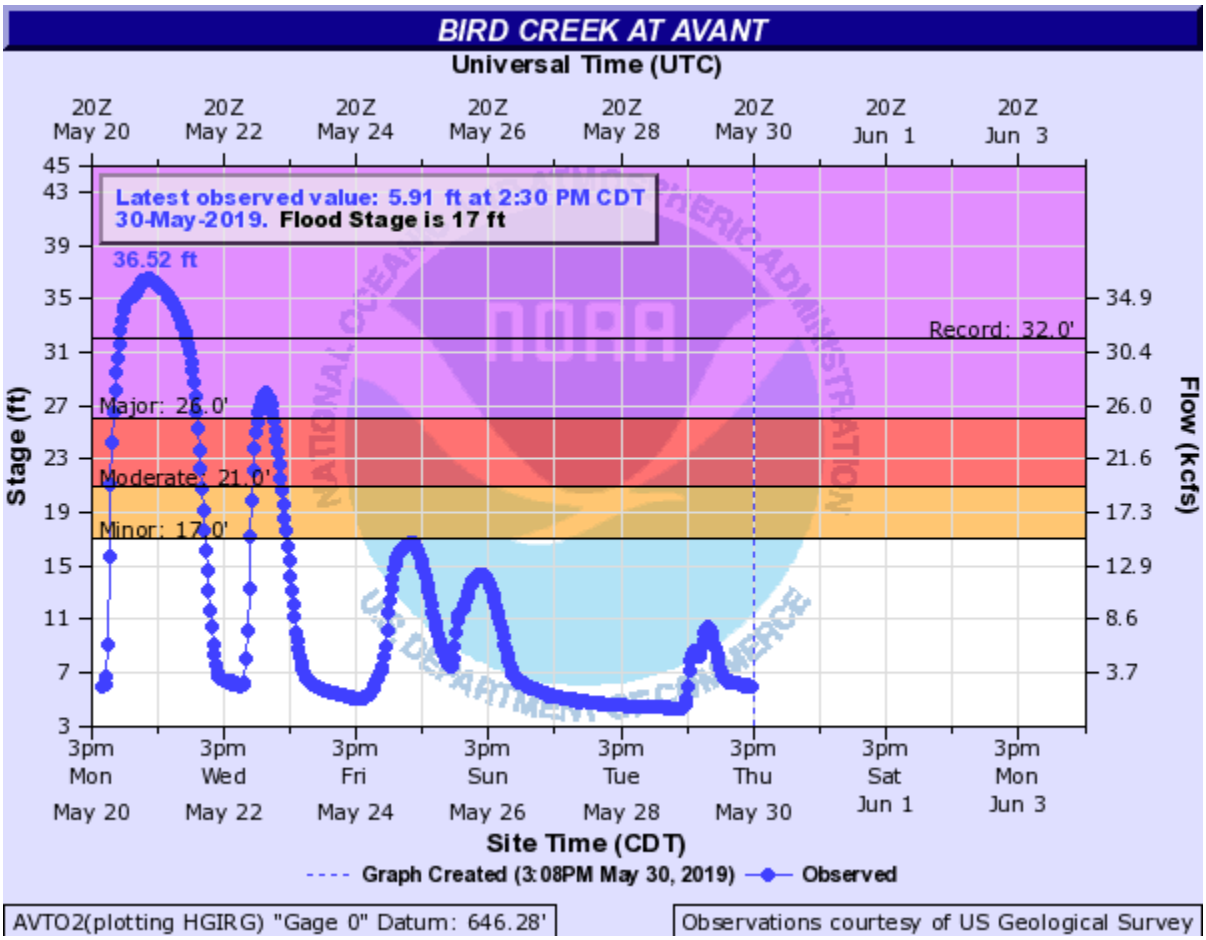

ARKANSAS RIVER NEAR HASKELL
Universal Time (UTC)
21Z May 24
21Z May 26
21Z May 28
21Z May 30
21Z Jun 1
21Z Jun 3
21Z Jun 5
21Z Jun 7
Latest observed value: 13.66 ft at 3:00 PM CDT 3-Jun-2019. Flood Stage is 19 ft
Record: 26.0'
24.24 ft
Major: 23.0'
Moderate: 21.0'
Minor: 19.0'
Action: 18.0'
Stage (ft)
Flow (kcfs)
32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12
317.3 279.6 244.7 212.9 184.1 158.0 135.8 119.2 104.4 91.5 79.5 68.3 57.9 48.3
4pm Fri May 24
4pm Sun May 26
4pm Tue May 28
4pm Thu May 30
4pm Sat Jun 1
4pm Mon Jun 3
4pm Wed Jun 5
4pm Fri Jun 7
Site Time (CDT)
Graph Created (4:07PM Jun 3, 2019)
Observed
HSKO2(plotting HGIRG) "Gage 0" Datum: 530'
Observations courtesy of US Geological Survey

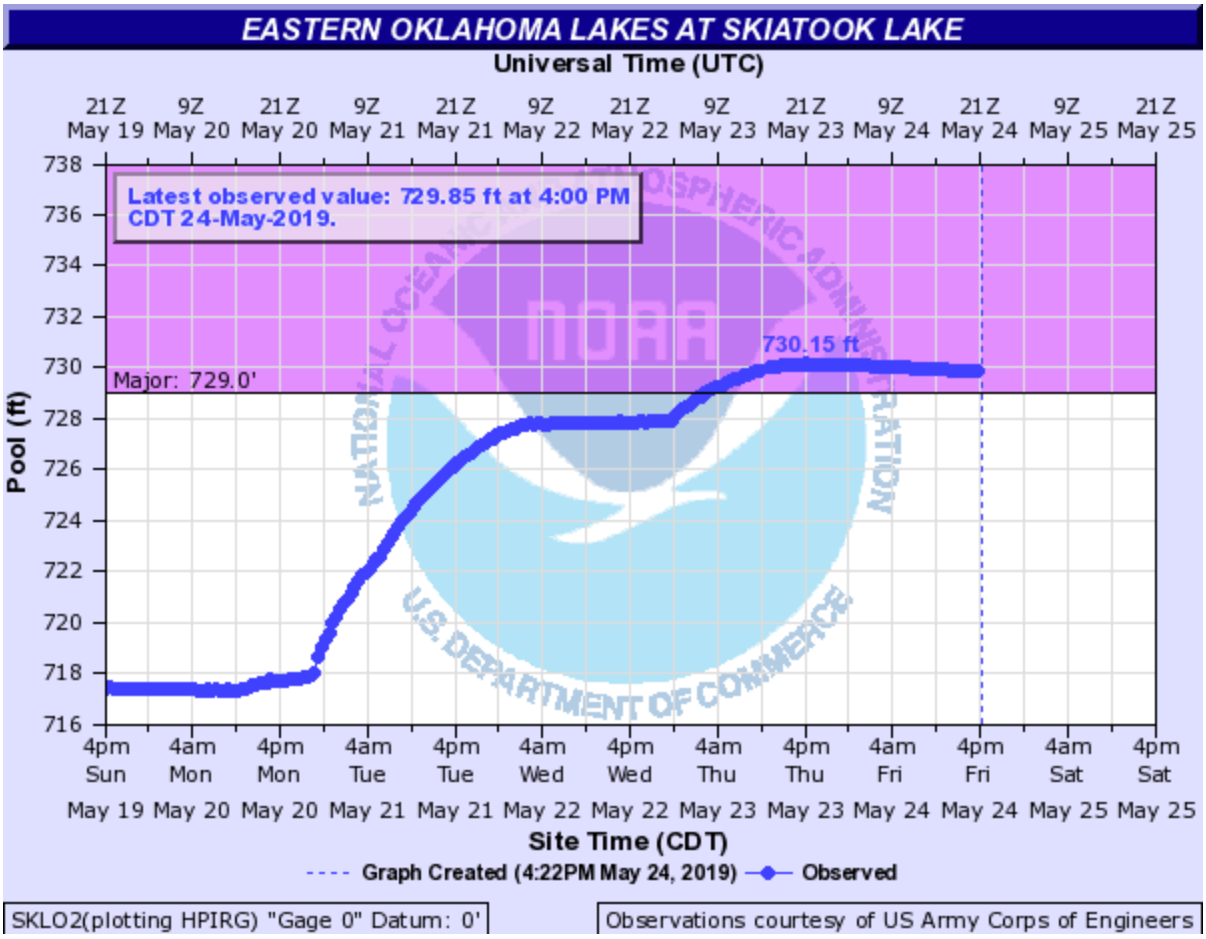

EASTERN OKLAHOMA LAKES AT BIRCH LAKE
Universal Time (UTC)
21Z May 19
9Z May 20
21Z May 20
9Z May 21
21Z May 21
9Z May 22
21Z May 22
9Z May 23
21Z May 23
9Z May 24
21Z May 24
9Z May 25
21Z May 25
Latest observed value: 773.41 ft at 4:00 PM CDT 24-May-2019.
Major: 774.0'
773.42 ft
Pool (ft)
781 779 777 775 773 771 769 767 765 763 761 759 757 755 753
4pm Sun May 19
4am Mon May 20
4pm Mon May 20
4am Tue May 21
4pm Tue May 21
4am Wed May 22
4pm Wed May 22
4am Thu May 23
4pm Thu May 23
4am Fri May 24
4pm Fri May 24
4am Sat May 25
4pm Sat May 25
Site Time (CDT)
Graph Created (4:22PM May 24, 2019)
Observed
BIRO2(plotting HPIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers

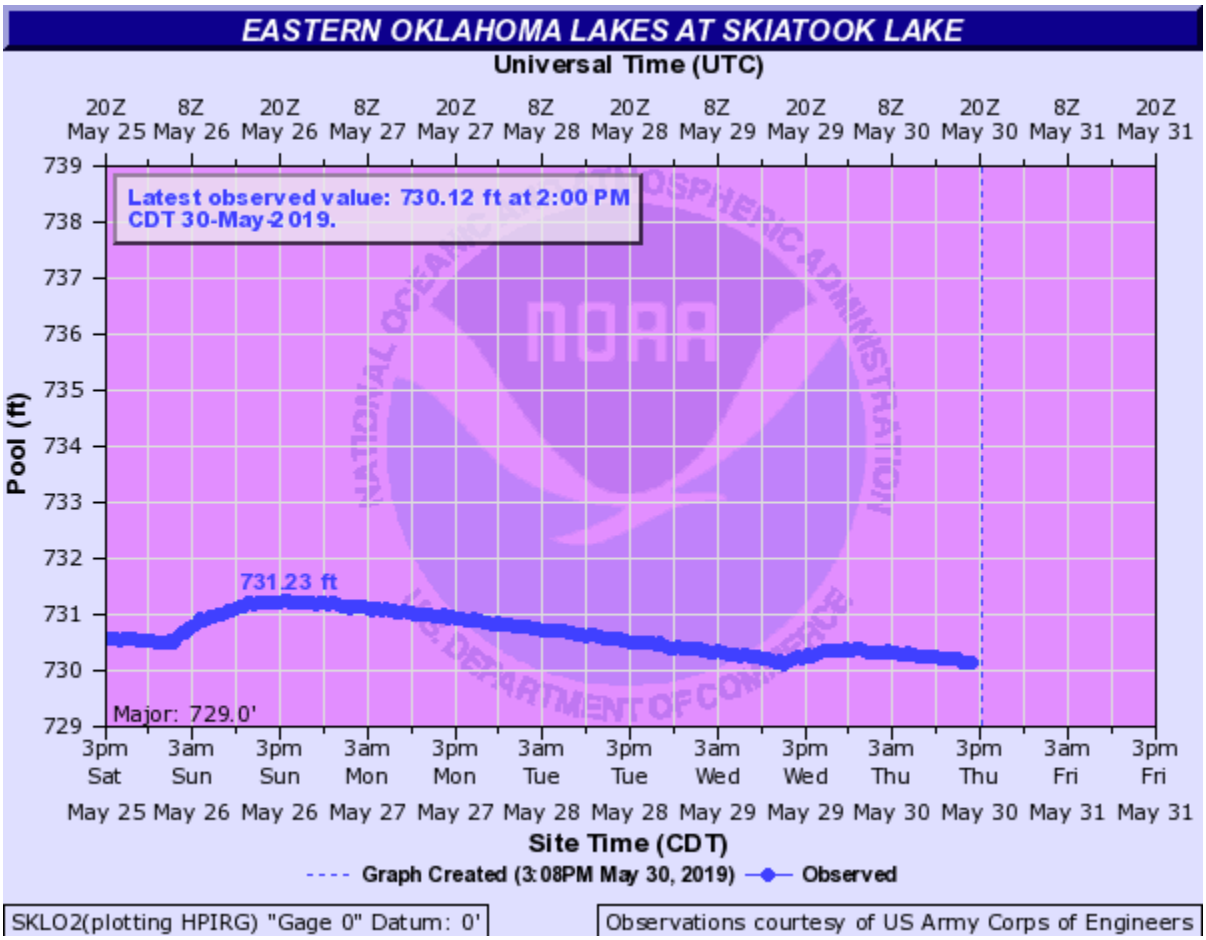

EASTERN OKLAHOMA LAKES AT BIRCH LAKE
Universal Time (UTC)
20Z May 25 8Z May 26 20Z May 26 8Z May 27 20Z May 27 8Z May 28 20Z May 28 8Z May 29 20Z May 29 8Z May 30 20Z May 30 8Z May 31 20Z May 31
Latest observed value: 773.32 ft at 2:00 PM CDT 30-May-2019.
Pool (ft)
782
781
780
779
778
777
776
775
774
773
772
Major: 774.0'
774.16 ft
3pm Sat May 25
3am Sun May 26
3pm Sun May 26
3am Mon May 27
3pm Mon May 27
3am Tue May 28
3pm Tue May 28
3am Wed May 29
3pm Wed May 29
3am Thu May 30
3pm Thu May 30
3am Fri May 31
3pm Fri May 31
Site Time (CDT)
Graph Created (3:08PM May 30, 2019)
Observed
BIRO2(plotting HPIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers

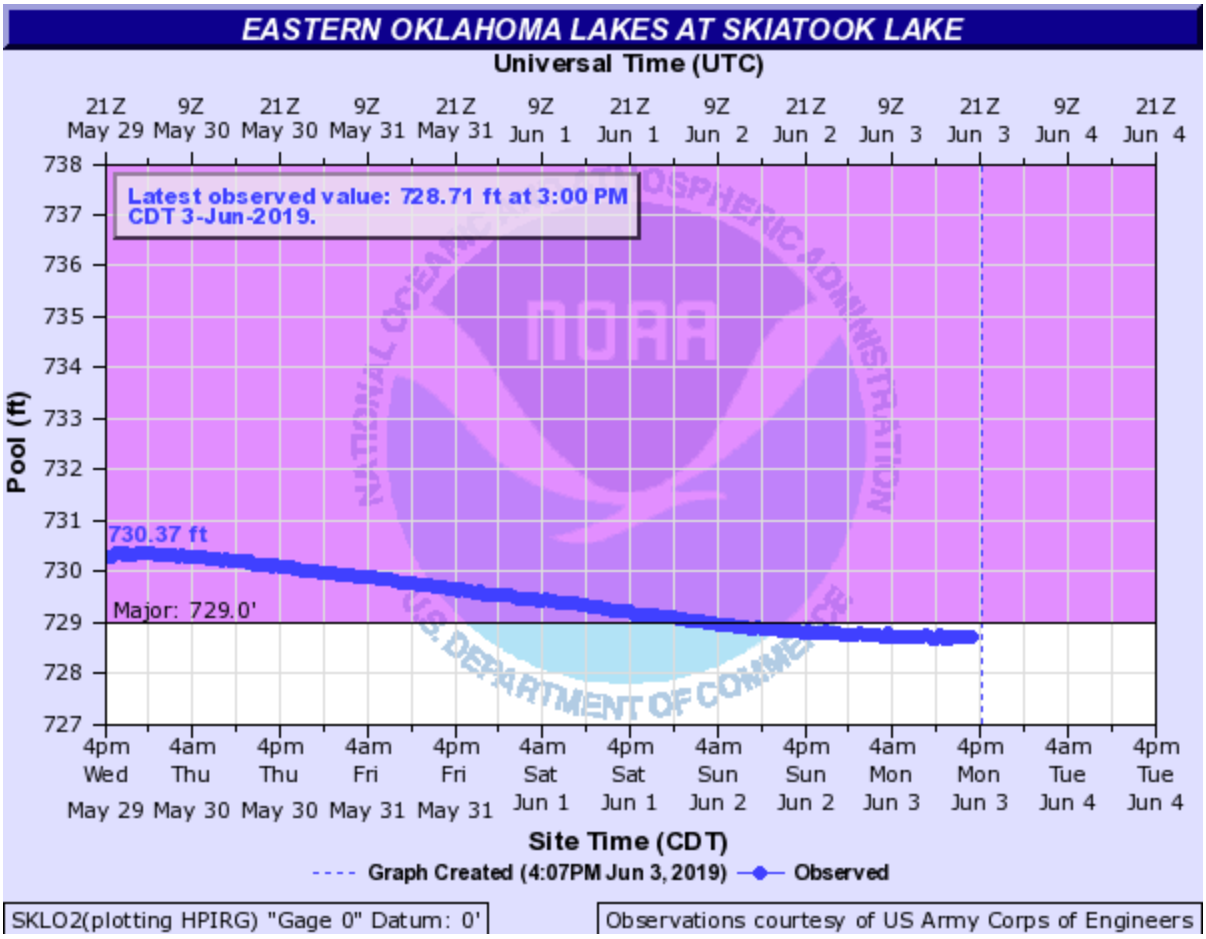

BIRD CREEK AT AVANT
Universal Time (UTC)
16Z May 17 16Z May 18 16Z May 19 16Z May 20 16Z May 21 16Z May 22 16Z May 23 16Z May 24 16Z May 25 16Z May 26 16Z May 27
Latest observed value: 10.37 ft at 10:30 AM CDT 22-May-2019. Flood Stage is 17 ft
Stage (ft)
45
43
39
35
31
27
23
19
15
11
7
3
36.52 ft
Record: 32.0'
Major: 26.0'
Moderate: 21.0'
Minor: 17.0'
13.3 ft
Flow (kcfs)
34.9
30.4
26.0
21.6
17.3
12.9
8.6
3.7
11am Fri May 17
11am Sat May 18
11am Sun May 19
11am Mon May 20
11am Tue May 21
11am Wed May 22
11am Thu May 23
11am Fri May 24
11am Sat May 25
11am Sun May 26
11am Mon May 27
Site Time (CDT)
Graph Created (11:22AM May 22, 2019)
Observed
Forecast (issued 8:41AM May 22)
AVTO2(plotting HGIRG) "Gage 0" Datum: 646.28'
Observations courtesy of US Geological Survey

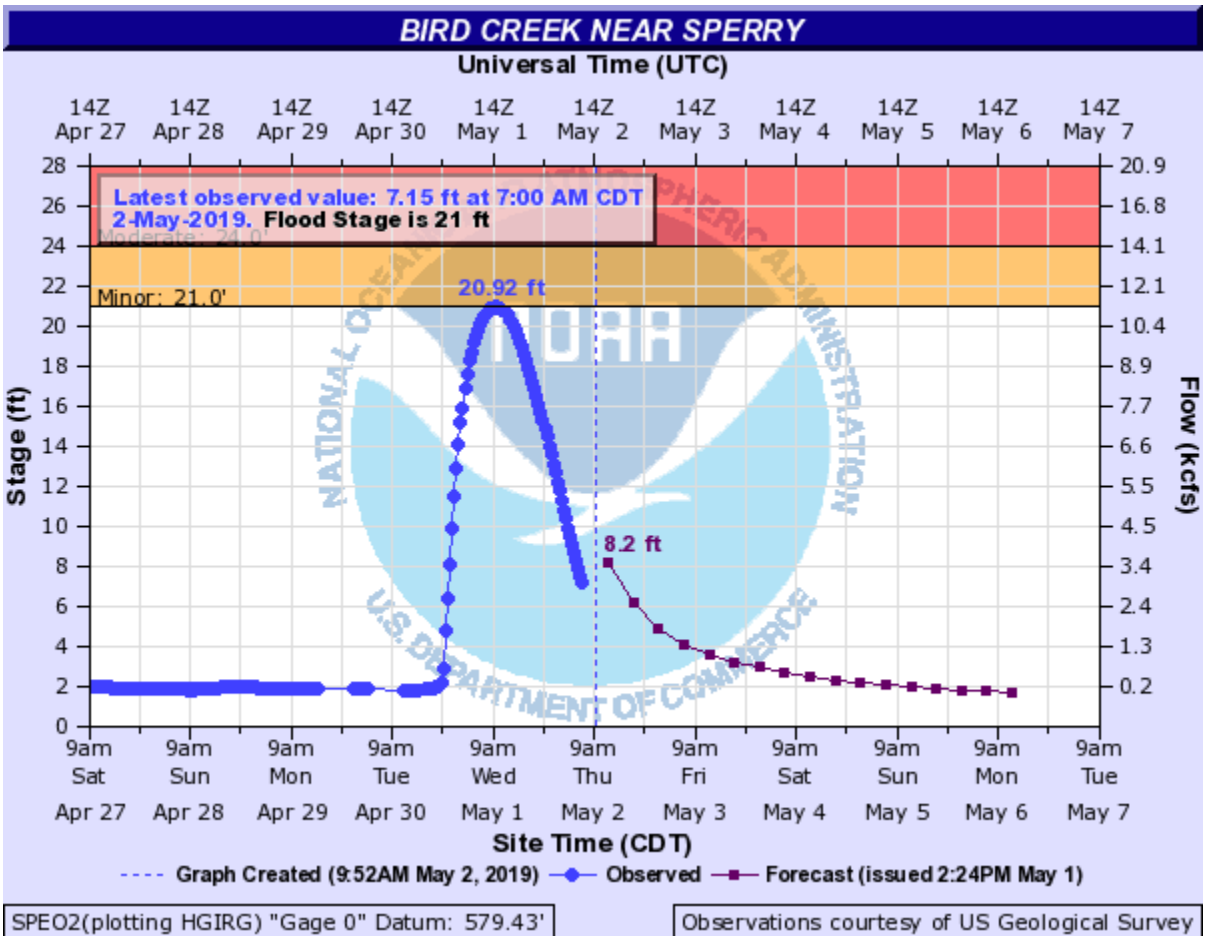

BIRD CREEK AT AVANT
Universal Time (UTC)
21Z May 19
21Z May 20
21Z May 21
21Z May 22
21Z May 23
21Z May 24
21Z May 25
21Z May 26
21Z May 27
21Z May 28
21Z May 29
Latest observed value: 5.05 ft at 3:30 PM CDT 24-May-2019. Flood Stage is 17 ft
36.52 ft
Record: 32.0'
Major: 26.0'
Moderate: 21.0'
Minor: 17.0'
Stage (ft)
Flow (kcfs)
45
43
39
35
31
27
23
19
15
11
7
3
34.9
30.4
26.0
21.6
17.3
12.9
8.6
3.7
4pm Sun May 19
4pm Mon May 20
4pm Tue May 21
4pm Wed May 22
4pm Thu May 23
4pm Fri May 24
4pm Sat May 25
4pm Sun May 26
4pm Mon May 27
4pm Tue May 28
4pm Wed May 29
Site Time (CDT)
Graph Created (4:22PM May 24, 2019)
Observed
AVTO2(plotting HGIRG) "Gage 0" Datum: 646.28'
Observations courtesy of US Geological Survey

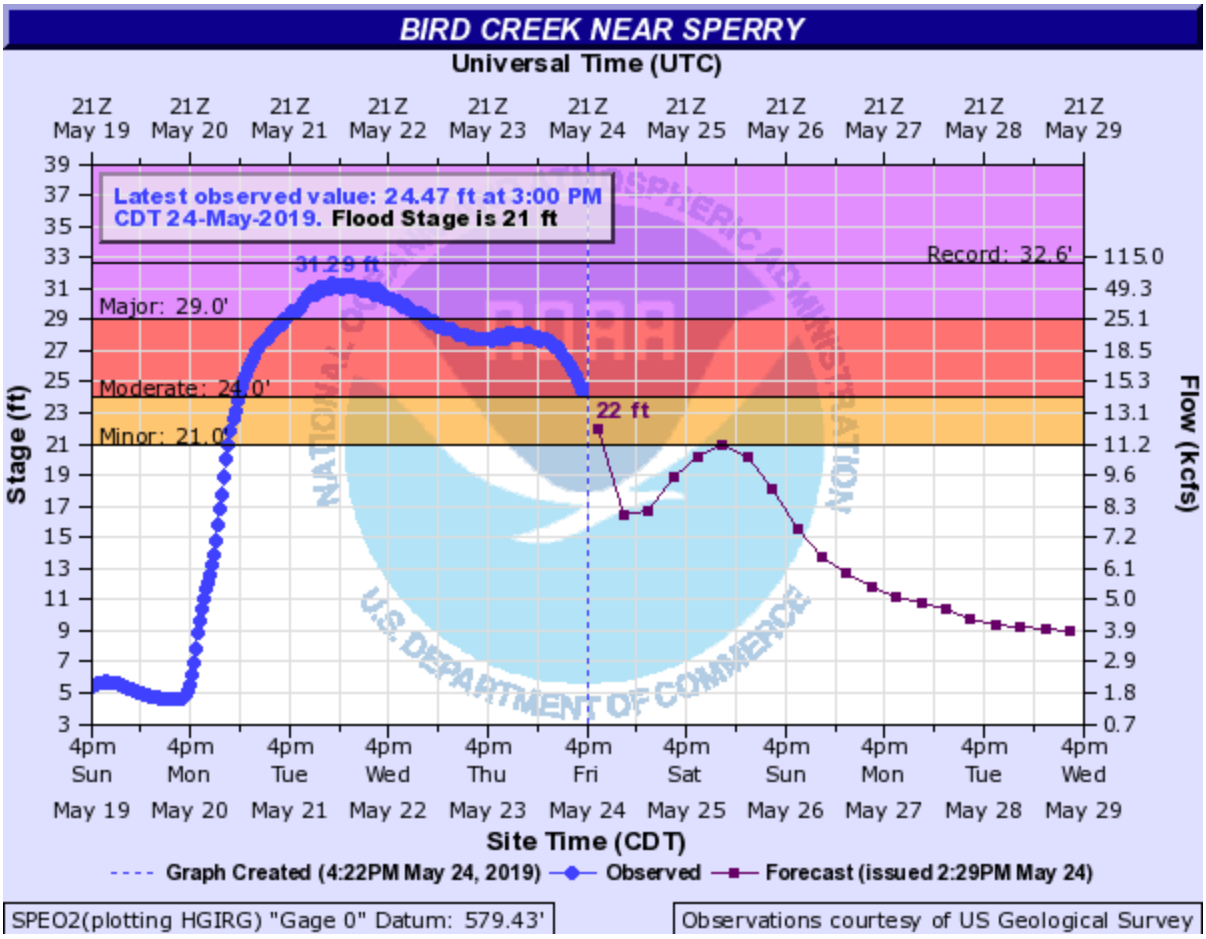

BIRD CREEK AT AVANT
Universal Time (UTC)
20Z May 20
20Z May 22
20Z May 24
20Z May 26
20Z May 28
20Z May 30
20Z Jun 1
20Z Jun 3
Latest observed value: 5.91 ft at 2:30 PM CDT 30-May-2019. Flood Stage is 17 ft
36.52 ft
Record: 32.0'
Major: 26.0'
Moderate: 21.0'
Minor: 17.0'
Stage (ft)
Flow (kcfs)
45
43
39
35
31
27
23
19
15
11
7
3
34.9
30.4
26.0
21.6
17.3
12.9
8.6
3.7
3pm Mon May 20
3pm Wed May 22
3pm Fri May 24
3pm Sun May 26
3pm Tue May 28
3pm Thu May 30
3pm Sat Jun 1
3pm Mon Jun 3
Site Time (CDT)
Graph Created (3:08PM May 30, 2019)
Observed
AVTO2(plotting HGIRG) "Gage 0" Datum: 646.28'
Observations courtesy of US Geological Survey

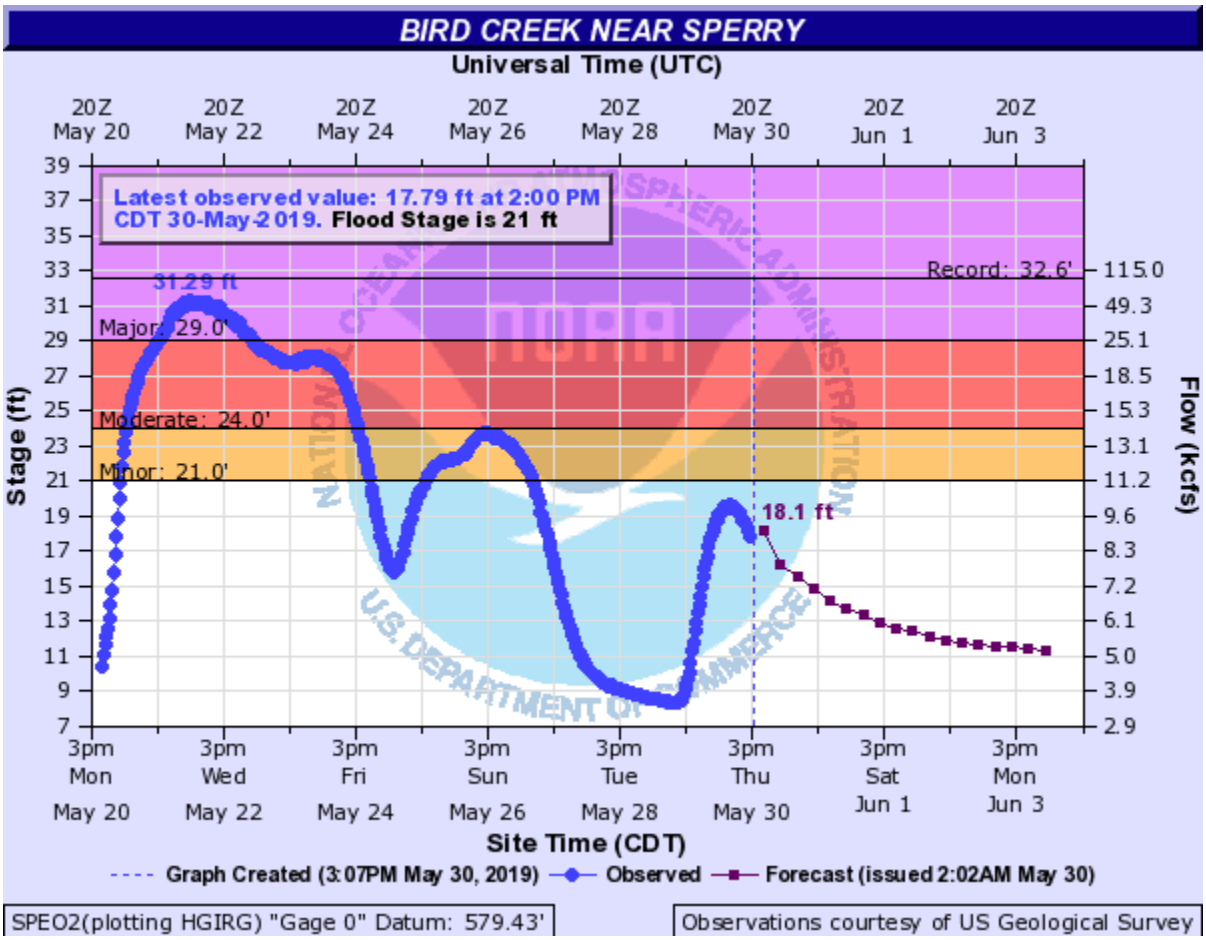

EASTERN OKLAHOMA LAKES AT SKIATOOK LAKE
Universal Time (UTC)
21Z May 19 9Z May 20 21Z May 20 9Z May 21 21Z May 21 9Z May 22 21Z May 22 9Z May 23 21Z May 23 9Z May 24 21Z May 24 9Z May 25 21Z May 25
Latest observed value: 729.85 ft at 4:00 PM CDT 24-May-2019.
730.15 ft
Major: 729.0'
Pool (ft)
738 736 734 732 730 728 726 724 722 720 718 716
4pm Sun May 19 4am Mon May 20 4pm Mon May 20 4am Tue May 21 4pm Tue May 21 4am Wed May 22 4pm Wed May 22 4am Thu May 23 4pm Thu May 23 4am Fri May 24 4pm Fri May 24 4am Sat May 25 4pm Sat May 25
Site Time (CDT)
Graph Created (4:22PM May 24, 2019)
Observed
SKLO2(plotting HPIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers

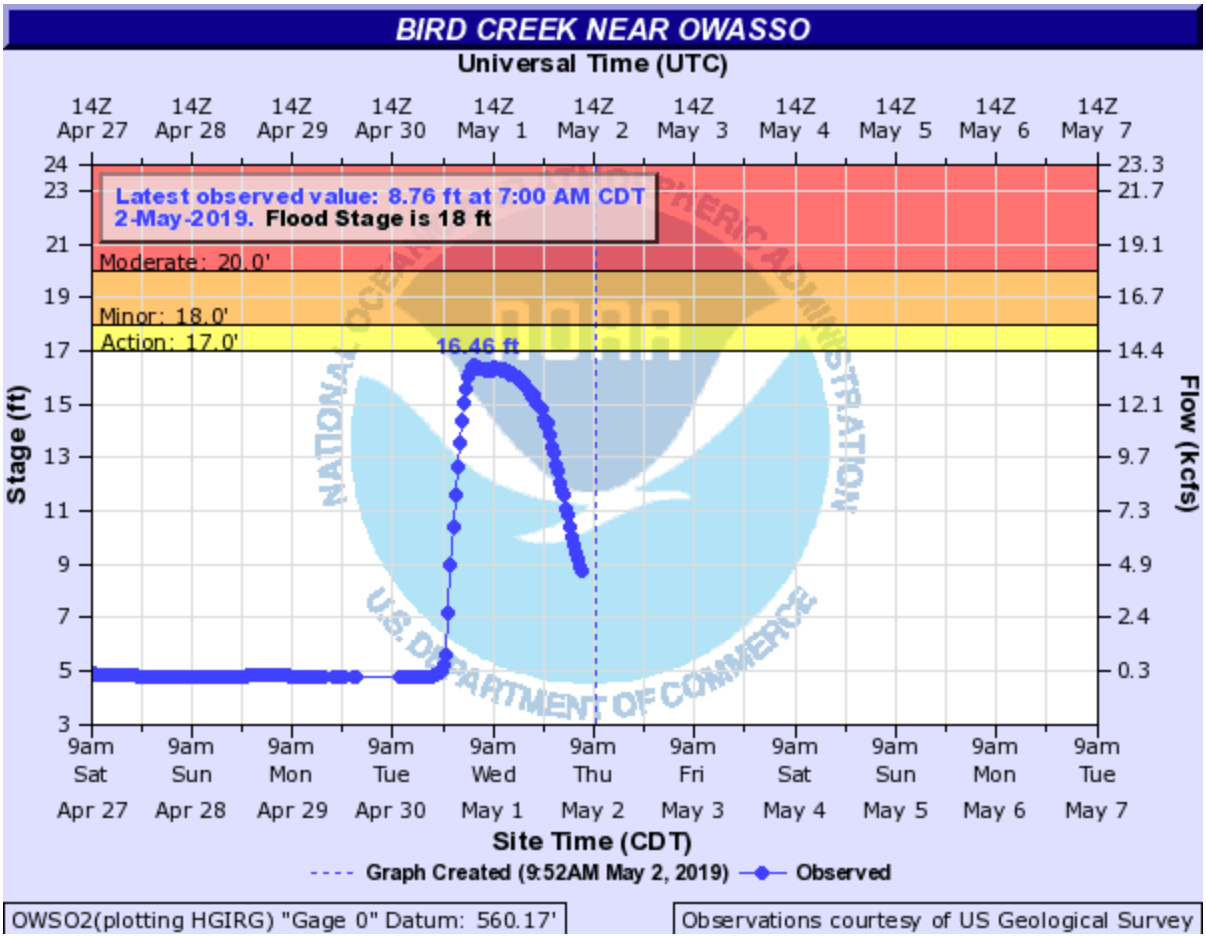

EASTERN OKLAHOMA LAKES AT SKIATOOK LAKE
Universal Time (UTC)
20Z May 25 8Z May 26 20Z May 26 8Z May 27 20Z May 27 8Z May 28 20Z May 28 8Z May 29 20Z May 29 8Z May 30 20Z May 30 8Z May 31 20Z May 31
Latest observed value: 730.12 ft at 2:00 PM CDT 30-May-2019.
731.23 ft
Major: 729.0'
Pool (ft)
739 738 737 736 735 734 733 732 731 730 729
3pm Sat May 25 3am Sun May 26 3pm Sun May 26 3am Mon May 27 3pm Mon May 27 3am Tue May 28 3pm Tue May 28 3am Wed May 29 3pm Wed May 29 3am Thu May 30 3pm Thu May 30 3am Fri May 31 3pm Fri May 31
Site Time (CDT)
Graph Created (3:08PM May 30, 2019)
Observed
SKLO2(plotting HPIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers

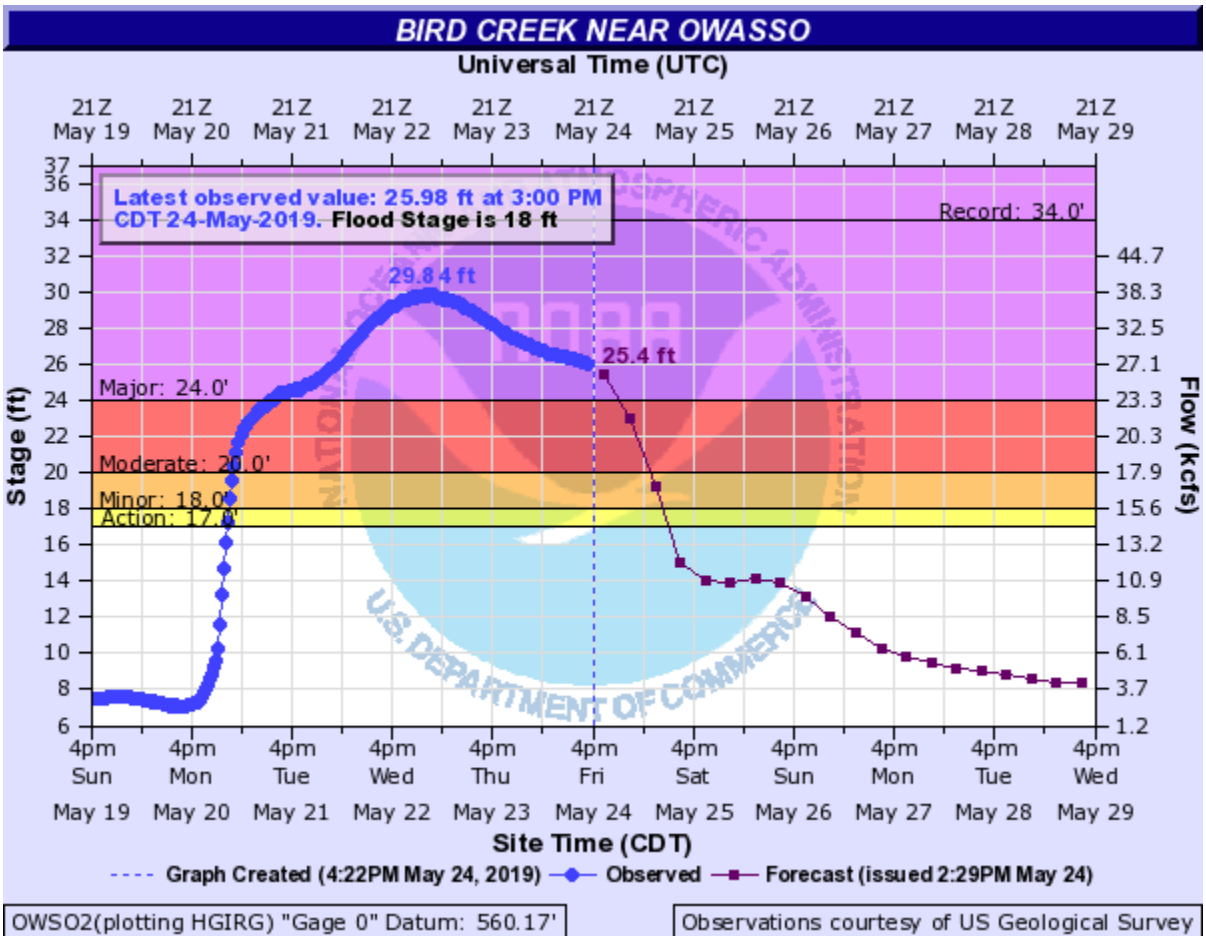

EASTERN OKLAHOMA LAKES AT SKIATOOK LAKE
Universal Time (UTC)
21Z May 29 9Z May 30 21Z May 30 9Z May 31 21Z May 31 9Z Jun 1 21Z Jun 1 9Z Jun 2 21Z Jun 2 9Z Jun 3 21Z Jun 3 9Z Jun 4 21Z Jun 4
Latest observed value: 728.71 ft at 3:00 PM CDT 3-Jun-2019.
Pool (ft)
738 737 736 735 734 733 732 731 730 729 728 727
730.37 ft
Major: 729.0'
4pm Wed May 29 4am Thu May 30 4pm Thu May 30 4am Fri May 31 4pm Fri May 31 4am Sat Jun 1 4pm Sat Jun 1 4am Sun Jun 2 4pm Sun Jun 2 4am Mon Jun 3 4pm Mon Jun 3 4am Tue Jun 4 4pm Tue Jun 4
Site Time (CDT)
Graph Created (4:07PM Jun 3, 2019)
Observed
SKLO2(plotting HPIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers

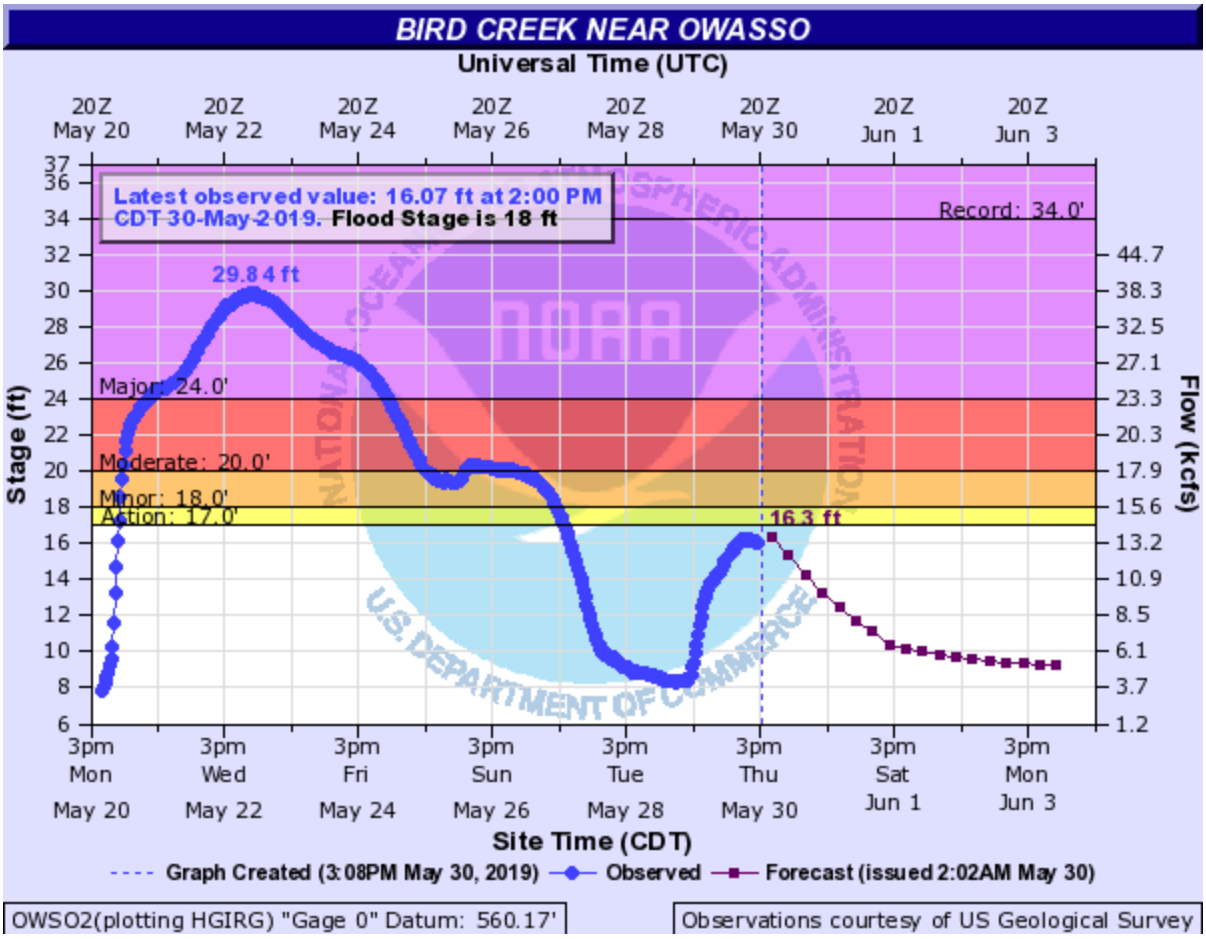

BIRD CREEK NEAR SPERRY
Universal Time (UTC)
14Z Apr 27 14Z Apr 28 14Z Apr 29 14Z Apr 30 14Z May 1 14Z May 2 14Z May 3 14Z May 4 14Z May 5 14Z May 6 14Z May 7
Latest observed value: 7.15 ft at 7:00 AM CDT 2-May-2019. Flood Stage is 21 ft
Moderate: 24.0'
Minor: 21.0'
20.92 ft
8.2 ft
Stage (ft)
28 26 24 22 20 18 16 14 12 10 8 6 4 2 0
Flow (kcfs)
20.9 16.8 14.1 12.1 10.4 8.9 7.7 6.6 5.5 4.5 3.4 2.4 1.3 0.2
9am Sat Apr 27 9am Sun Apr 28 9am Mon Apr 29 9am Tue Apr 30 9am Wed May 1 9am Thu May 2 9am Fri May 3 9am Sat May 4 9am Sun May 5 9am Mon May 6 9am Tue May 7
Site Time (CDT)
Graph Created (9:52AM May 2, 2019)
Observed
Forecast (issued 2:24PM May 1)
SPEO2(plotting HGIRG) "Gage 0" Datum: 579.43'
Observations courtesy of US Geological Survey

