

Drought Information Statement for the NWS Blacksburg Service Area of western Virginia, southeast West Virginia and northwest North Carolina Valid November 30, 2023

Issued By: NWS Blacksburg, VA Contact Information: <u>rnk.skywarn@noaa.gov</u>

- This product will be updated Dec. 7th, 2023 or sooner if drought conditions change significantly.
- Please see all currently available products at <u>https://drought.gov/drought-information-statements</u>.
- Please visit <u>https://www.weather.gov/rnk/DroughtInformationStatement</u> for previous statements.







Link to the latest U.S. Drought Monitor for the NWS Blacksburg Service Area

- Drought Intensity and Extent:
 - **D3 Extreme Drought:** Has been removed from the Ο southern Shenandoah Valley.
 - **D2 Severe Drought**: Widespread across the service Ο area, persists across northwest North Carolina and across much of central Virginia.
 - D1 Moderate Drought: Persists across portions of Ο central Virginia, as well as southwest Virginia into southeast West Virginia
 - D0 Abnormal Dryness: Persists across portions of Ο southwest Virginia into southeast West Virginia





November 28, 2023 (Released Thursday, Nov. 30, 2023) Valid 7 a.m. EST

| | Drought Conditions (Percent Area) | | | | | |
|---|-----------------------------------|-------|-------|-------|------|------|
| | None | D0 | D1 | D2 | D3 | D4 |
| Current | 0.29 | 6.86 | 21.03 | 71.82 | 0.00 | 0.00 |
| Last Week 11-21-2023 | 0.29 | 6.76 | 21.12 | 70.24 | 1.58 | 0.00 |
| 3 Month s Ago 08-29-2023 | 70.73 | 28.95 | 0.32 | 0.00 | 0.00 | 0.00 |
| Start of Calendar Year 01-03-2023 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Start of Water Year 09-26-2023 | 50.73 | 32.61 | 16.66 | 0.00 | 0.00 | 0.00 |
| One Year Ago 11-29-2022 | 87.45 | 12.55 | 0.00 | 0.00 | 0.00 | 0.00 |

Intensity:



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

Author: David Simeral Western Regional Climate Center



Image Caption: U.S. Drought Monitor valid 7am EST November 30, 2023.



National Oceanic and Atmospheric Administration

Data over the past 60 days ending November 30, 2023

 Precipitation over the past 60 days has generally ranged from between 1.5 and 3 inches for most of the service area, with locally higher or lower totals.

Precipitation

 Sixty-day precipitation totals have been less than half the normal amount for much of the service area south of Highway 460. Further north, precipitation has ranged from between 50 and 75 percent of normal.



Image Captions:

Left: 60-Day Precipitation Amount Map for the NWS Blacksburg Service Area Right: 60 Day Percent of Normal Precipitation for the NWS Blacksburg Service Area





Links: See/submit Condition Monitoring Observer Reports (CMOR) and view the Drought Impacts Reporter

Hydrologic Impacts

• Streamflows remain in the Below Normal to Much Below Normal ranges for much of the service area. See next slide for more details.

Agricultural Impacts

- Nearly all of the service area is experiencing soil moisture below the 20th percentile, indicating moderate to locally severe dryness areawide.
- The lack of precipitation will only allow conditions to deteriorate, especially during periods of warmer and sunny weather.

Fire Hazard Impacts

• Portions of the southern Shenandoah Valley have experienced wildland fire activity. Recent rainfall has aided in diminishing this activity. However, if dryness continues to persists again, wildland fire activity will likely increase, especially with abundant sunshine and dry weather, which will allow ground leaf litter to dry out.



Hydrologic Conditions and Impacts

- Average stream flows over the past 28 days saw slight improvements over the entire service area, with most now Below Normal, with only a few in the Much Below Normal range.
- Inflows from the Jackson River and Back Creek into Lake Moomaw have been below normal through much of the summer and fall.



