TEAM KENTUCKY
ENERGY AND ENVIRONMENT CABINET

MONTHLY WATER RESOURCE REPORT

Kentucky Division of Water
Water Supply Section

October 2025

Precipitation

Precipitation across Kentucky was above normal in October, except for a few areas in far eastern parts of the state. A low-pressure system brought heavy rain from Owensboro to Louisville to Lexington on October 6–7, leading to some minor flooding issues.

After a brief dry period, a more active weather pattern developed during the last two weeks of the month, producing multiple rounds of rain across the state. The highest precipitation totals occurred in areas that had already received heavy rainfall earlier in the month. Lexington, in particular, recorded its wettest October on record.

As of the October 28th U.S. Drought Monitor, less than 5% of Kentucky was classified as Abnormally Dry (D0)—an improvement of nearly 8.5% from the previous week. No part of the Commonwealth was designated as being in drought.

Preliminary data indicates that the state averaged 4.89 inches of precipitation in October —1.39 inches above the climatological norm—ranking as the 15th wettest October on record since 1895. Year-to-date, Kentucky has received an average of 54.88 inches of precipitation, 12.48 inches above normal, making it the 2nd wettest year-to-date on record.

According to the Kentucky Mesonet, Fayette County recorded the highest monthly rainfall total at 8.04 inches, while Pike County had the lowest at 1.87 inches.