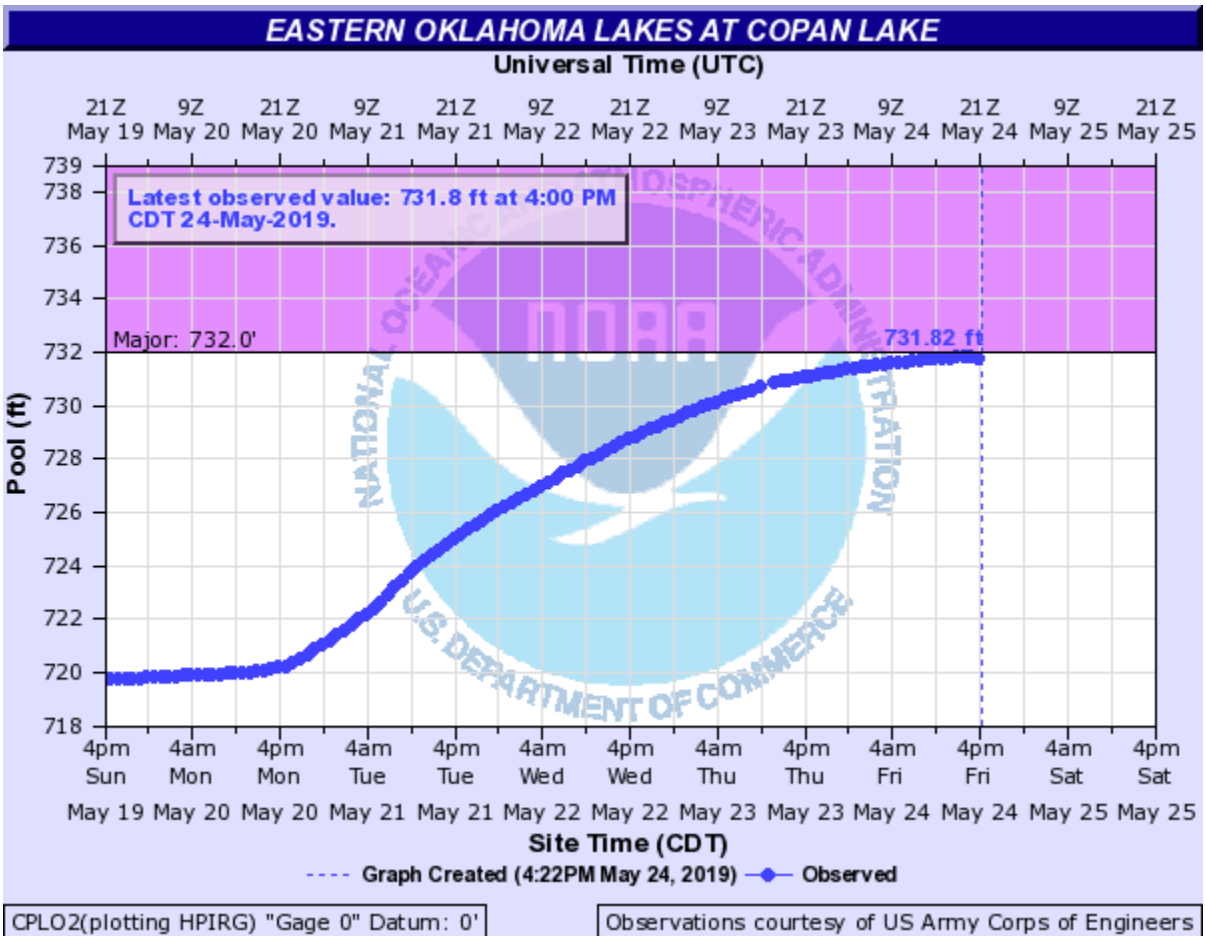

BIRD CREEK NEAR SPERRY
Universal Time (UTC)
21Z May 19
21Z May 20
21Z May 21
21Z May 22
21Z May 23
21Z May 24
21Z May 25
21Z May 26
21Z May 27
21Z May 28
21Z May 29
Latest observed value: 24.47 ft at 3:00 PM CDT 24-May-2019. Flood Stage is 21 ft
31.29 ft
Record: 32.6'
Major: 29.0'
Moderate: 24.0'
Minor: 21.0'
22 ft
Stage (ft)
Flow (kcfs)
4pm Sun May 19
4pm Mon May 20
4pm Tue May 21
4pm Wed May 22
4pm Thu May 23
4pm Fri May 24
4pm Sat May 25
4pm Sun May 26
4pm Mon May 27
4pm Tue May 28
4pm Wed May 29
Site Time (CDT)
Graph Created (4:22PM May 24, 2019)
Observed
Forecast (issued 2:29PM May 24)
SPEO2(plotting HGIRG) "Gage 0" Datum: 579.43'
Observations courtesy of US Geological Survey


BIRD CREEK NEAR SPERRY
Universal Time (UTC)
20Z May 20
20Z May 22
20Z May 24
20Z May 26
20Z May 28
20Z May 30
20Z Jun 1
20Z Jun 3
Latest observed value: 17.79 ft at 2:00 PM CDT 30-May-2019. Flood Stage is 21 ft
31.29 ft
Record: 32.6'
Major: 29.0'
Moderate: 24.0'
Minor: 21.0'
18.1 ft
Stage (ft)
Flow (kcfs)
3pm Mon May 20
3pm Wed May 22
3pm Fri May 24
3pm Sun May 26
3pm Tue May 28
3pm Thu May 30
3pm Sat Jun 1
3pm Mon Jun 3
Site Time (CDT)
Graph Created (3:07PM May 30, 2019)
Observed
Forecast (issued 2:02AM May 30)
SPEO2(plotting HGIRG) "Gage 0" Datum: 579.43'
Observations courtesy of US Geological Survey

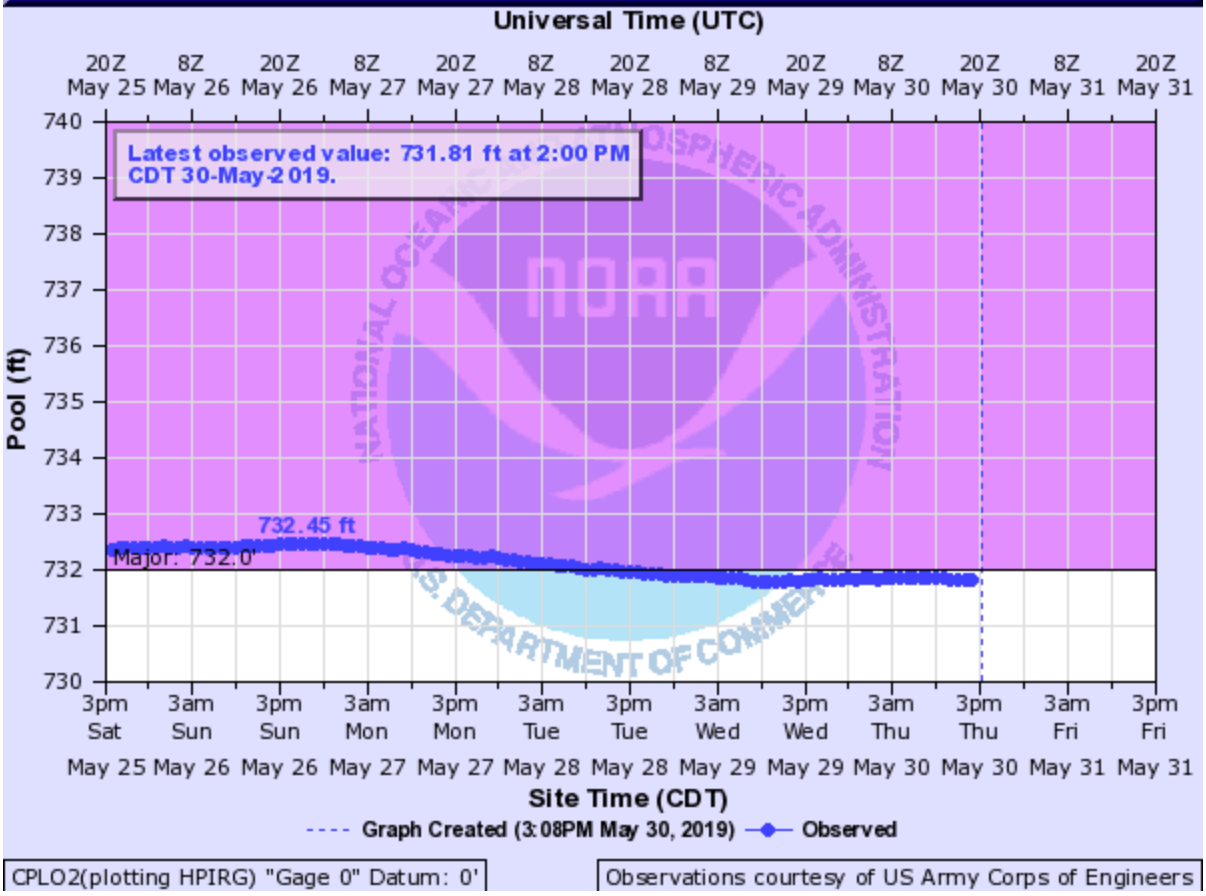

BIRD CREEK NEAR OWASSO
Universal Time (UTC)
14Z Apr 27
14Z Apr 28
14Z Apr 29
14Z Apr 30
14Z May 1
14Z May 2
14Z May 3
14Z May 4
14Z May 5
14Z May 6
14Z May 7
Latest observed value: 8.76 ft at 7:00 AM CDT 2-May-2019. Flood Stage is 18 ft
Moderate: 20.0'
Minor: 18.0'
Action: 17.0'
16.46 ft
Stage (ft)
Flow (kcfs)
9am Sat Apr 27
9am Sun Apr 28
9am Mon Apr 29
9am Tue Apr 30
9am Wed May 1
9am Thu May 2
9am Fri May 3
9am Sat May 4
9am Sun May 5
9am Mon May 6
9am Tue May 7
Site Time (CDT)
Graph Created (9:52AM May 2, 2019)
Observed
OWSO2(plotting HGIRG) "Gage 0" Datum: 560.17'
Observations courtesy of US Geological Survey


BIRD CREEK NEAR OWASSO
Universal Time (UTC)
21Z May 19
21Z May 20
21Z May 21
21Z May 22
21Z May 23
21Z May 24
21Z May 25
21Z May 26
21Z May 27
21Z May 28
21Z May 29
Latest observed value: 25.98 ft at 3:00 PM CDT 24-May-2019. Flood Stage is 18 ft
Record: 34.0'
29.84 ft
25.4 ft
Major: 24.0'
Moderate: 20.0'
Minor: 18.0'
Action: 17.0'
Stage (ft)
Flow (kcfs)
4pm Sun May 19
4pm Mon May 20
4pm Tue May 21
4pm Wed May 22
4pm Thu May 23
4pm Fri May 24
4pm Sat May 25
4pm Sun May 26
4pm Mon May 27
4pm Tue May 28
4pm Wed May 29
Site Time (CDT)
Graph Created (4:22PM May 24, 2019)
Observed
Forecast (issued 2:29PM May 24)
OWSO2(plotting HGIRG) "Gage 0" Datum: 560.17'
Observations courtesy of US Geological Survey


BIRD CREEK NEAR OWASSO
Universal Time (UTC)
20Z May 20
20Z May 22
20Z May 24
20Z May 26
20Z May 28
20Z May 30
20Z Jun 1
20Z Jun 3
Latest observed value: 16.07 ft at 2:00 PM CDT 30-May-2019. Flood Stage is 18 ft
Record: 34.0'
29.84 ft
Major: 24.0'
Moderate: 20.0'
Minor: 18.0'
Action: 17.0'
16.3 ft
Stage (ft)
Flow (kcfs)
37
36
34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
44.7
38.3
32.5
27.1
23.3
20.3
17.9
15.6
13.2
10.9
8.5
6.1
3.7
1.2
3pm Mon May 20
3pm Wed May 22
3pm Fri May 24
3pm Sun May 26
3pm Tue May 28
3pm Thu May 30
3pm Sat Jun 1
3pm Mon Jun 3
Site Time (CDT)
Graph Created (3:08PM May 30, 2019)
Observed
Forecast (issued 2:02AM May 30)
OWSO2(plotting HGIRG) "Gage 0" Datum: 560.17'
Observations courtesy of US Geological Survey


EASTERN OKLAHOMA LAKES AT COPAN LAKE
Universal Time (UTC)
21Z May 19
9Z May 20
21Z May 20
9Z May 21
21Z May 21
9Z May 22
21Z May 22
9Z May 23
21Z May 23
9Z May 24
21Z May 24
9Z May 25
21Z May 25
Latest observed value: 731.8 ft at 4:00 PM CDT 24-May-2019.
Major: 732.0'
731.82 ft
Pool (ft)
739
738
736
734
732
730
728
726
724
722
720
718
4pm Sun May 19
4am Mon May 20
4pm Mon May 20
4am Tue May 21
4pm Tue May 21
4am Wed May 22
4pm Wed May 22
4am Thu May 23
4pm Thu May 23
4am Fri May 24
4pm Fri May 24
4am Sat May 25
4pm Sat May 25
Site Time (CDT)
Graph Created (4:22PM May 24, 2019)
Observed
CPLO2(plotting HPIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers

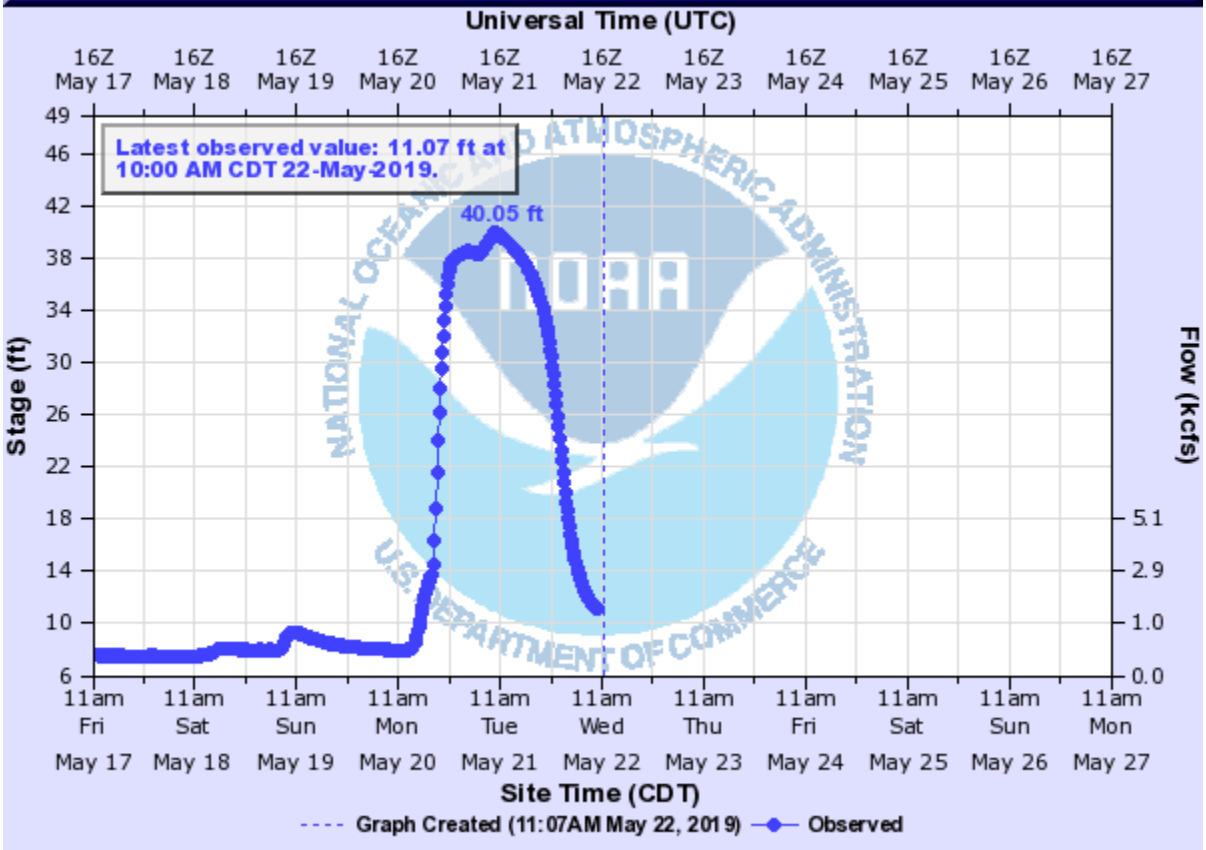
EASTERN OKLAHOMA LAKES AT COPAN LAKE



CPLO2(plotting HPIRG) "Gage 0" Datum: 0'

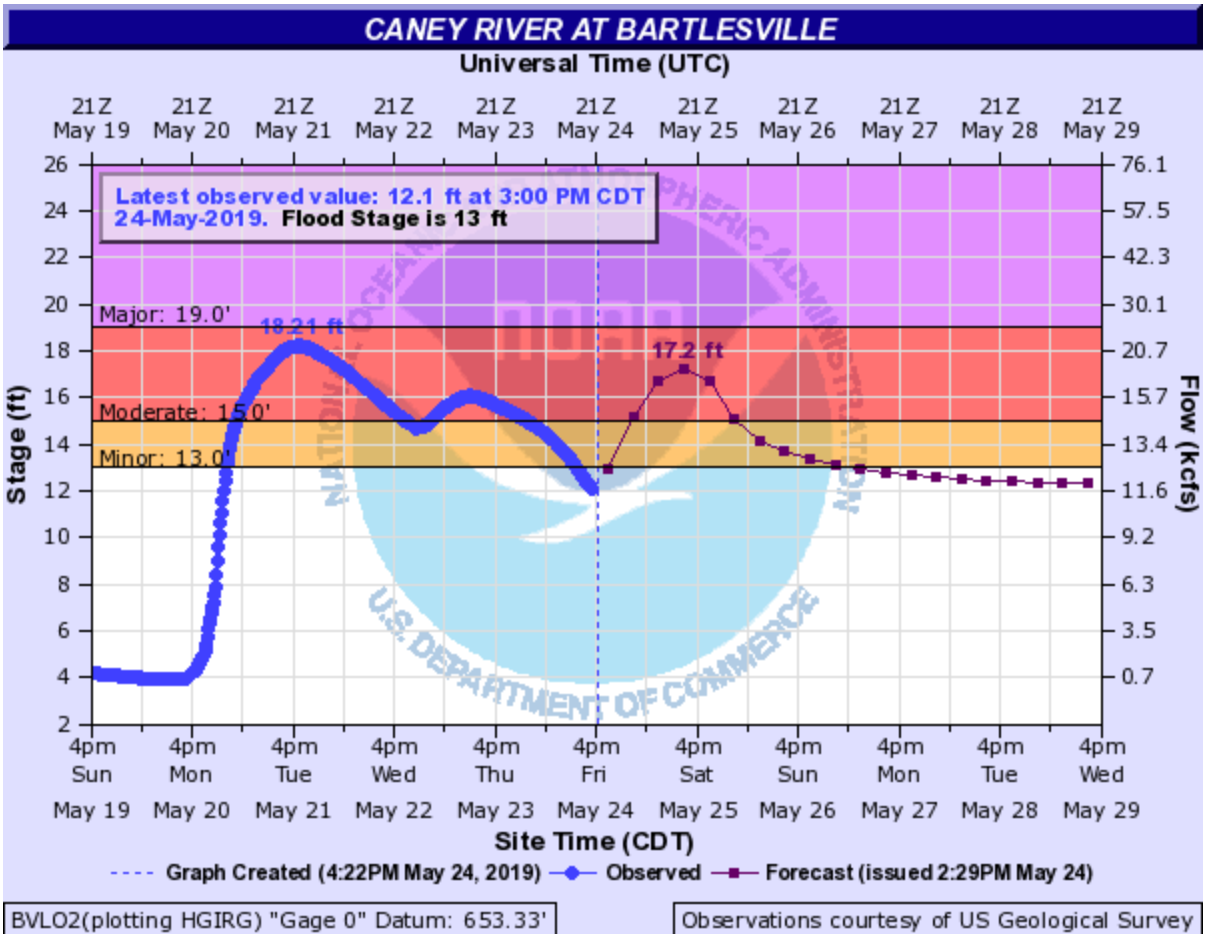
Observations courtesy of US Army Corps of Engineers

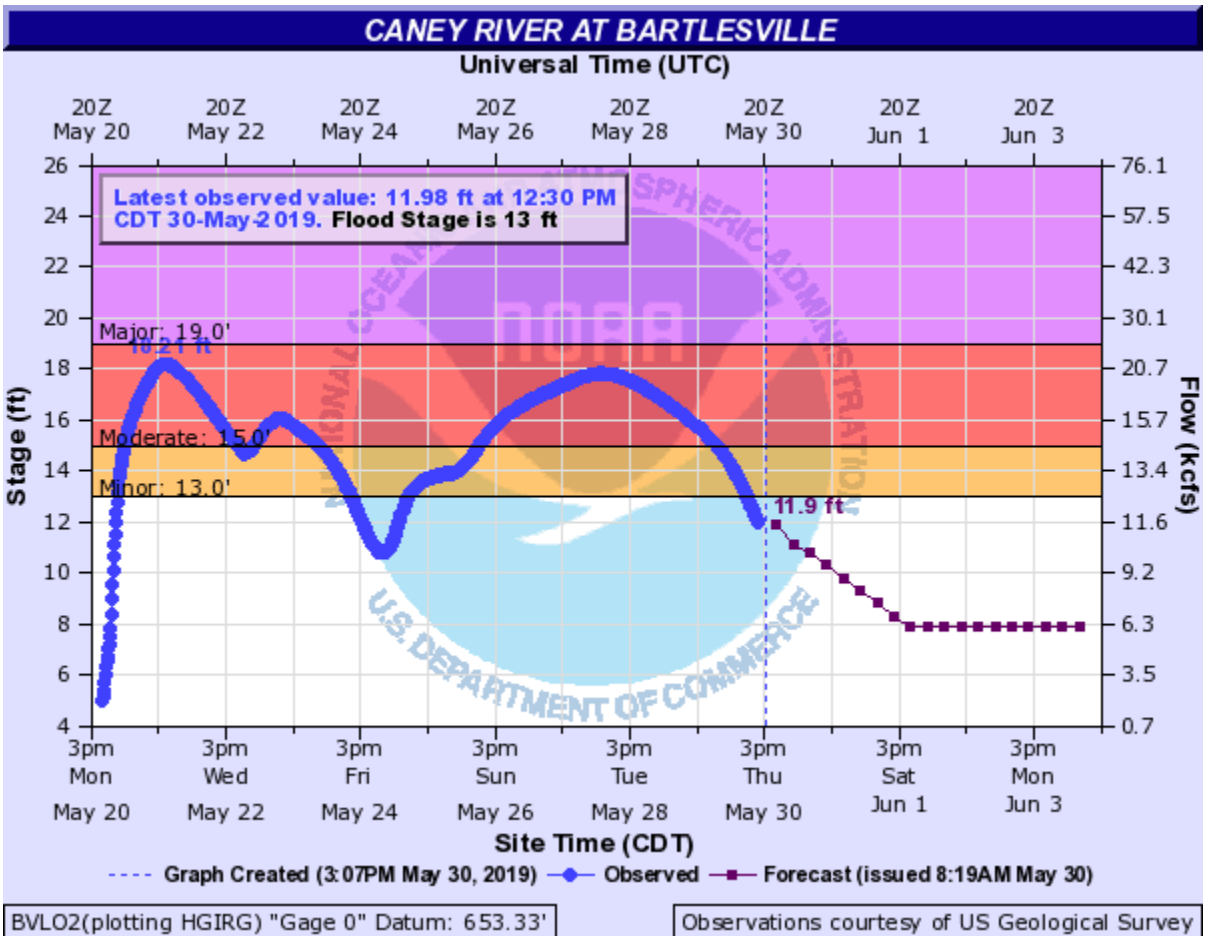
SAND CREEK (OK) NEAR OKESA

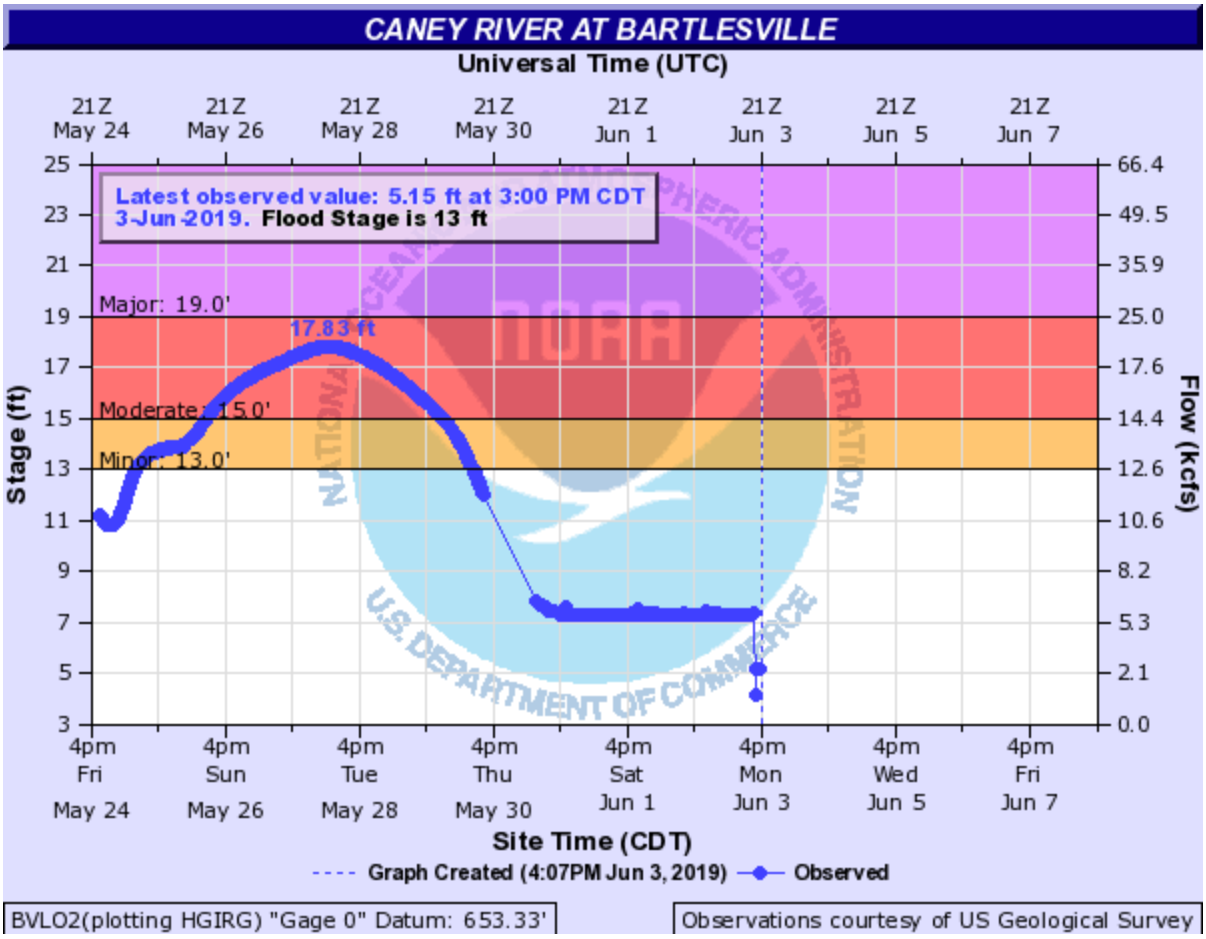


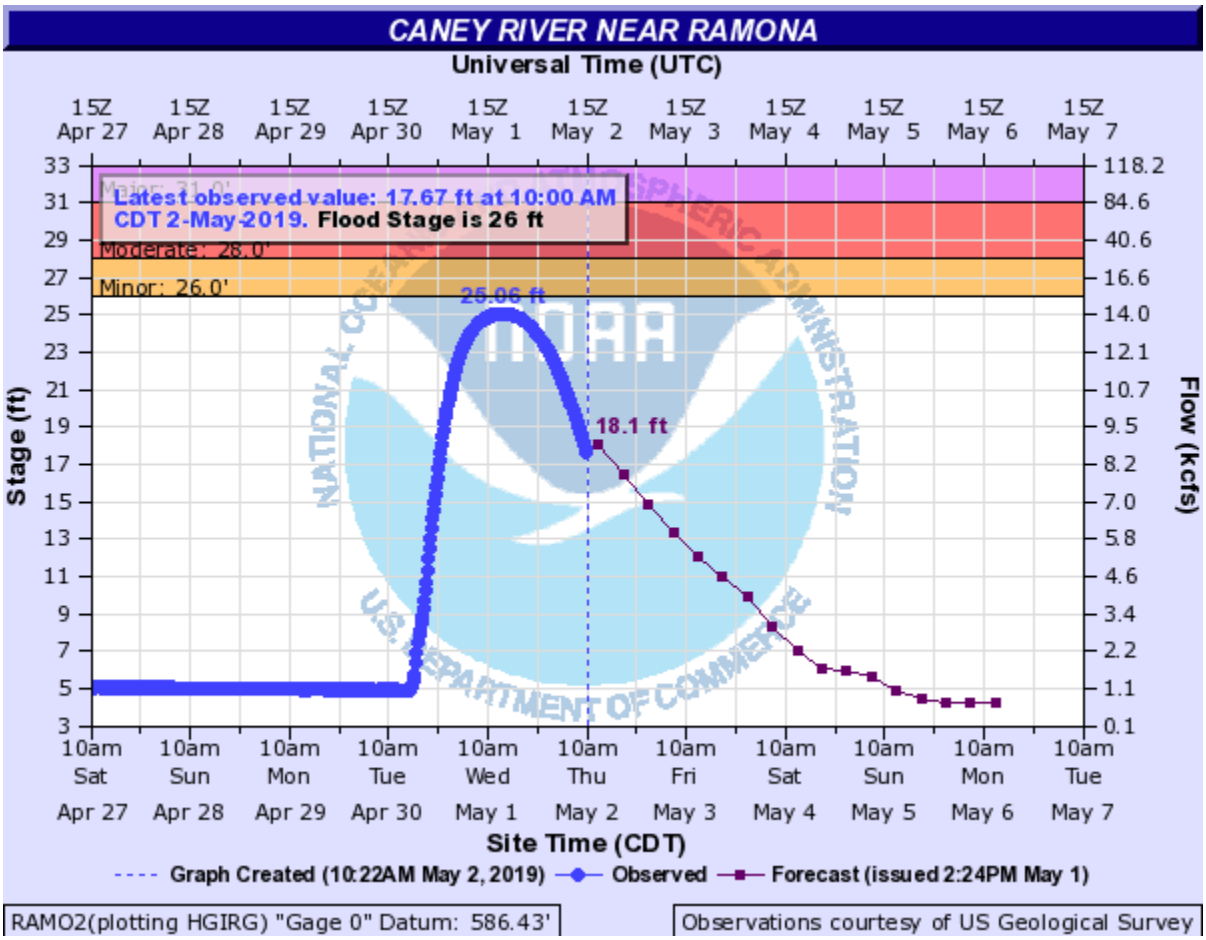
OKEO2(plotting HGIRG) "Gage 0" Datum: n/a

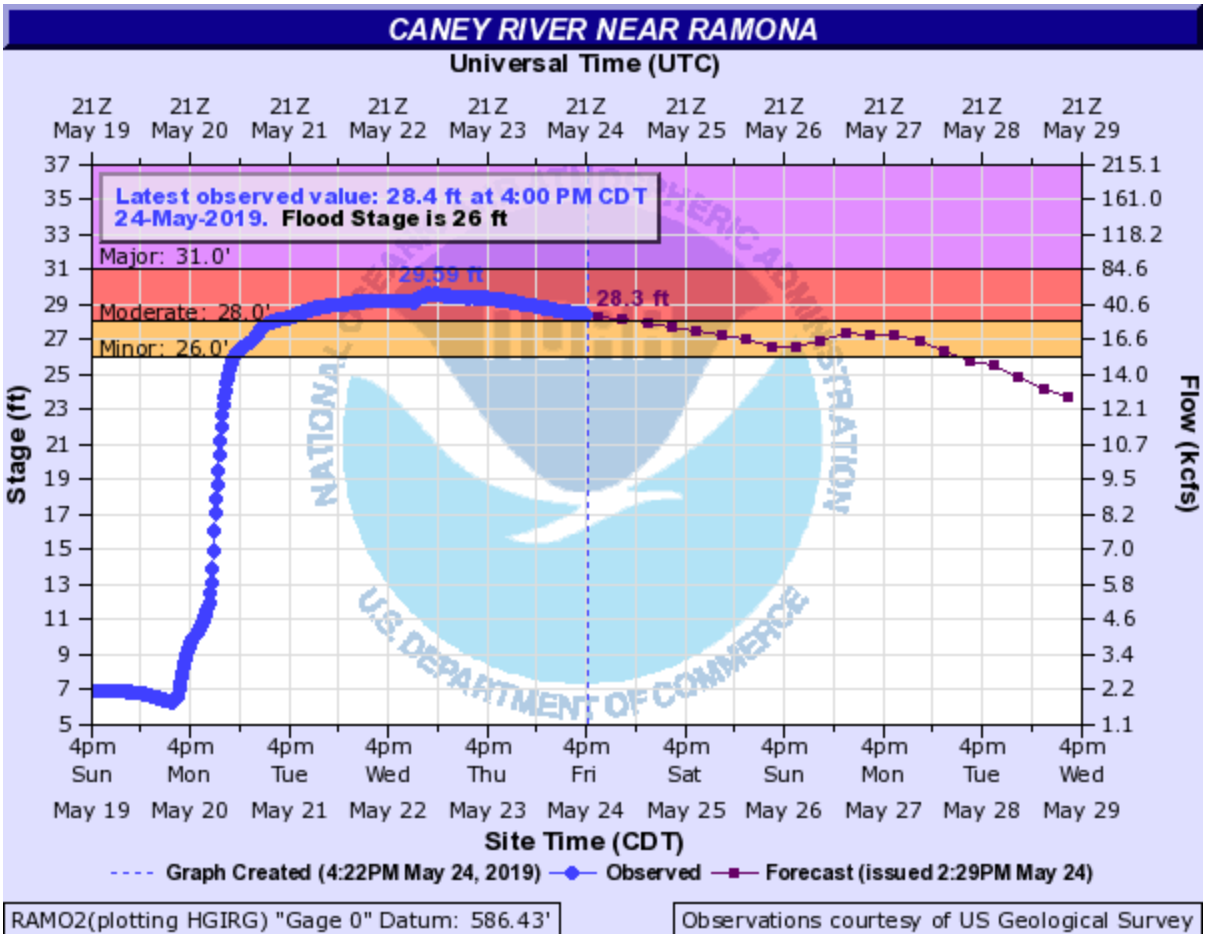
Observations courtesy of US Geological Survey

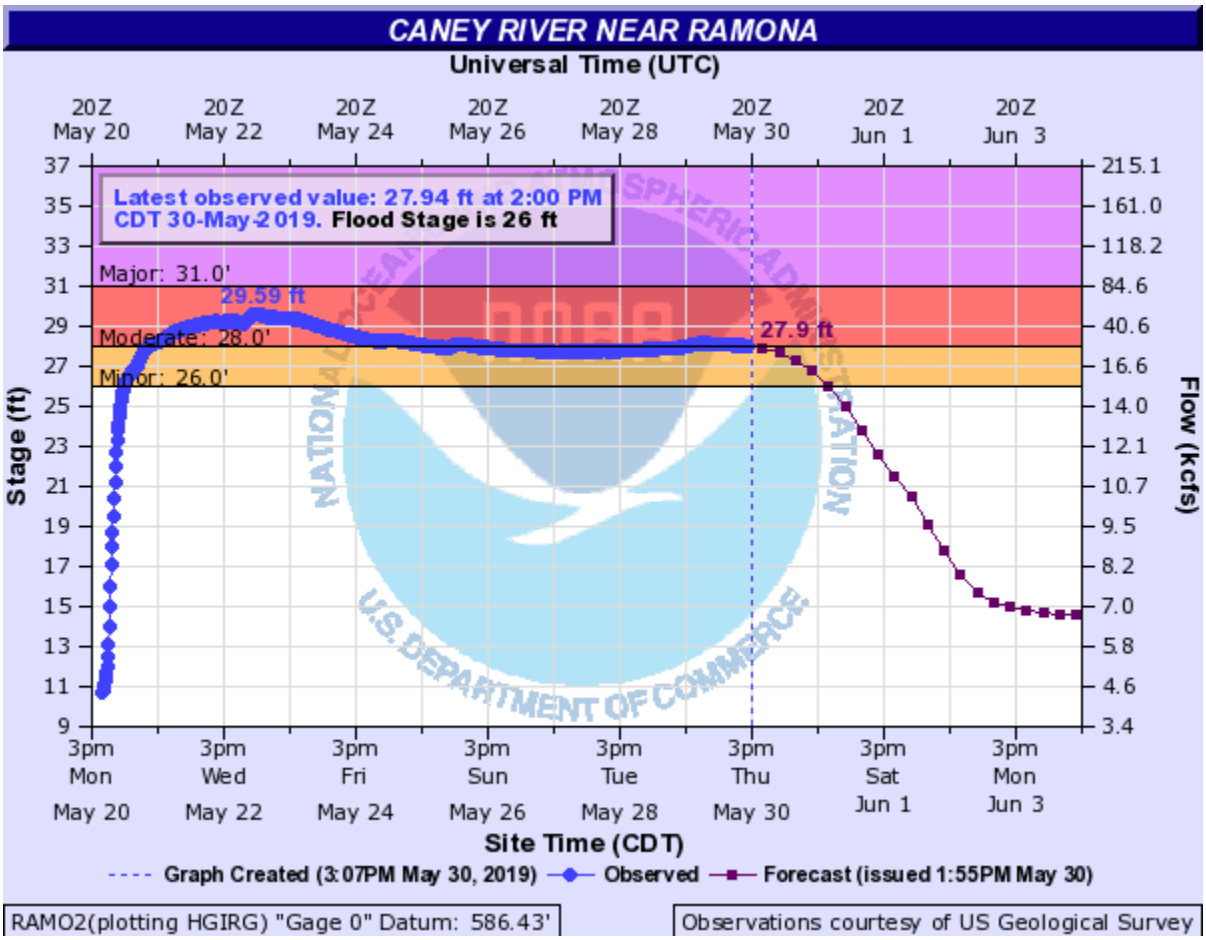

CANEY RIVER AT BARTLESVILLE
Universal Time (UTC)
21Z May 19
21Z May 20
21Z May 21
21Z May 22
21Z May 23
21Z May 24
21Z May 25
21Z May 26
21Z May 27
21Z May 28
21Z May 29
Latest observed value: 12.1 ft at 3:00 PM CDT 24-May-2019. Flood Stage is 13 ft
Major: 19.0'
Moderate: 15.0'
Minor: 13.0'
18.21 ft
17.2 ft
Stage (ft)
Flow (kcfs)
26
24
22
20
18
16
14
12
10
8
6
4
2
76.1
57.5
42.3
30.1
20.7
15.7
13.4
11.6
9.2
6.3
3.5
0.7
4pm Sun May 19
4pm Mon May 20
4pm Tue May 21
4pm Wed May 22
4pm Thu May 23
4pm Fri May 24
4pm Sat May 25
4pm Sun May 26
4pm Mon May 27
4pm Tue May 28
4pm Wed May 29
Site Time (CDT)
Graph Created (4:22PM May 24, 2019)
Observed
Forecast (issued 2:29PM May 24)
BVLO2(plotting HGIRG) "Gage 0" Datum: 653.33'
Observations courtesy of US Geological Survey

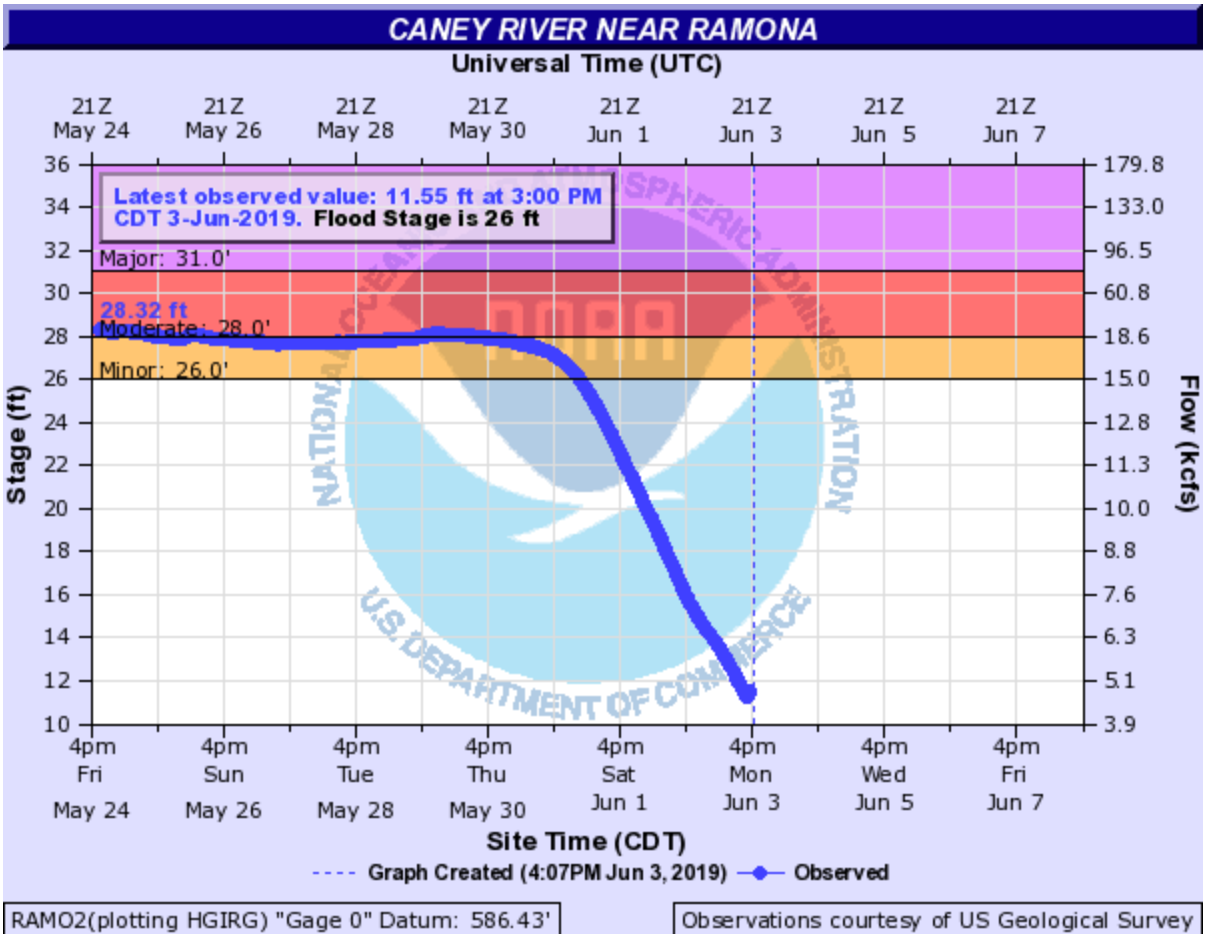

CANEY RIVER AT BARTLESVILLE
Universal Time (UTC)
20Z May 20
20Z May 22
20Z May 24
20Z May 26
20Z May 28
20Z May 30
20Z Jun 1
20Z Jun 3
Latest observed value: 11.98 ft at 12:30 PM CDT 30-May-2019. Flood Stage is 13 ft
Major: 19.0'
Moderate: 15.0'
Minor: 13.0'
18.21 ft
11.9 ft
Stage (ft)
Flow (kcfs)
26
24
22
20
18
16
14
12
10
8
6
4
76.1
57.5
42.3
30.1
20.7
15.7
13.4
11.6
9.2
6.3
3.5
0.7
3pm Mon May 20
3pm Wed May 22
3pm Fri May 24
3pm Sun May 26
3pm Tue May 28
3pm Thu May 30
3pm Sat Jun 1
3pm Mon Jun 3
Site Time (CDT)
Graph Created (3:07PM May 30, 2019)
Observed
Forecast (issued 8:19AM May 30)
BVLO2(plotting HGIRG) "Gage 0" Datum: 653.33'
Observations courtesy of US Geological Survey


CANEY RIVER AT BARTLESVILLE
Universal Time (UTC)
21Z May 24
21Z May 26
21Z May 28
21Z May 30
21Z Jun 1
21Z Jun 3
21Z Jun 5
21Z Jun 7
Latest observed value: 5.15 ft at 3:00 PM CDT 3-Jun-2019. Flood Stage is 13 ft
Major: 19.0'
Moderate: 15.0'
Minor: 13.0'
17.83 ft
Stage (ft)
Flow (kcfs)
25
23
21
19
17
15
13
11
9
7
5
3
66.4
49.5
35.9
25.0
17.6
14.4
12.6
10.6
8.2
5.3
2.1
0.0
4pm Fri May 24
4pm Sun May 26
4pm Tue May 28
4pm Thu May 30
4pm Sat Jun 1
4pm Mon Jun 3
4pm Wed Jun 5
4pm Fri Jun 7
Site Time (CDT)
Graph Created (4:07PM Jun 3, 2019)
Observed
BVLO2(plotting HGIRG) "Gage 0" Datum: 653.33'
Observations courtesy of US Geological Survey


CANEY RIVER NEAR RAMONA
Universal Time (UTC)
15Z Apr 27
15Z Apr 28
15Z Apr 29
15Z Apr 30
15Z May 1
15Z May 2
15Z May 3
15Z May 4
15Z May 5
15Z May 6
15Z May 7
Latest observed value: 17.67 ft at 10:00 AM CDT 2-May-2019. Flood Stage is 26 ft
Moderate: 28.0'
Minor: 26.0'
25.06 ft
18.1 ft
Stage (ft)
Flow (kcfs)
33
31
29
27
25
23
21
19
17
15
13
11
9
7
5
3
118.2
84.6
40.6
16.6
14.0
12.1
10.7
9.5
8.2
7.0
5.8
4.6
3.4
2.2
1.1
0.1
10am Sat Apr 27
10am Sun Apr 28
10am Mon Apr 29
10am Tue Apr 30
10am Wed May 1
10am Thu May 2
10am Fri May 3
10am Sat May 4
10am Sun May 5
10am Mon May 6
10am Tue May 7
Site Time (CDT)
Graph Created (10:22AM May 2, 2019)
Observed
Forecast (issued 2:24PM May 1)
RAMO2(plotting HGIRG) "Gage 0" Datum: 586.43'
Observations courtesy of US Geological Survey