Atmospheric Administration

U.S. Department of Commerce

Explanation - Percentile classes ≊USGS <10 10-24 25-75 76-90 >90 1 04 Hiah No Data Above Much above Auch below Below Normal **Image Captions:** Top-Right: USGS 28 day streamflows for Virginia. Top-Left: USGS 28 day streamflows for West Virginia. Bottom-Right: USGS 28 day streamflows for North Carolina. Left: Latest Hydrograph for Lake Moomaw at Gathright Dam.

Hednesday, November 29, 2023



Soil Moisture Impacts

- Although Soil Moisture continues to remain low, there have been improvements from the Shenandoah Valley southward into northern North Carolina, and eastward into central Virginia from recent 1 to 3 inches of rainfall.
- Nearly all of the service area is still experiencing soil moisture at or below the 20th percentile.
- Some areas are experiencing soil moisture below the 10th and 5th percentile, namely the Alleghany Highlands of Virginia.
- The lack of precipitation will allow conditions to deteriorate, especially during periods of warmer weather.

SPoRT-LIS 0-2 m RSM percentile valid 30 Nov 2023



Image Captions:

Left: <u>NASA SPoRT LIS 0-2m Relative Soil Moisture (RSM) Percentile</u> valid November 30, 2023 Right: <u>NASA SPoRT LIS 2-week difference in Column RSM</u> valid November 30, 2023



National Oceanic and Atmospheric Administration National Weather Service Blacksburg, VA

2-Week Difference in Column Relative Soil Moisture (%) valid 00z 30 Nov 2023



Link to Wildfire Potential Outlooks from the National Interagency Coordination Center.

- <u>Keetch Byram Drought Index (KBDI) values</u> have decreased into the 0 to locally 300 range across a large portion of the service area.
- There are still areas of 300 to 450 in the Shenandoah Valley and into the Piedmont of Virginia and North Carolina. This range indicates that fuels such as dried fallen leaves will begin to contribute to increased fire intensity as additional drying of fuels occurs.
- Fallen leaves serve as fuels and sunshine reaching the surface allows surface fuels to dry, especially during long dry stretches.



Image caption: Keetch Byram Values are increasing across the service area. Additional information is available at the <u>here.</u>





Recent Rainfall Amounts

- Rainfall amounts from a storm system that crossed the region on November 20 - 22 brought beneficial rainfall.
- Highest amounts were over the Piedmont of Virginia and southern Shenandoah Valley where widespread 2 to 3 inches fell. Locally higher amounts were also observed.
- Lesser amounts of rainfall fell over southeast West Virginia and far southwest Virginia







- Light rainfall amounts are expected the next seven days, with amounts up to 0.25" across the North Carolina and Virginia Piedmonts, along with West Virginia.
- Less the 0.25" in the Shenandoah, Roanoke, and New River Valleys.



168-Hour Day 1-7 QPF Valid 12Z Thu Nov 30 2023 Thru 12Z Thu Dec 07 2023 Issued: 1044Z Thu Nov 30 2023 Forecaster: WPC DOC/NOAA/NWS/NCEP/WPC

Image Caption: Weather Prediction Center <u>7-day precipitation forecast</u> valid November 30th to December 7th 2023

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Drought Outlook

The latest monthly and seasonal outlooks can be found on the CPC homepage

- During November, drought conditions remained, but improved.
- While improvement is likely across the southern Shenandoah Valley during mid-winter, it is possible that some drought conditions will persist into February.

Links to the latest: <u>Climate Prediction Center Monthly Drought Outlook</u> <u>Climate Prediction Center Seasonal Drought Outlook</u>



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Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4). NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none). Author: Adam Allgood **Drought persists** NOAA/NWS/NCEP Climate Prediction Center Drought remains, but improves **Drought removal likely** Drought development likely No drought

Image Caption: Climate Prediction Center Seasonal Drought Outlook Released November 16, 2023 Valid through February 2024

> National Weather Service Blacksburg, VA

https://go.usa.gov/3eZ73

U.S. Seasonal Drought Outlook Valid for November 16, 2023 - February 29, 2024 Drought Tendency During the Valid Period Released November 16, 2023