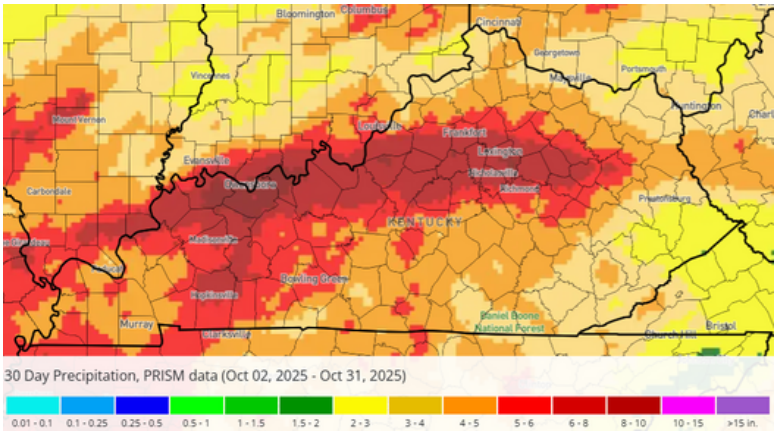

Figure 1. *Monthly precipitation map.*

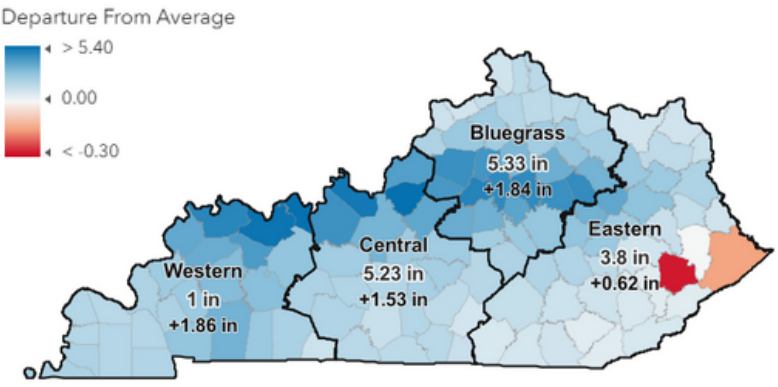

Figure 2. *Departure from normal precipitation by county and climate division.*

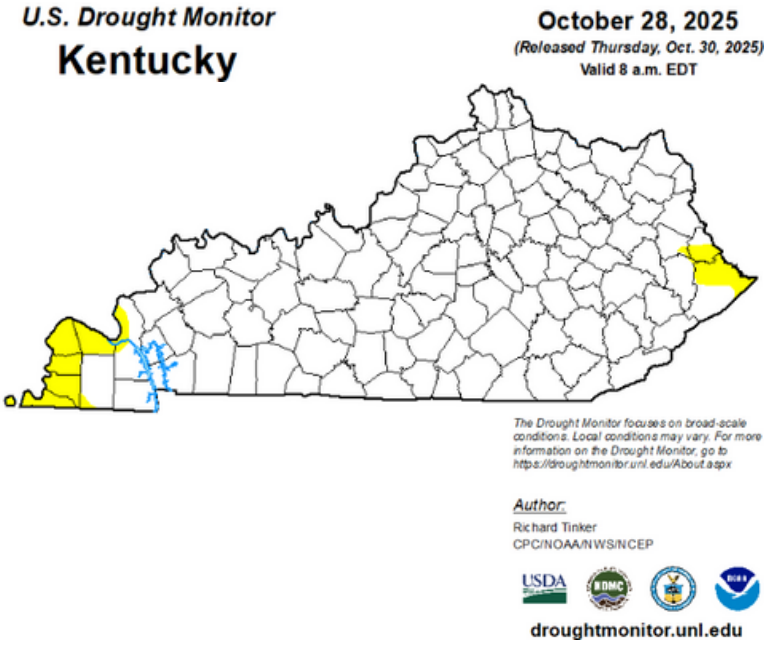

Figure 3. *Current US Drought Monitor Map.*

Table 1. *Regional precipitation patterns*

Climate Region	Departure From Normal (inches)					Palmer Drought Severity Index*
	This Month	Past 2 Mos.	Past 3 Mos	Past 6 Mos	Past 12 Mos	
Western	1.86	1.86	-0.61	2.77	19.88	3.51
Central	1.53	2.30	0.05	3.87	18.14	3.27
Bluegrass	1.84	2.51	0.19	2.96	13.56	2.61
Eastern	0.62	1.54	-0.58	2.67	9.16	1.70

*4.0 and above (Extremely Moist)
3.0 to 3.9 (Very Moist Spell)
2.0 to 2.9 (Unusual Moist Spell)
-1.9 to 1.9 (Near Normal)
-2.0 to -2.9 (Moderate Drought)
-3.0 to -3.9 (Severe Drought)
-4.0 or less (Extreme Drought)

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Streamflow

Streamflow in October started the month at or near normal across the state. Streamflows spiked after the precipitation event during the first week of the month, especially in parts of western and central Kentucky that saw the heaviest precipitation. Precipitation during the last two weeks of the month resulted in above normal flows statewide as the month came to an end.

Flows in the Middle Fork Kentucky River and Levisa Fork were below normal at the end of the month. This was due to delayed drawdowns of US Army Corp (USACE) reservoirs in these watersheds. This typically occurs during the middle of the month, but had yet to begin as the month ended. All other USACE reservoirs in the state were following their normal drawdown schedule. There are no low-flow concerns in the Kentucky River or Levisa Fork watersheds due to the delayed releases.

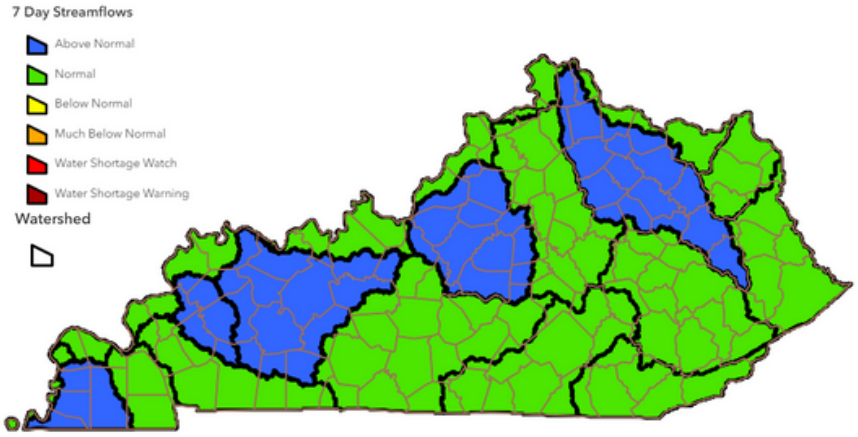

Figure 5. *Average streamflow by watershed over the past 7-days (October 25-31).*