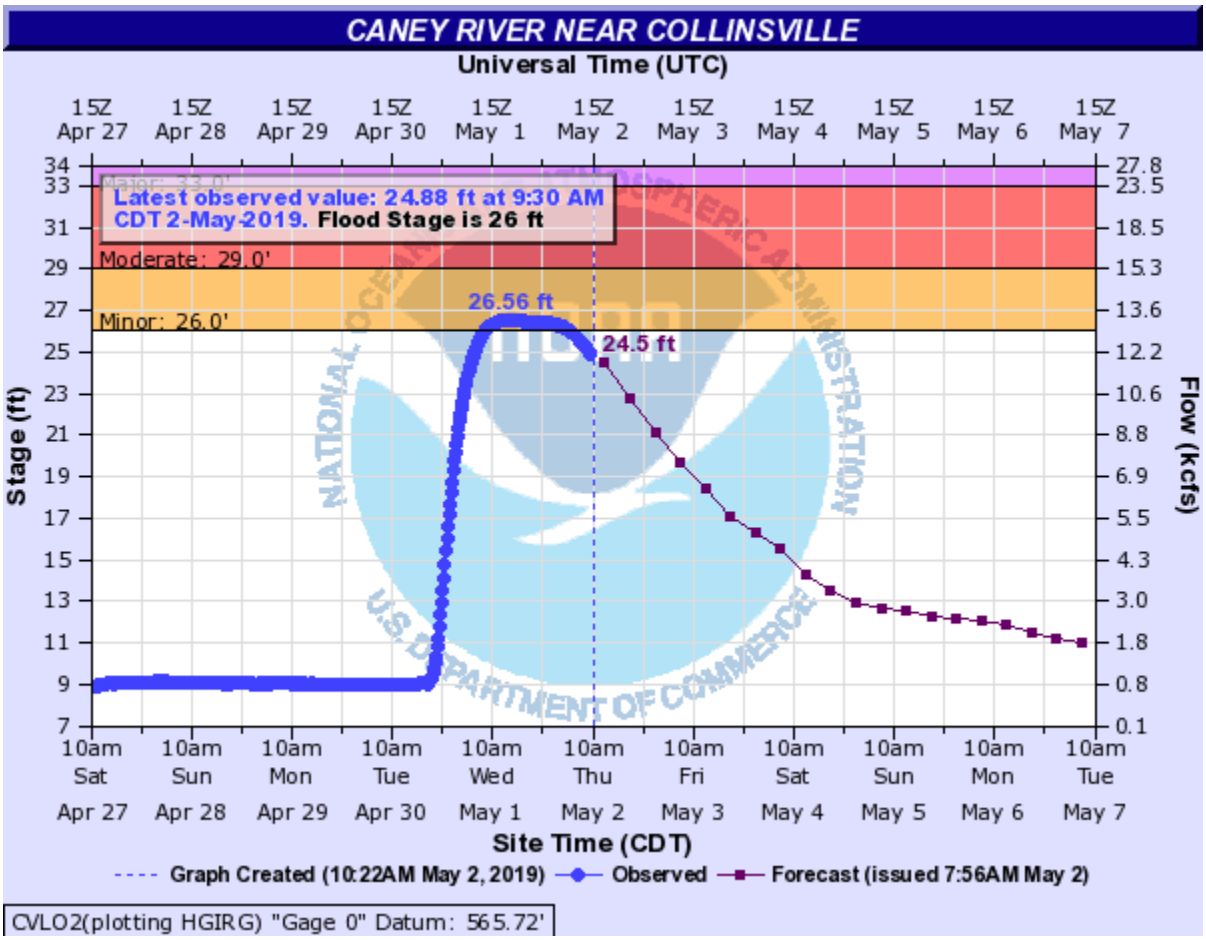

CANEY RIVER NEAR RAMONA
Universal Time (UTC)
21Z May 19
21Z May 20
21Z May 21
21Z May 22
21Z May 23
21Z May 24
21Z May 25
21Z May 26
21Z May 27
21Z May 28
21Z May 29
Latest observed value: 28.4 ft at 4:00 PM CDT 24-May-2019. Flood Stage is 26 ft
Major: 31.0'
Moderate: 28.0'
Minor: 26.0'
29.59 ft
28.3 ft
Stage (ft)
Flow (kcfs)
4pm Sun May 19
4pm Mon May 20
4pm Tue May 21
4pm Wed May 22
4pm Thu May 23
4pm Fri May 24
4pm Sat May 25
4pm Sun May 26
4pm Mon May 27
4pm Tue May 28
4pm Wed May 29
Site Time (CDT)
Graph Created (4:22PM May 24, 2019)
Observed
Forecast (issued 2:29PM May 24)
RAMO2(plotting HGIRG) "Gage 0" Datum: 586.43'
Observations courtesy of US Geological Survey


CANEY RIVER NEAR RAMONA
Universal Time (UTC)
20Z May 20
20Z May 22
20Z May 24
20Z May 26
20Z May 28
20Z May 30
20Z Jun 1
20Z Jun 3
Latest observed value: 27.94 ft at 2:00 PM CDT 30-May-2019. Flood Stage is 26 ft
Major: 31.0'
Moderate: 28.0'
Minor: 26.0'
29.59 ft
27.9 ft
Stage (ft)
Flow (kcfs)
3pm Mon May 20
3pm Wed May 22
3pm Fri May 24
3pm Sun May 26
3pm Tue May 28
3pm Thu May 30
3pm Sat Jun 1
3pm Mon Jun 3
Site Time (CDT)
Graph Created (3:07PM May 30, 2019)
Observed
Forecast (issued 1:55PM May 30)
RAMO2(plotting HGIRG) "Gage 0" Datum: 586.43'
Observations courtesy of US Geological Survey

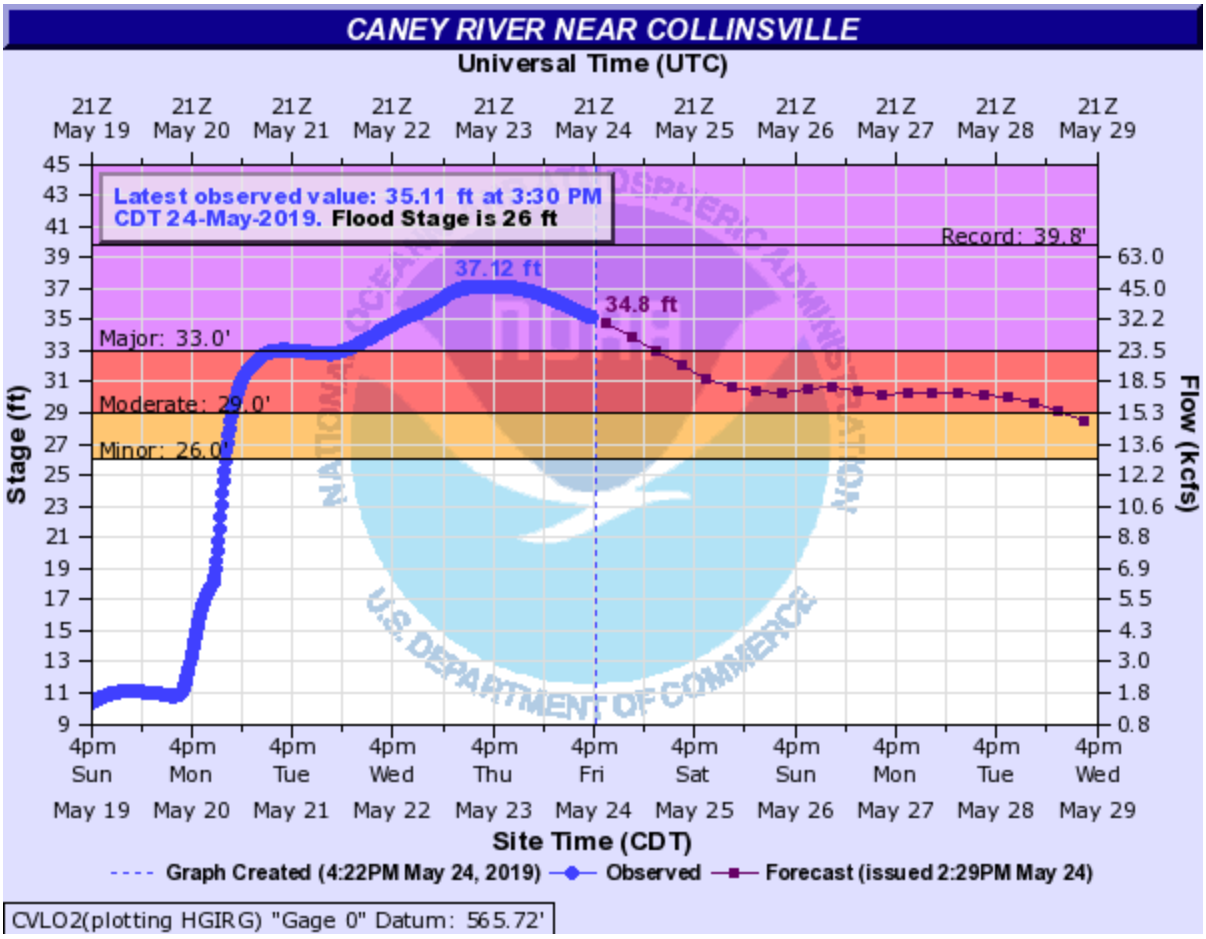


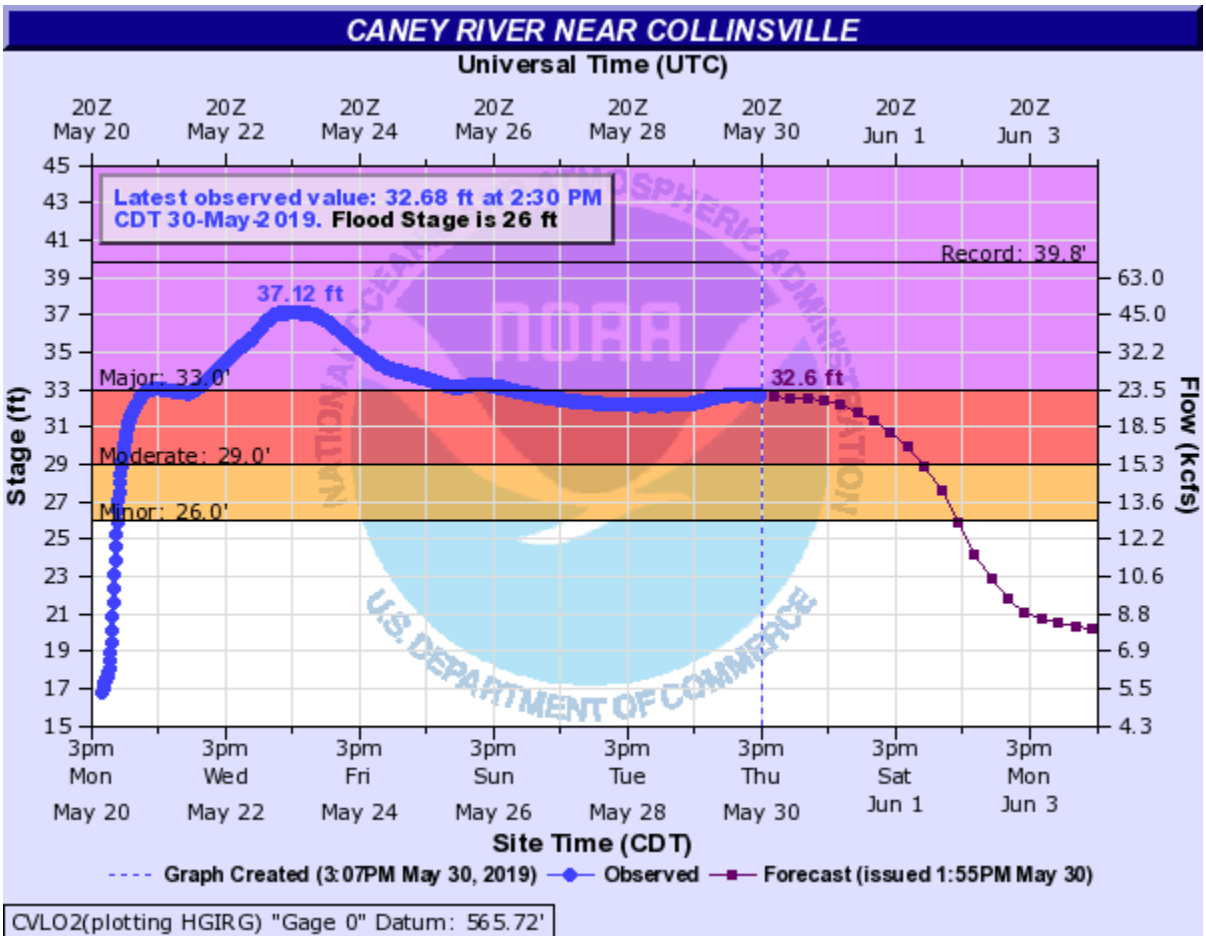
RAMO2(plotting HGIRG) "Gage 0" Datum: 586.43'

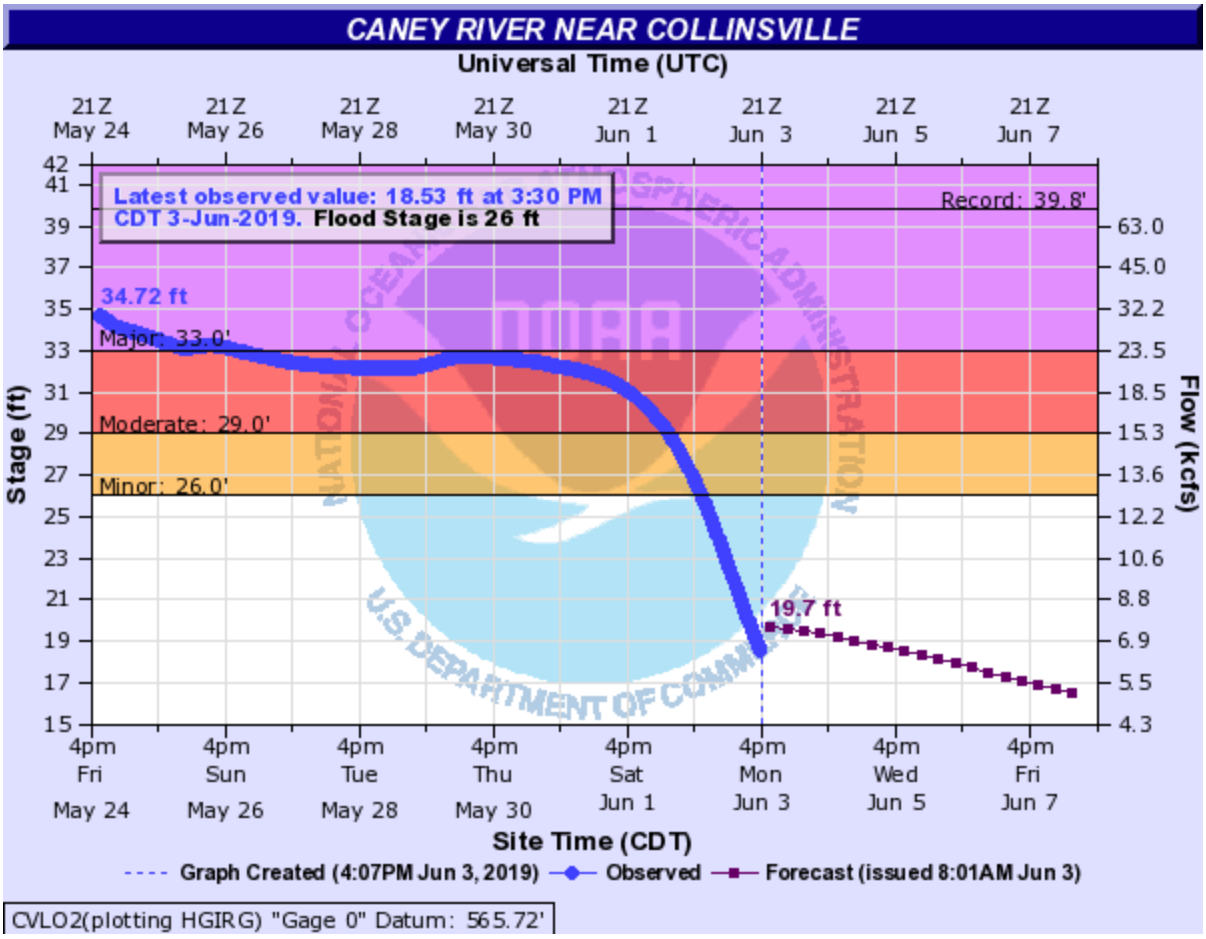
Observations courtesy of US Geological Survey

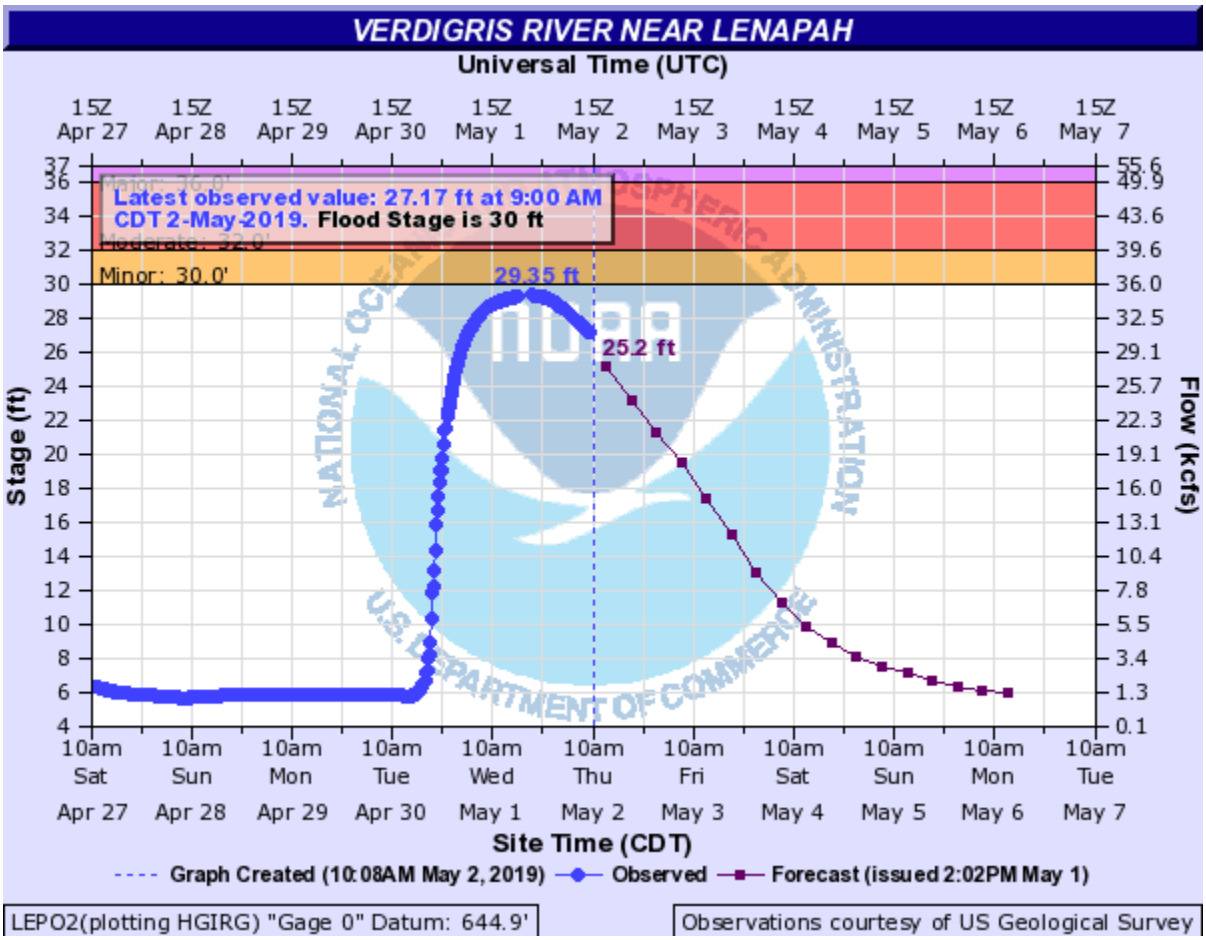


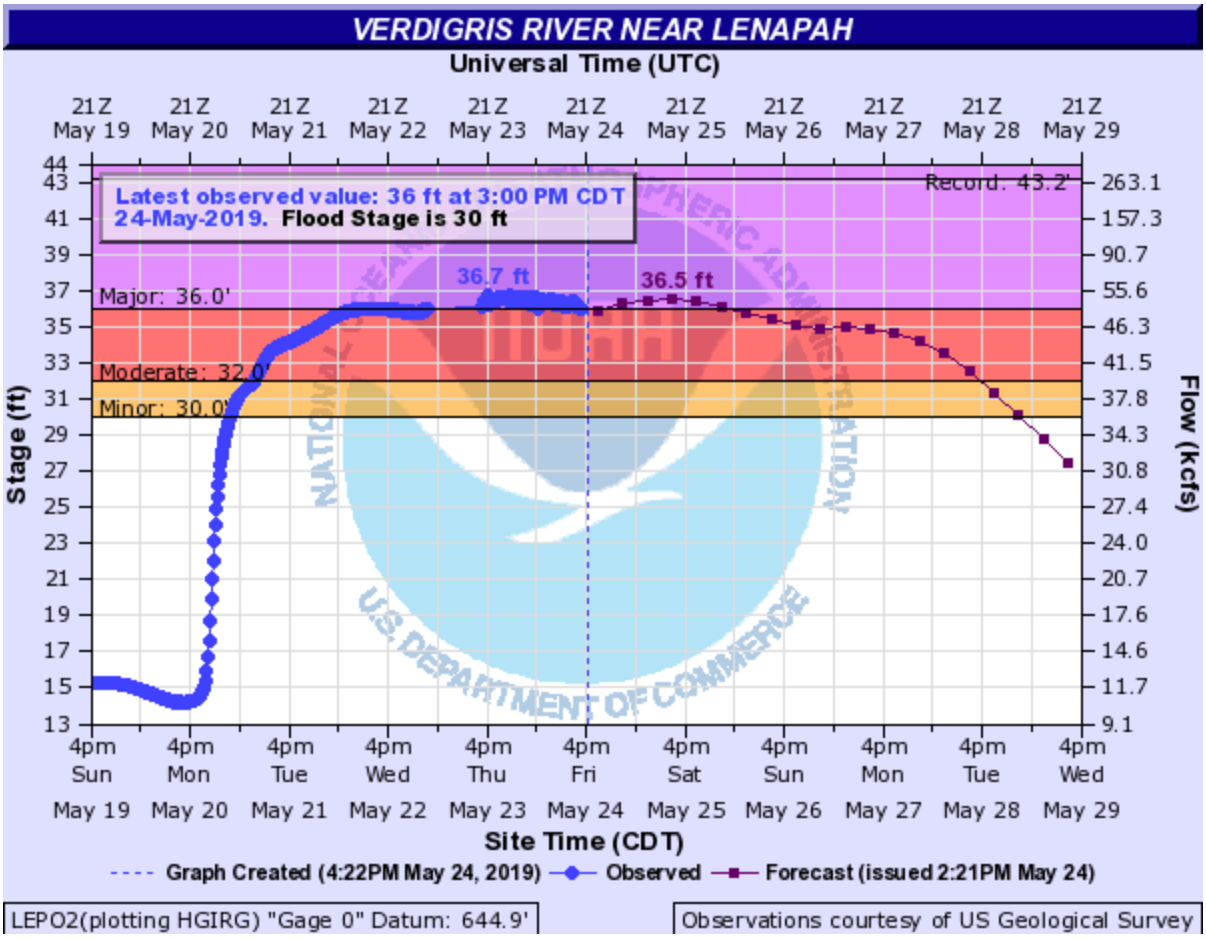
CVLO2(plotting HGIRG) "Gage 0" Datum: 565.72'

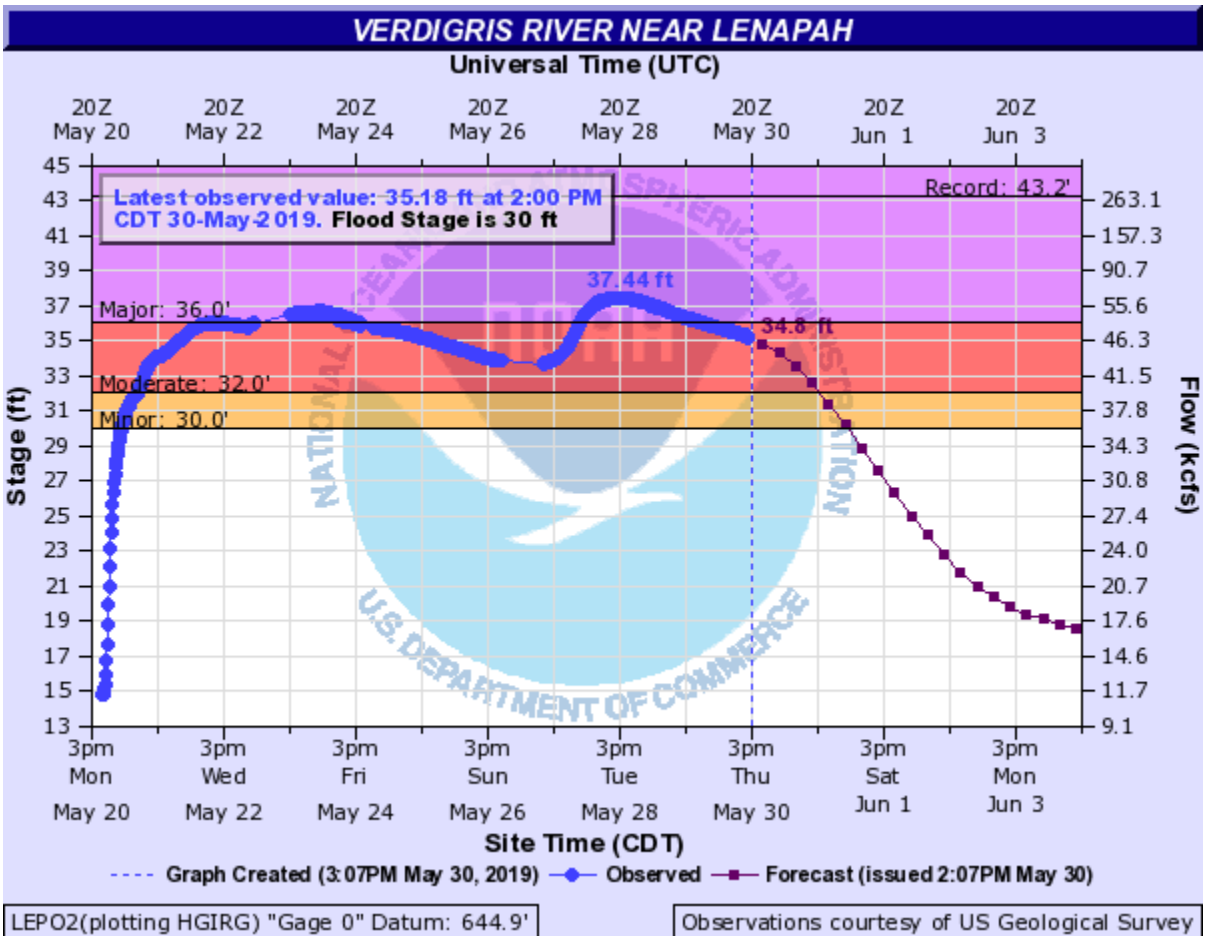

CANEY RIVER NEAR COLLINSVILLE
Universal Time (UTC)
21Z May 19
21Z May 20
21Z May 21
21Z May 22
21Z May 23
21Z May 24
21Z May 25
21Z May 26
21Z May 27
21Z May 28
21Z May 29
Latest observed value: 35.11 ft at 3:30 PM CDT 24-May-2019. Flood Stage is 26 ft
Record: 39.8'
37.12 ft
34.8 ft
Major: 33.0'
Moderate: 29.0'
Minor: 26.0'
Stage (ft)
Flow (kcfs)
4pm Sun May 19
4pm Mon May 20
4pm Tue May 21
4pm Wed May 22
4pm Thu May 23
4pm Fri May 24
4pm Sat May 25
4pm Sun May 26
4pm Mon May 27
4pm Tue May 28
4pm Wed May 29
Site Time (CDT)
Graph Created (4:22PM May 24, 2019)
Observed
Forecast (issued 2:29PM May 24)
CVLO2(plotting HGIRG) "Gage 0" Datum: 565.72'

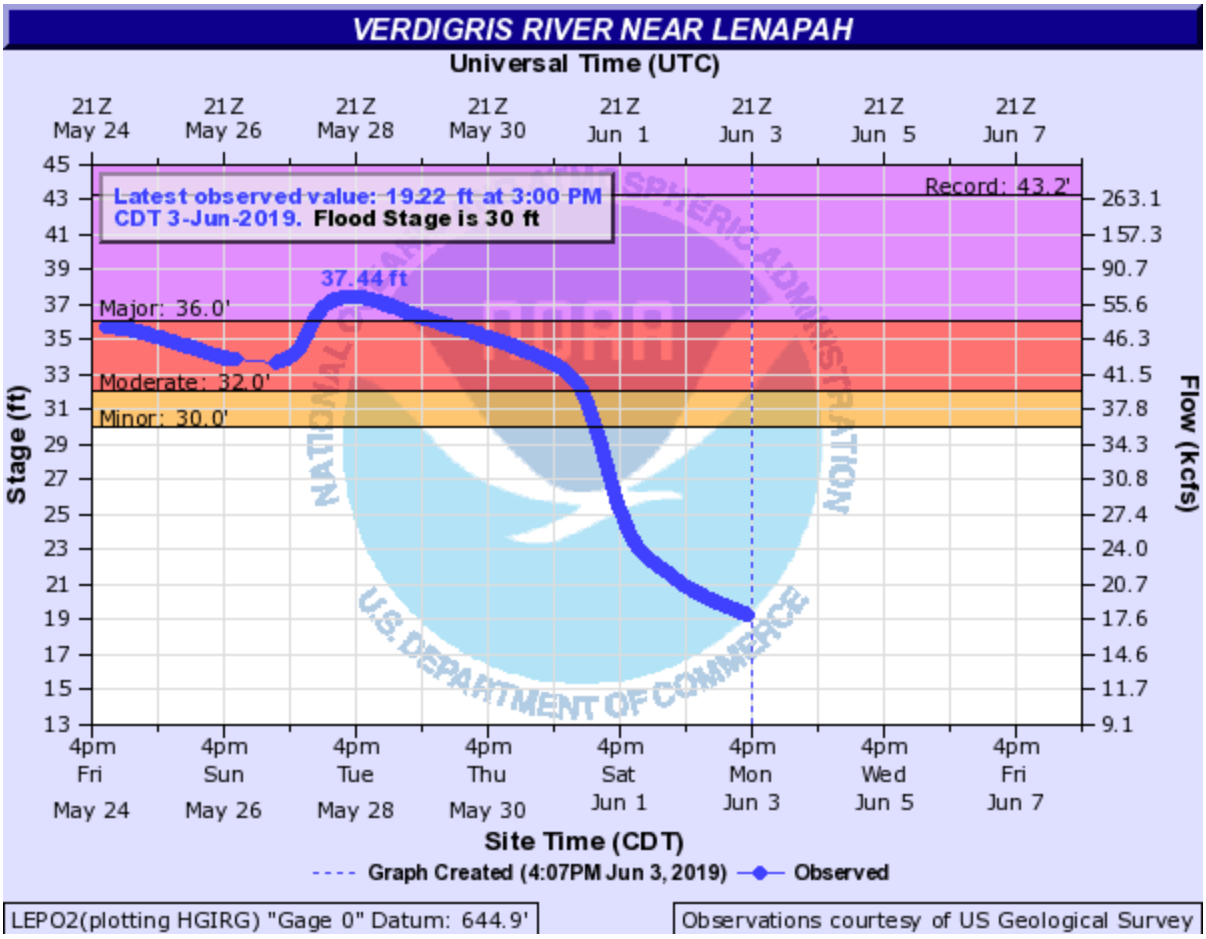

CANEY RIVER NEAR COLLINSVILLE
Universal Time (UTC)
20Z May 20
20Z May 22
20Z May 24
20Z May 26
20Z May 28
20Z May 30
20Z Jun 1
20Z Jun 3
Latest observed value: 32.68 ft at 2:30 PM CDT 30-May-2019. Flood Stage is 26 ft
Record: 39.8'
37.12 ft
32.6 ft
Major: 33.0'
Moderate: 29.0'
Minor: 26.0'
Stage (ft)
Flow (kcfs)
3pm Mon May 20
3pm Wed May 22
3pm Fri May 24
3pm Sun May 26
3pm Tue May 28
3pm Thu May 30
3pm Sat Jun 1
3pm Mon Jun 3
Site Time (CDT)
Graph Created (3:07PM May 30, 2019)
Observed
Forecast (issued 1:55PM May 30)
CVLO2(plotting HGIRG) "Gage 0" Datum: 565.72'

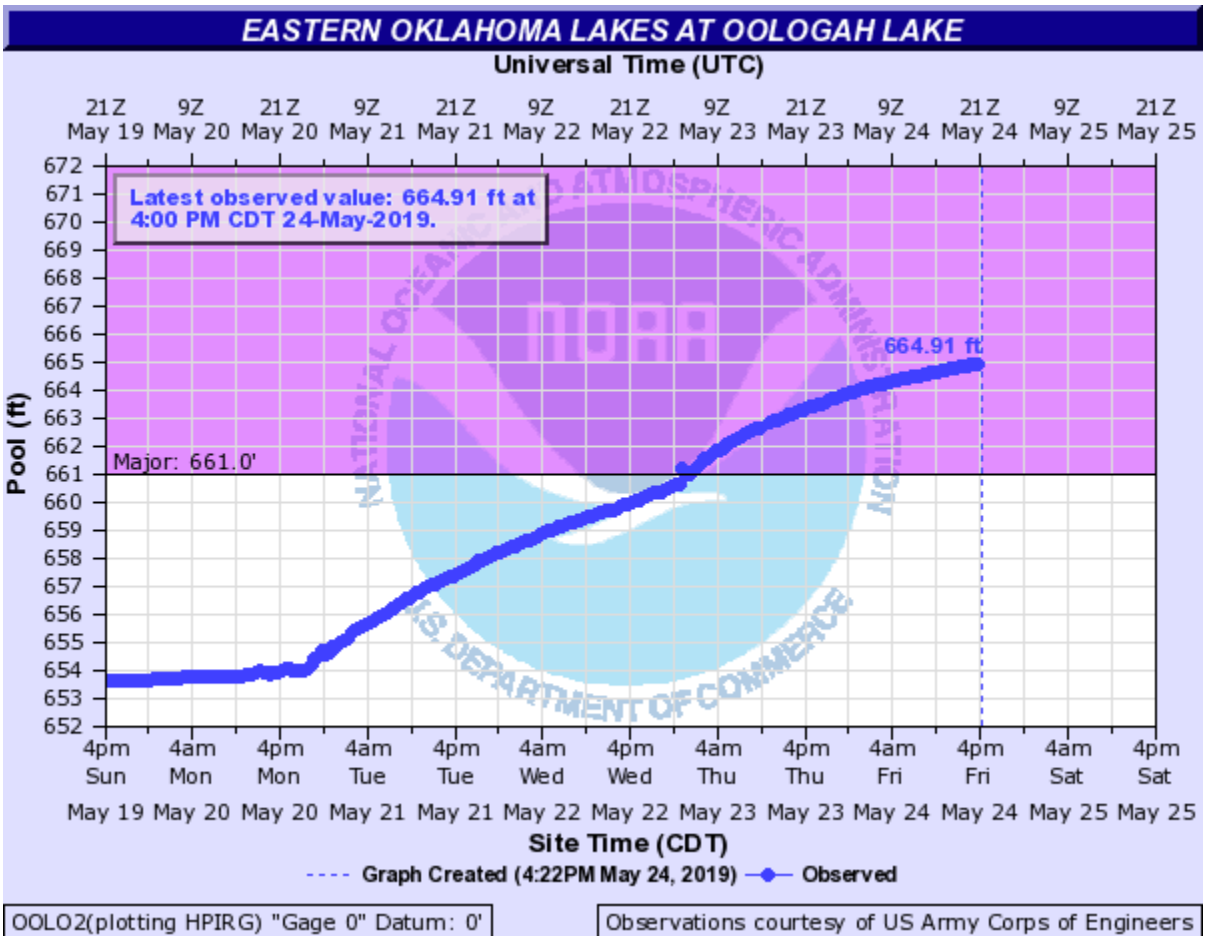

CANEY RIVER NEAR COLLINSVILLE
Universal Time (UTC)
21Z May 24
21Z May 26
21Z May 28
21Z May 30
21Z Jun 1
21Z Jun 3
21Z Jun 5
21Z Jun 7
Latest observed value: 18.53 ft at 3:30 PM CDT 3-Jun-2019. Flood Stage is 26 ft
Record: 39.8'
34.72 ft
Major: 33.0'
Moderate: 29.0'
Minor: 26.0'
19.7 ft
Stage (ft)
Flow (kcfs)
4pm Fri May 24
4pm Sun May 26
4pm Tue May 28
4pm Thu May 30
4pm Sat Jun 1
4pm Mon Jun 3
4pm Wed Jun 5
4pm Fri Jun 7
Site Time (CDT)
Graph Created (4:07PM Jun 3, 2019)
Observed
Forecast (issued 8:01AM Jun 3)
CVLO2(plotting HGIRG) "Gage 0" Datum: 565.72'

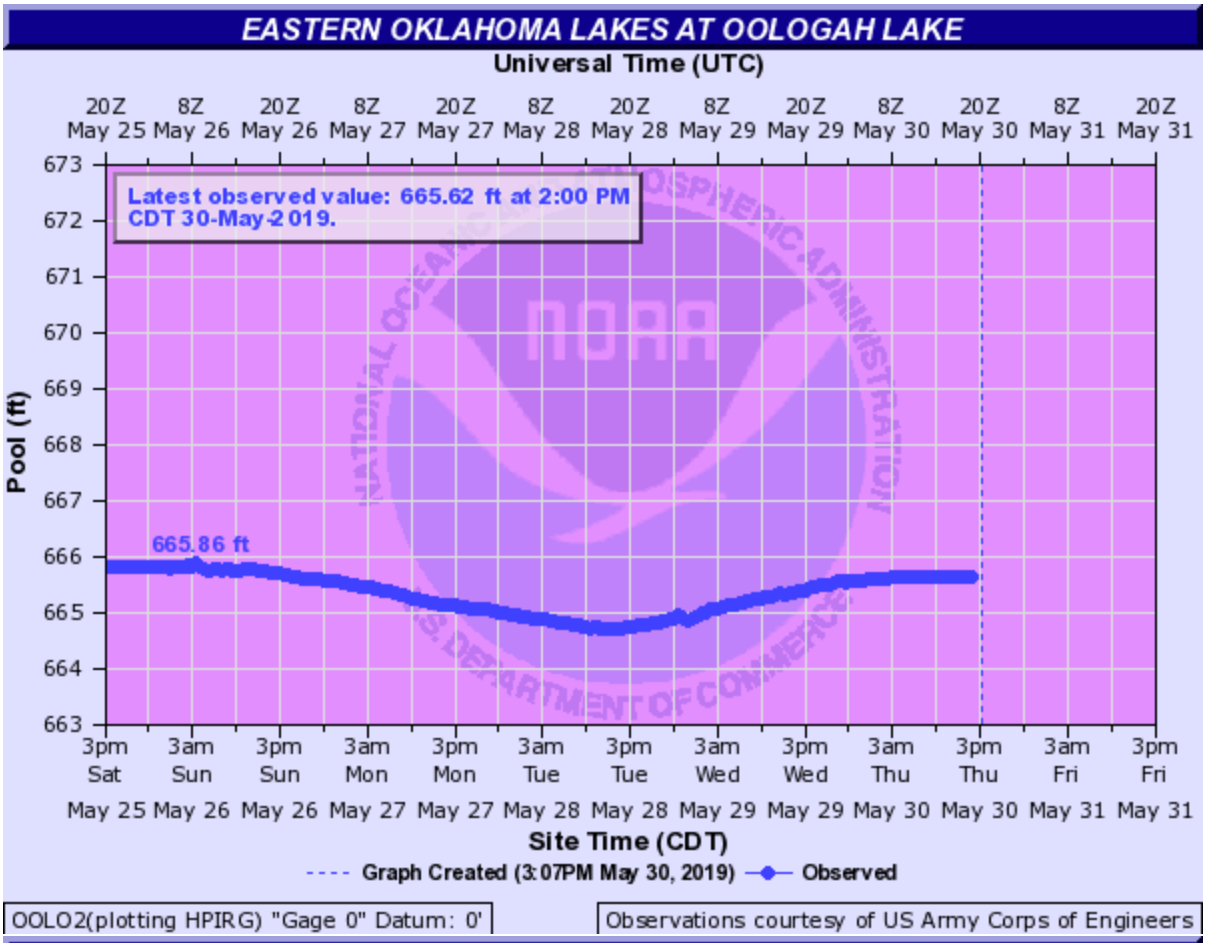

VERDIGRIS RIVER NEAR LENAPAH
Universal Time (UTC)
15Z Apr 27
15Z Apr 28
15Z Apr 29
15Z Apr 30
15Z May 1
15Z May 2
15Z May 3
15Z May 4
15Z May 5
15Z May 6
15Z May 7
Latest observed value: 27.17 ft at 9:00 AM CDT 2-May-2019. Flood Stage is 30 ft
Minor: 30.0'
29.35 ft
25.2 ft
Stage (ft)
Flow (kcfs)
10am Sat Apr 27
10am Sun Apr 28
10am Mon Apr 29
10am Tue Apr 30
10am Wed May 1
10am Thu May 2
10am Fri May 3
10am Sat May 4
10am Sun May 5
10am Mon May 6
10am Tue May 7
Site Time (CDT)
Graph Created (10:08AM May 2, 2019)
Observed
Forecast (issued 2:02PM May 1)
LEPO2(plotting HGIRG) "Gage 0" Datum: 644.9'
Observations courtesy of US Geological Survey

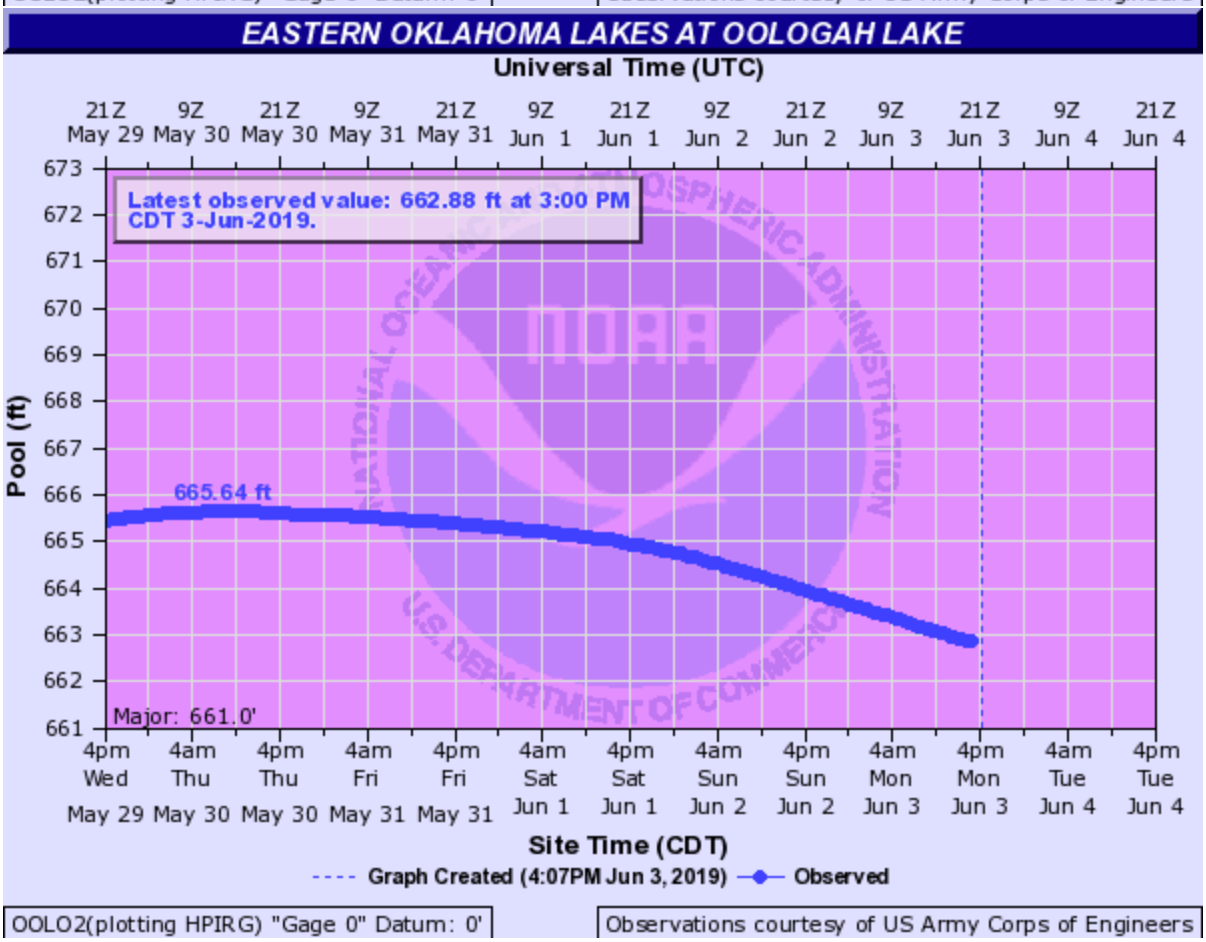

VERDIGRIS RIVER NEAR LENAPAH
Universal Time (UTC)
21Z May 19
21Z May 20
21Z May 21
21Z May 22
21Z May 23
21Z May 24
21Z May 25
21Z May 26
21Z May 27
21Z May 28
21Z May 29
Latest observed value: 36 ft at 3:00 PM CDT 24-May-2019. Flood Stage is 30 ft
Record: 43.2'
36.7 ft
36.5 ft
Major: 36.0'
Moderate: 32.0'
Minor: 30.0'
Stage (ft)
Flow (kcfs)
4pm Sun May 19
4pm Mon May 20
4pm Tue May 21
4pm Wed May 22
4pm Thu May 23
4pm Fri May 24
4pm Sat May 25
4pm Sun May 26
4pm Mon May 27
4pm Tue May 28
4pm Wed May 29
Site Time (CDT)
Graph Created (4:22PM May 24, 2019)
Observed
Forecast (issued 2:21PM May 24)
LEPO2(plotting HGIRG) "Gage 0" Datum: 644.9'
Observations courtesy of US Geological Survey


