

**East Piedmont  
FUEL MODEL G  
SHORT NEEDLE (HEAVY DEAD)**

**FIRE DANGER  
POCKET CARD**

**NWS Forecasting Offices**

Raleigh, NC (RAH)  
Wakefield, VA (AKQ)

**RAWS**

Oxford Tobacco 213841  
Lake Wheeler 314941  
Central Crop Research 317441  
Upper Coastal Research 312940

**May-December**



Edgecombe Johnston  
Franklin Nash  
Granville Northampton  
Halifax Wake  
Warren Wilson  
Vance

**MAXIMUM:** Highest ERC by day for 2002-2016.

**AVERAGE:** Shows mean daily ERC value through the period.

**97th PERCENTILE:** Only 3% of the days from 2002-2016 had an ERC above 40.5.

**60th PERCENTILE:** Represents an ERC level of 27.75 where large/multiple fire occurrences increase.

Fuel Model G Short Needle (Heavy Dead)	ENERGY RELEASE COMPONENT		
	Average Seasonal Value	Average Highest Value	Highest Value Observed
May	28	37	49
June	29	45	51
July	29	37	47
August	26	36	43
September	22	35	42
October	19	27	38
November	21	32	41
December	19	28	40

**Local Thresholds-- Watch out !**

Combinations of any of these 3 factors can greatly increase fire behavior.

**Wind speed** over 15 MPH, **RH** less than 35%, **Temperature** over 60°

**Remember what Fire Danger tells you:**

ERC gives general seasonal trends calculated from precipitation, temperature, and RH.

Wind speed is not part of the ERC calculation.

Watch local conditions and variations across the landscape--Fuel, Weather, Topography.

Listen to weather forecasts--especially WIND.

**Energy Release Component (ERC)** is a number relating to the available energy released from forest fuels (BTU/ft<sup>2</sup>) at the head of a fire's flaming front. ERC is a composite of all live & dead fuel moistures. It is a very good reflection of drought conditions. It is a "build up" type index. Given a fire start in a fuel with a high ERC, fire containment can be expected to be difficult. ERC is valuable in assessing the depth of a burn, consumption of the various fuel sizes, residual burning, and mop-up requirements.

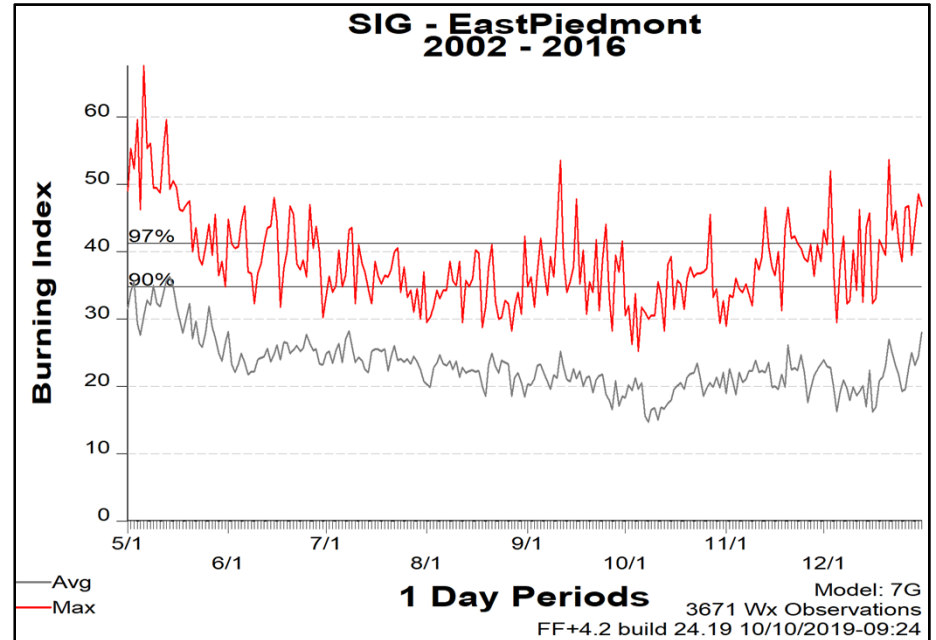
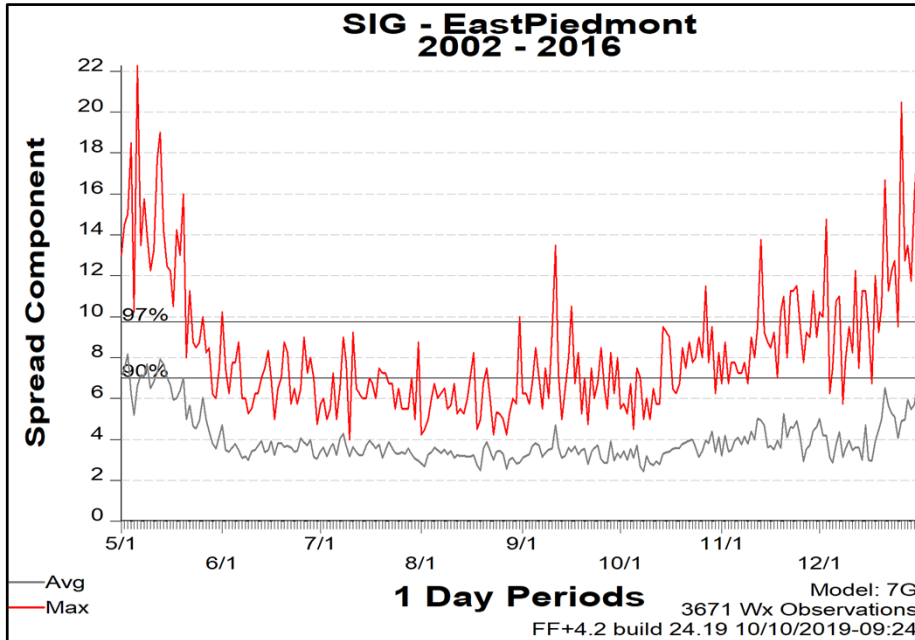
**Past Experience:**

- ◆ **Marriott Rd.:** 6/25/08, Edgecombe Co.- 82 ac - ERC 26
- ▲ **Portotino:** 8/18/07, Johnston Co.- 150 ac - ERC 32
- **Purvis Farm:** 9/25/10, Halifax Co.- 274 ac - ERC 41



October 10<sup>th</sup>, 2019

*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. **SC Values of 6+ are critical**, as 75% of all large fires occur at or above this level.

**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 20+ is a critical threshold value**. Values at this level are critical as forest floor litter is highly receptive to firebrands.

**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** is derived from the combination of the SC & ERC. **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. In pine plantations, **BI's of 39+**, are known to support crown fires & spotting with erratic behavior starting at **30+**. The doubling of the **BI**, 20 to 40 can increase flame length from 2 to 4 ft. yet, increases fireline intensity 5 times.