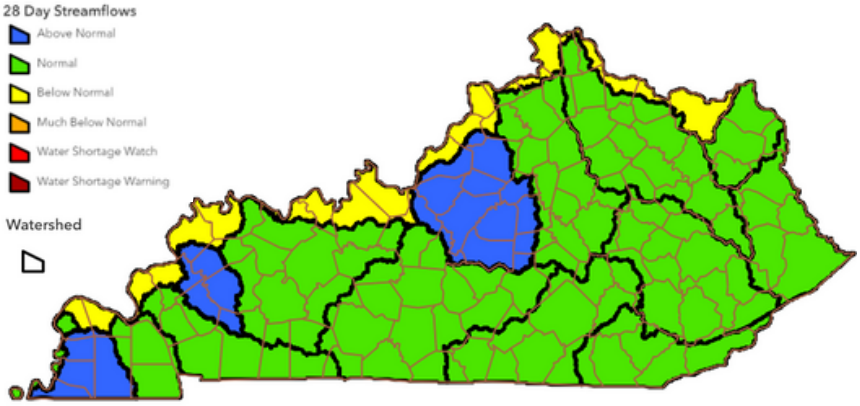

Figure 6. *Average streamflow by watershed over the past 28-days (October 4-31).*

Table 2. *Mean Stream Discharge select stream gages.*

River and Location	Drainage Area (mi2)	7 Day		28 Day	
		Average Flow (cfs)	% of Normal*	Average Flow (cfs)	% of Normal*
Levisa Fork at Pikeville	2,144	336	30	307	30
Little Sandy River near Grayson	400	80	19	75	20
Licking River at McKinneysburg	2,326	1353	41	1161	41.0
Kentucky River at Lock 14	2,657	975	30	487	17
Kentucky River at Lock 2	6,180	3,730	51	2,710	43
Cumberland River at Cumberland Falls	1,977	1043	32	452	17
Beaver Creek near Monticello	43	8.0	17	4.8	12
Beech Fork at Bardstown	669	827	80	417	47
Barren River at Bowling Green	1,849	1776	55	1384	48
Green River at Calhoun	7,566	7,078	59	3,990	39
Tradewater River at Olney	255	217	59	84	28
Clarks River at Almo	134	55	24	23	12
Bayou De Chien near Clinton	69	111	89	45	41
Ohio River at Greenup Dam	62,000	21,538	27	16,192	23
Ohio River at Cannelton Dam	97,000	37,550	32	30,948	30
Mississippi River @ Thebes, IL	713,200	99,188	53	100,165	55