VERDIGRIS RIVER NEAR LENAPAH
Universal Time (UTC)
20Z May 20
20Z May 22
20Z May 24
20Z May 26
20Z May 28
20Z May 30
20Z Jun 1
20Z Jun 3
Latest observed value: 35.18 ft at 2:00 PM CDT 30-May-2019. Flood Stage is 30 ft
Record: 43.2'
37.44 ft
34.8 ft
Major: 36.0'
Moderate: 32.0'
Minor: 30.0'
Stage (ft)
Flow (kcfs)
3pm Mon May 20
3pm Wed May 22
3pm Fri May 24
3pm Sun May 26
3pm Tue May 28
3pm Thu May 30
3pm Sat Jun 1
3pm Mon Jun 3
Site Time (CDT)
Graph Created (3:07PM May 30, 2019)
Observed
Forecast (issued 2:07PM May 30)
LEPO2(plotting HGIRG) "Gage 0" Datum: 644.9'
Observations courtesy of US Geological Survey

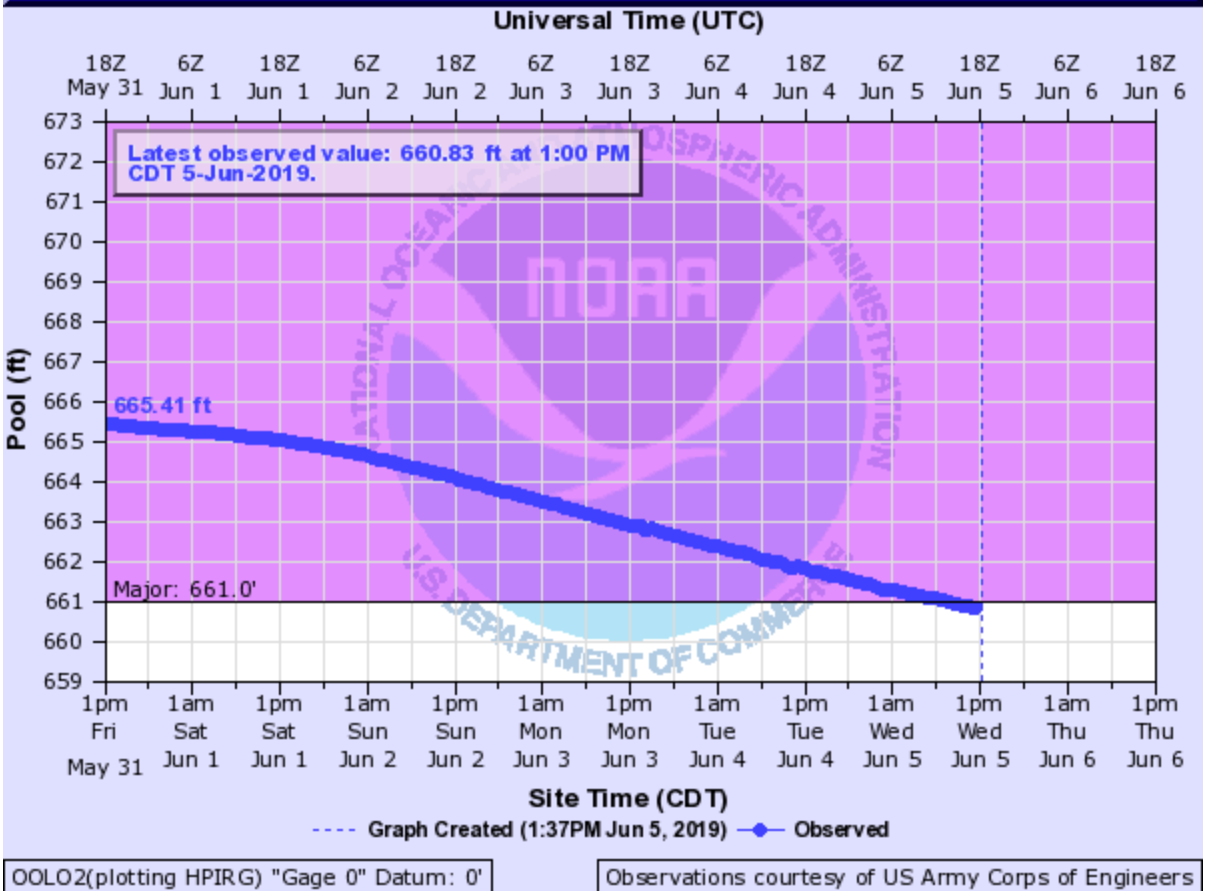

VERDIGRIS RIVER NEAR LENAPAH
Universal Time (UTC)
21Z May 24
21Z May 26
21Z May 28
21Z May 30
21Z Jun 1
21Z Jun 3
21Z Jun 5
21Z Jun 7
Latest observed value: 19.22 ft at 3:00 PM CDT 3-Jun-2019. Flood Stage is 30 ft
Record: 43.2'
37.44 ft
Major: 36.0'
Moderate: 32.0'
Minor: 30.0'
Stage (ft)
Flow (kcfs)
45 43 41 39 37 35 33 31 29 27 25 23 21 19 17 15 13
263.1 157.3 90.7 55.6 46.3 41.5 37.8 34.3 30.8 27.4 24.0 20.7 17.6 14.6 11.7 9.1
4pm Fri May 24
4pm Sun May 26
4pm Tue May 28
4pm Thu May 30
4pm Sat Jun 1
4pm Mon Jun 3
4pm Wed Jun 5
4pm Fri Jun 7
Site Time (CDT)
Graph Created (4:07PM Jun 3, 2019)
Observed
LEPO2(plotting HGIRG) "Gage 0" Datum: 644.9'
Observations courtesy of US Geological Survey


EASTERN OKLAHOMA LAKES AT OOLOGAH LAKE
Universal Time (UTC)
21Z May 19
9Z May 20
21Z May 20
9Z May 21
21Z May 21
9Z May 22
21Z May 22
9Z May 23
21Z May 23
9Z May 24
21Z May 24
9Z May 25
21Z May 25
Latest observed value: 664.91 ft at 4:00 PM CDT 24-May-2019.
664.91 ft
Major: 661.0'
Pool (ft)
672 671 670 669 668 667 666 665 664 663 662 661 660 659 658 657 656 655 654 653 652
4pm Sun May 19
4am Mon May 20
4pm Mon May 20
4am Tue May 21
4pm Tue May 21
4am Wed May 22
4pm Wed May 22
4am Thu May 23
4pm Thu May 23
4am Fri May 24
4pm Fri May 24
4am Sat May 25
4pm Sat May 25
Site Time (CDT)
Graph Created (4:22PM May 24, 2019)
Observed
OOLO2(plotting HPIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers


EASTERN OKLAHOMA LAKES AT OOLOGAH LAKE
Universal Time (UTC)
20Z May 25
8Z May 26
20Z May 26
8Z May 27
20Z May 27
8Z May 28
20Z May 28
8Z May 29
20Z May 29
8Z May 30
20Z May 30
8Z May 31
20Z May 31
Latest observed value: 665.62 ft at 2:00 PM CDT 30-May-2019.
Pool (ft)
673
672
671
670
669
668
667
666
665
664
663
665.86 ft
3pm Sat May 25
3am Sun May 26
3pm Sun May 26
3am Mon May 27
3pm Mon May 27
3am Tue May 28
3pm Tue May 28
3am Wed May 29
3pm Wed May 29
3am Thu May 30
3pm Thu May 30
3am Fri May 31
3pm Fri May 31
Site Time (CDT)
Graph Created (3:07PM May 30, 2019)
Observed
OOLO2(plotting HPIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers


EASTERN OKLAHOMA LAKES AT OOLOGAH LAKE
Universal Time (UTC)
21Z May 29
9Z May 30
21Z May 30
9Z May 31
21Z May 31
9Z Jun 1
21Z Jun 1
9Z Jun 2
21Z Jun 2
9Z Jun 3
21Z Jun 3
9Z Jun 4
21Z Jun 4
Latest observed value: 662.88 ft at 3:00 PM CDT 3-Jun-2019.
Pool (ft)
673
672
671
670
669
668
667
666
665
664
663
662
661
665.64 ft
Major: 661.0'
4pm Wed May 29
4am Thu May 30
4pm Thu May 30
4am Fri May 31
4pm Fri May 31
4am Sat Jun 1
4pm Sat Jun 1
4am Sun Jun 2
4pm Sun Jun 2
4am Mon Jun 3
4pm Mon Jun 3
4am Tue Jun 4
4pm Tue Jun 4
Site Time (CDT)
Graph Created (4:07PM Jun 3, 2019)
Observed
OOLO2(plotting HPIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers

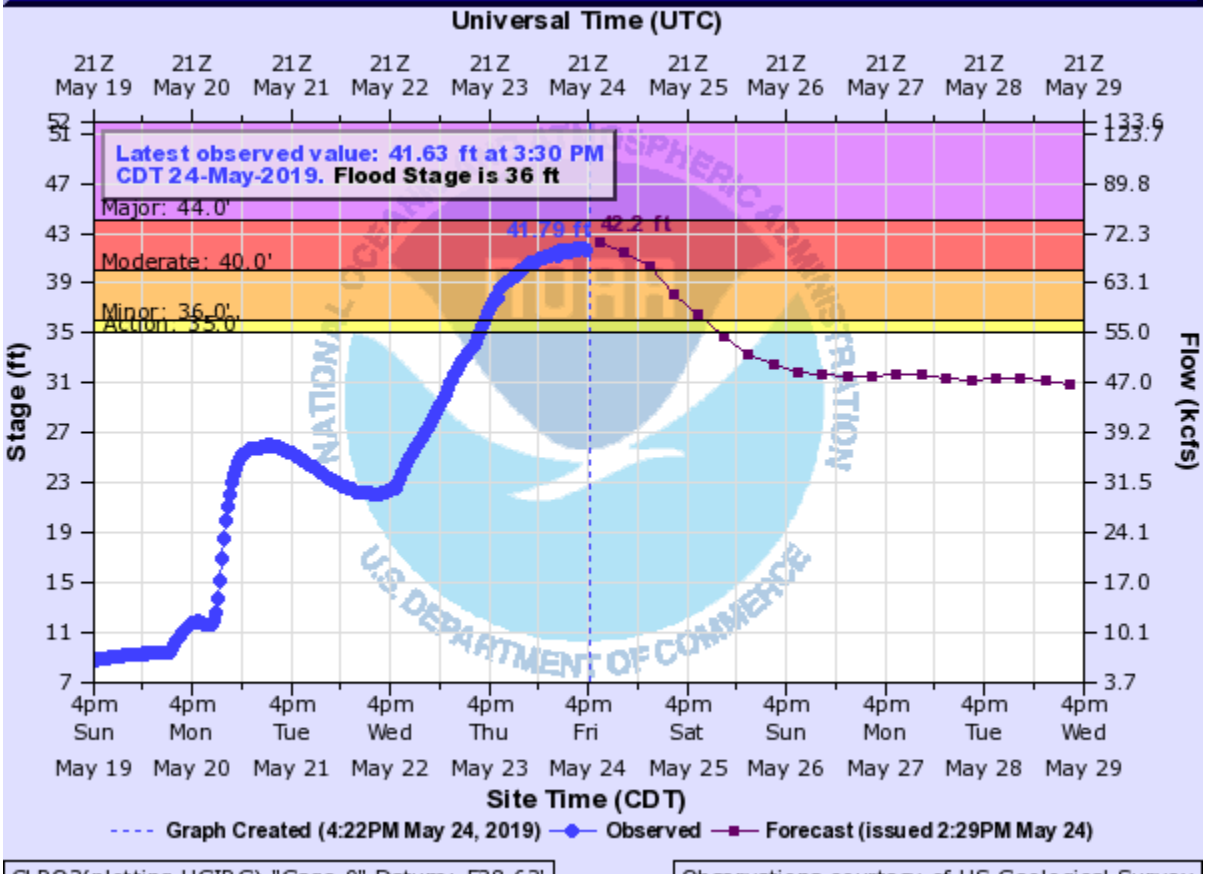
EASTERN OKLAHOMA LAKES AT OOLOGAH LAKE



OOLO2(plotting HPIRG) "Gage 0" Datum: 0'

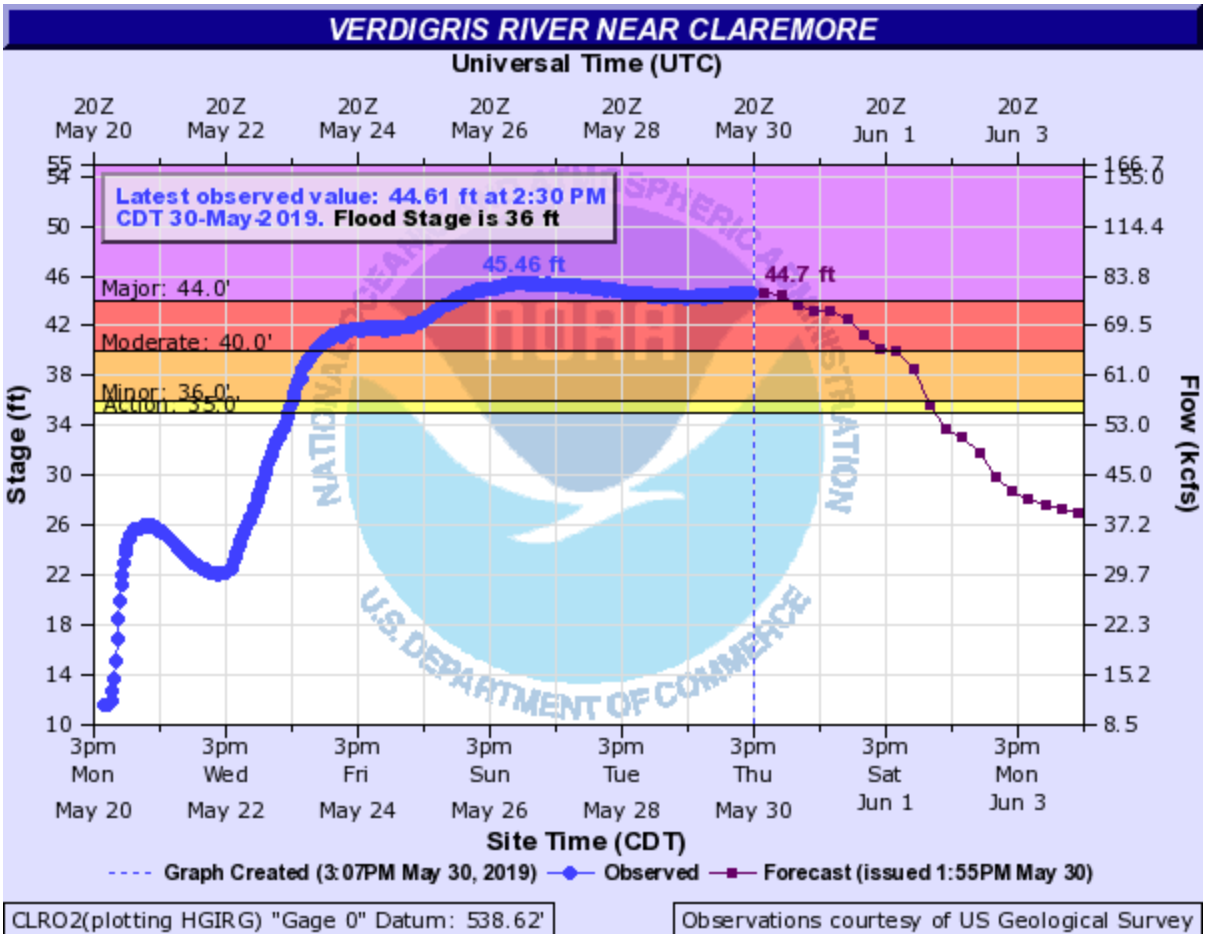
Observations courtesy of US Army Corps of Engineers

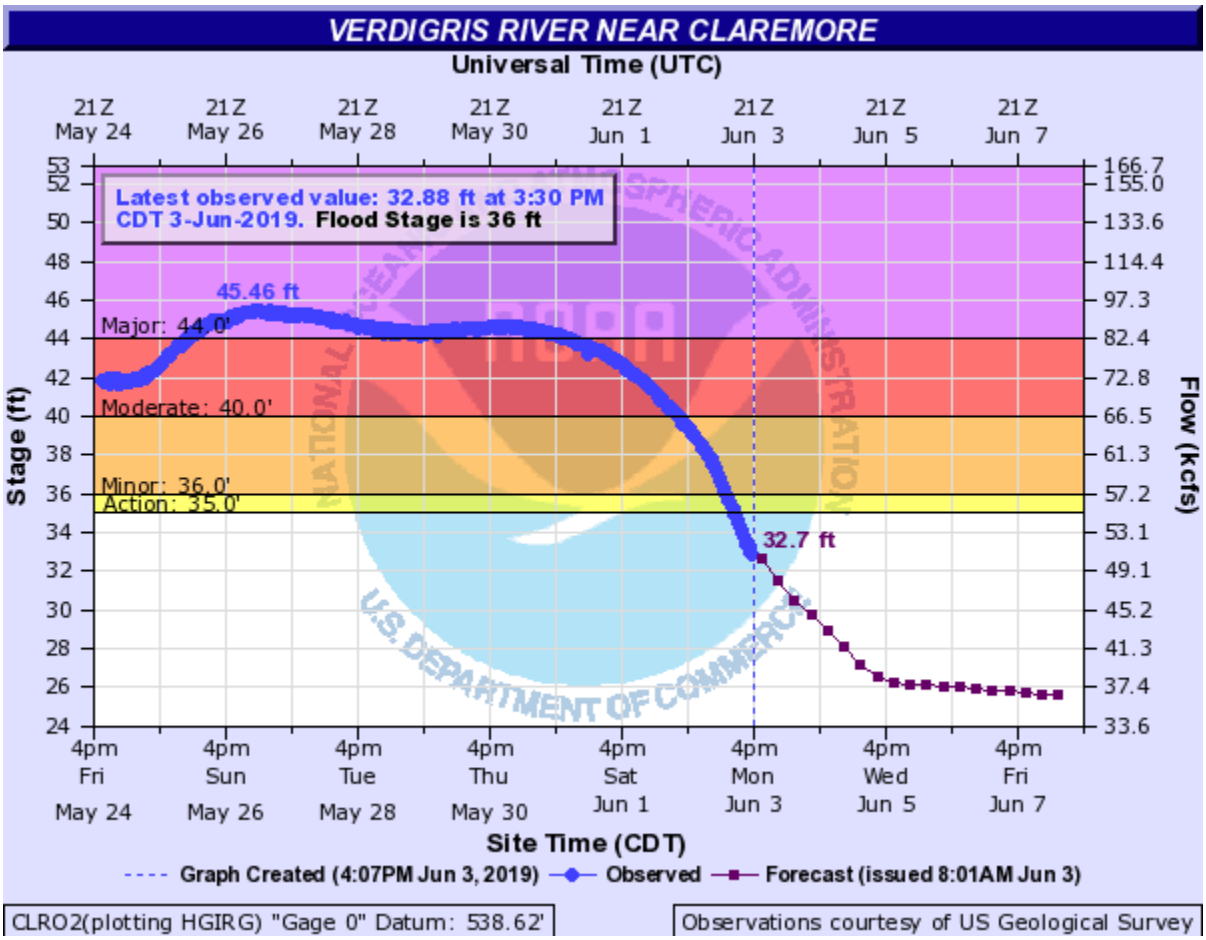
VERDIGRIS RIVER NEAR CLAREMORE

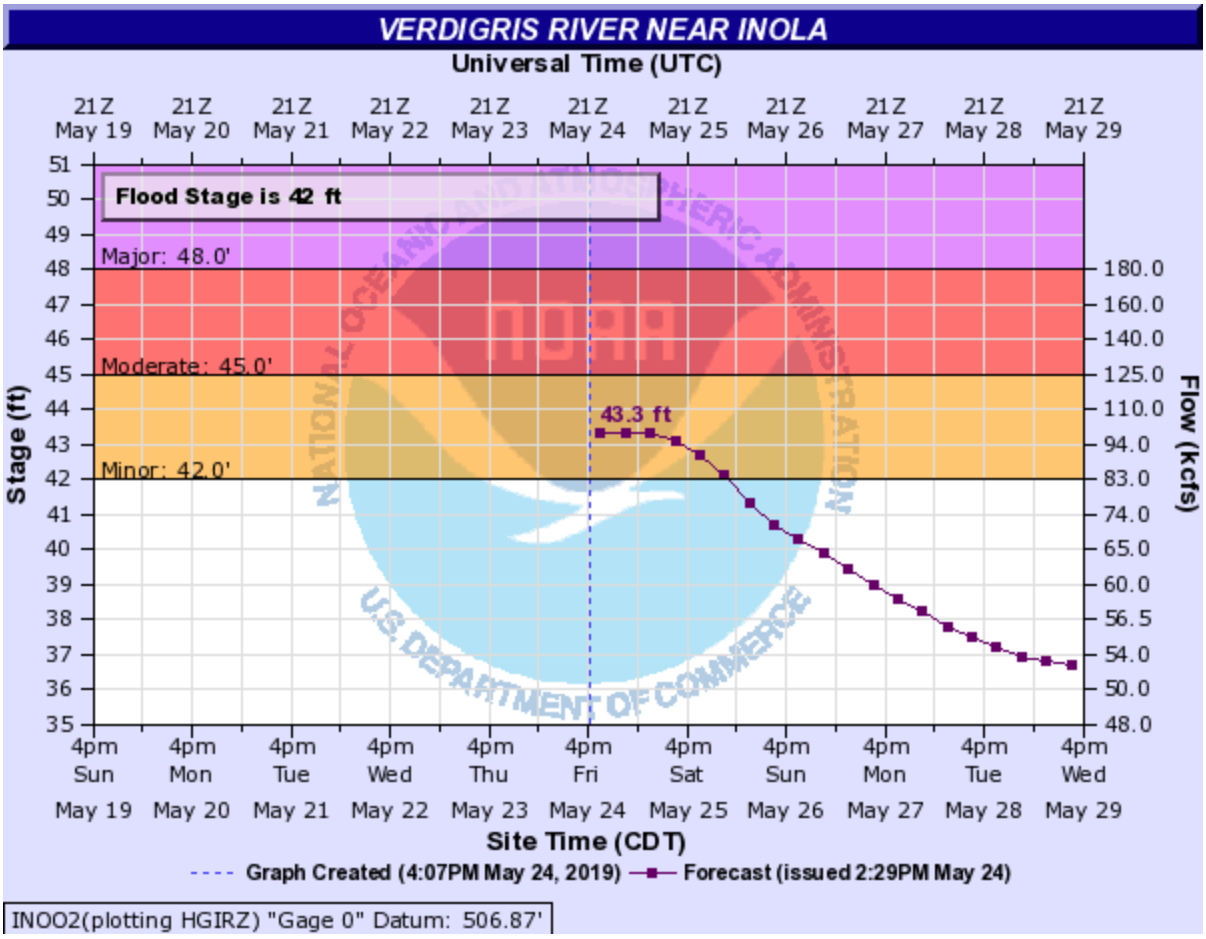


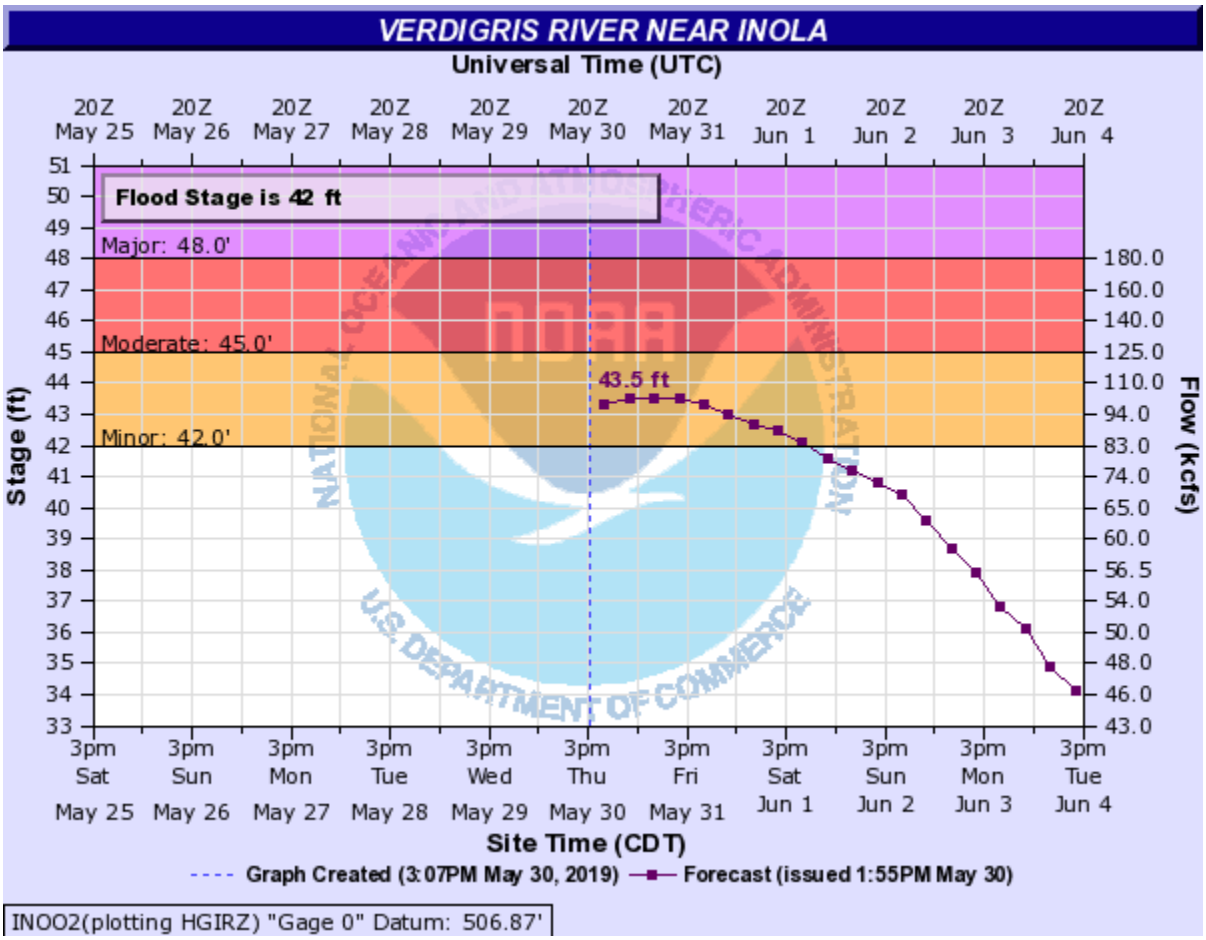
CLRO2(plotting HGIRG) "Gage 0" Datum: 538.62'

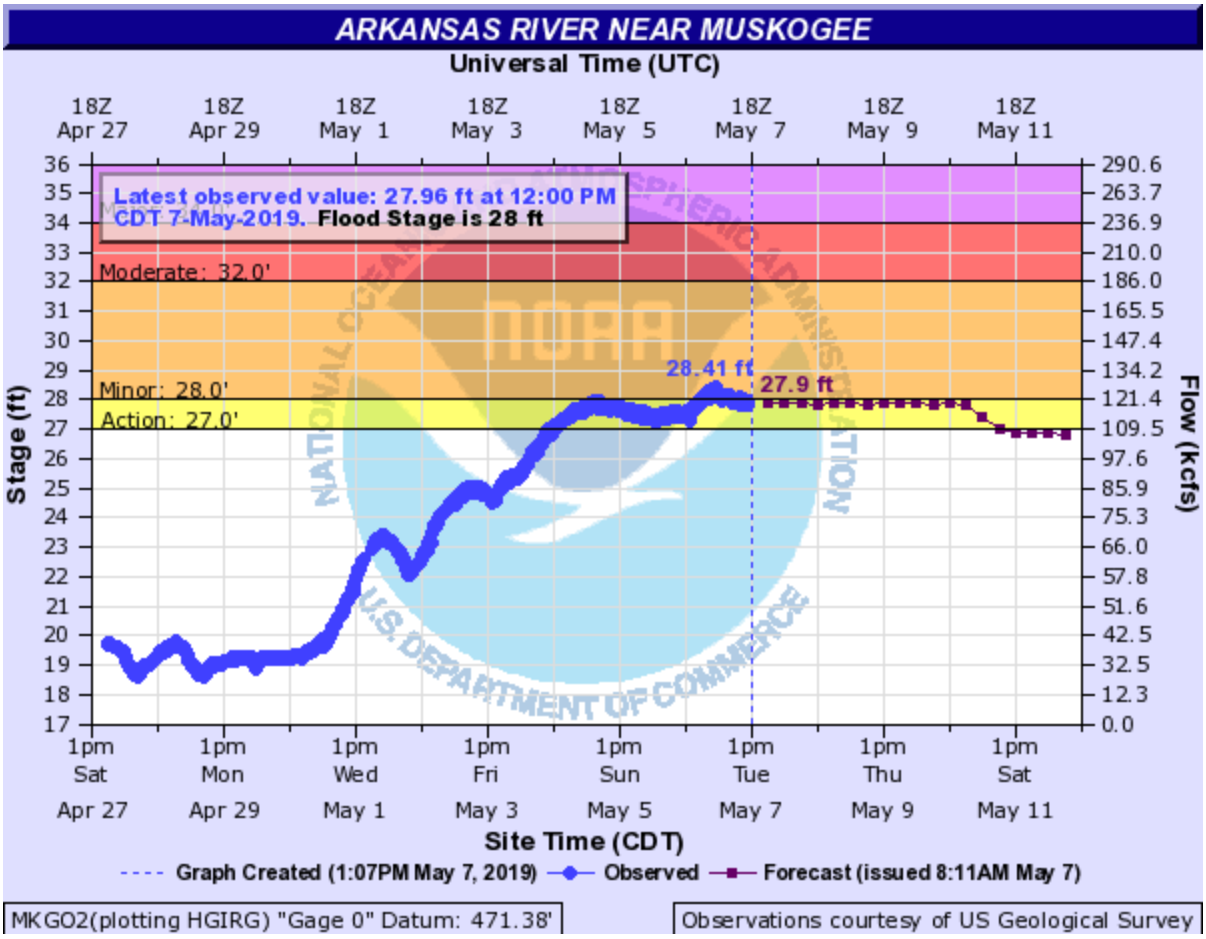
Observations courtesy of US Geological Survey

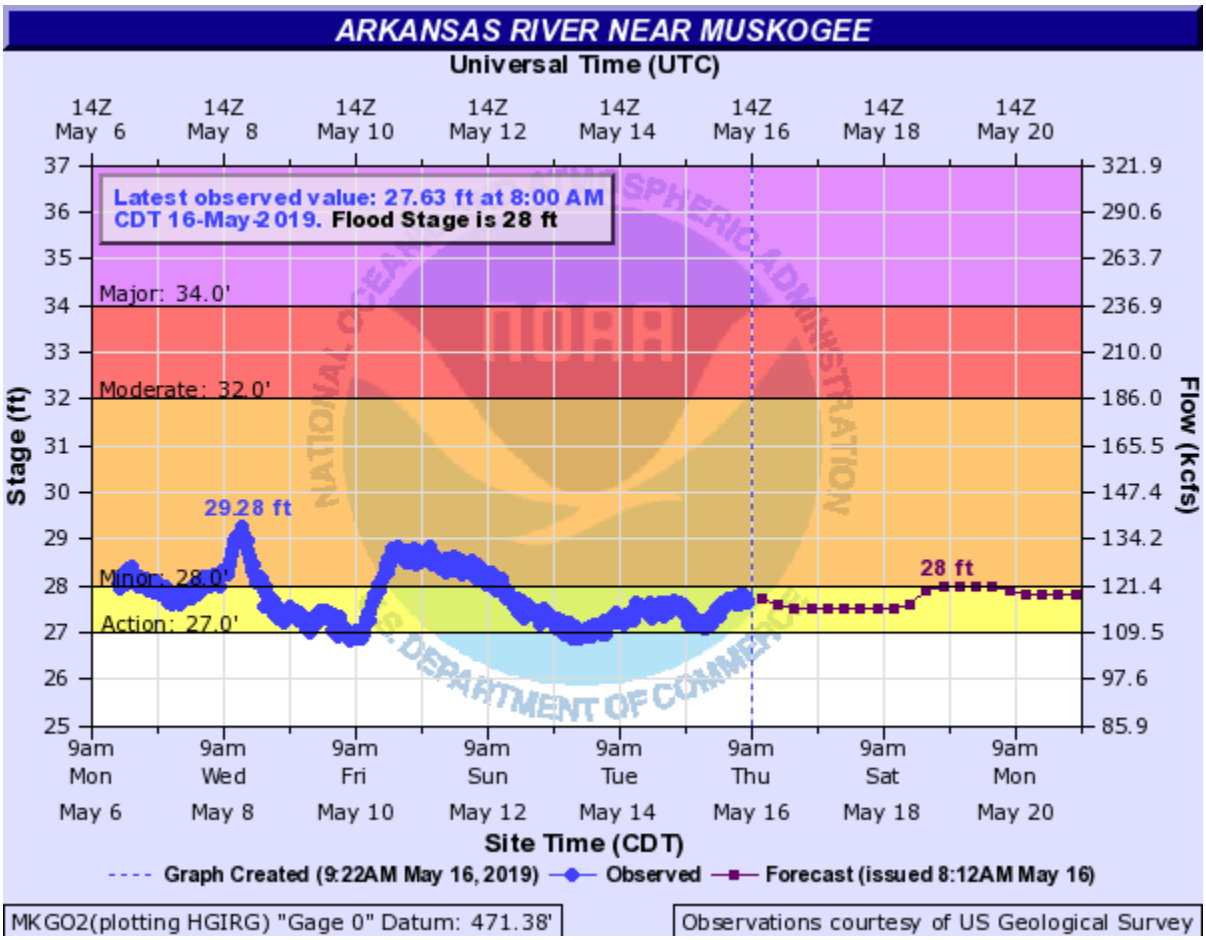

VERDIGRIS RIVER NEAR CLAREMORE
Universal Time (UTC)
20Z May 20
20Z May 22
20Z May 24
20Z May 26
20Z May 28
20Z May 30
20Z Jun 1
20Z Jun 3
Latest observed value: 44.61 ft at 2:30 PM CDT 30-May-2019. Flood Stage is 36 ft
45.46 ft
44.7 ft
Major: 44.0'
Moderate: 40.0'
Minor: 36.0'
Action: 35.0'
Stage (ft)
Flow (kcfs)
55 54 50 46 42 38 34 30 26 22 18 14 10
166.7 155.0 114.4 83.8 69.5 61.0 53.0 45.0 37.2 29.7 22.3 15.2 8.5
3pm Mon May 20
3pm Wed May 22
3pm Fri May 24
3pm Sun May 26
3pm Tue May 28
3pm Thu May 30
3pm Sat Jun 1
3pm Mon Jun 3
Site Time (CDT)
Graph Created (3:07PM May 30, 2019)
Observed
Forecast (issued 1:55PM May 30)
CLRO2(plotting HGIRG) "Gage 0" Datum: 538.62'
Observations courtesy of US Geological Survey

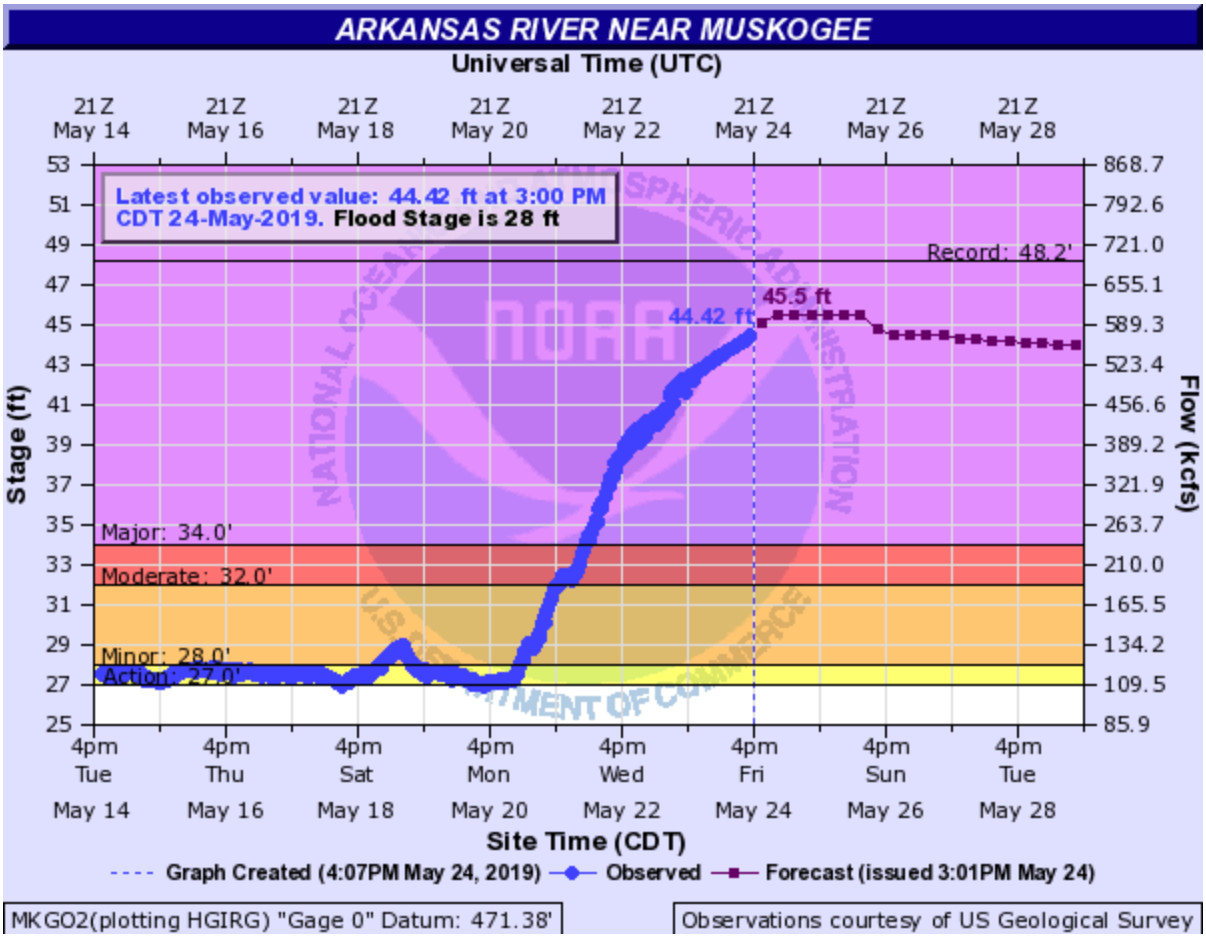

VERDIGRIS RIVER NEAR CLAREMORE
Universal Time (UTC)
21Z May 24
21Z May 26
21Z May 28
21Z May 30
21Z Jun 1
21Z Jun 3
21Z Jun 5
21Z Jun 7
Latest observed value: 32.88 ft at 3:30 PM CDT 3-Jun-2019. Flood Stage is 36 ft
45.46 ft
32.7 ft
Major: 44.0'
Moderate: 40.0'
Minor: 36.0'
Action: 35.0'
Stage (ft)
Flow (kcfs)
53 52 50 48 46 44 42 40 38 36 34 32 30 28 26 24
166.7 155.0 133.6 114.4 97.3 82.4 72.8 66.5 61.3 57.2 53.1 49.1 45.2 41.3 37.4 33.6
4pm Fri May 24
4pm Sun May 26
4pm Tue May 28
4pm Thu May 30
4pm Sat Jun 1
4pm Mon Jun 3
4pm Wed Jun 5
4pm Fri Jun 7
Site Time (CDT)
Graph Created (4:07PM Jun 3, 2019)
Observed
Forecast (issued 8:01AM Jun 3)
CLRO2(plotting HGIRG) "Gage 0" Datum: 538.62'
Observations courtesy of US Geological Survey

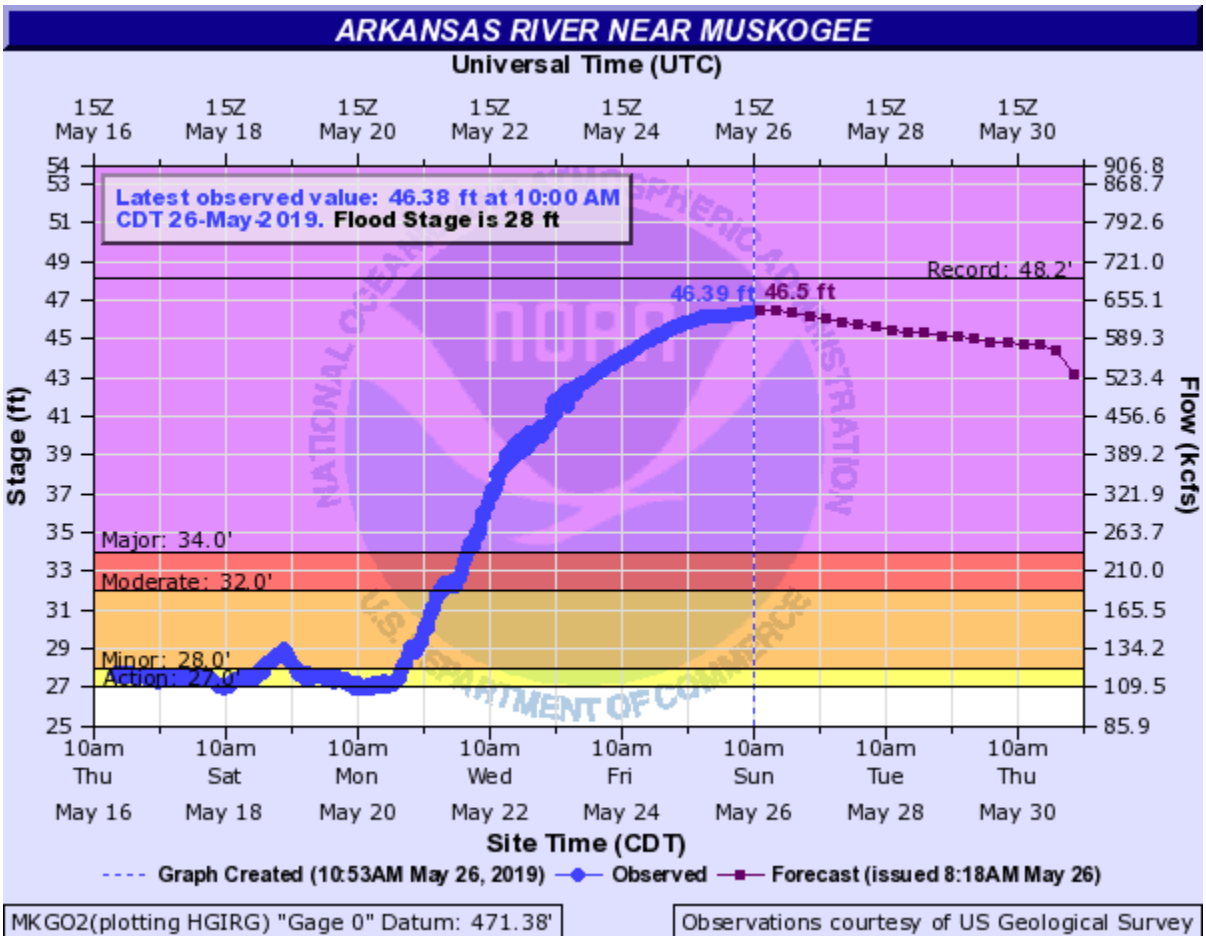

VERDIGRIS RIVER NEAR INOLA
Universal Time (UTC)
21Z May 19
21Z May 20
21Z May 21
21Z May 22
21Z May 23
21Z May 24
21Z May 25
21Z May 26
21Z May 27
21Z May 28
21Z May 29
Flood Stage is 42 ft
Major: 48.0'
Moderate: 45.0'
Minor: 42.0'
43.3 ft
Stage (ft)
Flow (kcfs)
51 50 49 48 47 46 45 44 43 42 41 40 39 38 37 36 35
180.0 160.0 140.0 125.0 110.0 94.0 83.0 74.0 65.0 60.0 56.5 54.0 50.0 48.0
4pm Sun May 19
4pm Mon May 20
4pm Tue May 21
4pm Wed May 22
4pm Thu May 23
4pm Fri May 24
4pm Sat May 25
4pm Sun May 26
4pm Mon May 27
4pm Tue May 28
4pm Wed May 29
Site Time (CDT)
Graph Created (4:07PM May 24, 2019)
Forecast (issued 2:29PM May 24)
INOO2(plotting HGIRZ) "Gage 0" Datum: 506.87'

