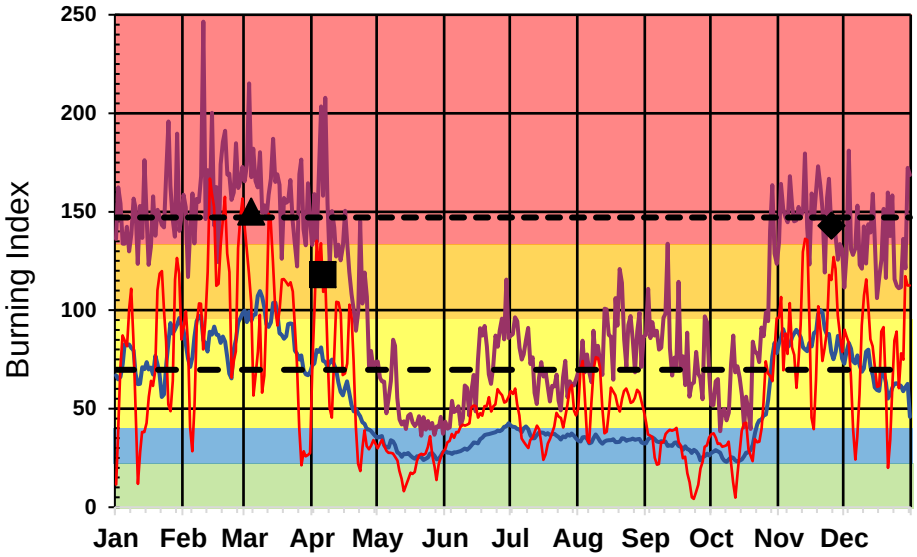
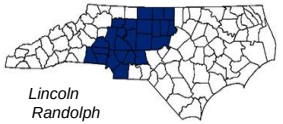


Western Piedmont
FUEL MODEL X-Brush

FIRE DANGER CARD

January-December



NWS Forecasting Offices

Raleigh, NC
Blacksburg, VA
Greenville-Spartanburg, SC

RAWS

Duke Forest 312501
Lexington 314602
Mt. Island Lake 316602

All stations meet NWCG Weather Station standards

Cleveland	*Stanly*	*Lincoln*
Person	*Gaston*	*Randolph*
Mecklenburg	*Chatham*	*Union*
Forsyth	*Iredell*	*Yadkin*
Rowan	*Guilford*	*Cabarrus*
Orange	*Rockingham*	*Durham*
Caswell	*Montgomery*	*Alamance*
Davidson	*Davie*	*Catawba*

MAXIMUM: Highest by day for 2006-2020.
AVERAGE: Shows mean daily BI value through the period.
Representative fire season BI
2011: Representative fire season BI.
97th PERCENTILE: Only 3% of the days from 2006-2020 had a BI above 147**.**
67th PERCENTILE: Represents a BI level of 69 **w**here large/multiple fire occurrences increase.

BURNING INDEX

Fuel Model X	Average Seasonal Value	Average Highest Value	Highest Observed Value
January	75.4	89.1	195.8
February	85.0	115.1	246.5
March	90.3	113.2	215.1
April	59.1	80.8	207.8
May	28.1	35.2	85.0
June	33.5	63.7	115.6
July	37.5	57.1	96.4
August	33.9	78.7	121.0
September	30.6	74.9	133.8
October	37.1	51.4	163.5
November	85.6	112.6	179.6
December	67.7	82.1	181.1

Burning Index (BI) relates to the contribution of fire's behavior in containing the fire. The difficulty of containment is directly proportional to the fireline intensity. BI can be a cross reference to fireline intensity & flame length. It assists in assessing spotting & crown fire potential as well as suppression resource needs & tactical considerations. Doubling the burning index indicates that twice the effort will be required to contain a fire, providing all other parameters are held constant.

Remember what Fire Danger tells you:

Fire danger gives general conditions across the entire FDRA. Watch for localized conditions and variations across the landscape--Fuel, Weather, Topography. Listen to weather forecasts--especially RH and wind.

Local Thresholds-- *Watch out* !

Combinations of any of these 4 factors can greatly increase fire behavior. **Wind speed** over 10 MPH, **RH** less than 30%, **Temperature** over 60°, **FFM** less than 10%.100hr fuel less than 18%

Local Watch Outs

- Post passage of dry cold front
- Gusty winds and low Relative Humidity
- 1000 Hour FMC below 18%

