

Fuels and Fire Behavior Advisory

Southern Appalachian Mountains and Piedmont

Effective November 13, 2023

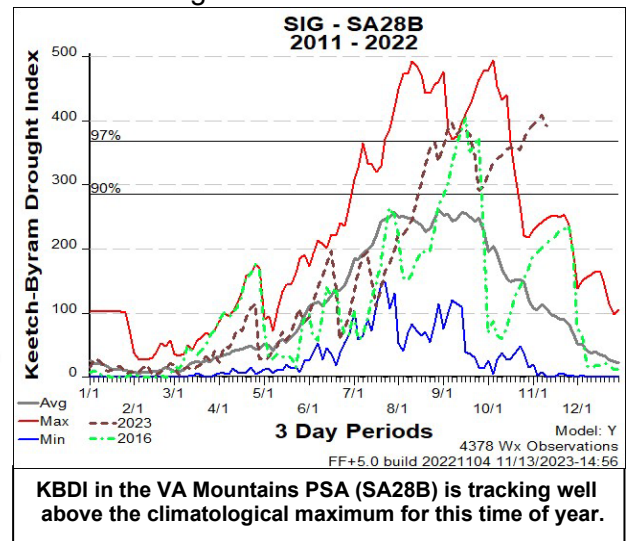
Subject: Increased fire danger in the hardwood-dominant Southern Appalachians due to ongoing drought

Discussion: Severe to exceptional drought has expanded across the Southern Appalachians and portions of the Piedmont in recent weeks, while seasonal leaf off continues to progress down from the higher elevations. The availability of fresh leaf litter and extremely dry duff layers on the surface are both contributing to difficulties controlling and containing ongoing wildfires. Recent light rain has only temporarily reduced fire danger. Long-term rainfall deficits combined with another period of abnormally dry air and poor overnight recoveries will result in critically low dead fuel moisture and a sharp increase in risk. Conditions within and adjacent to the advisory may degrade further if soaking rainfall does not return in the next one to two weeks, but confidence in weather conditions is lower than normal beyond the 5-day period.

Difference from normal conditions: Fire danger indices across the advisory area have increased to levels that are locally on par with conditions in the fall of 2016. Owing to 30-, 60- and 90-day rainfall deficits well below 25% of normal, 100- and 1000-hour fuels are critically dry, resulting in extensive mop-up operations. Additionally, multiple fires have remained active through the overnight hours as a result of the drought-impacted duff layer burning readily and holding heat. The energy release component (ERC) in several Predictive Service Areas (PSAs) recently surpassed historic levels observed in the fall of 2016, while KBDIs are tracking near the climatological maximum in portions of the area (as shown below). Fuels that normally burn during the spring fire season, such as Mountain Laurel and Rhododendron, are actively burning and contributing to fire spread. Active torching in young pine has also been observed under moderate burning conditions.

Concerns to Firefighters and the Public: Any fire in this area may be resistant to control efforts. Expect:

- a high probability for ignitions and spotting in *extremely dry* down and dead fuels;
 - elevated or higher fire line intensity during both initial attack and extended attack;
 - holding issues on handlines and the need for extended mop-up - freshly fallen leaves may need to be blown off containment lines regularly where leaf off has not reached completion;
 - higher than normal fire intensities in areas of complex terrain, which may preclude direct attack of fires;
 - the risk for fires to encroach on the wildland-urban interface, which has grown substantially since 2016;
 - extreme fire behavior and rates of spread if terrain-enhanced wind events, extended periods of low RH or other critical fire weather patterns materialize.
- See the Southern Area Fall [Risk Assessment](#) for an overview of critical fire weather patterns in the region, which may include dry cold fronts, distant tropical cyclones and [mountain waves](#).