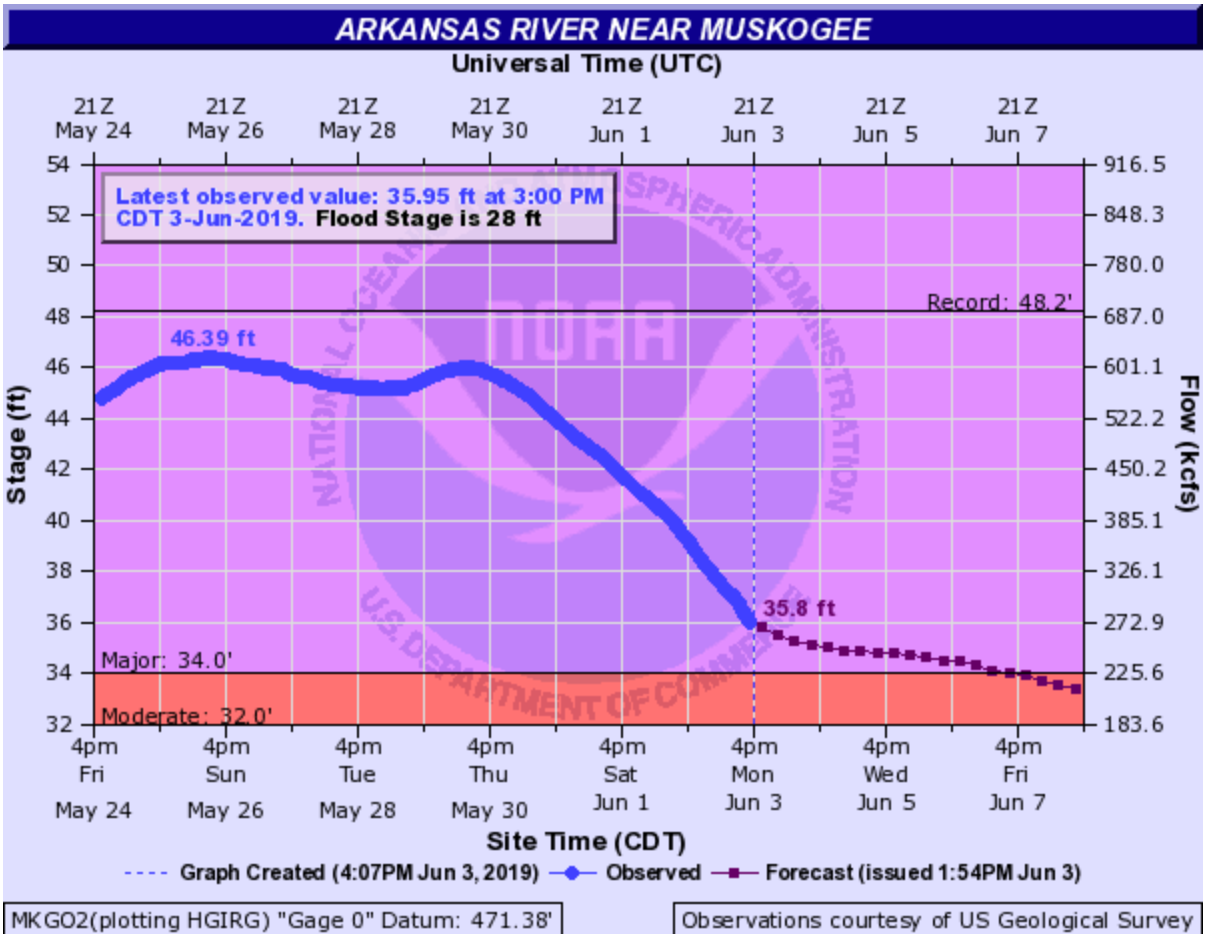

VERDIGRIS RIVER NEAR INOLA
Universal Time (UTC)
20Z May 25
20Z May 26
20Z May 27
20Z May 28
20Z May 29
20Z May 30
20Z May 31
20Z Jun 1
20Z Jun 2
20Z Jun 3
20Z Jun 4
Flood Stage is 42 ft
Major: 48.0'
Moderate: 45.0'
Minor: 42.0'
43.5 ft
Stage (ft)
Flow (kcfs)
51 50 49 48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33
180.0 160.0 140.0 125.0 110.0 94.0 83.0 74.0 65.0 60.0 56.5 54.0 50.0 48.0 46.0 43.0
3pm Sat May 25
3pm Sun May 26
3pm Mon May 27
3pm Tue May 28
3pm Wed May 29
3pm Thu May 30
3pm Fri May 31
3pm Sat Jun 1
3pm Sun Jun 2
3pm Mon Jun 3
3pm Tue Jun 4
Site Time (CDT)
Graph Created (3:07PM May 30, 2019)
Forecast (issued 1:55PM May 30)
INOO2(plotting HGIRZ) "Gage 0" Datum: 506.87'

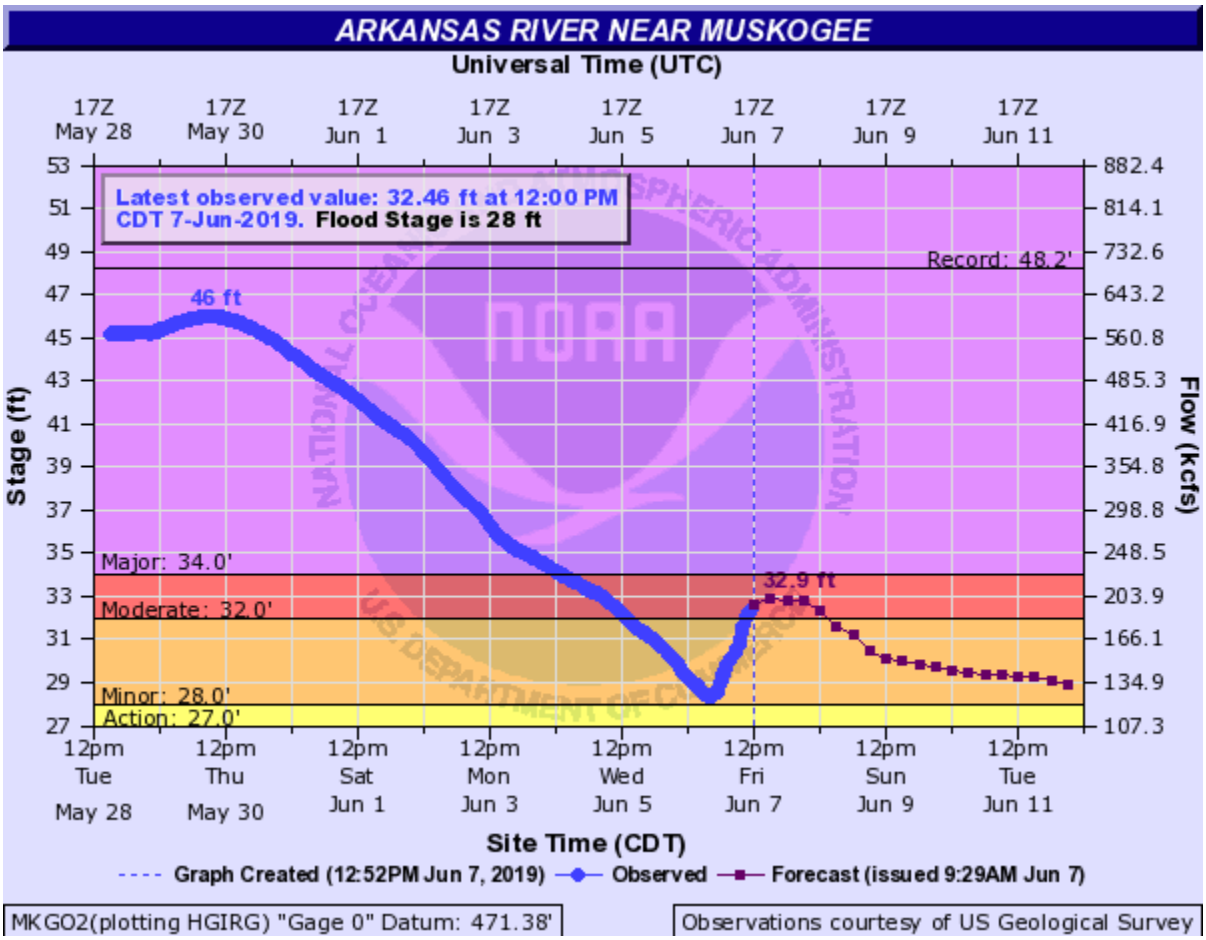

ARKANSAS RIVER NEAR MUSKOGEE
Universal Time (UTC)
18Z Apr 27
18Z Apr 29
18Z May 1
18Z May 3
18Z May 5
18Z May 7
18Z May 9
18Z May 11
Latest observed value: 27.96 ft at 12:00 PM CDT 7-May-2019. Flood Stage is 28 ft
Moderate: 32.0'
Minor: 28.0'
Action: 27.0'
28.41 ft
27.9 ft
Stage (ft)
Flow (kcfs)
1pm Sat Apr 27
1pm Mon Apr 29
1pm Wed May 1
1pm Fri May 3
1pm Sun May 5
1pm Tue May 7
1pm Thu May 9
1pm Sat May 11
Site Time (CDT)
Graph Created (1:07PM May 7, 2019)
Observed
Forecast (issued 8:11AM May 7)
MKGO2(plotting HGIRG) "Gage 0" Datum: 471.38'
Observations courtesy of US Geological Survey

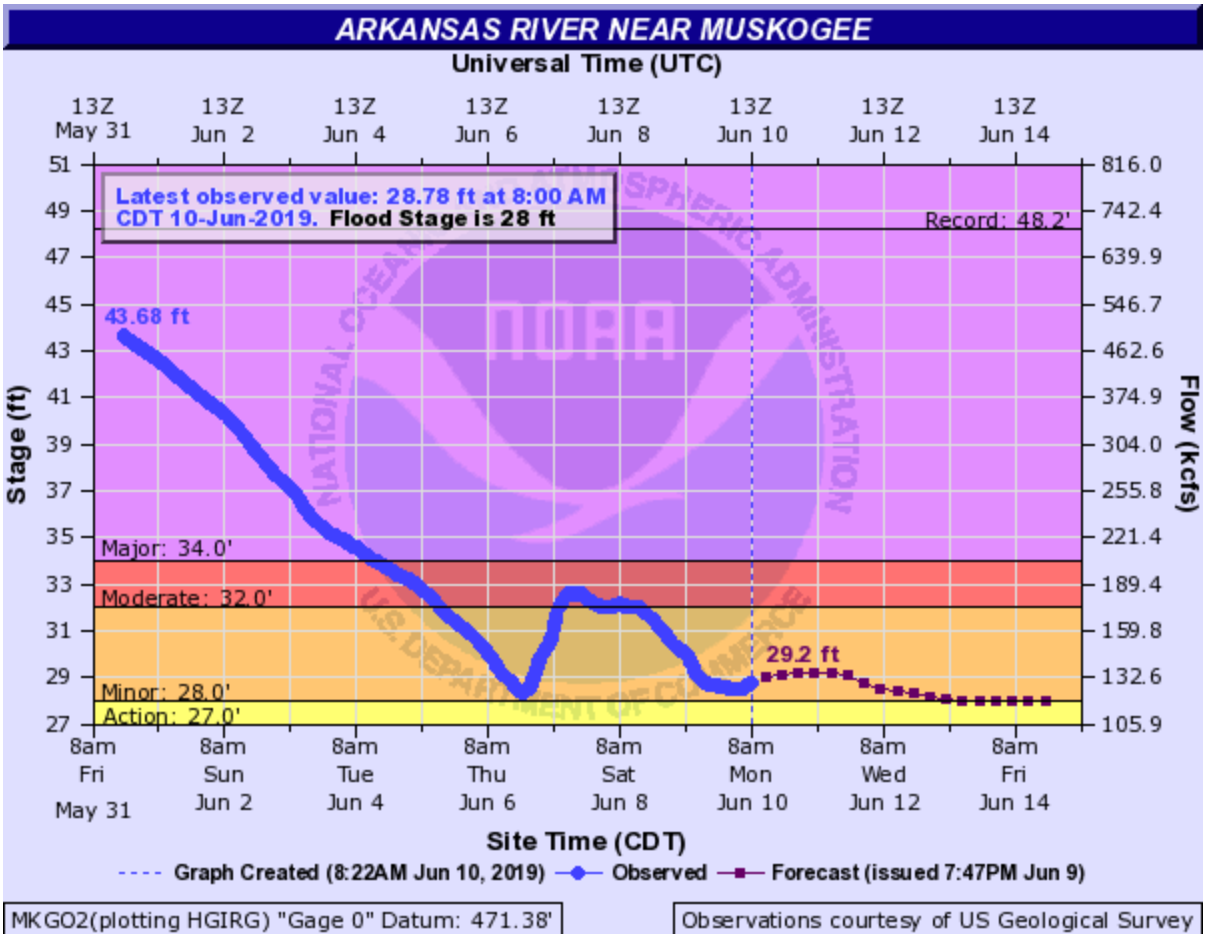

ARKANSAS RIVER NEAR MUSKOGEE
Universal Time (UTC)
14Z May 6
14Z May 8
14Z May 10
14Z May 12
14Z May 14
14Z May 16
14Z May 18
14Z May 20
Latest observed value: 27.63 ft at 8:00 AM CDT 16-May-2019. Flood Stage is 28 ft
Major: 34.0'
Moderate: 32.0'
Minor: 28.0'
Action: 27.0'
29.28 ft
28 ft
Stage (ft)
Flow (kcfs)
9am Mon May 6
9am Wed May 8
9am Fri May 10
9am Sun May 12
9am Tue May 14
9am Thu May 16
9am Sat May 18
9am Mon May 20
Site Time (CDT)
Graph Created (9:22AM May 16, 2019)
Observed
Forecast (issued 8:12AM May 16)
MKGO2(plotting HGIRG) "Gage 0" Datum: 471.38'
Observations courtesy of US Geological Survey

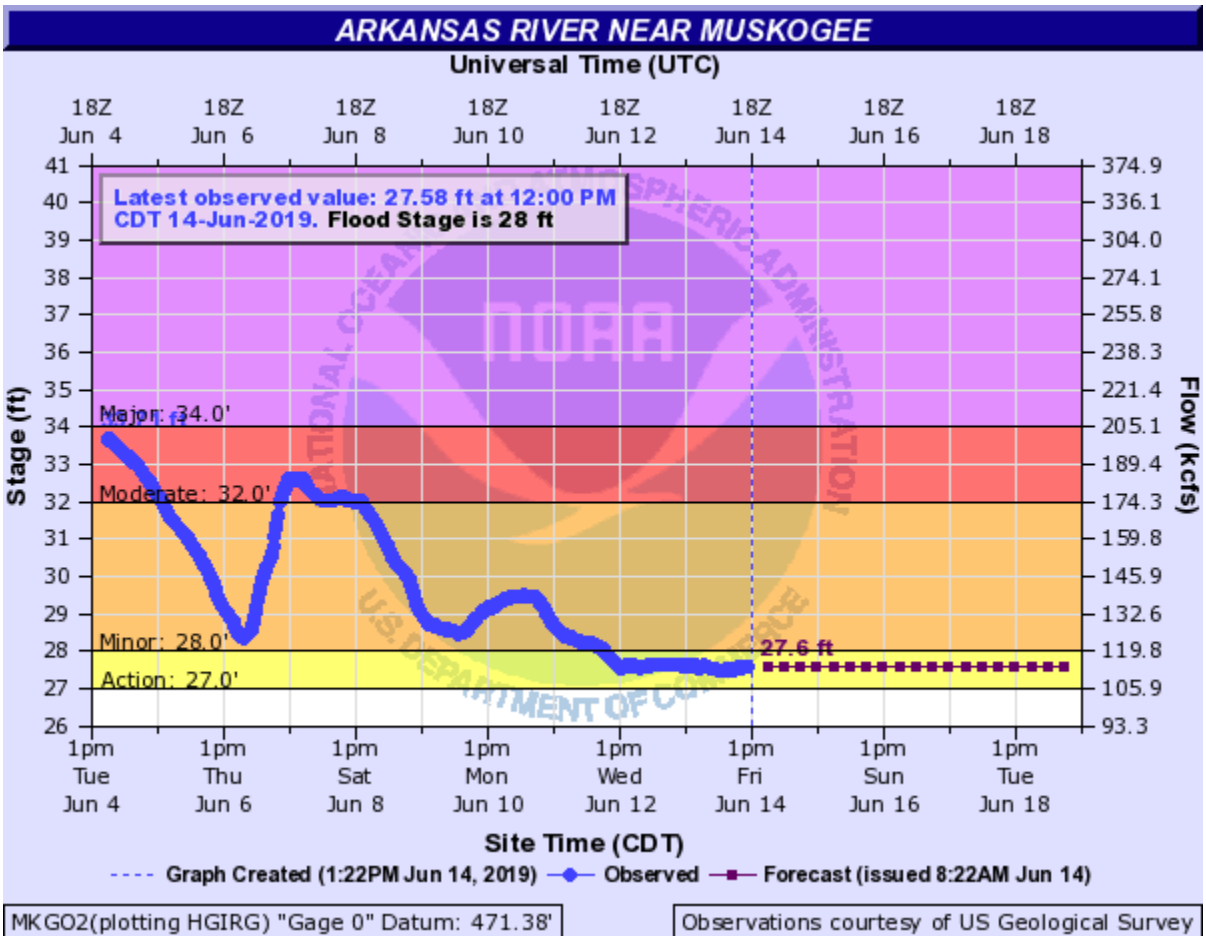

ARKANSAS RIVER NEAR MUSKOGEE
Universal Time (UTC)
21Z May 14
21Z May 16
21Z May 18
21Z May 20
21Z May 22
21Z May 24
21Z May 26
21Z May 28
Latest observed value: 44.42 ft at 3:00 PM CDT 24-May-2019. Flood Stage is 28 ft
Record: 48.2'
45.5 ft
44.42 ft
Major: 34.0'
Moderate: 32.0'
Minor: 28.0'
Action: 27.0'
Stage (ft)
Flow (kcfs)
4pm Tue May 14
4pm Thu May 16
4pm Sat May 18
4pm Mon May 20
4pm Wed May 22
4pm Fri May 24
4pm Sun May 26
4pm Tue May 28
Site Time (CDT)
Graph Created (4:07PM May 24, 2019)
Observed
Forecast (issued 3:01PM May 24)
MKGO2(plotting HGIRG) "Gage 0" Datum: 471.38'
Observations courtesy of US Geological Survey

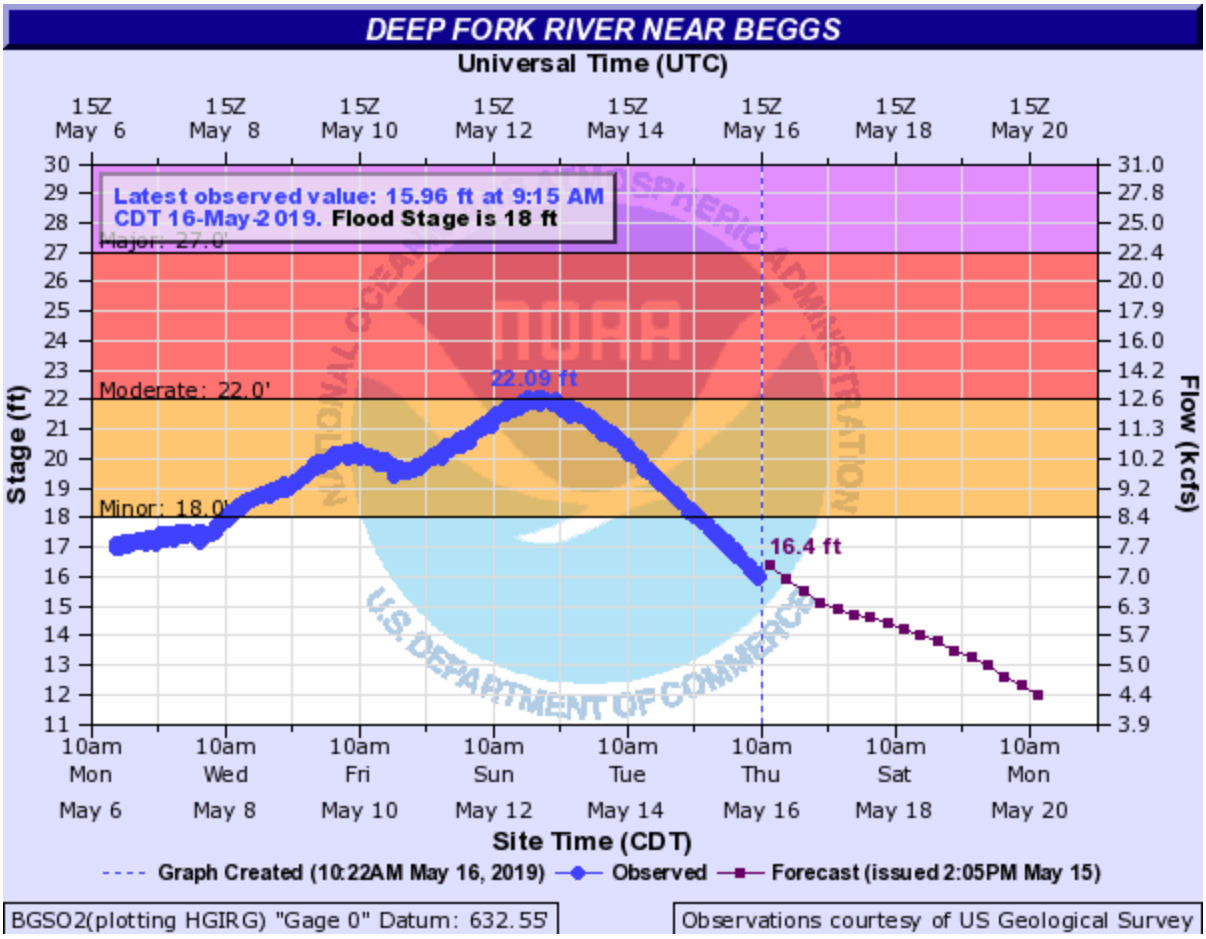

ARKANSAS RIVER NEAR MUSKOGEE
Universal Time (UTC)
15Z May 16
15Z May 18
15Z May 20
15Z May 22
15Z May 24
15Z May 26
15Z May 28
15Z May 30
Latest observed value: 46.38 ft at 10:00 AM CDT 26-May-2019. Flood Stage is 28 ft
Record: 48.2'
46.39 ft
46.5 ft
Major: 34.0'
Moderate: 32.0'
Minor: 28.0'
Action: 27.0'
Stage (ft)
Flow (kcfs)
10am Thu May 16
10am Sat May 18
10am Mon May 20
10am Wed May 22
10am Fri May 24
10am Sun May 26
10am Tue May 28
10am Thu May 30
Site Time (CDT)
Graph Created (10:53AM May 26, 2019)
Observed
Forecast (issued 8:18AM May 26)
MKGO2(plotting HGIRG) "Gage 0" Datum: 471.38'
Observations courtesy of US Geological Survey

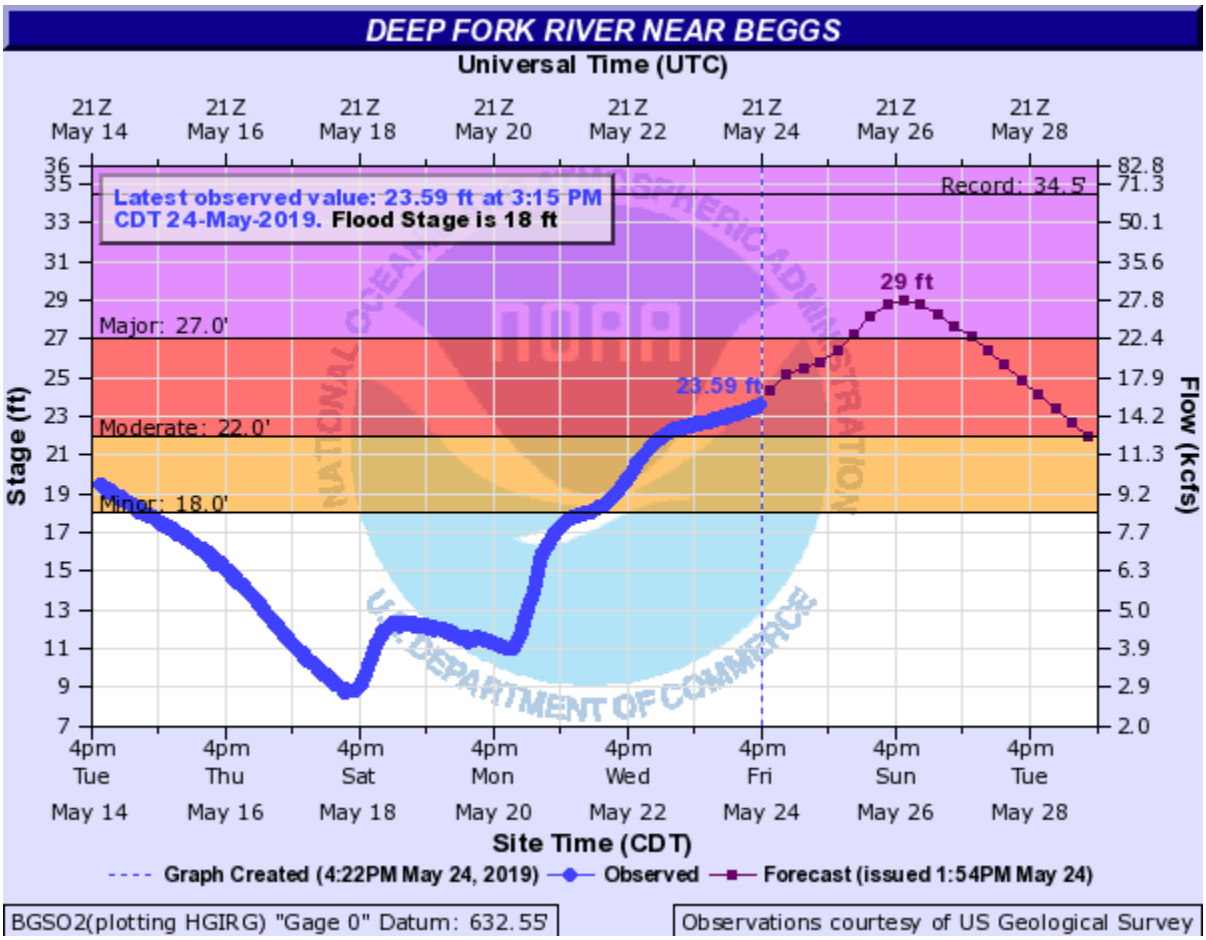

ARKANSAS RIVER NEAR MUSKOGEE
Universal Time (UTC)
21Z May 24
21Z May 26
21Z May 28
21Z May 30
21Z Jun 1
21Z Jun 3
21Z Jun 5
21Z Jun 7
Latest observed value: 35.95 ft at 3:00 PM CDT 3-Jun-2019. Flood Stage is 28 ft
Record: 48.2'
46.39 ft
35.8 ft
Major: 34.0'
Moderate: 32.0'
Stage (ft)
Flow (kcfs)
54
52
50
48
46
44
42
40
38
36
34
32
916.5
848.3
780.0
687.0
601.1
522.2
450.2
385.1
326.1
272.9
225.6
183.6
4pm Fri May 24
4pm Sun May 26
4pm Tue May 28
4pm Thu May 30
4pm Sat Jun 1
4pm Mon Jun 3
4pm Wed Jun 5
4pm Fri Jun 7
Site Time (CDT)
Graph Created (4:07PM Jun 3, 2019)
Observed
Forecast (issued 1:54PM Jun 3)
MKGO2(plotting HGIRG) "Gage 0" Datum: 471.38'
Observations courtesy of US Geological Survey

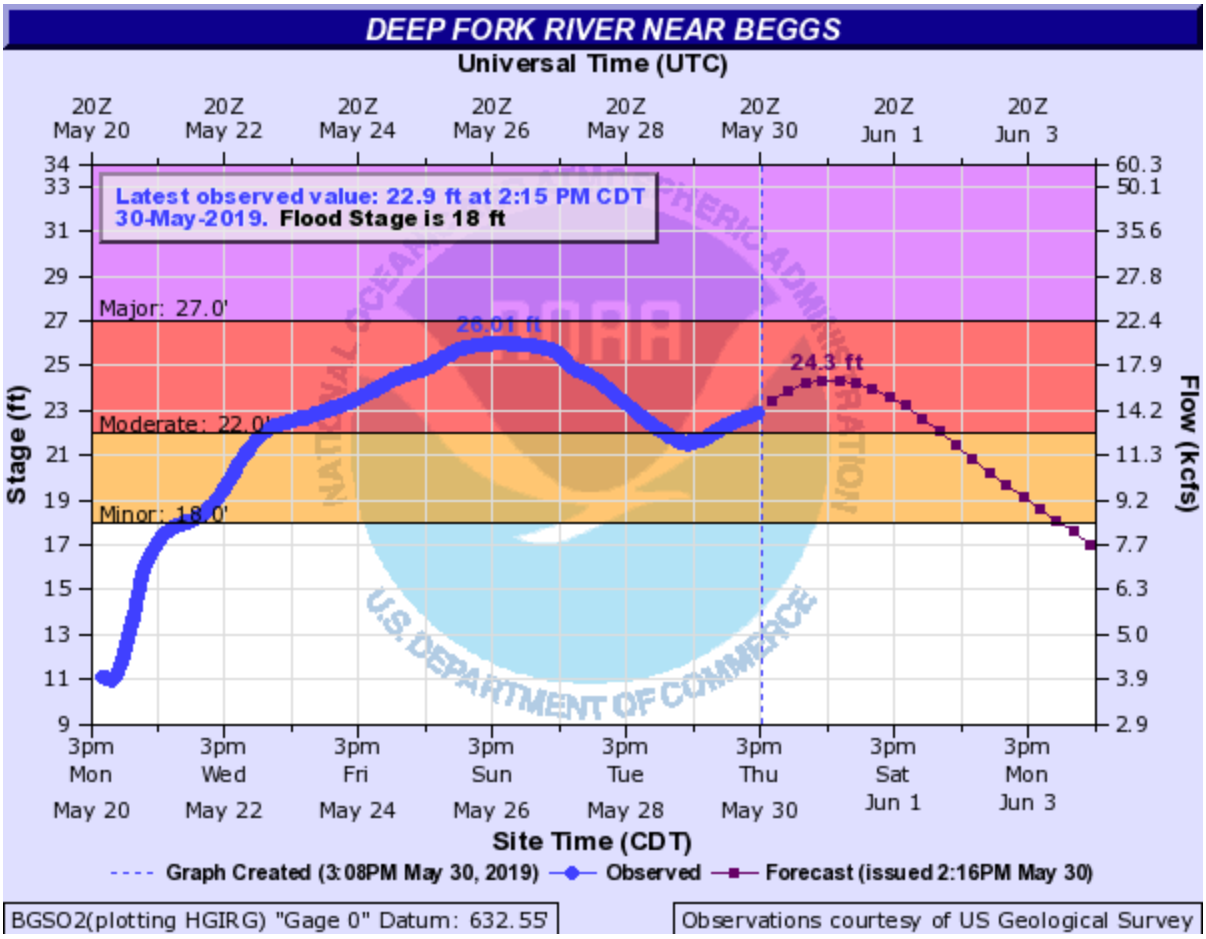

ARKANSAS RIVER NEAR MUSKOGEE
Universal Time (UTC)
17Z May 28
17Z May 30
17Z Jun 1
17Z Jun 3
17Z Jun 5
17Z Jun 7
17Z Jun 9
17Z Jun 11
Latest observed value: 32.46 ft at 12:00 PM CDT 7-Jun-2019. Flood Stage is 28 ft
Record: 48.2'
46 ft
32.9 ft
Major: 34.0'
Moderate: 32.0'
Minor: 28.0'
Action: 27.0'
Stage (ft)
Flow (kcfs)
53
51
49
47
45
43
41
39
37
35
33
31
29
27
882.4
814.1
732.6
643.2
560.8
485.3
416.9
354.8
298.8
248.5
203.9
166.1
134.9
107.3
12pm Tue May 28
12pm Thu May 30
12pm Sat Jun 1
12pm Mon Jun 3
12pm Wed Jun 5
12pm Fri Jun 7
12pm Sun Jun 9
12pm Tue Jun 11
Site Time (CDT)
Graph Created (12:52PM Jun 7, 2019)
Observed
Forecast (issued 9:29AM Jun 7)
MKGO2(plotting HGIRG) "Gage 0" Datum: 471.38'
Observations courtesy of US Geological Survey

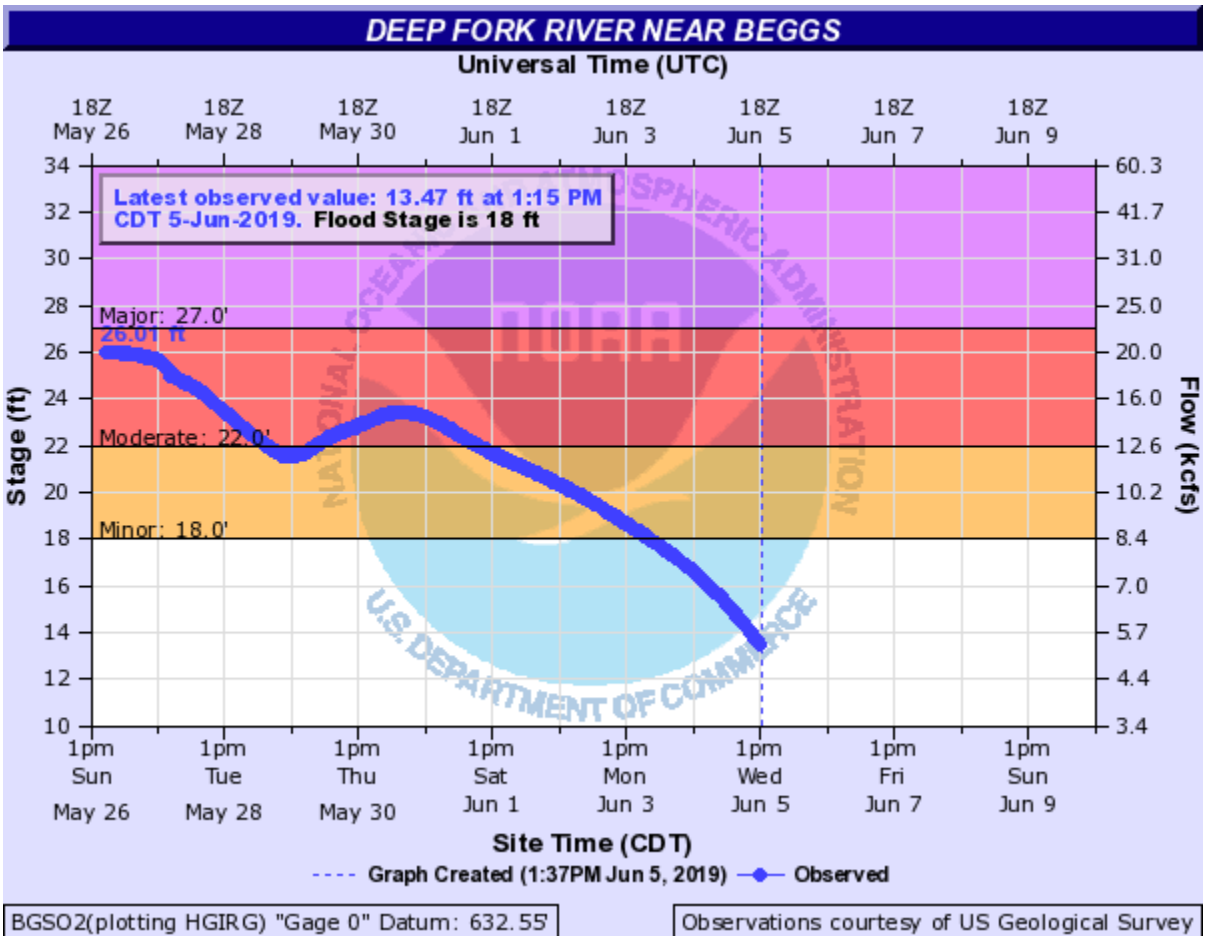

ARKANSAS RIVER NEAR MUSKOGEE
Universal Time (UTC)
13Z May 31
13Z Jun 2
13Z Jun 4
13Z Jun 6
13Z Jun 8
13Z Jun 10
13Z Jun 12
13Z Jun 14
Latest observed value: 28.78 ft at 8:00 AM CDT 10-Jun-2019. Flood Stage is 28 ft
Record: 48.2'
43.68 ft
29.2 ft
Major: 34.0'
Moderate: 32.0'
Minor: 28.0'
Action: 27.0'
Stage (ft)
Flow (kcfs)
51 49 47 45 43 41 39 37 35 33 31 29 27
816.0 742.4 639.9 546.7 462.6 374.9 304.0 255.8 221.4 189.4 159.8 132.6 105.9
8am Fri May 31
8am Sun Jun 2
8am Tue Jun 4
8am Thu Jun 6
8am Sat Jun 8
8am Mon Jun 10
8am Wed Jun 12
8am Fri Jun 14
Site Time (CDT)
Graph Created (8:22AM Jun 10, 2019)
Observed
Forecast (issued 7:47PM Jun 9)
MKGO2(plotting HGIRG) "Gage 0" Datum: 471.38'
Observations courtesy of US Geological Survey

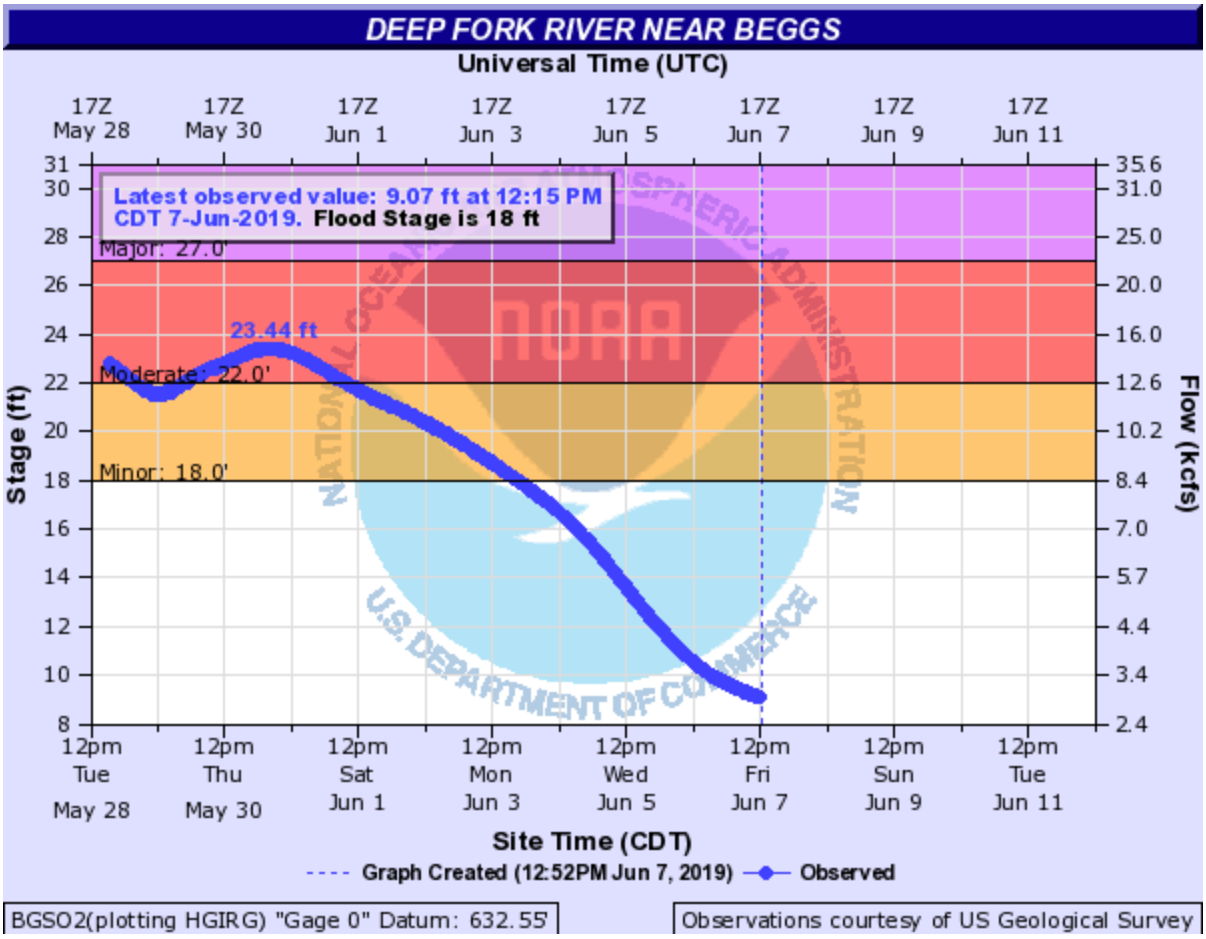

ARKANSAS RIVER NEAR MUSKOGEE
Universal Time (UTC)
18Z Jun 4
18Z Jun 6
18Z Jun 8
18Z Jun 10
18Z Jun 12
18Z Jun 14
18Z Jun 16
18Z Jun 18
Latest observed value: 27.58 ft at 12:00 PM CDT 14-Jun-2019. Flood Stage is 28 ft
27.6 ft
Major: 34.0'
Moderate: 32.0'
Minor: 28.0'
Action: 27.0'
Stage (ft)
Flow (kcfs)
41 40 39 38 37 36 35 34 33 32 31 30 29 28 27 26
374.9 336.1 304.0 274.1 255.8 238.3 221.4 205.1 189.4 174.3 159.8 145.9 132.6 119.8 105.9 93.3
1pm Tue Jun 4
1pm Thu Jun 6
1pm Sat Jun 8
1pm Mon Jun 10
1pm Wed Jun 12
1pm Fri Jun 14
1pm Sun Jun 16
1pm Tue Jun 18
Site Time (CDT)
Graph Created (1:22PM Jun 14, 2019)
Observed
Forecast (issued 8:22AM Jun 14)
MKGO2(plotting HGIRG) "Gage 0" Datum: 471.38'
Observations courtesy of US Geological Survey

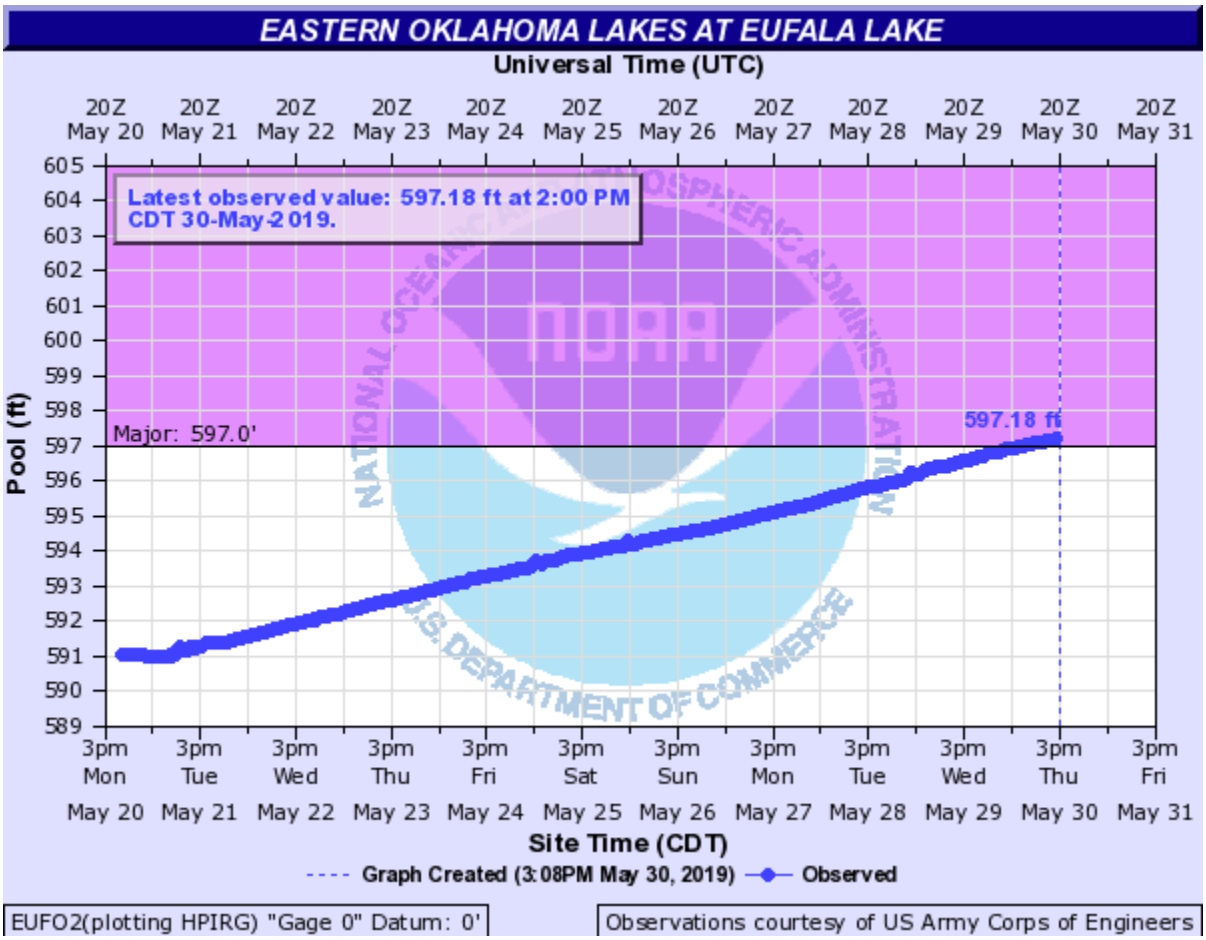

DEEP FORK RIVER NEAR BEGGS
Universal Time (UTC)
15Z May 6
15Z May 8
15Z May 10
15Z May 12
15Z May 14
15Z May 16
15Z May 18
15Z May 20
Latest observed value: 15.96 ft at 9:15 AM CDT 16-May-2019. Flood Stage is 18 ft
Major: 27.0'
Moderate: 22.0'
Minor: 18.0'
22.09 ft
16.4 ft
Stage (ft)
Flow (kcfs)
10am Mon May 6
10am Wed May 8
10am Fri May 10
10am Sun May 12
10am Tue May 14
10am Thu May 16
10am Sat May 18
10am Mon May 20
Site Time (CDT)
Graph Created (10:22AM May 16, 2019)
Observed
Forecast (issued 2:05PM May 15)
BGSO2(plotting HGIRG) "Gage 0" Datum: 632.55'
Observations courtesy of US Geological Survey