Memorable Fires

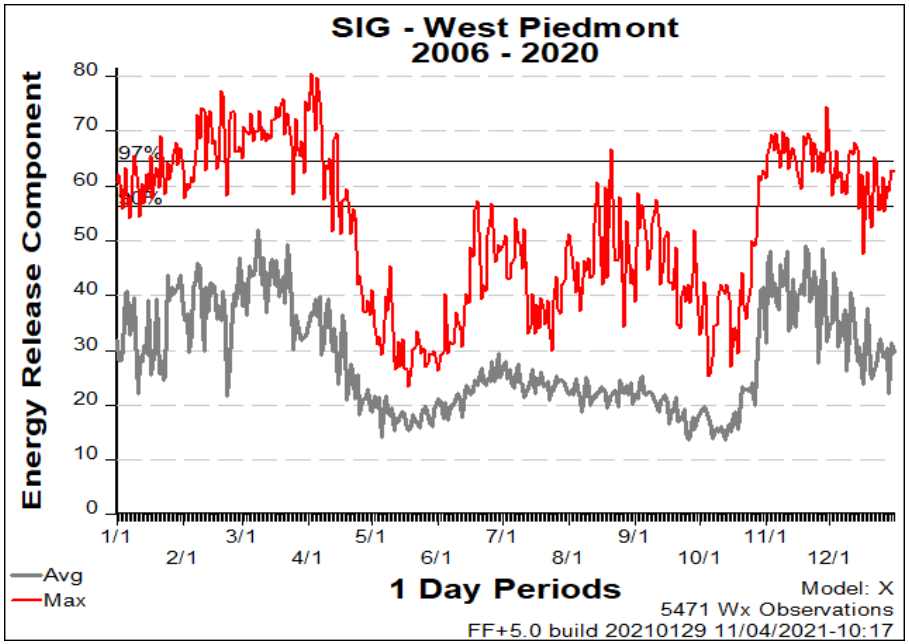
▲ **Saddle Club - 3/4/2018 Person County-115 Acres-BI 150**

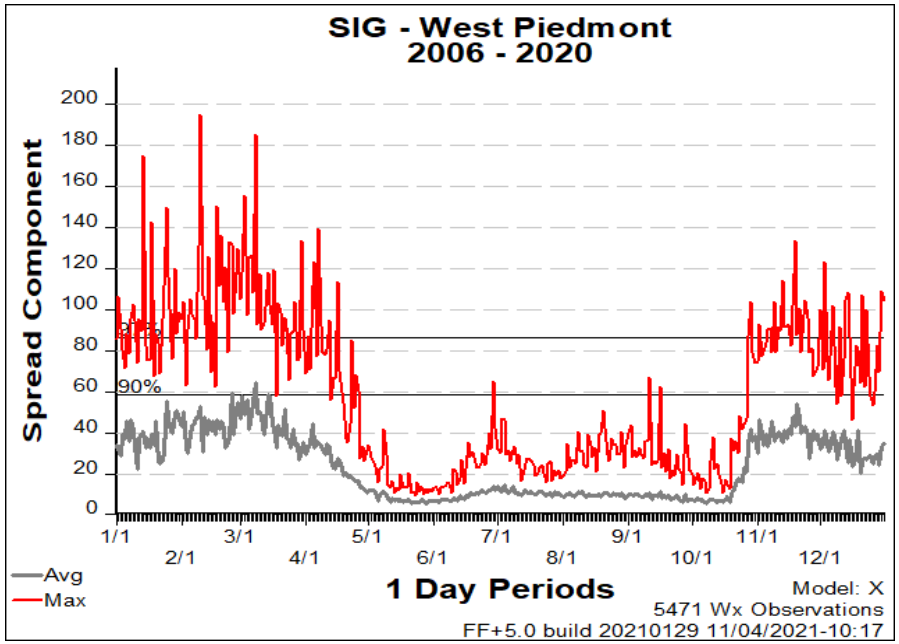
■ **Harris Lake - 4/6/18 Chatham County-350 Acres-BI 118**

● **Bald Mountain - 11/25/12 Davidson County-115 Acres-BI 143**

Updated 1/14/2022

This card is based on 15 years of data





Spread Component (SC) - A rating of the forward rate of spread of a head fire. It integrates the effect of wind, slope, fuel bed and fuel particle properties. The daily variations are caused by the changes in the wind and moisture contents of the live fuels and the dead fuel moisture time lag classes of 1, 10, and 100 hour. *In coastal fuels* ***SC Values exceeding 59 (90th Percentile) are critical. The higher the SC, the less likely a direct attack at the head of the fire will succeed.***

Ignition Component (IC) – the probability a firebrand will cause an "actionable" fire, and requires suppression action. IC is more than just a probability of a fire starting. The fire has to have the potential to spread. IC can be an aid in assessing spotting potential. An **IC value of 15 (90th Percentile) is a critical threshold value**. Values at this level are critical especially during February, March and April as firebrands initiate spot fires.

Energy Release Component (ERC) - is a number related to the available energy (BTU) per unit area (square foot) within the flaming front at the head of a fire. The ERC reflects the contribution of all live and dead fuels to potential fire intensity. As live fuels cure and dead fuels dry, the ERC will increase. Each daily calculation considers the past 7 days in calculating the new number. Daily variations of the ERC are relatively small as wind is not part of the calculation. *An* ***ERC value of 56 (90th Percentile) is a critical threshold value. At this value, large (>15 ac). and multiple fires (>5) begin to occur within the FDRA.***