Mitigation Measures:

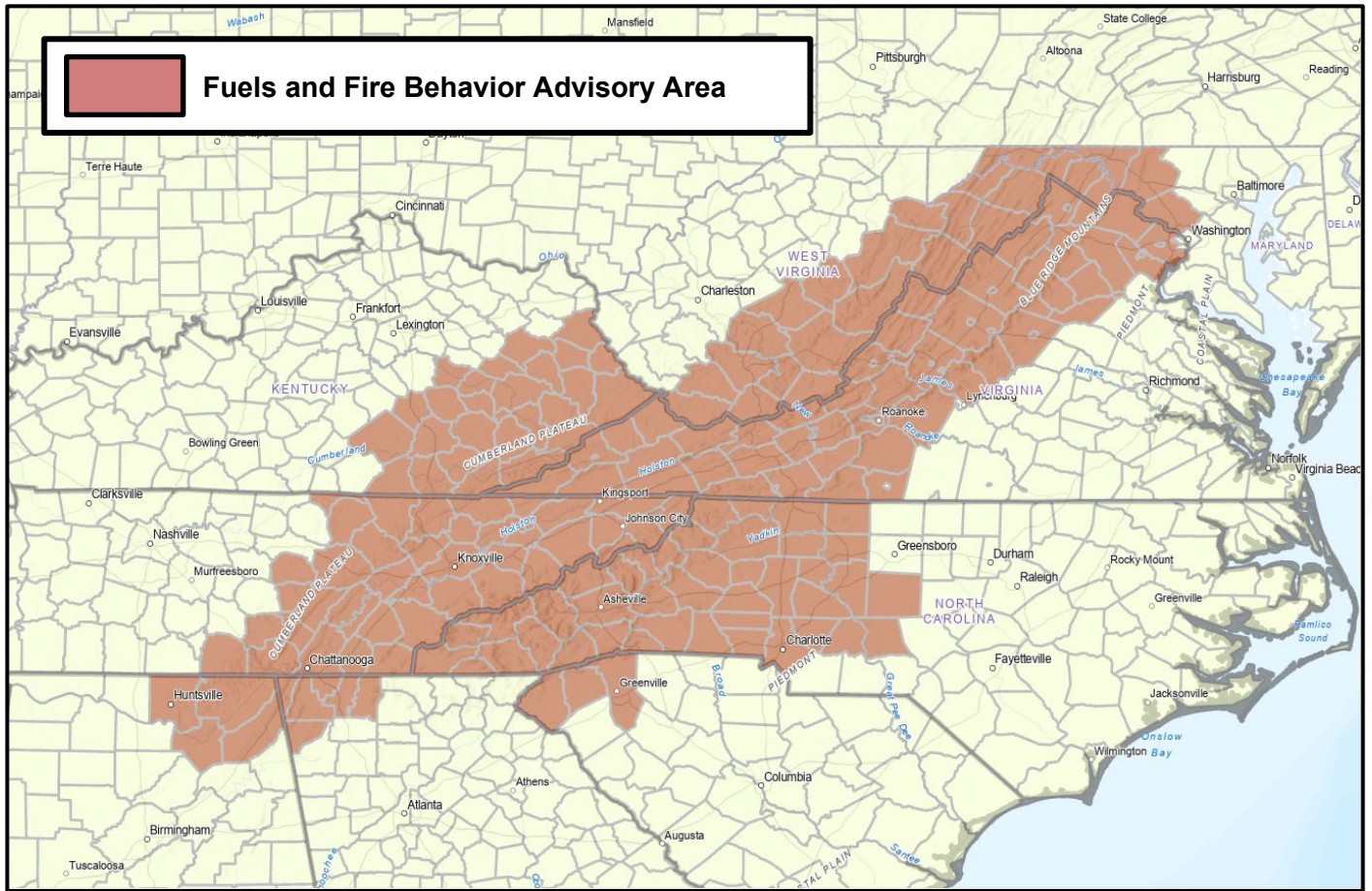
- Do not expect any fire to be routine.
- Fire managers should be prepared to support periods of increasing fire occurrence, as well as complex, potentially long-duration incidents.
- Utilize indirect tactics and plan for extended mop-up, with periodic patrolling of control lines.
- Utilize aerial supervision to help direct crews and keep them informed on fire behavior.
- Ensure adequate daily briefings for initial attack resources, especially if critical fire weather is forecast.
- Make sure that LCES is in place before engaging on any fire. Remember to STOP, THINK and TALK before you ACT.

Issued By: Southern and Eastern Area Predictive Services in coordination with state and federal partners.

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Fresh leaf litter is contributing to fire spread under Rhododendron on the Collett Ridge Fire in North Carolina (left, National Forests of NC). Fires have been actively burning throughout the overnight hours in portions of the Appalachians (right, VA Department of Forestry).