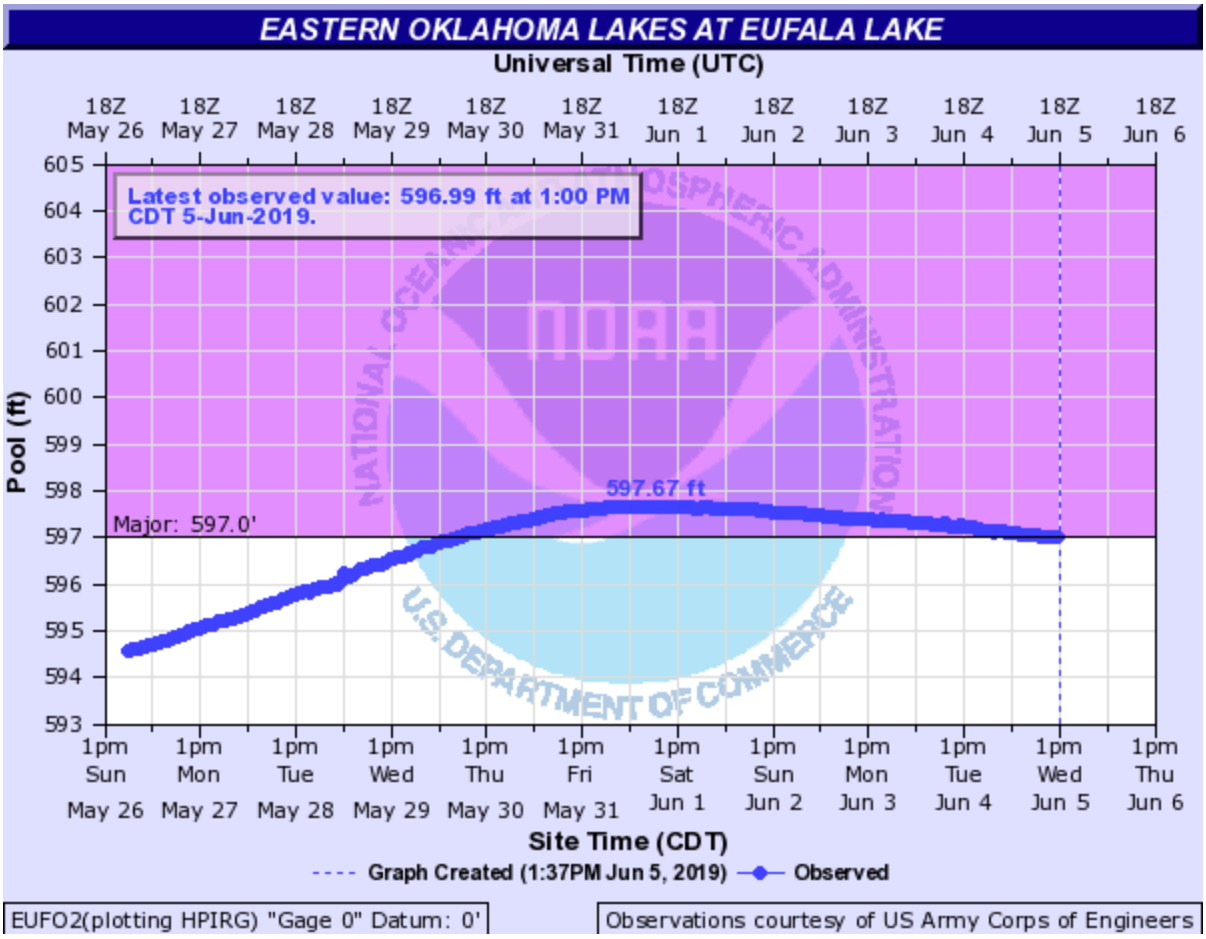

DEEP FORK RIVER NEAR BEGGS
Universal Time (UTC)
21Z May 14
21Z May 16
21Z May 18
21Z May 20
21Z May 22
21Z May 24
21Z May 26
21Z May 28
Latest observed value: 23.59 ft at 3:15 PM CDT 24-May-2019. Flood Stage is 18 ft
Record: 34.5'
Major: 27.0'
Moderate: 22.0'
Minor: 18.0'
29 ft
23.59 ft
Stage (ft)
Flow (kcfs)
4pm Tue May 14
4pm Thu May 16
4pm Sat May 18
4pm Mon May 20
4pm Wed May 22
4pm Fri May 24
4pm Sun May 26
4pm Tue May 28
Site Time (CDT)
Graph Created (4:22PM May 24, 2019)
Observed
Forecast (issued 1:54PM May 24)
BGSO2(plotting HGIRG) "Gage 0" Datum: 632.55'
Observations courtesy of US Geological Survey

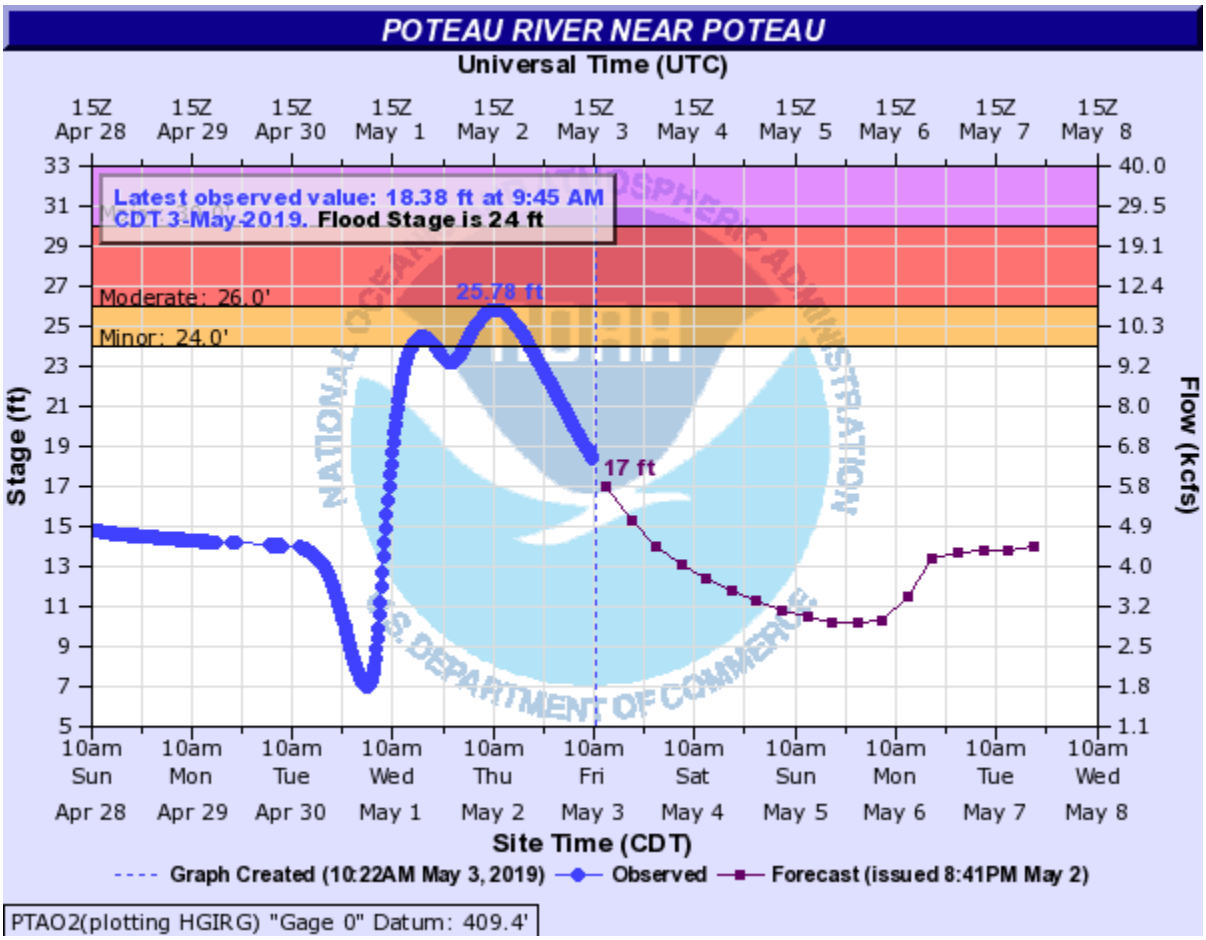

DEEP FORK RIVER NEAR BEGGS
Universal Time (UTC)
20Z May 20
20Z May 22
20Z May 24
20Z May 26
20Z May 28
20Z May 30
20Z Jun 1
20Z Jun 3
Latest observed value: 22.9 ft at 2:15 PM CDT 30-May-2019. Flood Stage is 18 ft
Major: 27.0'
Moderate: 22.0'
Minor: 18.0'
26.01 ft
24.3 ft
Stage (ft)
Flow (kcfs)
34 33 31 29 27 25 23 21 19 17 15 13 11 9
60.3 50.1 35.6 27.8 22.4 17.9 14.2 11.3 9.2 7.7 6.3 5.0 3.9 2.9
3pm Mon May 20
3pm Wed May 22
3pm Fri May 24
3pm Sun May 26
3pm Tue May 28
3pm Thu May 30
3pm Sat Jun 1
3pm Mon Jun 3
Site Time (CDT)
Graph Created (3:08PM May 30, 2019)
Observed
Forecast (issued 2:16PM May 30)
BGSO2(plotting HGIRG) "Gage 0" Datum: 632.55'
Observations courtesy of US Geological Survey

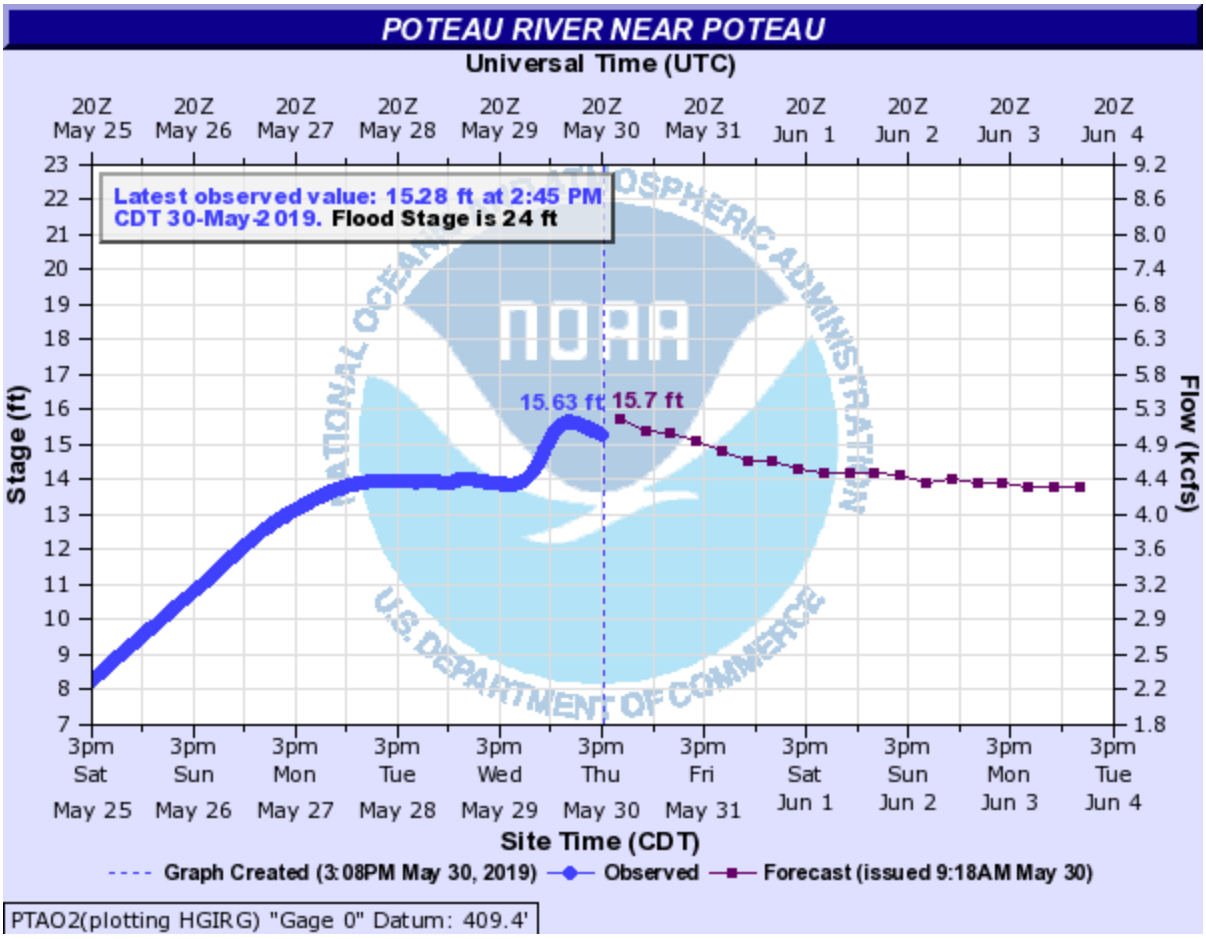

DEEP FORK RIVER NEAR BEGGS
Universal Time (UTC)
18Z May 26
18Z May 28
18Z May 30
18Z Jun 1
18Z Jun 3
18Z Jun 5
18Z Jun 7
18Z Jun 9
Latest observed value: 13.47 ft at 1:15 PM CDT 5-Jun-2019. Flood Stage is 18 ft
Major: 27.0'
26.01 ft
Moderate: 22.0'
Minor: 18.0'
Stage (ft)
Flow (kcfs)
34 32 30 28 26 24 22 20 18 16 14 12 10
60.3 41.7 31.0 25.0 20.0 16.0 12.6 10.2 8.4 7.0 5.7 4.4 3.4
1pm Sun May 26
1pm Tue May 28
1pm Thu May 30
1pm Sat Jun 1
1pm Mon Jun 3
1pm Wed Jun 5
1pm Fri Jun 7
1pm Sun Jun 9
Site Time (CDT)
Graph Created (1:37PM Jun 5, 2019)
Observed
BGSO2(plotting HGIRG) "Gage 0" Datum: 632.55'
Observations courtesy of US Geological Survey

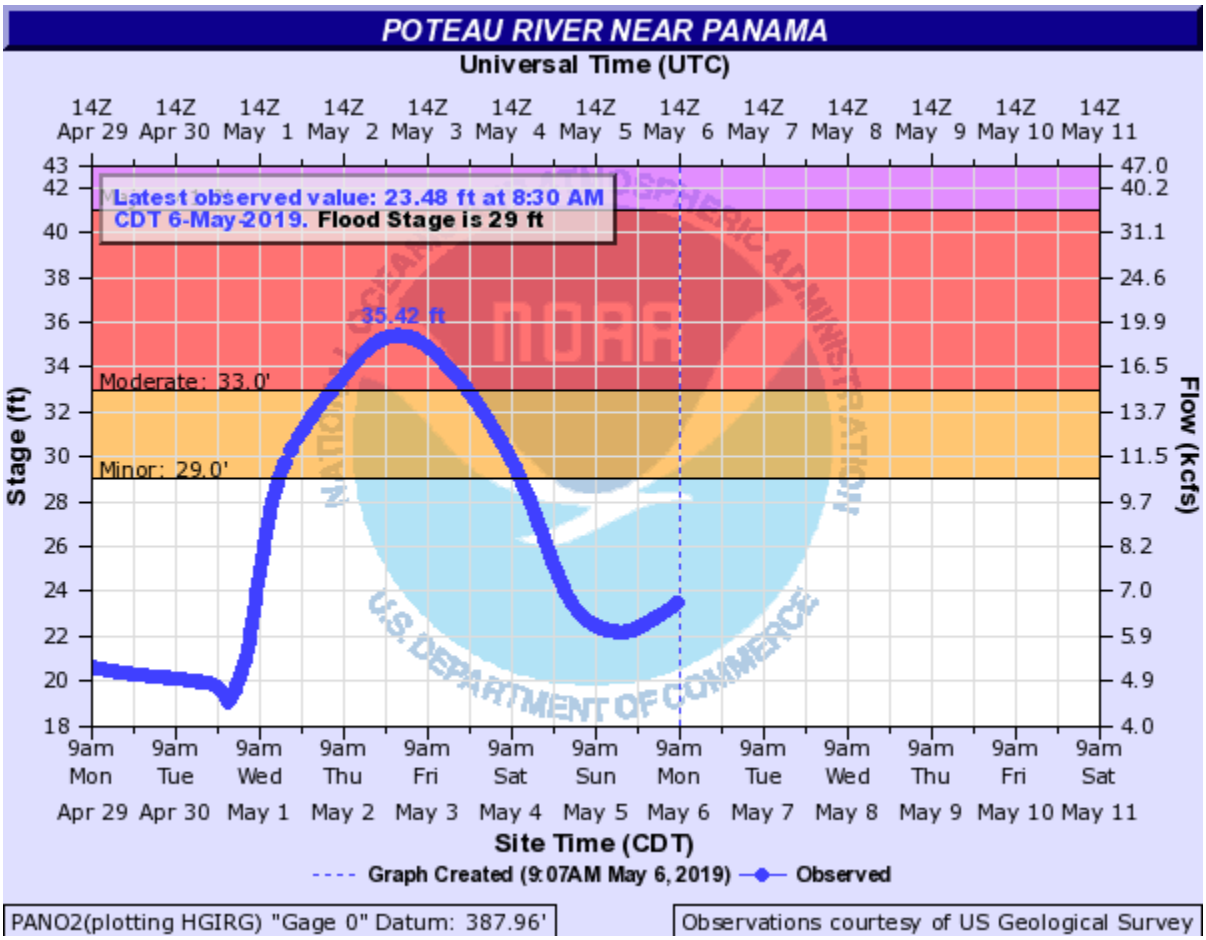

DEEP FORK RIVER NEAR BEGGS
Universal Time (UTC)
17Z May 28
17Z May 30
17Z Jun 1
17Z Jun 3
17Z Jun 5
17Z Jun 7
17Z Jun 9
17Z Jun 11
Latest observed value: 9.07 ft at 12:15 PM CDT 7-Jun-2019. Flood Stage is 18 ft
Major: 27.0'
Moderate: 22.0'
Minor: 18.0'
23.44 ft
Stage (ft)
Flow (kcfs)
12pm Tue May 28
12pm Thu May 30
12pm Sat Jun 1
12pm Mon Jun 3
12pm Wed Jun 5
12pm Fri Jun 7
12pm Sun Jun 9
12pm Tue Jun 11
Site Time (CDT)
Graph Created (12:52PM Jun 7, 2019)
Observed
BGSO2(plotting HGIRG) "Gage 0" Datum: 632.55'
Observations courtesy of US Geological Survey

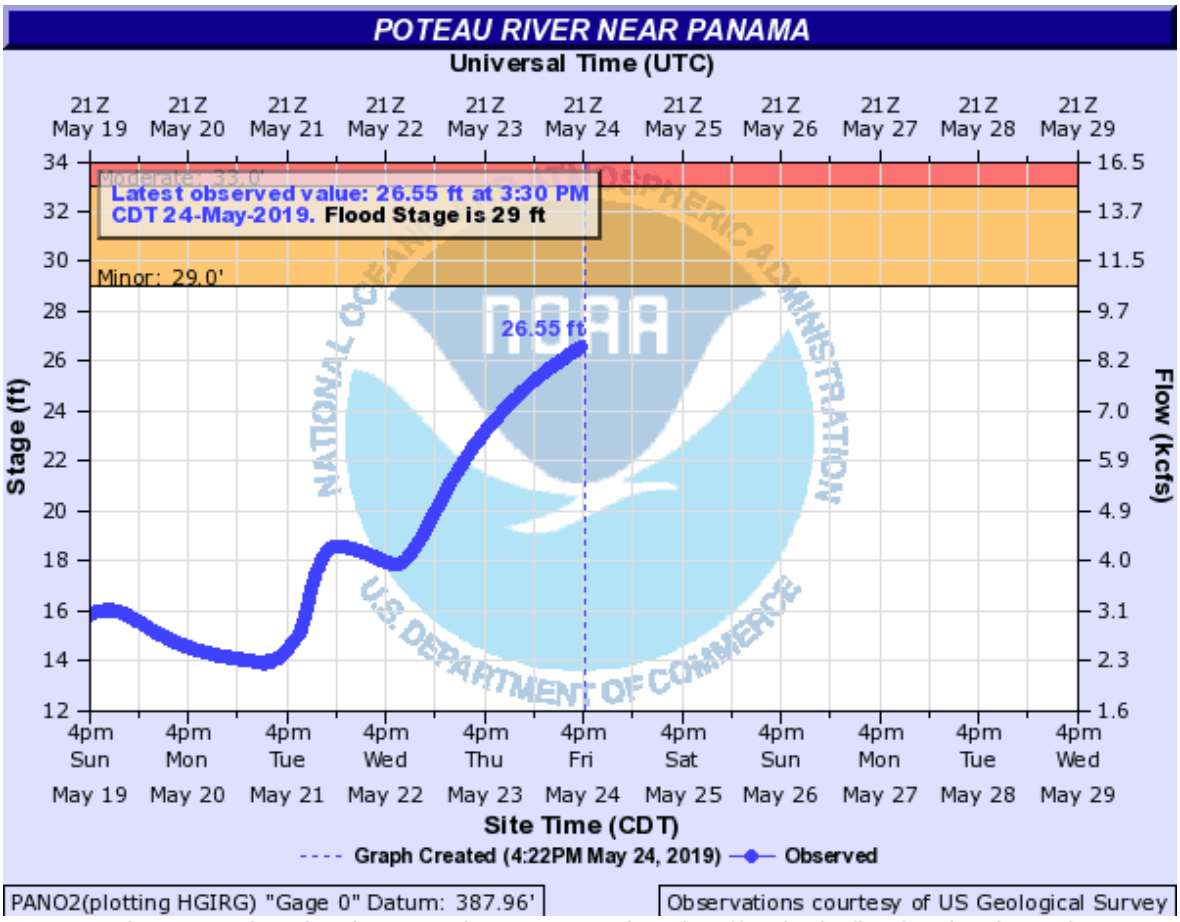

EASTERN OKLAHOMA LAKES AT EUFALA LAKE
Universal Time (UTC)
20Z May 20
20Z May 21
20Z May 22
20Z May 23
20Z May 24
20Z May 25
20Z May 26
20Z May 27
20Z May 28
20Z May 29
20Z May 30
20Z May 31
Latest observed value: 597.18 ft at 2:00 PM CDT 30-May-2019.
Major: 597.0'
597.18 ft
Pool (ft)
3pm Mon May 20
3pm Tue May 21
3pm Wed May 22
3pm Thu May 23
3pm Fri May 24
3pm Sat May 25
3pm Sun May 26
3pm Mon May 27
3pm Tue May 28
3pm Wed May 29
3pm Thu May 30
3pm Fri May 31
Site Time (CDT)
Graph Created (3:08PM May 30, 2019)
Observed
EUFO2(plotting HPIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers


EASTERN OKLAHOMA LAKES AT EUFALA LAKE
Universal Time (UTC)
18Z May 26
18Z May 27
18Z May 28
18Z May 29
18Z May 30
18Z May 31
18Z Jun 1
18Z Jun 2
18Z Jun 3
18Z Jun 4
18Z Jun 5
18Z Jun 6
Latest observed value: 596.99 ft at 1:00 PM CDT 5-Jun-2019.
Pool (ft)
605
604
603
602
601
600
599
598
597
596
595
594
593
597.67 ft
Major: 597.0'
1pm Sun May 26
1pm Mon May 27
1pm Tue May 28
1pm Wed May 29
1pm Thu May 30
1pm Fri May 31
1pm Sat Jun 1
1pm Sun Jun 2
1pm Mon Jun 3
1pm Tue Jun 4
1pm Wed Jun 5
1pm Thu Jun 6
Site Time (CDT)
Graph Created (1:37PM Jun 5, 2019)
Observed
EUFO2(plotting HPIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers

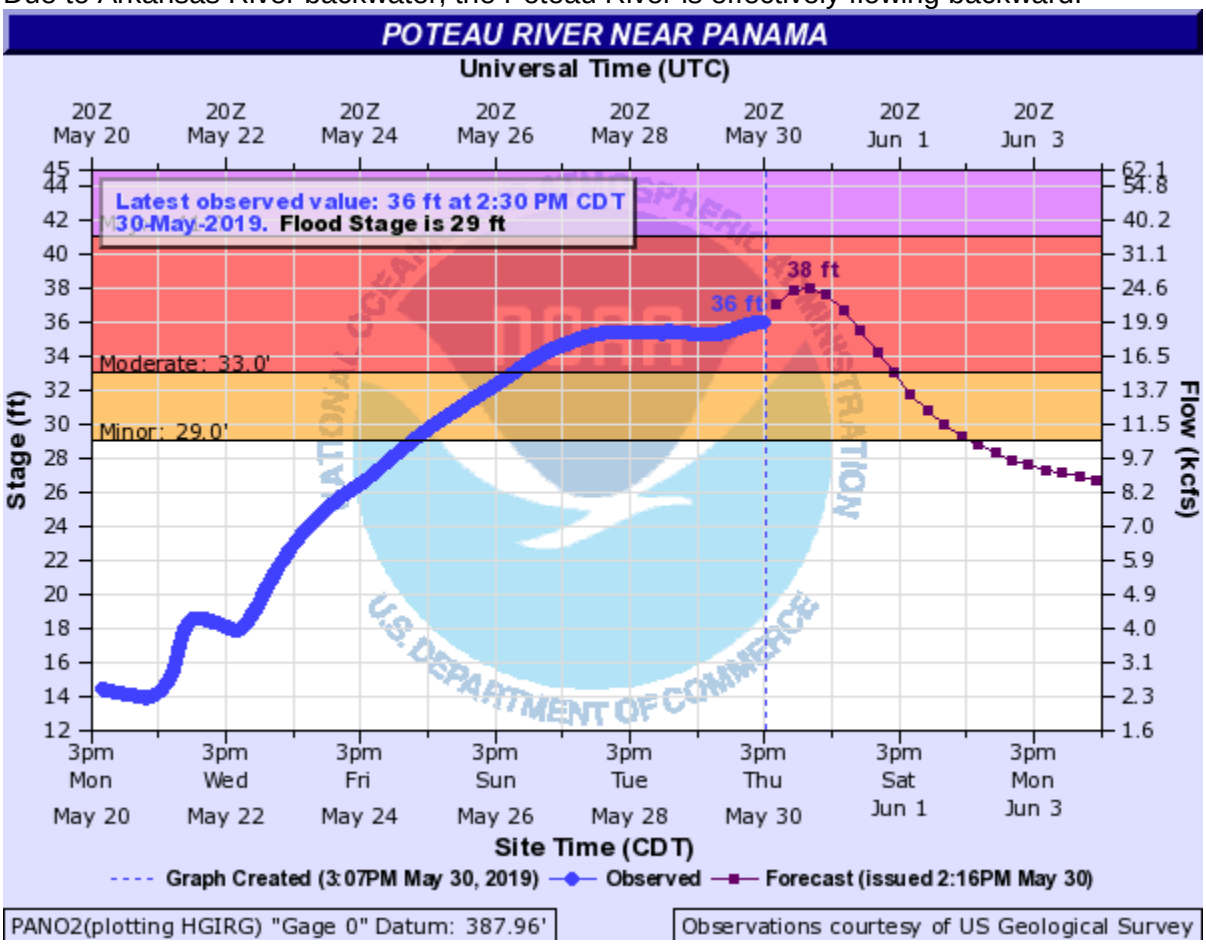

POTEAU RIVER NEAR POTEAU
Universal Time (UTC)
15Z Apr 28
15Z Apr 29
15Z Apr 30
15Z May 1
15Z May 2
15Z May 3
15Z May 4
15Z May 5
15Z May 6
15Z May 7
15Z May 8
Latest observed value: 18.38 ft at 9:45 AM CDT 3-May-2019. Flood Stage is 24 ft
Stage (ft)
33
31
29
27
25
23
21
19
17
15
13
11
9
7
5
Flow (kcfs)
40.0
29.5
19.1
12.4
10.3
9.2
8.0
6.8
5.8
4.9
4.0
3.2
2.5
1.8
1.1
Moderate: 26.0'
Minor: 24.0'
25.78 ft
17 ft
10am Sun Apr 28
10am Mon Apr 29
10am Tue Apr 30
10am Wed May 1
10am Thu May 2
10am Fri May 3
10am Sat May 4
10am Sun May 5
10am Mon May 6
10am Tue May 7
10am Wed May 8
Site Time (CDT)
Graph Created (10:22AM May 3, 2019)
Observed
Forecast (issued 8:41PM May 2)
PTAO2(plotting HGIRG) "Gage 0" Datum: 409.4'

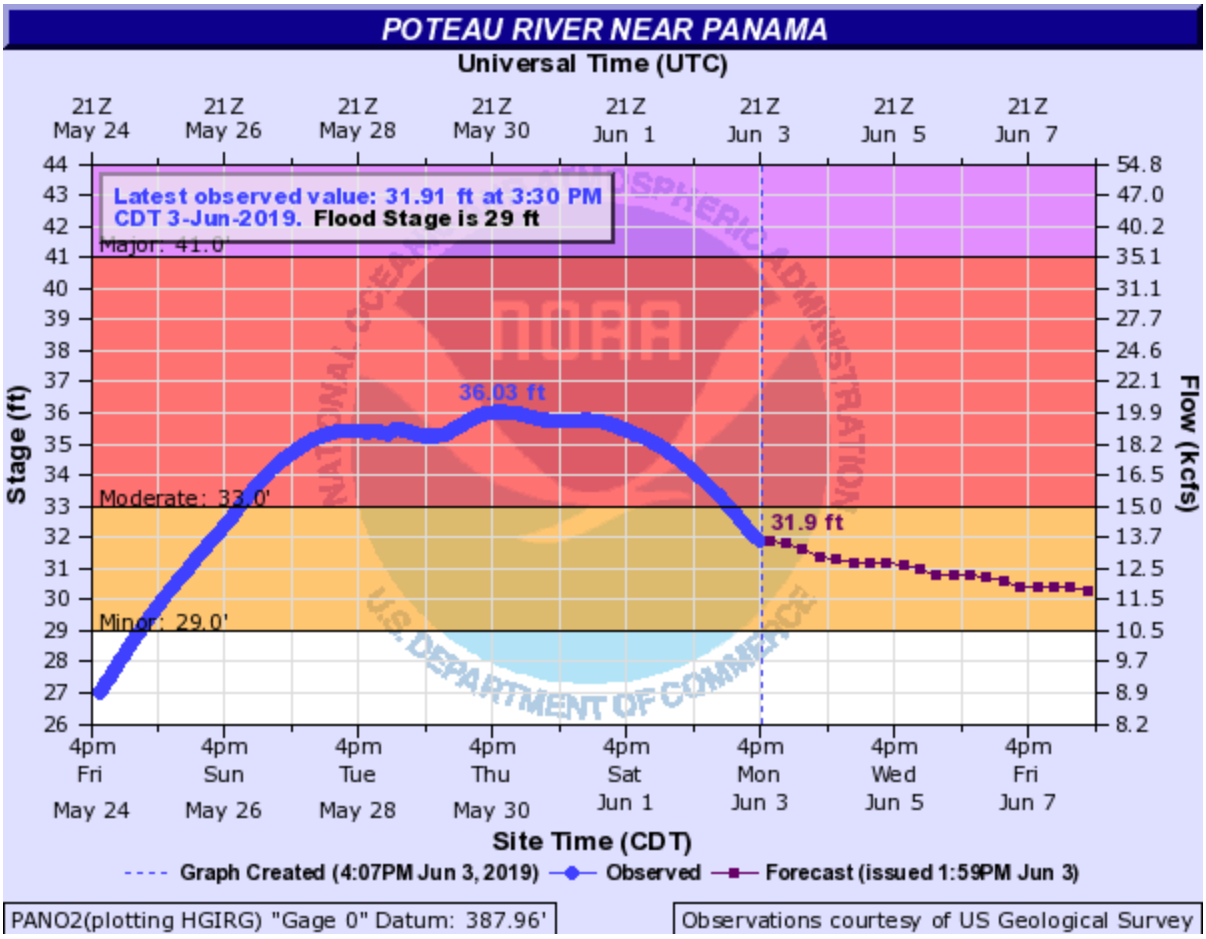

POTEAU RIVER NEAR POTEAU
Universal Time (UTC)
20Z May 25
20Z May 26
20Z May 27
20Z May 28
20Z May 29
20Z May 30
20Z May 31
20Z Jun 1
20Z Jun 2
20Z Jun 3
20Z Jun 4
Latest observed value: 15.28 ft at 2:45 PM CDT 30-May-2019. Flood Stage is 24 ft
15.63 ft
15.7 ft
Stage (ft)
Flow (kcfs)
3pm Sat May 25
3pm Sun May 26
3pm Mon May 27
3pm Tue May 28
3pm Wed May 29
3pm Thu May 30
3pm Fri May 31
3pm Sat Jun 1
3pm Sun Jun 2
3pm Mon Jun 3
3pm Tue Jun 4
Site Time (CDT)
Graph Created (3:08PM May 30, 2019)
Observed
Forecast (issued 9:18AM May 30)
PTAO2(plotting HGIRG) "Gage 0" Datum: 409.4'

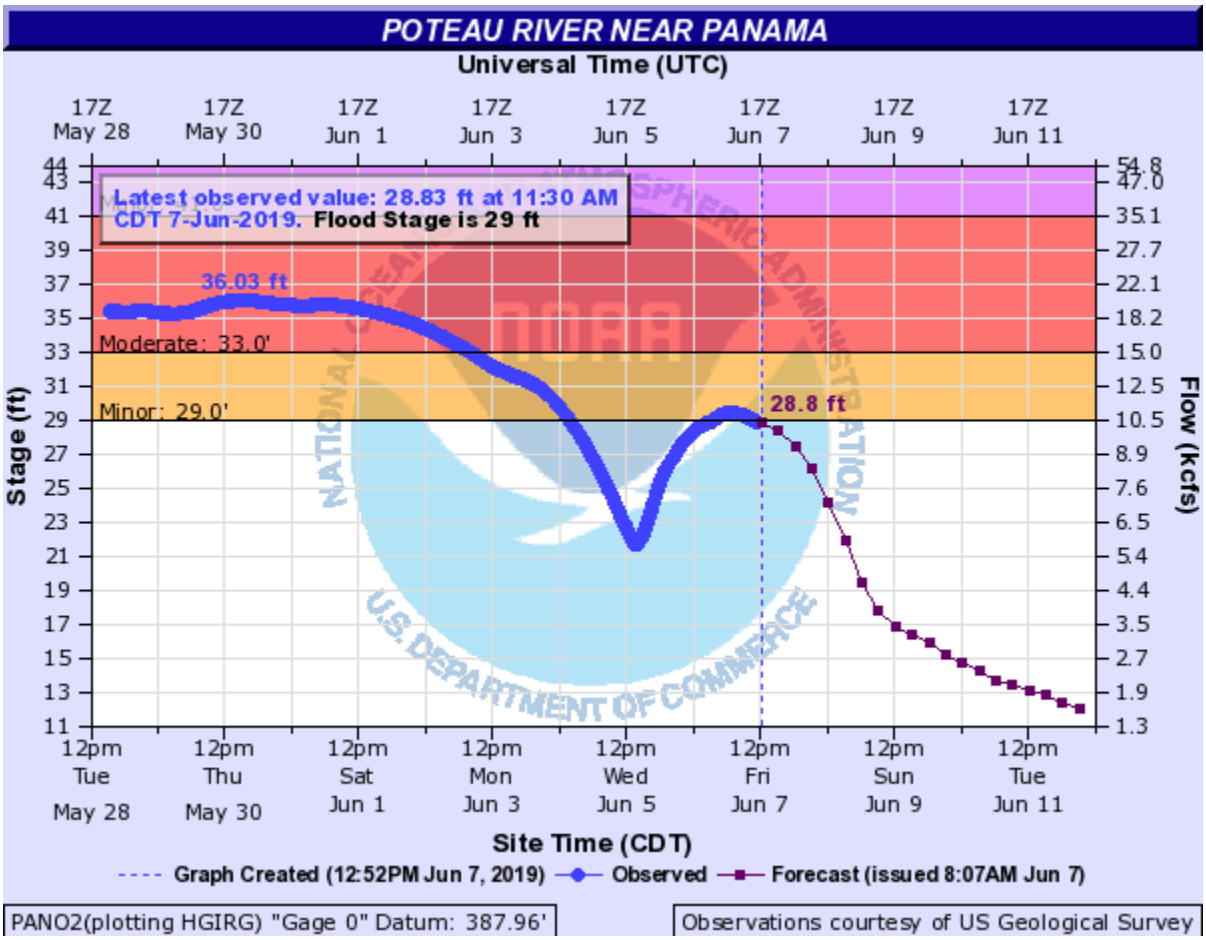

POTEAU RIVER NEAR PANAMA
Universal Time (UTC)
14Z Apr 29
14Z Apr 30
14Z May 1
14Z May 2
14Z May 3
14Z May 4
14Z May 5
14Z May 6
14Z May 7
14Z May 8
14Z May 9
14Z May 10
14Z May 11
Latest observed value: 23.48 ft at 8:30 AM CDT 6-May-2019. Flood Stage is 29 ft
35.42 ft
Moderate: 33.0'
Minor: 29.0'
Stage (ft)
Flow (kcfs)
9am Mon Apr 29
9am Tue Apr 30
9am Wed May 1
9am Thu May 2
9am Fri May 3
9am Sat May 4
9am Sun May 5
9am Mon May 6
9am Tue May 7
9am Wed May 8
9am Thu May 9
9am Fri May 10
9am Sat May 11
Site Time (CDT)
Graph Created (9:07AM May 6, 2019)
Observed
PANO2(plotting HGIRG) "Gage 0" Datum: 387.96'
Observations courtesy of US Geological Survey

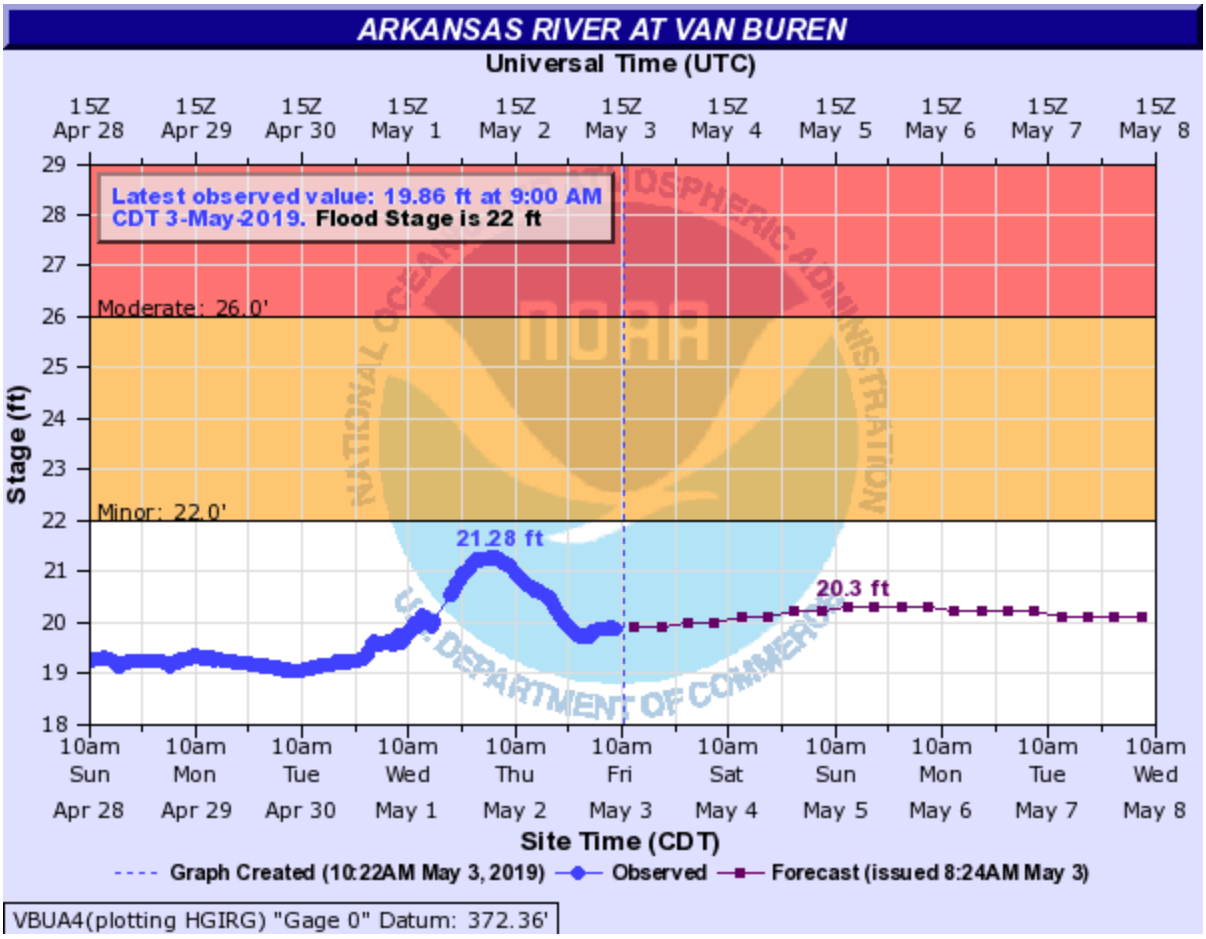


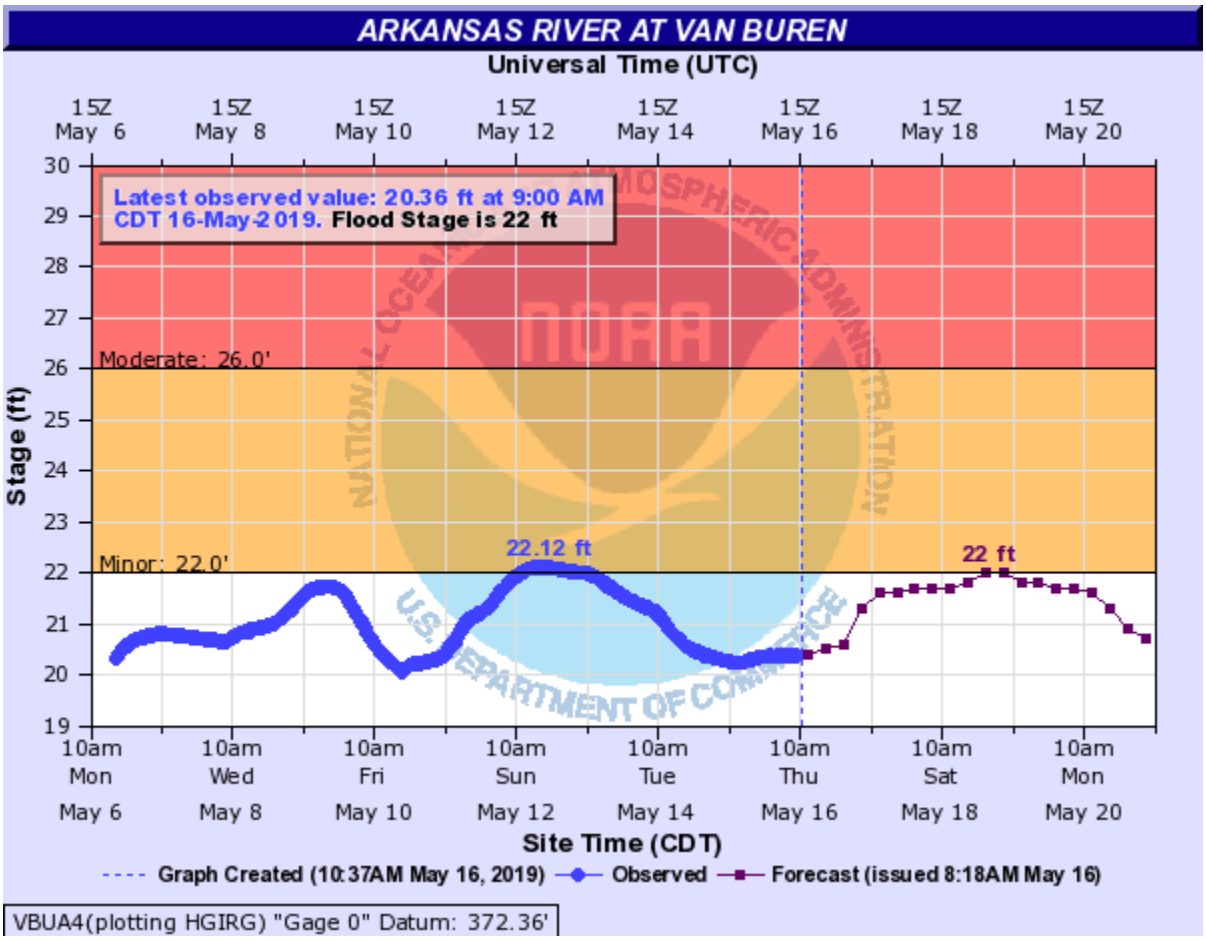
Due to Arkansas River backwater, the Poteau River is effectively flowing backward.