* Base Period 1980-2023

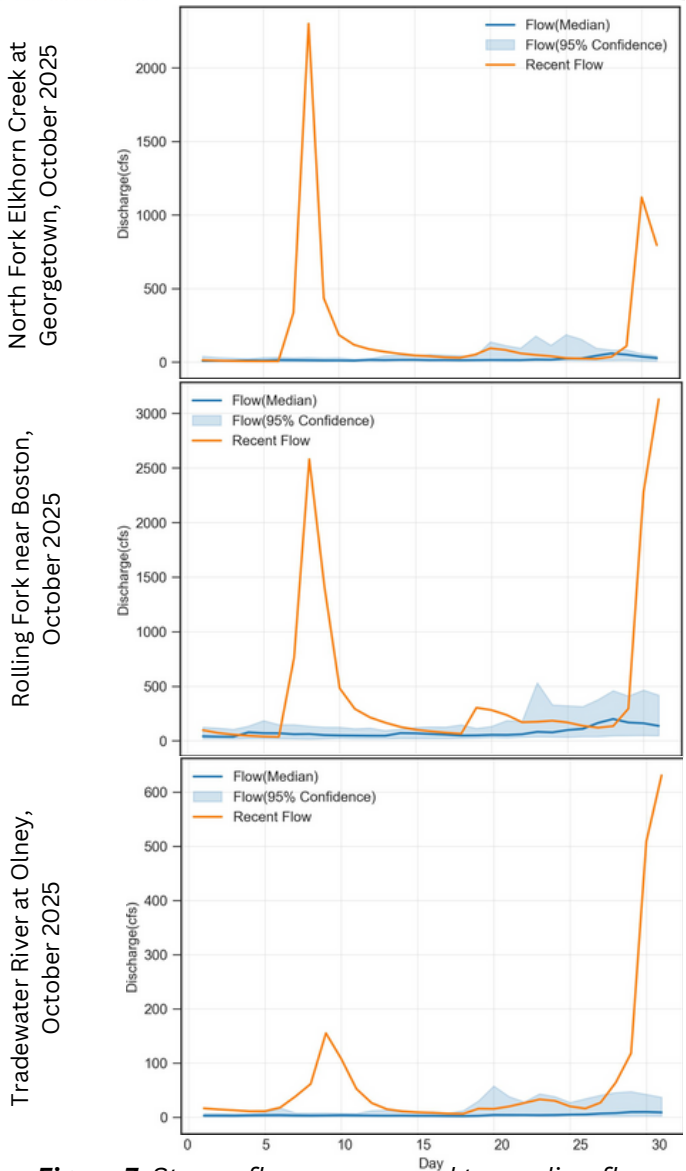

Figure 7. *Streamflows compared to median flows for the month.*

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Reservoir Storage

Reservoir storage for water supply lakes remain normal for the entire state.

We are reaching the time of year where reservoirs begin to switch from draw-down stage to recharge stage, as inflow increases and outpace withdrawals and evaporation. The recharge stage should continue until late spring and into summer.

There are no concerns with reservoir water supplies and none are expected to develop at this time.

Groundwater

General Statement: Kentucky is a geologically, and hydrogeologically, diverse state. Groundwater data is limited in availability and where available may only be applicable to the immediate area given regional geologic variability. Local conditions may not be accurately reflected by the reference locations selected and local rainfall and surface water conditions may provide additional or more representative information. Current data is compared to a 30-year reference period (1980 – 2010) or the longest available period of continuous data.

Inner Bluegrass: Flow at Royal Springs (Scott Co.) was above the reference median for the majority of October. Peak flow occurred on Oct. 9th in response to rainfall with flow approaching 70 cubic feet per second. As vegetation continues to die off and leaf fall occurs across the Fall, falling groundwater levels are expected to slow or halt as evapotranspiration is reduced coupled with seasonal rainfall. For the year, flow at Royal Springs has been above normal.

Jackson Purchase: Water levels in the Viola Well (Graves Co.) held steady above the reference median across October. This follows the historical trend and is likely in response to the end of the growing season, and decreased evapotranspiration as vegetation dies off, leaf fall, and lower peak temperatures. Groundwater levels are expected to remain stable or begin to increase as fall continues.

Middlesboro: Water levels within the Middlesboro well (Bell Co.) stayed below the reference period confidence interval and well below the reference median across the month. Water level did increase in response to late month rainfall. Falling groundwater levels are expected to rise towards the median and begin to steady as fall continues. For the year, water levels have generally been higher than the reference period.

Additional data can be found at:
https://www.uky.edu/KGS/water/water-groundwater-monitoring.php

Figure 8. *Locations of reference reservoirs across the state. Status of reservoir levels indicated by color.*