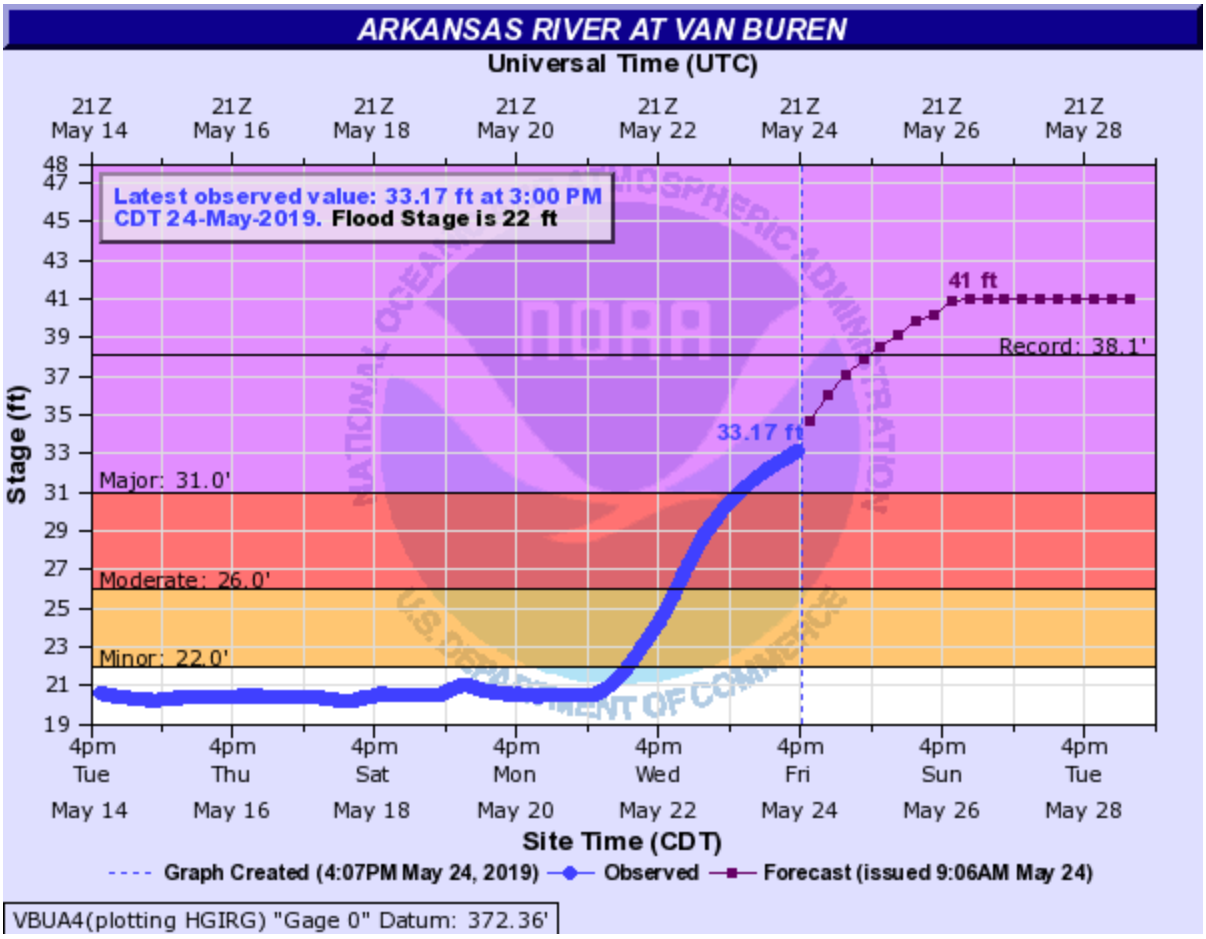


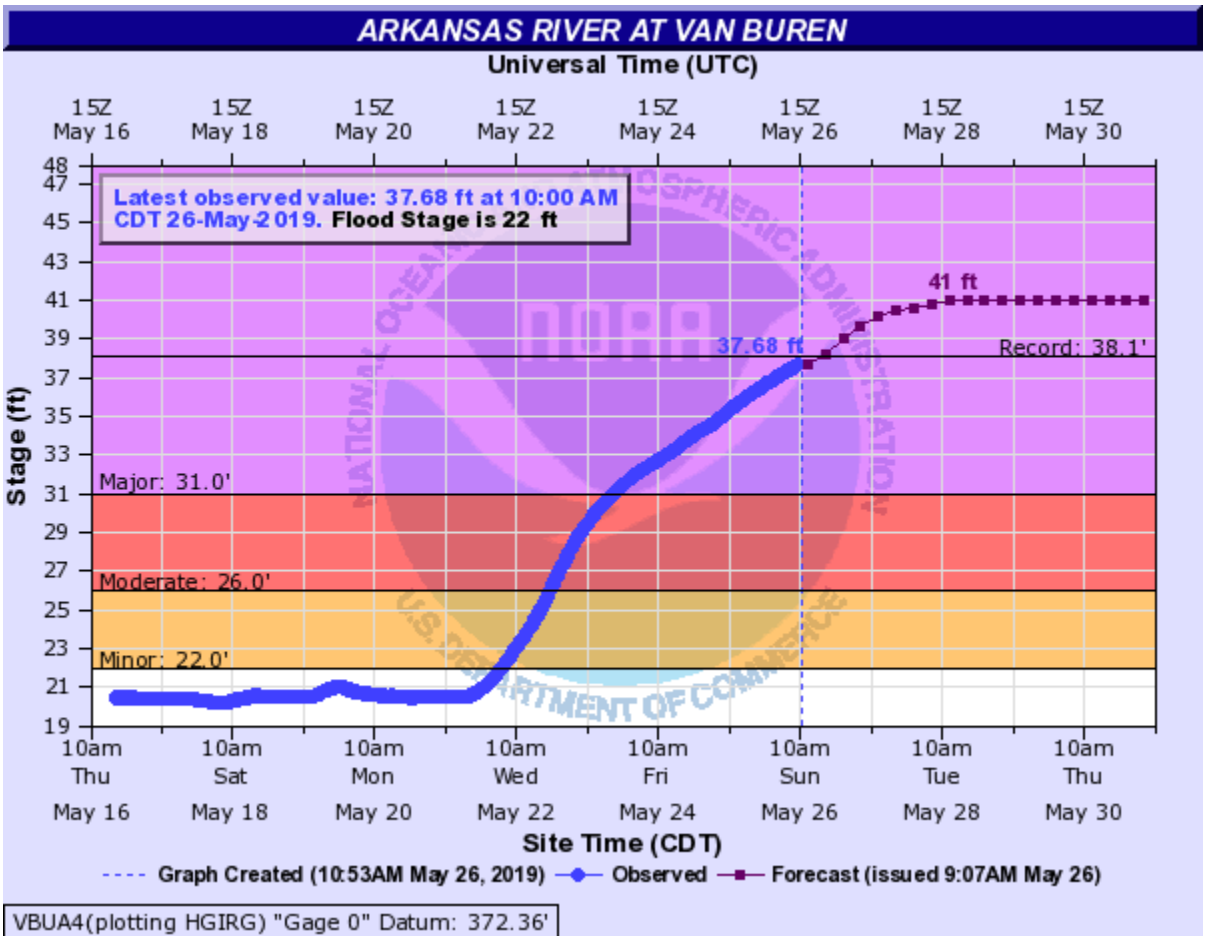

POTEAU RIVER NEAR PANAMA
Universal Time (UTC)
21Z May 24
21Z May 26
21Z May 28
21Z May 30
21Z Jun 1
21Z Jun 3
21Z Jun 5
21Z Jun 7
Latest observed value: 31.91 ft at 3:30 PM CDT 3-Jun-2019. Flood Stage is 29 ft
Major: 41.0'
Moderate: 33.0'
Minor: 29.0'
36.03 ft
31.9 ft
Stage (ft)
Flow (kcfs)
4pm Fri May 24
4pm Sun May 26
4pm Tue May 28
4pm Thu May 30
4pm Sat Jun 1
4pm Mon Jun 3
4pm Wed Jun 5
4pm Fri Jun 7
Site Time (CDT)
Graph Created (4:07PM Jun 3, 2019)
Observed
Forecast (issued 1:59PM Jun 3)
PANO2(plotting HGIRG) "Gage 0" Datum: 387.96'
Observations courtesy of US Geological Survey

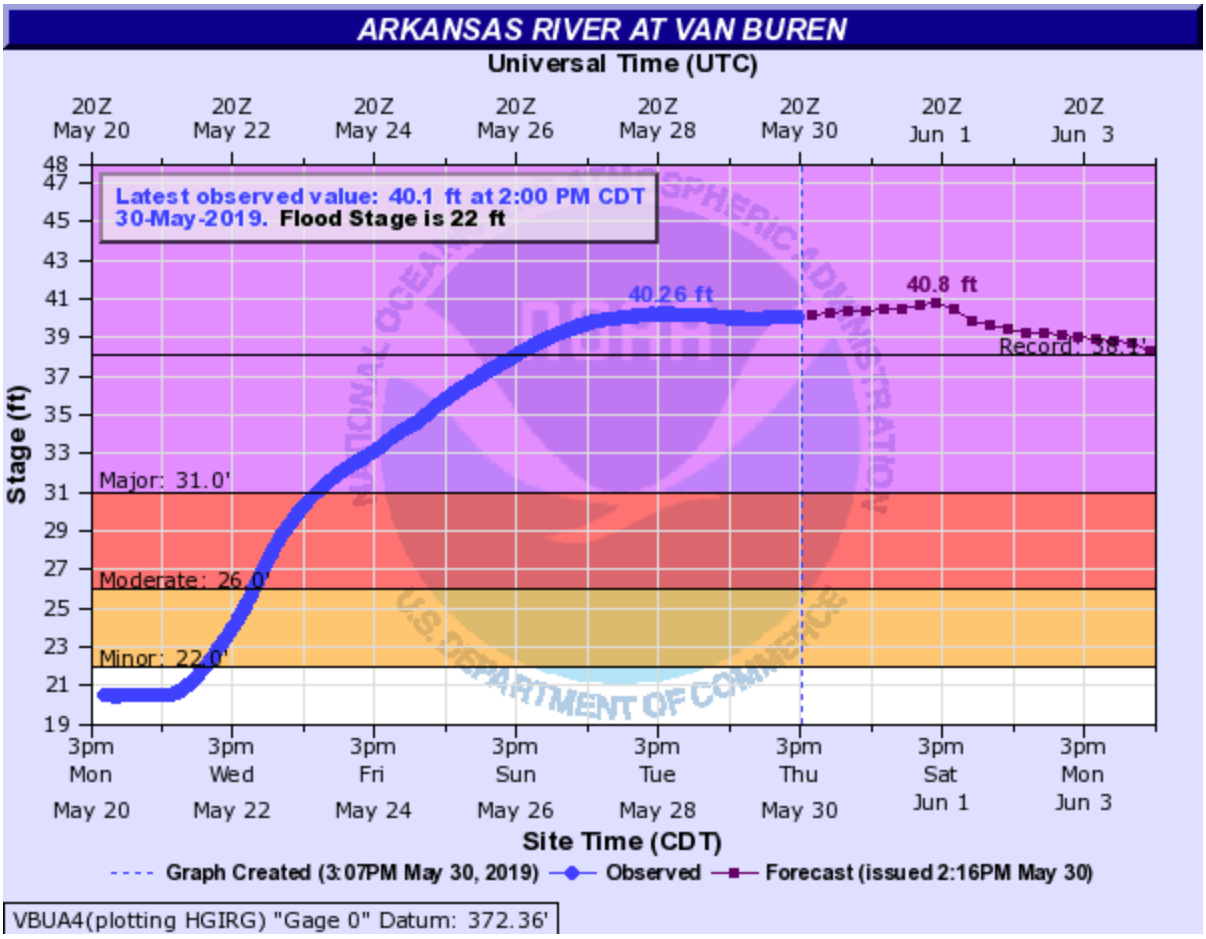

POTEAU RIVER NEAR PANAMA
Universal Time (UTC)
17Z May 28
17Z May 30
17Z Jun 1
17Z Jun 3
17Z Jun 5
17Z Jun 7
17Z Jun 9
17Z Jun 11
Latest observed value: 28.83 ft at 11:30 AM CDT 7-Jun-2019. Flood Stage is 29 ft
36.03 ft
Moderate: 33.0'
Minor: 29.0'
28.8 ft
Stage (ft)
Flow (kcfs)
12pm Tue May 28
12pm Thu May 30
12pm Sat Jun 1
12pm Mon Jun 3
12pm Wed Jun 5
12pm Fri Jun 7
12pm Sun Jun 9
12pm Tue Jun 11
Site Time (CDT)
Graph Created (12:52PM Jun 7, 2019)
Observed
Forecast (issued 8:07AM Jun 7)
PANO2(plotting HGIRG) "Gage 0" Datum: 387.96'
Observations courtesy of US Geological Survey

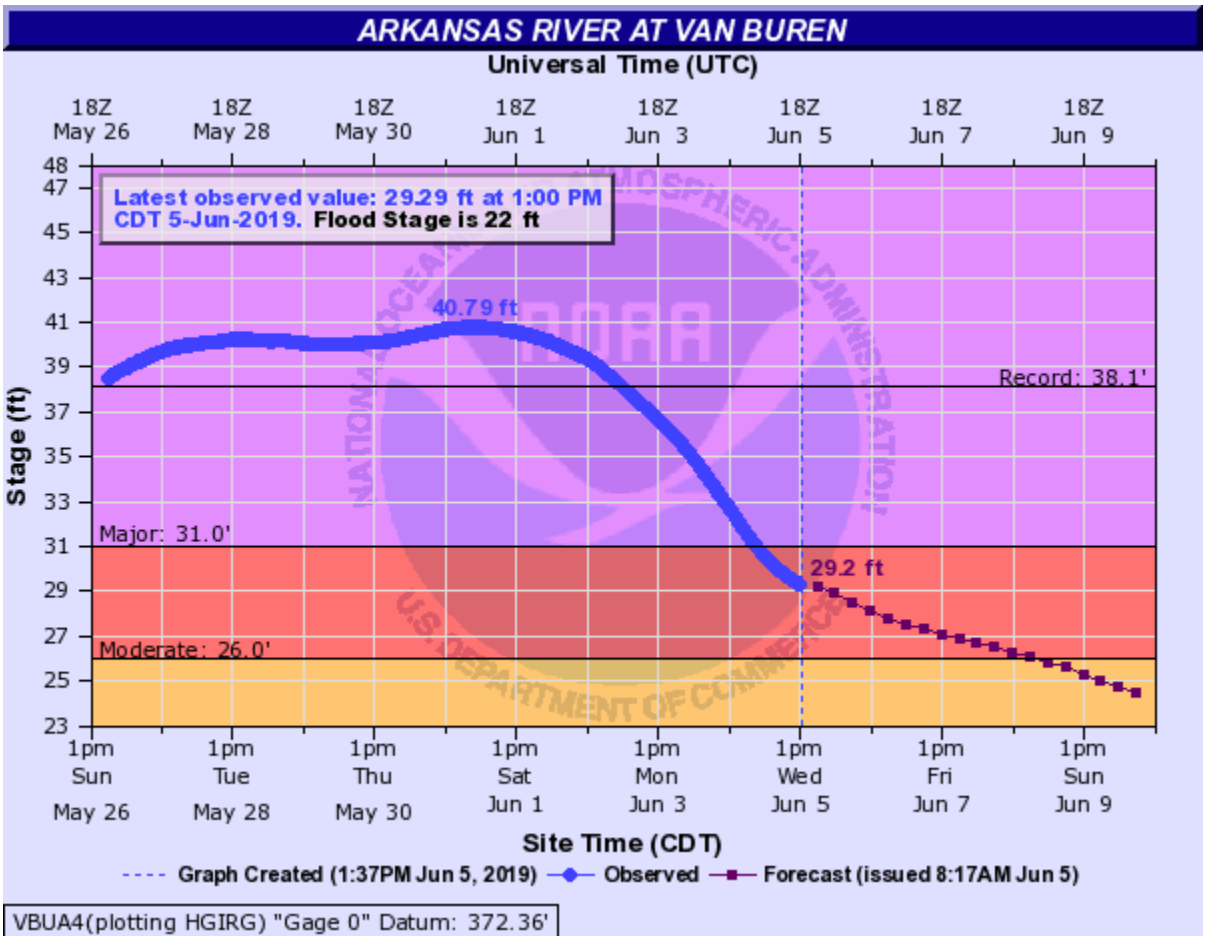

ARKANSAS RIVER AT VAN BUREN
Universal Time (UTC)
15Z Apr 28
15Z Apr 29
15Z Apr 30
15Z May 1
15Z May 2
15Z May 3
15Z May 4
15Z May 5
15Z May 6
15Z May 7
15Z May 8
Latest observed value: 19.86 ft at 9:00 AM CDT 3-May-2019. Flood Stage is 22 ft
Moderate: 26.0'
Minor: 22.0'
Stage (ft)
21.28 ft
20.3 ft
10am Sun Apr 28
10am Mon Apr 29
10am Tue Apr 30
10am Wed May 1
10am Thu May 2
10am Fri May 3
10am Sat May 4
10am Sun May 5
10am Mon May 6
10am Tue May 7
10am Wed May 8
Site Time (CDT)
Graph Created (10:22AM May 3, 2019)
Observed
Forecast (issued 8:24AM May 3)
VBUA4(plotting HGIRG) "Gage 0" Datum: 372.36'

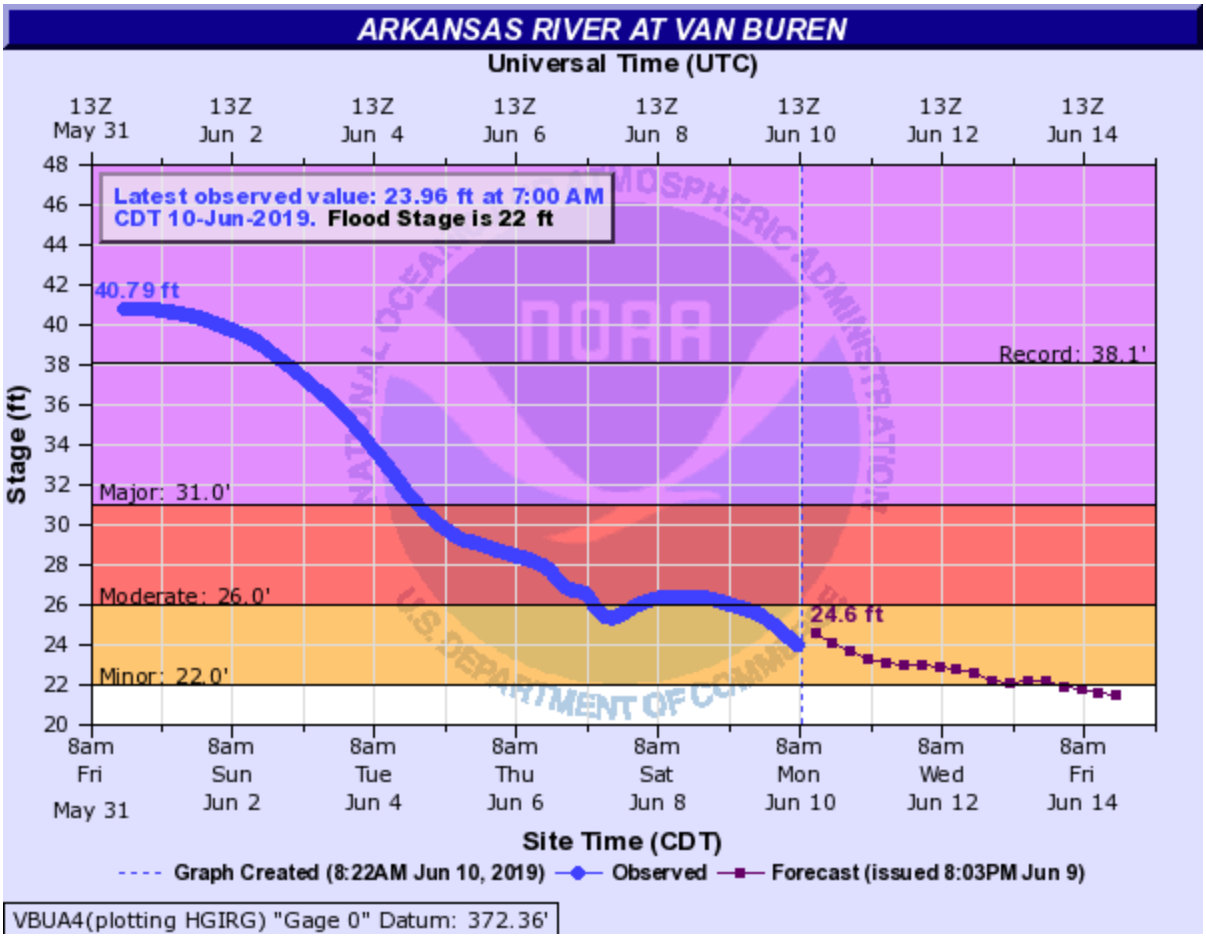

ARKANSAS RIVER AT VAN BUREN
Universal Time (UTC)
15Z May 6
15Z May 8
15Z May 10
15Z May 12
15Z May 14
15Z May 16
15Z May 18
15Z May 20
Latest observed value: 20.36 ft at 9:00 AM CDT 16-May-2019. Flood Stage is 22 ft
Moderate: 26.0'
Minor: 22.0'
Stage (ft)
22.12 ft
22 ft
10am Mon May 6
10am Wed May 8
10am Fri May 10
10am Sun May 12
10am Tue May 14
10am Thu May 16
10am Sat May 18
10am Mon May 20
Site Time (CDT)
Graph Created (10:37AM May 16, 2019)
Observed
Forecast (issued 8:18AM May 16)
VBUA4(plotting HGIRG) "Gage 0" Datum: 372.36'

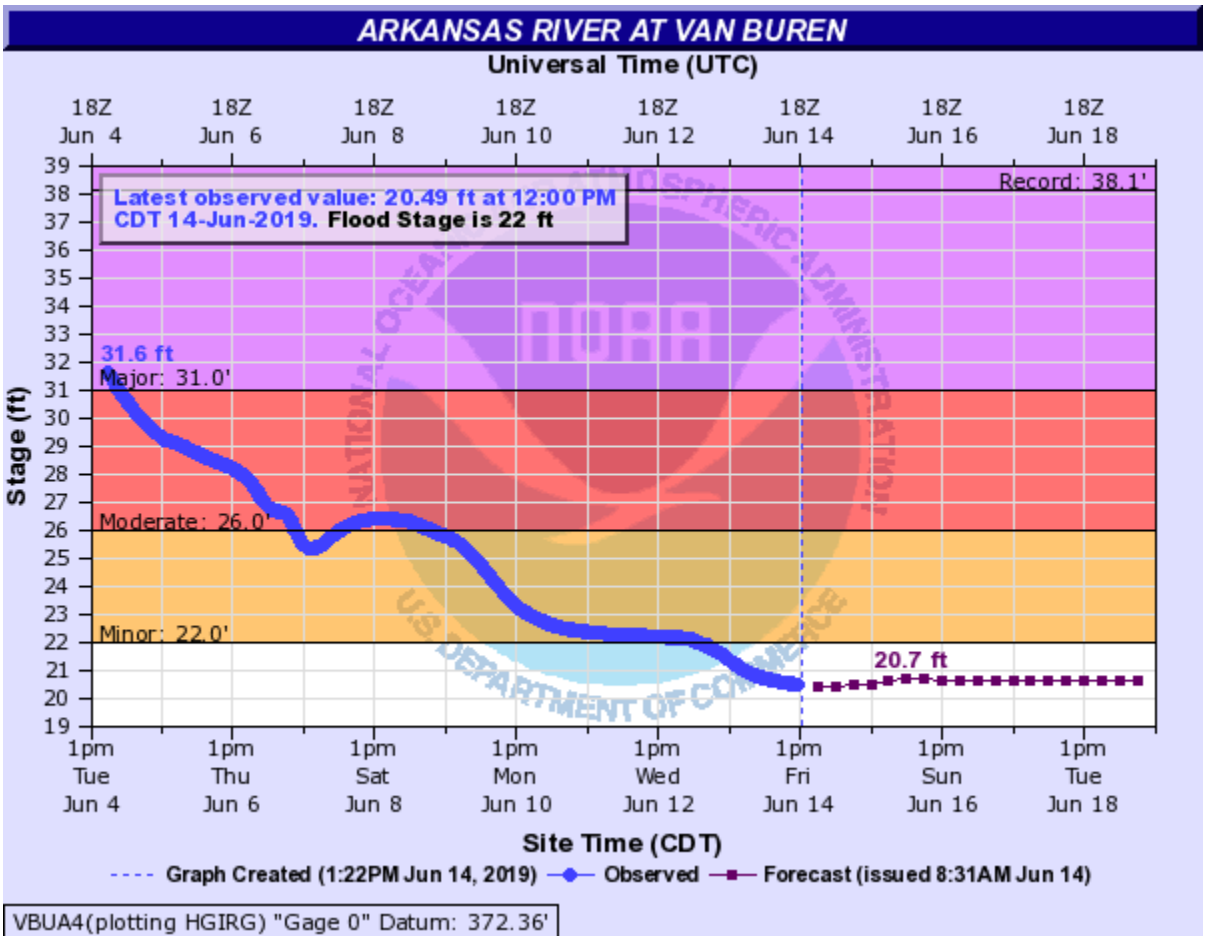

ARKANSAS RIVER AT VAN BUREN
Universal Time (UTC)
21Z May 14
21Z May 16
21Z May 18
21Z May 20
21Z May 22
21Z May 24
21Z May 26
21Z May 28
Latest observed value: 33.17 ft at 3:00 PM CDT 24-May-2019. Flood Stage is 22 ft
41 ft
Record: 38.1'
33.17 ft
Major: 31.0'
Moderate: 26.0'
Minor: 22.0'
Stage (ft)
48 47 45 43 41 39 37 35 33 31 29 27 25 23 21 19
4pm Tue May 14
4pm Thu May 16
4pm Sat May 18
4pm Mon May 20
4pm Wed May 22
4pm Fri May 24
4pm Sun May 26
4pm Tue May 28
Site Time (CDT)
Graph Created (4:07PM May 24, 2019)
Observed
Forecast (issued 9:06AM May 24)
VBUA4(plotting HGIRG) "Gage 0" Datum: 372.36'

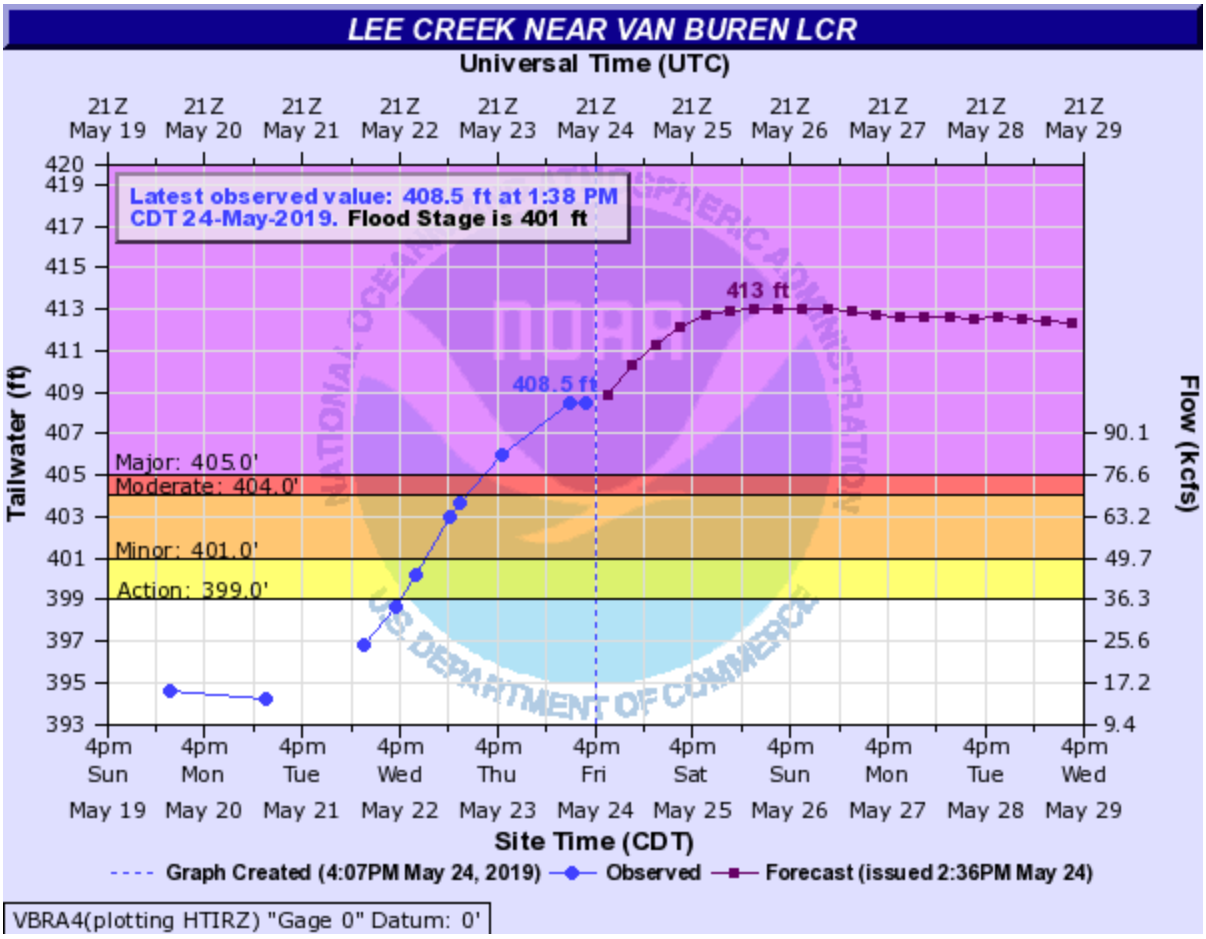

ARKANSAS RIVER AT VAN BUREN
Universal Time (UTC)
15Z May 16
15Z May 18
15Z May 20
15Z May 22
15Z May 24
15Z May 26
15Z May 28
15Z May 30
Latest observed value: 37.68 ft at 10:00 AM CDT 26-May-2019. Flood Stage is 22 ft
41 ft
37.68 ft
Record: 38.1'
Major: 31.0'
Moderate: 26.0'
Minor: 22.0'
Stage (ft)
48 47 45 43 41 39 37 35 33 31 29 27 25 23 21 19
10am Thu May 16
10am Sat May 18
10am Mon May 20
10am Wed May 22
10am Fri May 24
10am Sun May 26
10am Tue May 28
10am Thu May 30
Site Time (CDT)
Graph Created (10:53AM May 26, 2019)
Observed
Forecast (issued 9:07AM May 26)
VBUA4(plotting HGIRG) "Gage 0" Datum: 372.36'

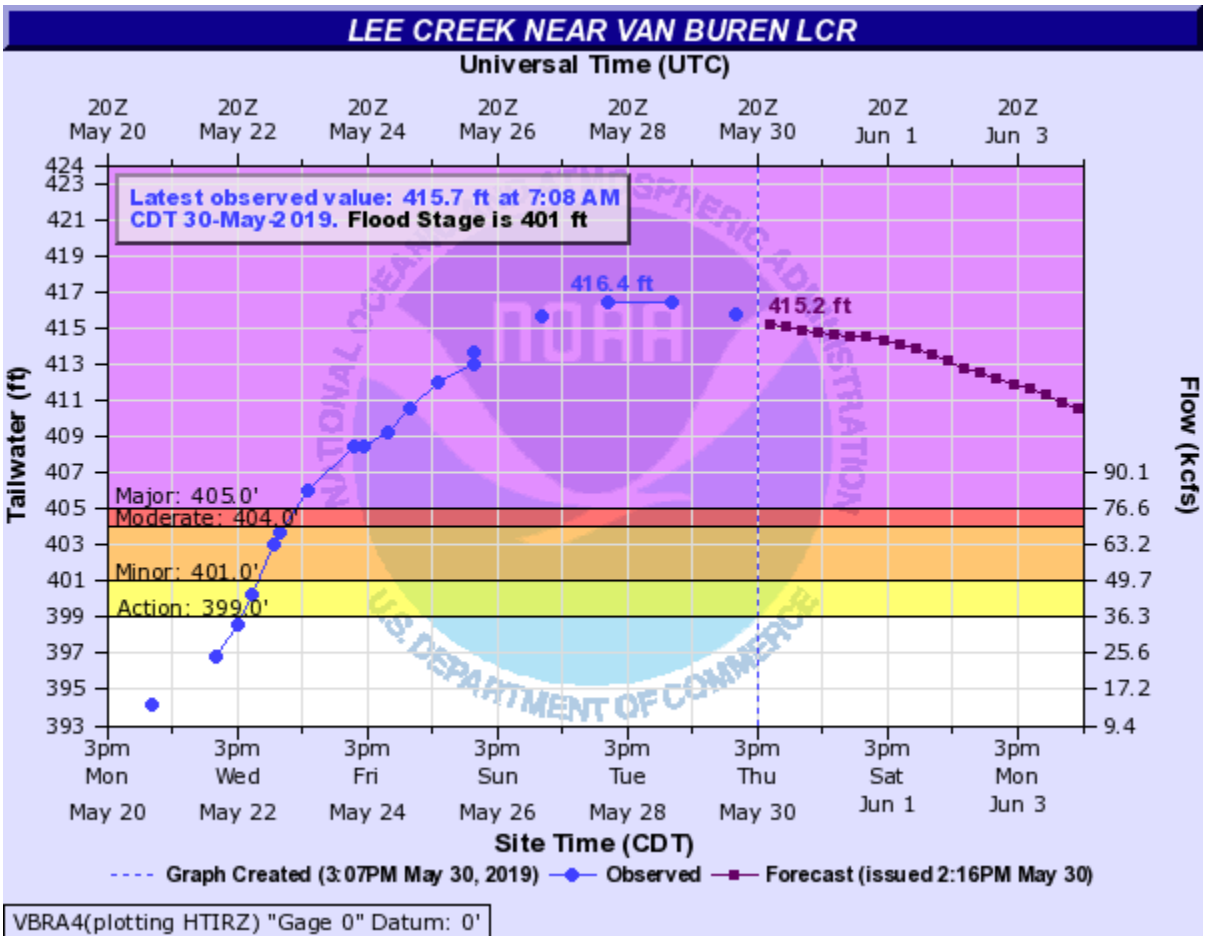

ARKANSAS RIVER AT VAN BUREN
Universal Time (UTC)
20Z May 20
20Z May 22
20Z May 24
20Z May 26
20Z May 28
20Z May 30
20Z Jun 1
20Z Jun 3
Latest observed value: 40.1 ft at 2:00 PM CDT 30-May-2019. Flood Stage is 22 ft
40.26 ft
40.8 ft
Record: 38.1'
Major: 31.0'
Moderate: 26.0'
Minor: 22.0'
Stage (ft)
3pm Mon May 20
3pm Wed May 22
3pm Fri May 24
3pm Sun May 26
3pm Tue May 28
3pm Thu May 30
3pm Sat Jun 1
3pm Mon Jun 3
Site Time (CDT)
Graph Created (3:07PM May 30, 2019)
Observed
Forecast (issued 2:16PM May 30)
VBUA4(plotting HGIRG) "Gage 0" Datum: 372.36'

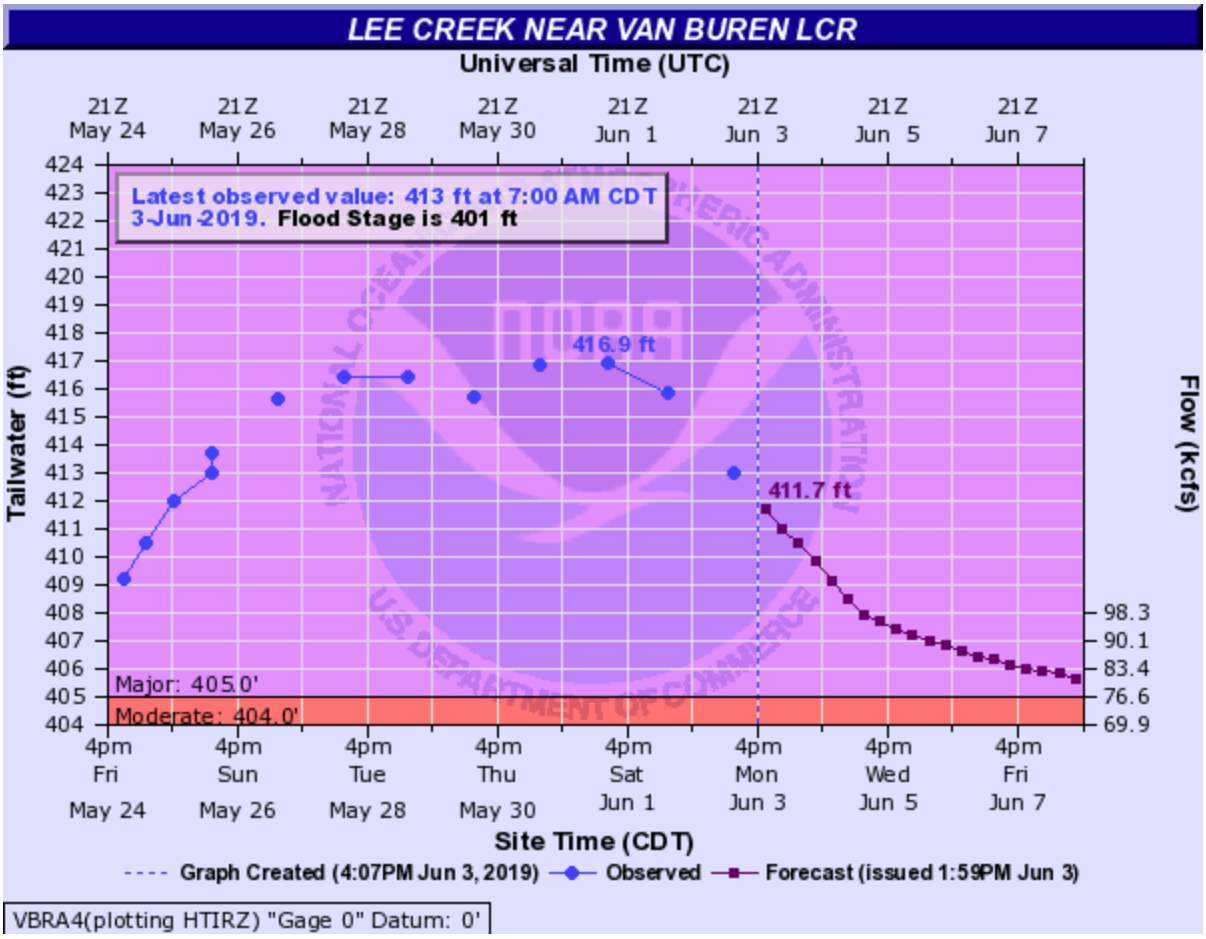

ARKANSAS RIVER AT VAN BUREN
Universal Time (UTC)
18Z May 26
18Z May 28
18Z May 30
18Z Jun 1
18Z Jun 3
18Z Jun 5
18Z Jun 7
18Z Jun 9
Latest observed value: 29.29 ft at 1:00 PM CDT 5-Jun-2019. Flood Stage is 22 ft
40.79 ft
Record: 38.1'
Major: 31.0'
29.2 ft
Moderate: 26.0'
Stage (ft)
1pm Sun May 26
1pm Tue May 28
1pm Thu May 30
1pm Sat Jun 1
1pm Mon Jun 3
1pm Wed Jun 5
1pm Fri Jun 7
1pm Sun Jun 9
Site Time (CDT)
Graph Created (1:37PM Jun 5, 2019)
Observed
Forecast (issued 8:17AM Jun 5)
VBUA4(plotting HGIRG) "Gage 0" Datum: 372.36'

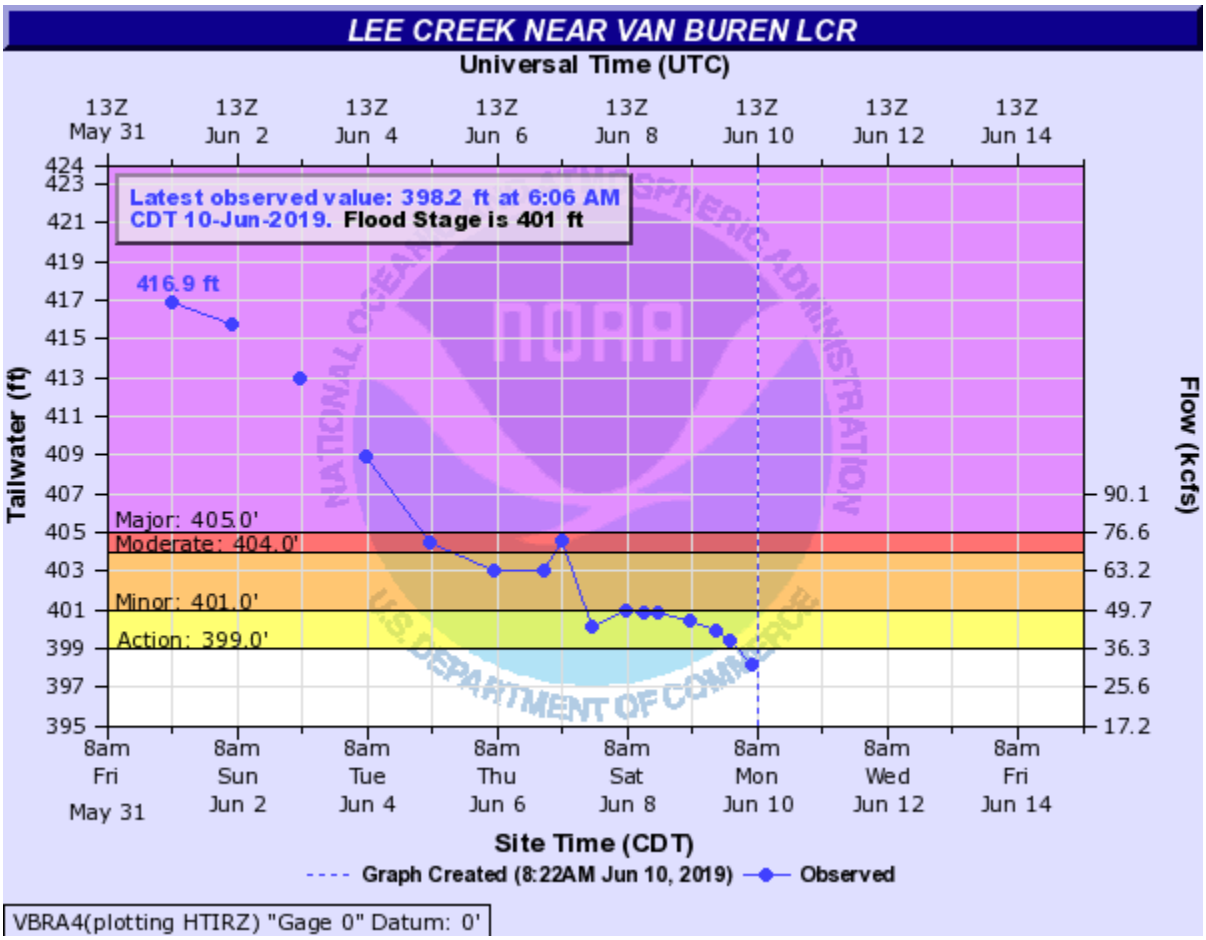

ARKANSAS RIVER AT VAN BUREN
Universal Time (UTC)
13Z May 31
13Z Jun 2
13Z Jun 4
13Z Jun 6
13Z Jun 8
13Z Jun 10
13Z Jun 12
13Z Jun 14
Latest observed value: 23.96 ft at 7:00 AM CDT 10-Jun-2019. Flood Stage is 22 ft
40.79 ft
Record: 38.1'
Major: 31.0'
Moderate: 26.0'
24.6 ft
Minor: 22.0'
Stage (ft)
8am Fri May 31
8am Sun Jun 2
8am Tue Jun 4
8am Thu Jun 6
8am Sat Jun 8
8am Mon Jun 10
8am Wed Jun 12
8am Fri Jun 14
Site Time (CDT)
Graph Created (8:22AM Jun 10, 2019)
Observed
Forecast (issued 8:03PM Jun 9)
VBUA4(plotting HGIRG) "Gage 0" Datum: 372.36'

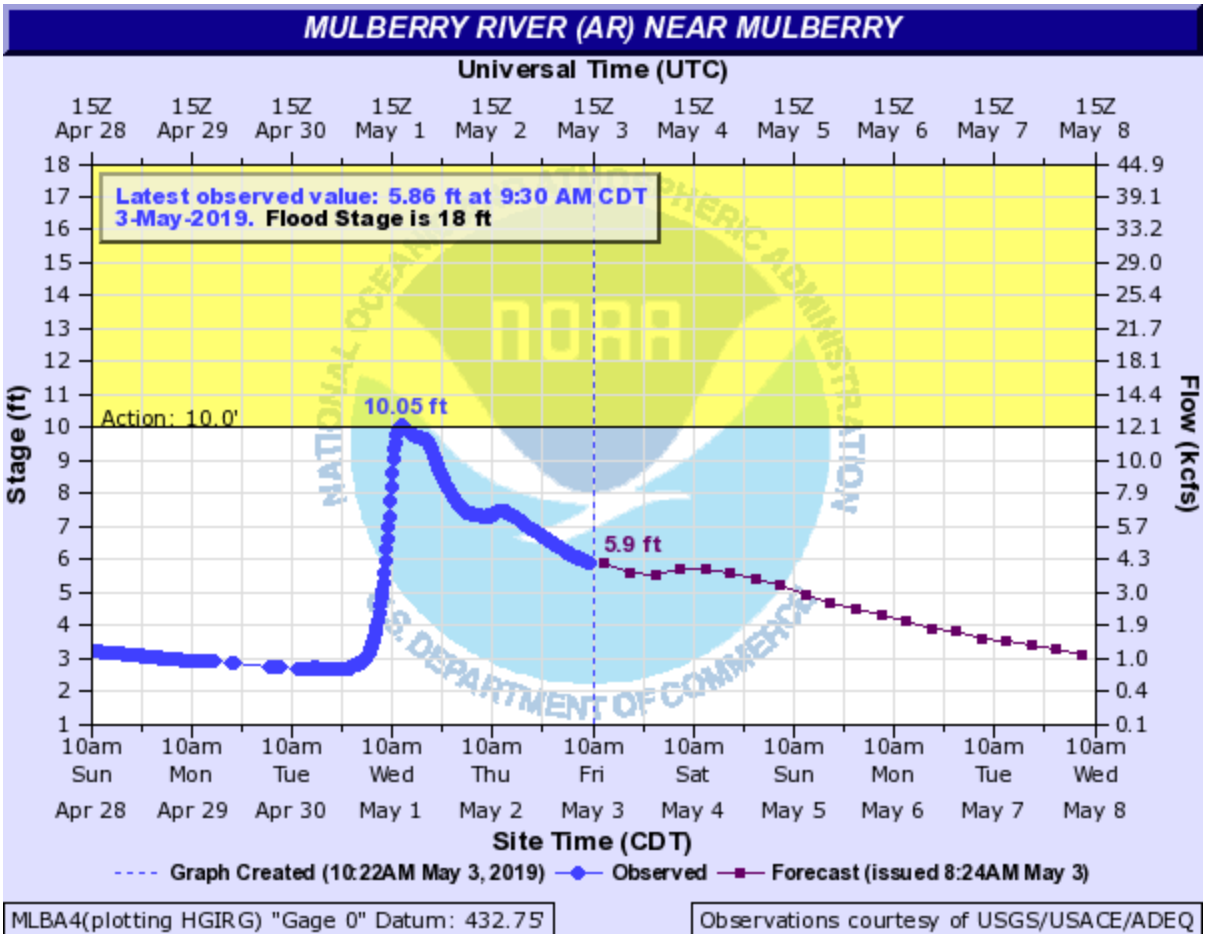

ARKANSAS RIVER AT VAN BUREN
Universal Time (UTC)
18Z Jun 4
18Z Jun 6
18Z Jun 8
18Z Jun 10
18Z Jun 12
18Z Jun 14
18Z Jun 16
18Z Jun 18
Record: 38.1'
Latest observed value: 20.49 ft at 12:00 PM CDT 14-Jun-2019. Flood Stage is 22 ft
31.6 ft
Major: 31.0'
Moderate: 26.0'
Minor: 22.0'
20.7 ft
Stage (ft)
1pm Tue Jun 4
1pm Thu Jun 6
1pm Sat Jun 8
1pm Mon Jun 10
1pm Wed Jun 12
1pm Fri Jun 14
1pm Sun Jun 16
1pm Tue Jun 18
Site Time (CDT)
Graph Created (1:22PM Jun 14, 2019)
Observed
Forecast (issued 8:31AM Jun 14)
VBUA4(plotting HGIRG) "Gage 0" Datum: 372.36'

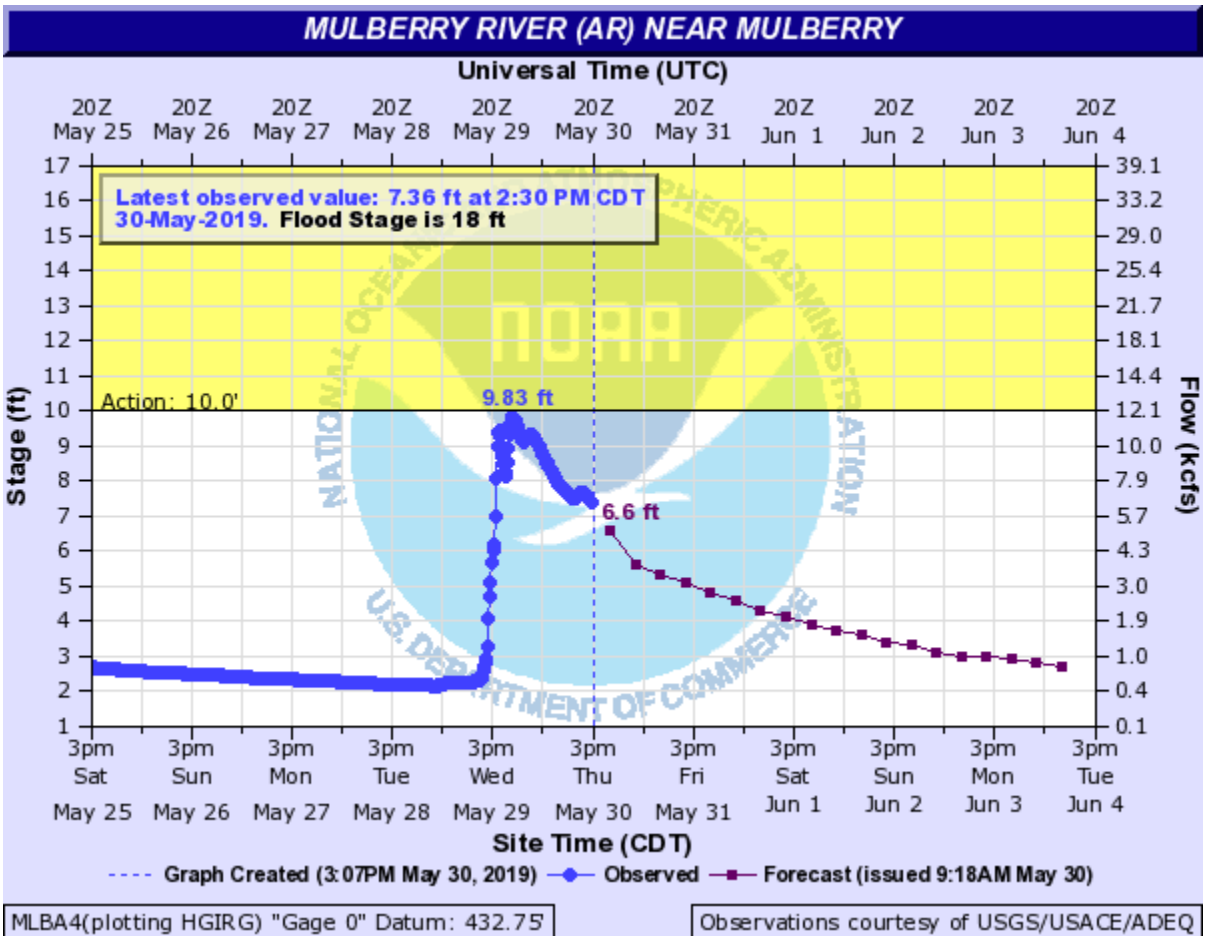

LEE CREEK NEAR VAN BUREN LCR
Universal Time (UTC)
21Z May 19
21Z May 20
21Z May 21
21Z May 22
21Z May 23
21Z May 24
21Z May 25
21Z May 26
21Z May 27
21Z May 28
21Z May 29
Latest observed value: 408.5 ft at 1:38 PM CDT 24-May-2019. Flood Stage is 401 ft
413 ft
408.5 ft
Major: 405.0'
Moderate: 404.0'
Minor: 401.0'
Action: 399.0'
Tailwater (ft)
Flow (kcfs)
420
419
417
415
413
411
409
407
405
403
401
399
397
395
393
90.1
76.6
63.2
49.7
36.3
25.6
17.2
9.4
4pm Sun May 19
4pm Mon May 20
4pm Tue May 21
4pm Wed May 22
4pm Thu May 23
4pm Fri May 24
4pm Sat May 25
4pm Sun May 26
4pm Mon May 27
4pm Tue May 28
4pm Wed May 29
Site Time (CDT)
Graph Created (4:07PM May 24, 2019)
Observed
Forecast (issued 2:36PM May 24)
VBRA4(plotting HTIRZ) "Gage 0" Datum: 0'

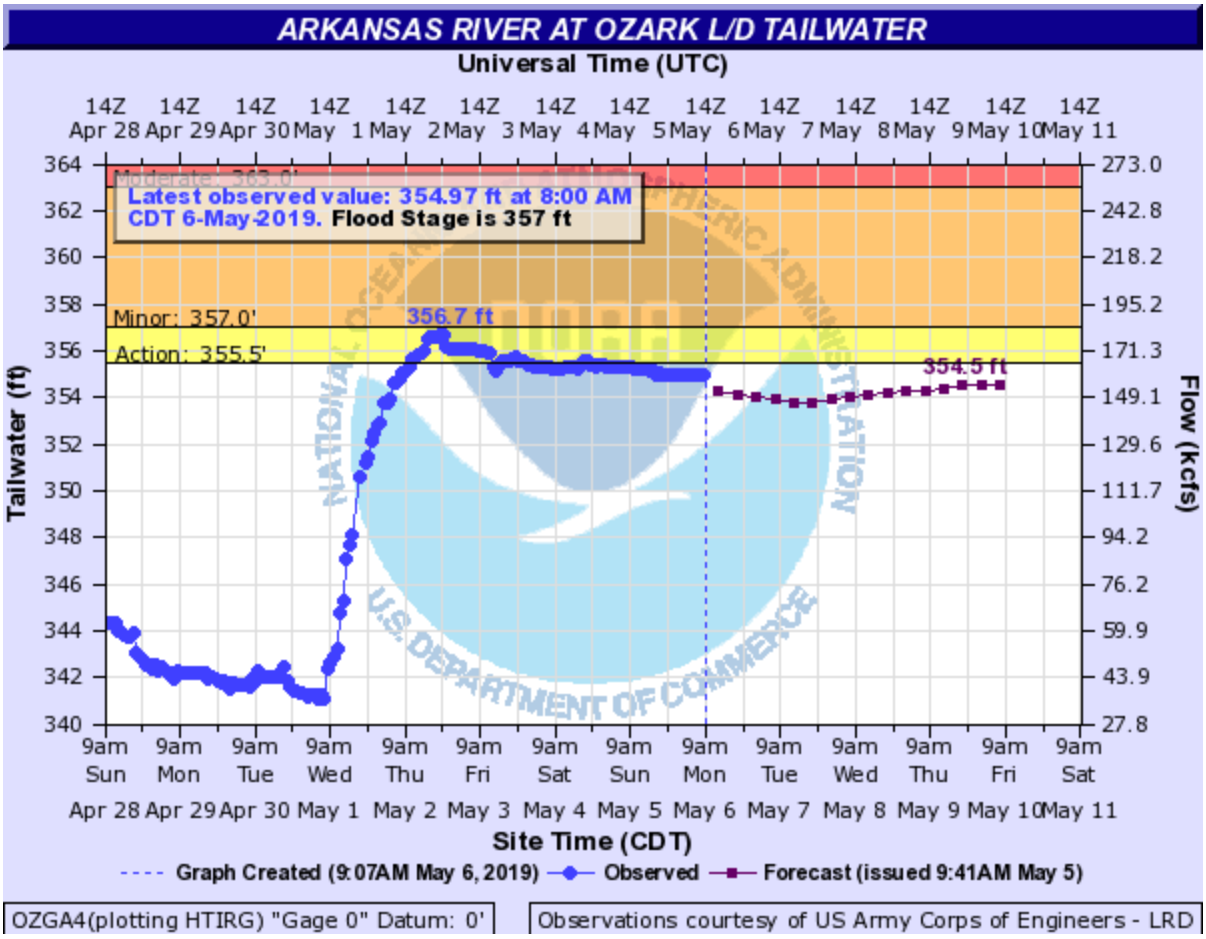

LEE CREEK NEAR VAN BUREN LCR
Universal Time (UTC)
20Z May 20
20Z May 22
20Z May 24
20Z May 26
20Z May 28
20Z May 30
20Z Jun 1
20Z Jun 3
Latest observed value: 415.7 ft at 7:08 AM CDT 30-May-2019. Flood Stage is 401 ft
416.4 ft
415.2 ft
Major: 405.0'
Moderate: 404.0'
Minor: 401.0'
Action: 399.0'
Tailwater (ft)
Flow (kcfs)
424
423
421
419
417
415
413
411
409
407
405
403
401
399
397
395
393
90.1
76.6
63.2
49.7
36.3
25.6
17.2
9.4
3pm Mon May 20
3pm Wed May 22
3pm Fri May 24
3pm Sun May 26
3pm Tue May 28
3pm Thu May 30
3pm Sat Jun 1
3pm Mon Jun 3
Site Time (CDT)
Graph Created (3:07PM May 30, 2019)
Observed
Forecast (issued 2:16PM May 30)
VBRA4(plotting HTIRZ) "Gage 0" Datum: 0'

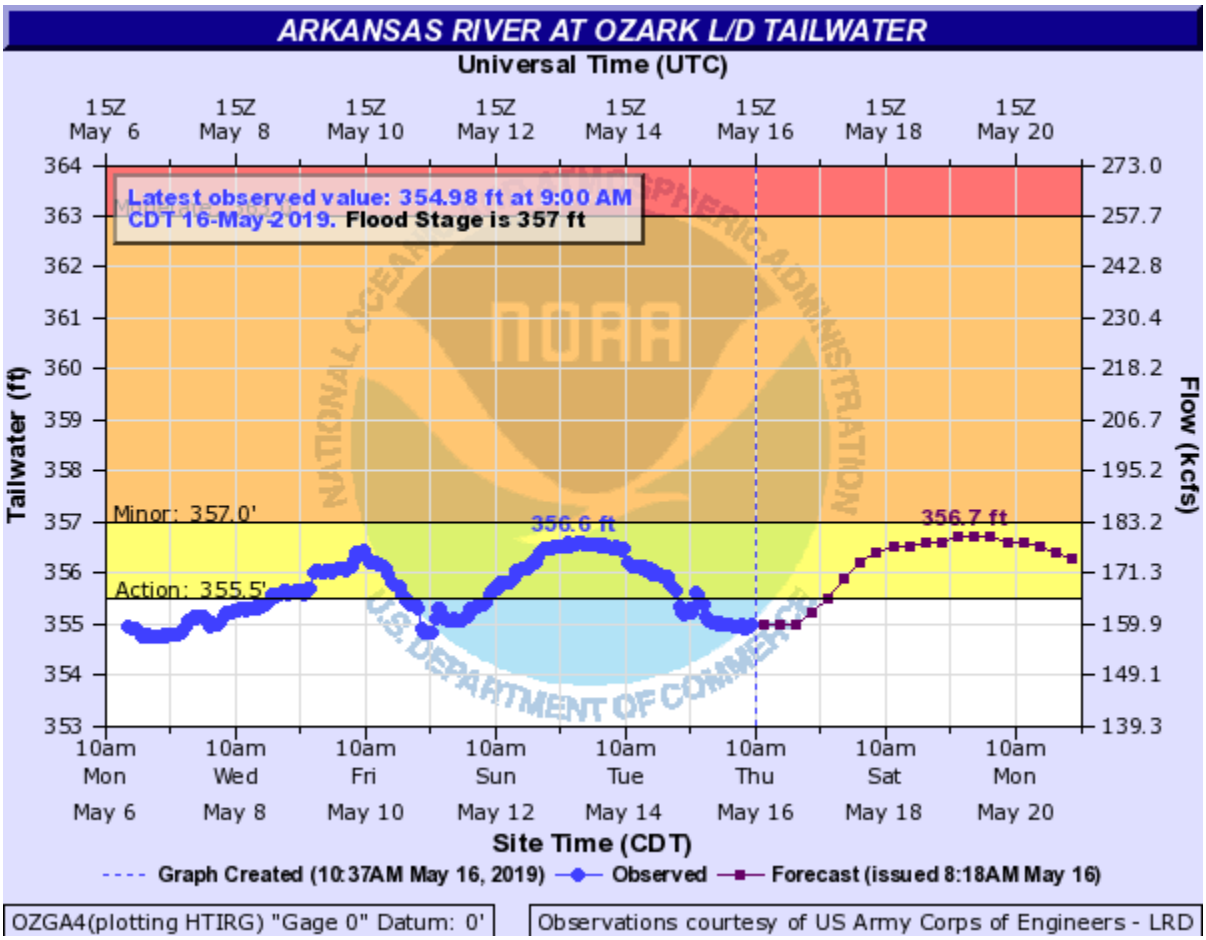

LEE CREEK NEAR VAN BUREN LCR
Universal Time (UTC)
21Z May 24
21Z May 26
21Z May 28
21Z May 30
21Z Jun 1
21Z Jun 3
21Z Jun 5
21Z Jun 7
Latest observed value: 413 ft at 7:00 AM CDT 3-Jun-2019. Flood Stage is 401 ft
416.9 ft
411.7 ft
Tailwater (ft)
Flow (kcfs)
Major: 405.0'
Moderate: 404.0'
98.3
90.1
83.4
76.6
69.9
4pm Fri May 24
4pm Sun May 26
4pm Tue May 28
4pm Thu May 30
4pm Sat Jun 1
4pm Mon Jun 3
4pm Wed Jun 5
4pm Fri Jun 7
Site Time (CDT)
Graph Created (4:07PM Jun 3, 2019)
Observed
Forecast (issued 1:59PM Jun 3)
VBRA4(plotting HTIRZ) "Gage 0" Datum: 0'

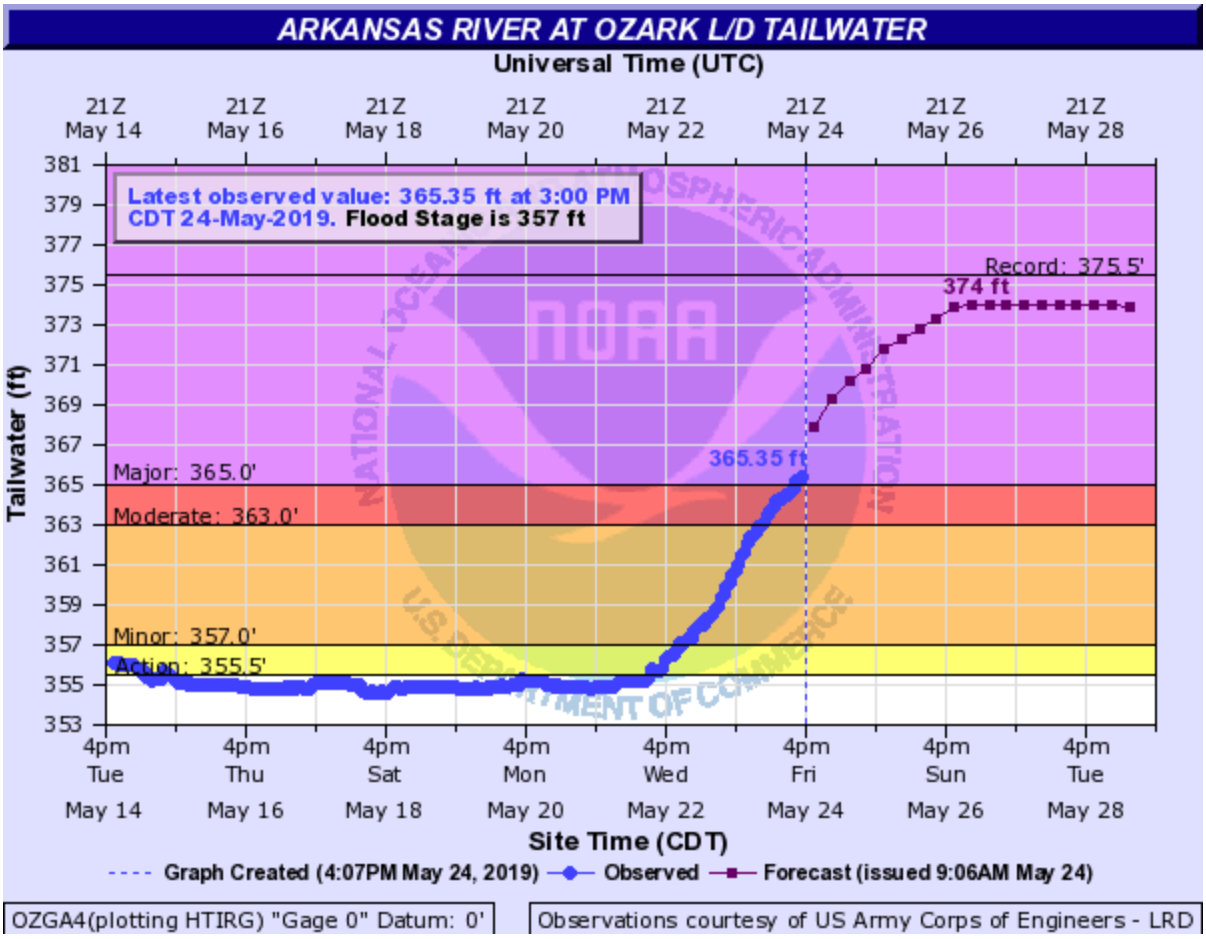

LEE CREEK NEAR VAN BUREN LCR
Universal Time (UTC)
13Z May 31
13Z Jun 2
13Z Jun 4
13Z Jun 6
13Z Jun 8
13Z Jun 10
13Z Jun 12
13Z Jun 14
Latest observed value: 398.2 ft at 6:06 AM CDT 10-Jun-2019. Flood Stage is 401 ft
416.9 ft
Tailwater (ft)
Flow (kcfs)
Major: 405.0'
Moderate: 404.0'
Minor: 401.0'
Action: 399.0'
90.1
76.6
63.2
49.7
36.3
25.6
17.2
8am Fri May 31
8am Sun Jun 2
8am Tue Jun 4
8am Thu Jun 6
8am Sat Jun 8
8am Mon Jun 10
8am Wed Jun 12
8am Fri Jun 14
Site Time (CDT)
Graph Created (8:22AM Jun 10, 2019)
Observed
VBRA4(plotting HTIRZ) "Gage 0" Datum: 0'

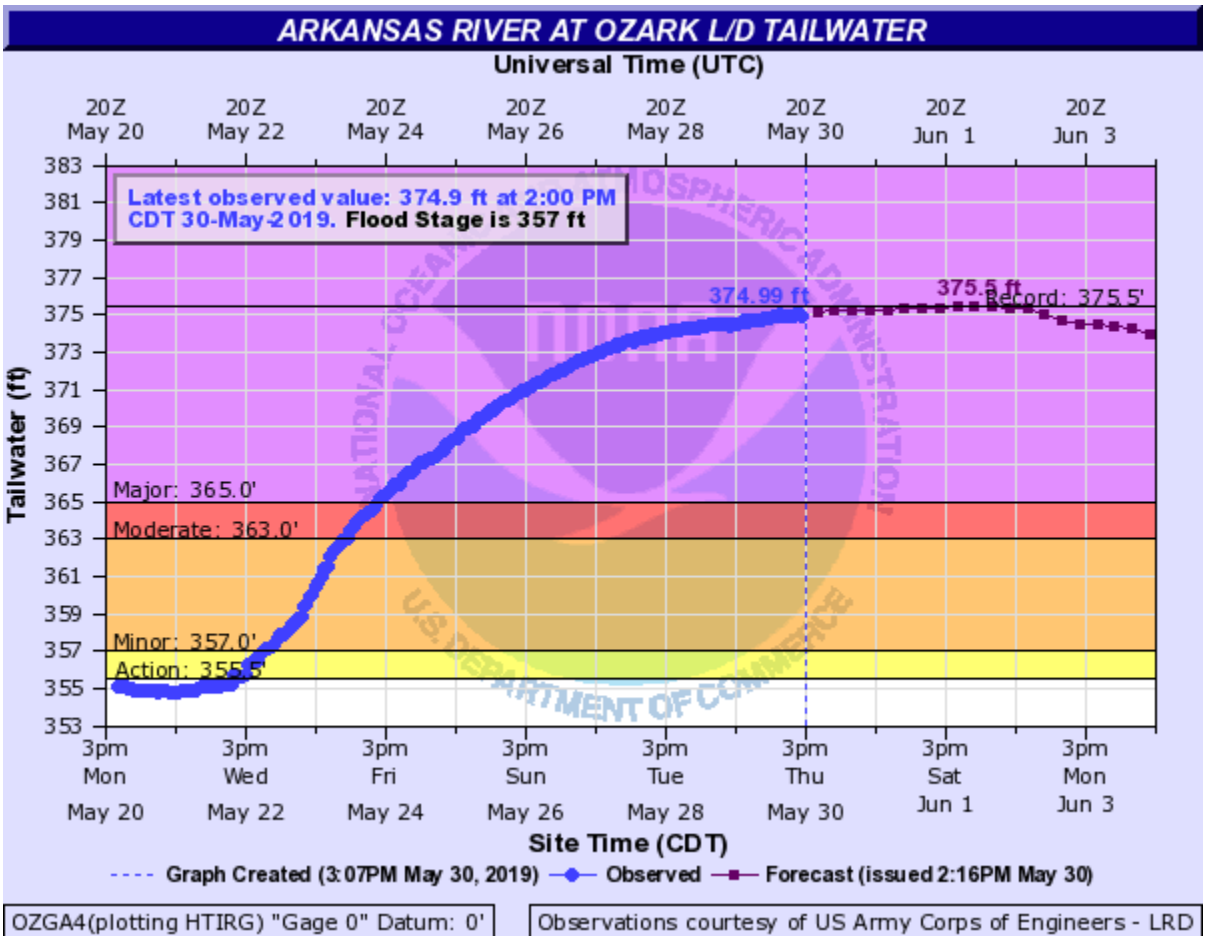

MULBERRY RIVER (AR) NEAR MULBERRY
Universal Time (UTC)
15Z Apr 28
15Z Apr 29
15Z Apr 30
15Z May 1
15Z May 2
15Z May 3
15Z May 4
15Z May 5
15Z May 6
15Z May 7
15Z May 8
Latest observed value: 5.86 ft at 9:30 AM CDT 3-May-2019. Flood Stage is 18 ft
Action: 10.0'
10.05 ft
5.9 ft
Stage (ft)
Flow (kcfs)
10am Sun Apr 28
10am Mon Apr 29
10am Tue Apr 30
10am Wed May 1
10am Thu May 2
10am Fri May 3
10am Sat May 4
10am Sun May 5
10am Mon May 6
10am Tue May 7
10am Wed May 8
Site Time (CDT)
Graph Created (10:22AM May 3, 2019)
Observed
Forecast (issued 8:24AM May 3)
MLBA4(plotting HGIRG) "Gage 0" Datum: 432.75'
Observations courtesy of USGS/USACE/ADEQ

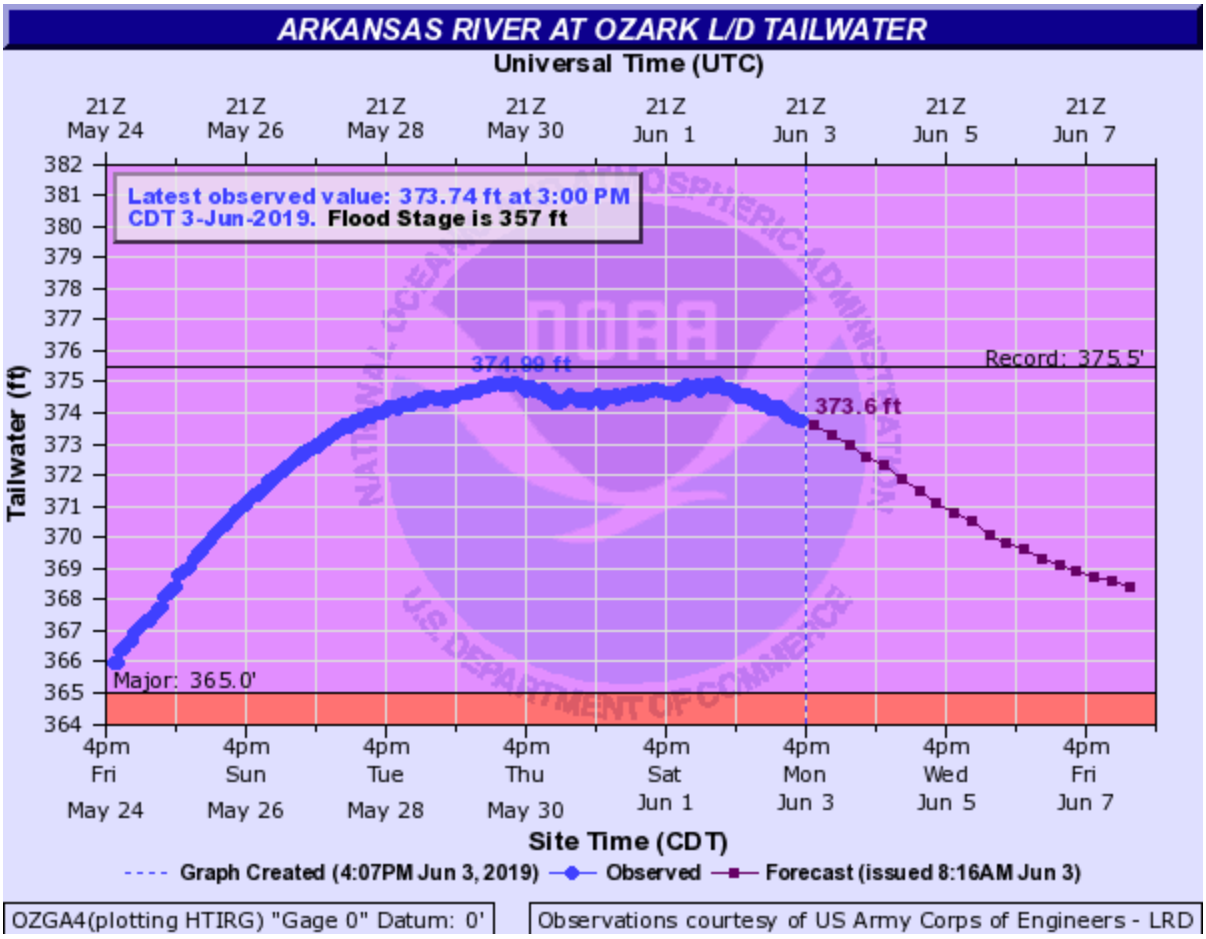

MULBERRY RIVER (AR) NEAR MULBERRY
Universal Time (UTC)
20Z May 25
20Z May 26
20Z May 27
20Z May 28
20Z May 29
20Z May 30
20Z May 31
20Z Jun 1
20Z Jun 2
20Z Jun 3
20Z Jun 4
Latest observed value: 7.36 ft at 2:30 PM CDT 30-May-2019. Flood Stage is 18 ft
Action: 10.0'
9.83 ft
6.6 ft
Stage (ft)
Flow (kcfs)
3pm Sat May 25
3pm Sun May 26
3pm Mon May 27
3pm Tue May 28
3pm Wed May 29
3pm Thu May 30
3pm Fri May 31
3pm Sat Jun 1
3pm Sun Jun 2
3pm Mon Jun 3
3pm Tue Jun 4
Site Time (CDT)
Graph Created (3:07PM May 30, 2019)
Observed
Forecast (issued 9:18AM May 30)
MLBA4(plotting HGIRG) "Gage 0" Datum: 432.75'
Observations courtesy of USGS/USACE/ADEQ

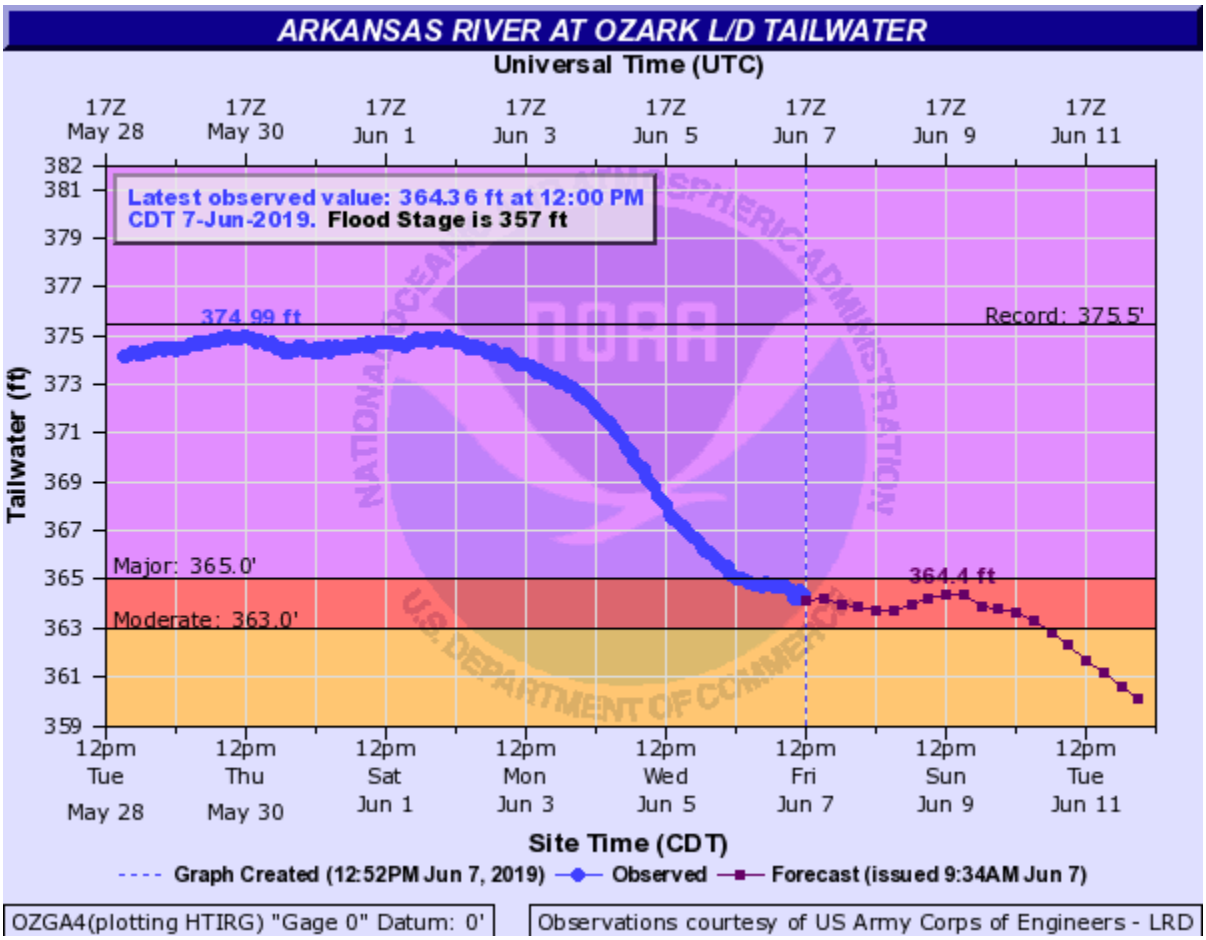

ARKANSAS RIVER AT OZARK L/D TAILWATER
Universal Time (UTC)
14Z Apr 28
14Z Apr 29
14Z Apr 30
14Z May 1
14Z May 2
14Z May 3
14Z May 4
14Z May 5
14Z May 6
14Z May 7
14Z May 8
14Z May 9
14Z May 10
14Z May 11
Latest observed value: 354.97 ft at 8:00 AM CDT 6-May-2019. Flood Stage is 357 ft
Minor: 357.0'
Action: 355.5'
356.7 ft
354.5 ft
Tailwater (ft)
Flow (kcfs)
364
362
360
358
356
354
352
350
348
346
344
342
340
273.0
242.8
218.2
195.2
171.3
149.1
129.6
111.7
94.2
76.2
59.9
43.9
27.8
9am Sun Apr 28
9am Mon Apr 29
9am Tue Apr 30
9am Wed May 1
9am Thu May 2
9am Fri May 3
9am Sat May 4
9am Sun May 5
9am Mon May 6
9am Tue May 7
9am Wed May 8
9am Thu May 9
9am Fri May 10
9am Sat May 11
Site Time (CDT)
Graph Created (9:07AM May 6, 2019)
Observed
Forecast (issued 9:41AM May 5)
OZGA4(plotting HTIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers - LRD

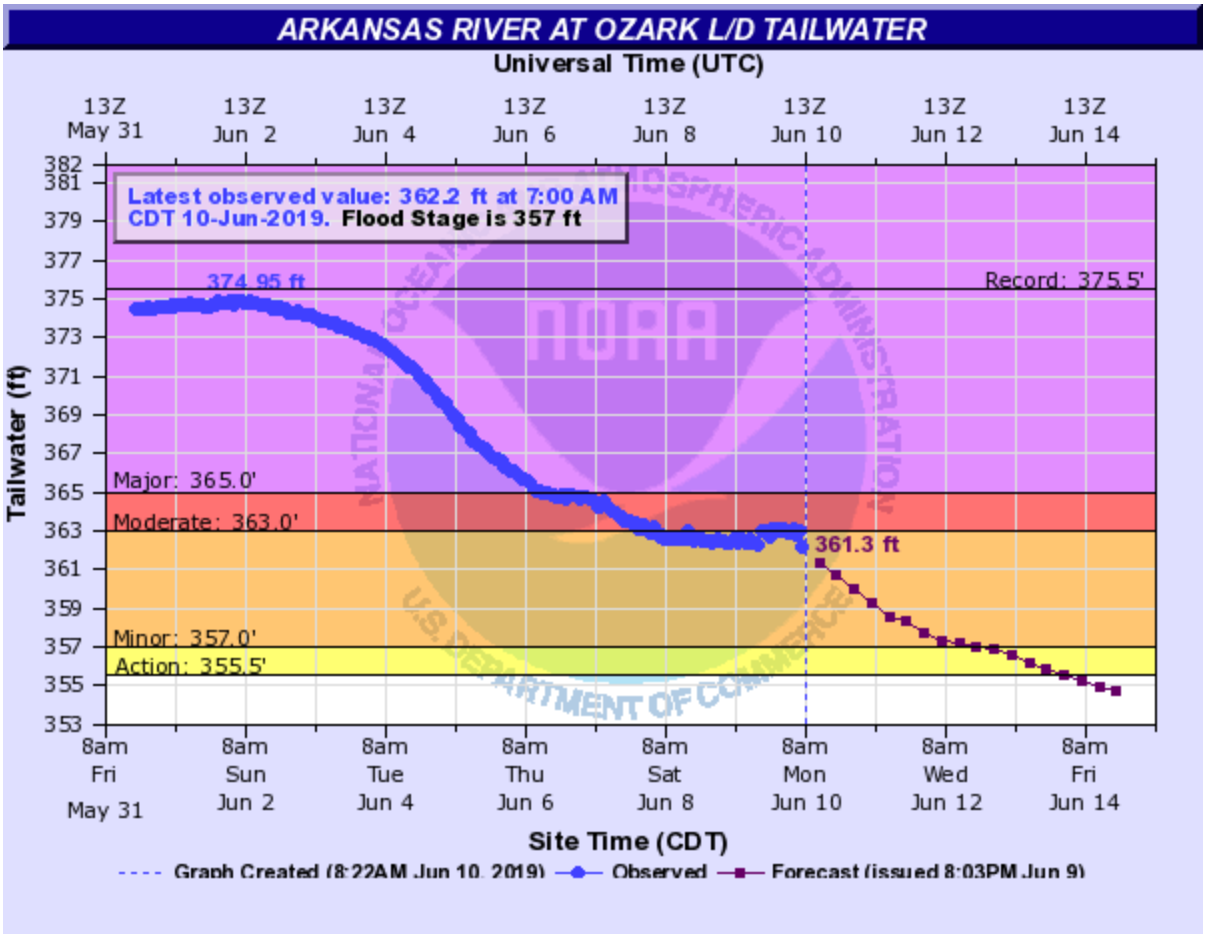

ARKANSAS RIVER AT OZARK L/D TAILWATER
Universal Time (UTC)
15Z May 6
15Z May 8
15Z May 10
15Z May 12
15Z May 14
15Z May 16
15Z May 18
15Z May 20
Latest observed value: 354.98 ft at 9:00 AM CDT 16-May-2019. Flood Stage is 357 ft
Minor: 357.0'
Action: 355.5'
356.6 ft
356.7 ft
Tailwater (ft)
Flow (kcfs)
364
363
362
361
360
359
358
357
356
355
354
353
273.0
257.7
242.8
230.4
218.2
206.7
195.2
183.2
171.3
159.9
149.1
139.3
10am Mon May 6
10am Wed May 8
10am Fri May 10
10am Sun May 12
10am Tue May 14
10am Thu May 16
10am Sat May 18
10am Mon May 20
Site Time (CDT)
Graph Created (10:37AM May 16, 2019)
Observed
Forecast (issued 8:18AM May 16)
OZGA4(plotting HTIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers - LRD

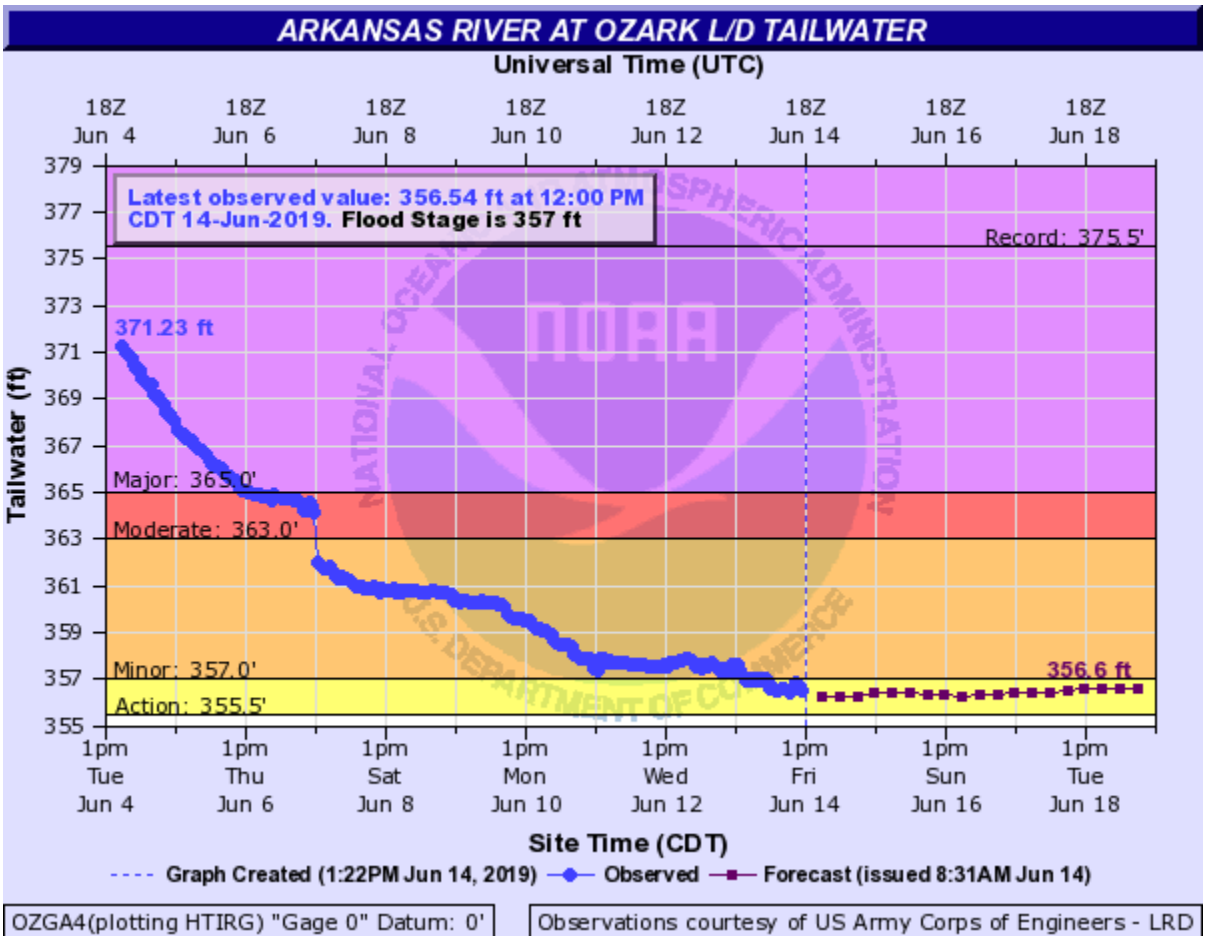

ARKANSAS RIVER AT OZARK L/D TAILWATER
Universal Time (UTC)
21Z May 14
21Z May 16
21Z May 18
21Z May 20
21Z May 22
21Z May 24
21Z May 26
21Z May 28
Latest observed value: 365.35 ft at 3:00 PM CDT 24-May-2019. Flood Stage is 357 ft
Record: 375.5'
374 ft
365.35 ft
Major: 365.0'
Moderate: 363.0'
Minor: 357.0'
Action: 355.5'
Tailwater (ft)
381
379
377
375
373
371
369
367
365
363
361
359
357
355
353
4pm Tue May 14
4pm Thu May 16
4pm Sat May 18
4pm Mon May 20
4pm Wed May 22
4pm Fri May 24
4pm Sun May 26
4pm Tue May 28
Site Time (CDT)
Graph Created (4:07PM May 24, 2019)
Observed
Forecast (issued 9:06AM May 24)
OZGA4(plotting HTIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers - LRD


ARKANSAS RIVER AT OZARK L/D TAILWATER
Universal Time (UTC)
20Z May 20
20Z May 22
20Z May 24
20Z May 26
20Z May 28
20Z May 30
20Z Jun 1
20Z Jun 3
Latest observed value: 374.9 ft at 2:00 PM CDT 30-May-2019. Flood Stage is 357 ft
374.99 ft
375.5 ft
Record: 375.5'
Major: 365.0'
Moderate: 363.0'
Minor: 357.0'
Action: 355.5'
Tailwater (ft)
383
381
379
377
375
373
371
369
367
365
363
361
359
357
355
353
3pm Mon May 20
3pm Wed May 22
3pm Fri May 24
3pm Sun May 26
3pm Tue May 28
3pm Thu May 30
3pm Sat Jun 1
3pm Mon Jun 3
Site Time (CDT)
Graph Created (3:07PM May 30, 2019)
Observed
Forecast (issued 2:16PM May 30)
OZGA4(plotting HTIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers - LRD


ARKANSAS RIVER AT OZARK L/D TAILWATER
Universal Time (UTC)
21Z May 24
21Z May 26
21Z May 28
21Z May 30
21Z Jun 1
21Z Jun 3
21Z Jun 5
21Z Jun 7
Latest observed value: 373.74 ft at 3:00 PM CDT 3-Jun-2019. Flood Stage is 357 ft
374.99 ft
Record: 375.5'
373.6 ft
Major: 365.0'
Tailwater (ft)
382
381
380
379
378
377
376
375
374
373
372
371
370
369
368
367
366
365
364
4pm Fri May 24
4pm Sun May 26
4pm Tue May 28
4pm Thu May 30
4pm Sat Jun 1
4pm Mon Jun 3
4pm Wed Jun 5
4pm Fri Jun 7
Site Time (CDT)
Graph Created (4:07PM Jun 3, 2019)
Observed
Forecast (issued 8:16AM Jun 3)
OZGA4(plotting HTIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers - LRD


ARKANSAS RIVER AT OZARK L/D TAILWATER
Universal Time (UTC)
17Z May 28
17Z May 30
17Z Jun 1
17Z Jun 3
17Z Jun 5
17Z Jun 7
17Z Jun 9
17Z Jun 11
Latest observed value: 364.36 ft at 12:00 PM CDT 7-Jun-2019. Flood Stage is 357 ft
374.99 ft
Record: 375.5'
Major: 365.0'
364.4 ft
Moderate: 363.0'
Tailwater (ft)
382
381
379
377
375
373
371
369
367
365
363
361
359
12pm Tue May 28
12pm Thu May 30
12pm Sat Jun 1
12pm Mon Jun 3
12pm Wed Jun 5
12pm Fri Jun 7
12pm Sun Jun 9
12pm Tue Jun 11
Site Time (CDT)
Graph Created (12:52PM Jun 7, 2019)
Observed
Forecast (issued 9:34AM Jun 7)
OZGA4(plotting HTIRG) "Gage 0" Datum: 0'
Observations courtesy of US Army Corps of Engineers - LRD





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

Observations courtesy of US Army Corps of Engineers - LRD