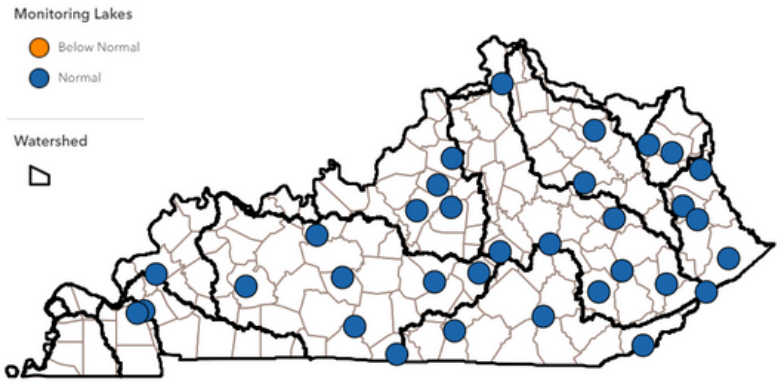
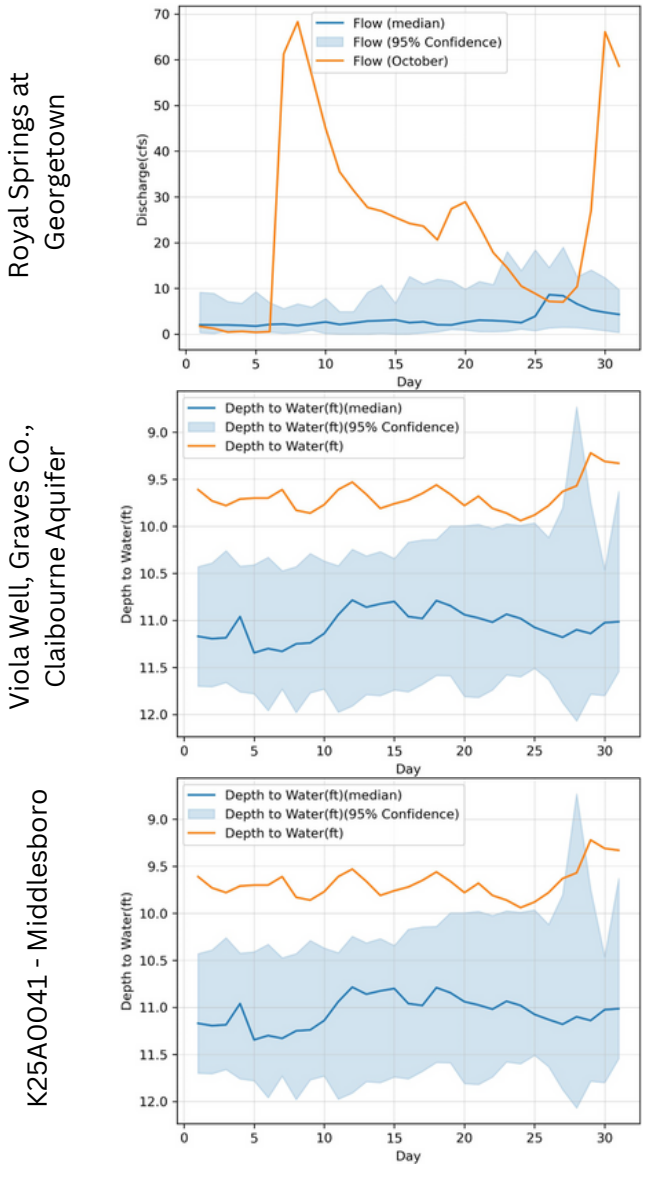


Figure 9. *Groundwater observations compared to normal for the month.*



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Forecast

The Climate Prediction Center (CPC) is currently predicting equal chances for above normal or below normal precipitation during November and also for the November through January. The darker colors depict a higher amount of confidence. The short-term forecasts are predicting cold with a few chances for rain and potentially the first snow flakes of the season.

La Nina has developed in the Pacific Ocean and is expect to continue through the winter. La Ninas typically bring increased chances for above normal precipitation to the Great Lakes and Ohio River Valley, including Kentucky.

The current U.S. Monthly Drought Outlook shows drought conditions are not expected to develop in Kentucky

Note: these forecasts do not provide the quantity above or below normal, just the probability it will occur.

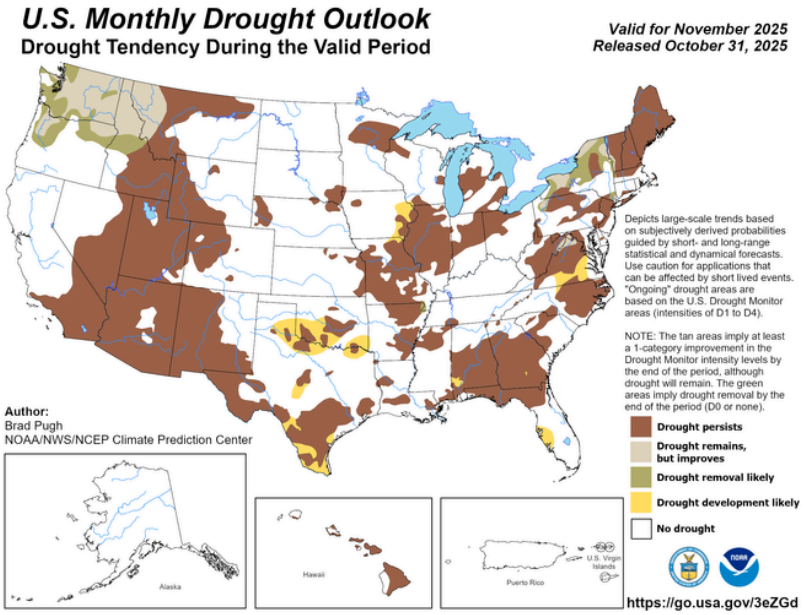

Figure 10. *Monthly drought outlook.*

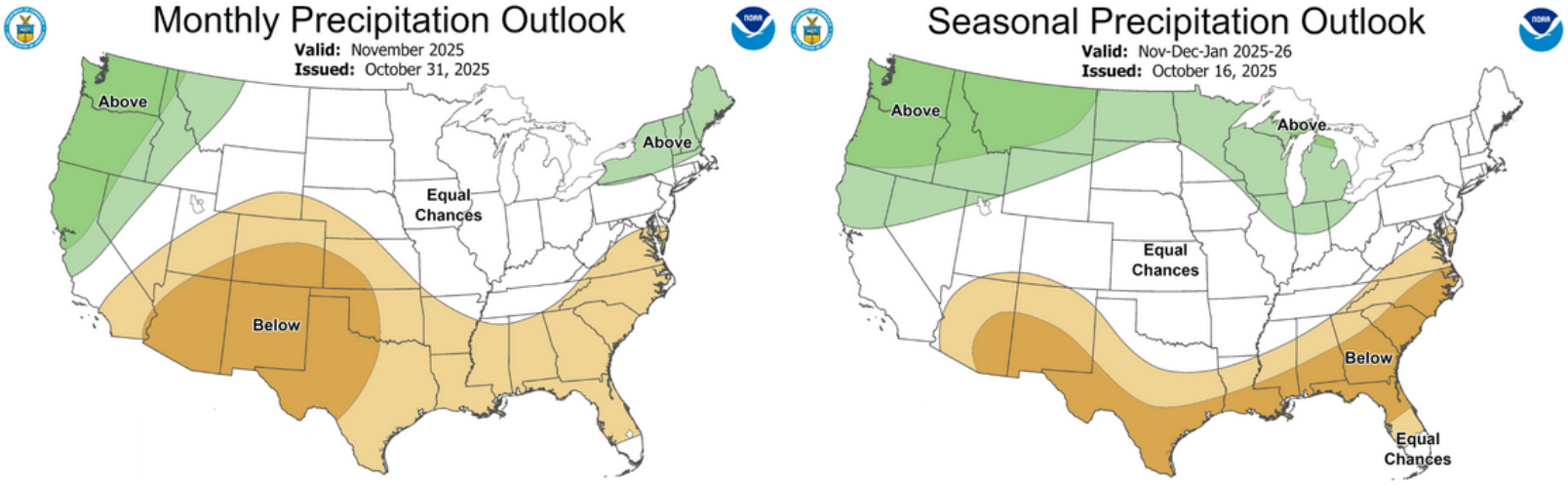

Figure 11. *Monthly and seasonal precipitation outlooks.*

Contact Us

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Report Drought Conditions

Acknowledgments

Precipitation Data:
U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Centers for Environmental Information; Kentucky Mesonet; Midwest Regional Climate Center; Southern Regional Climate Center.

Streamflow Data:
U.S. Geological Survey, Water Resources Division.

Reservoir Data:
U.S. Army Corps of Engineers, Huntington, Louisville, and Nashville Districts; Kentucky Division of Water, Water Supply Section.

Forecast Data:
U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Climate Prediction Center.