

**Sand Hills
FUEL MODEL G
SHORT NEEDLE (HEAVY DEAD)**

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**FIRE DANGER
POCKET CARD**

May-December



Anson
Cumberland
Harnett
Hoke
Lee
Moore
Richmond
Scotland

MAXIMUM: Highest ERC by day for 2000-2016.
AVERAGE: Shows mean daily ERC value through the period.
97th PERCENTILE: Only 3% of the days from 2000-2016 had an ERC above 42.
60th PERCENTILE: Represents an ERC level of 29.5 where large/multiple fire occurrences increase.

ENERGY RELEASE COMPONENT			
Fuel Model G Short Needle (Heavy Dead)	Average Seasonal Value	Average Highest Value	Highest Value Observed
May	31	41	52
June	29	39	45
July	29	36	48
August	26	37	46
September	24	38	48
October	22	32	45
November	24	35	50
December	20	29	43

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 65°

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/ft²) 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.

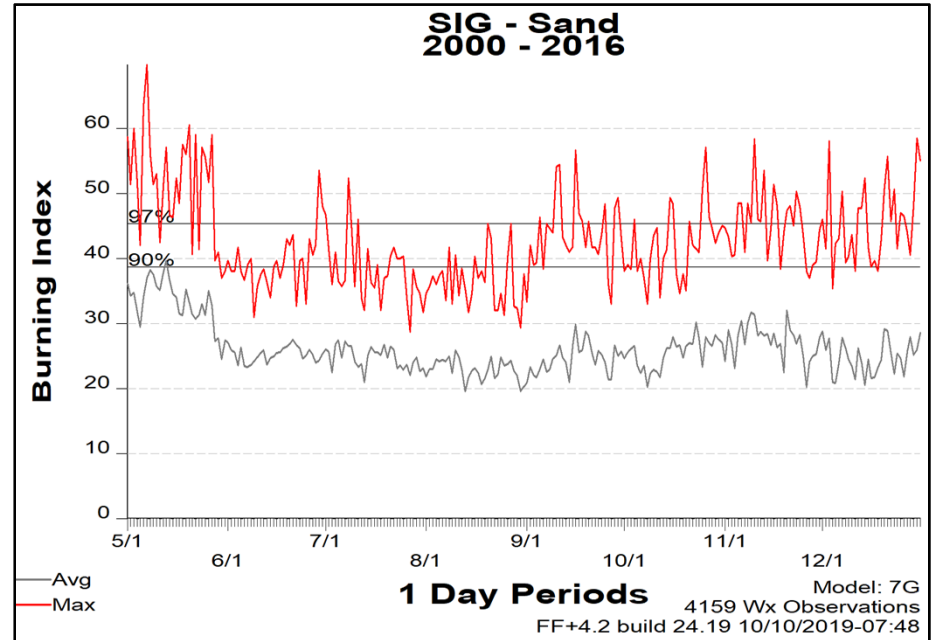
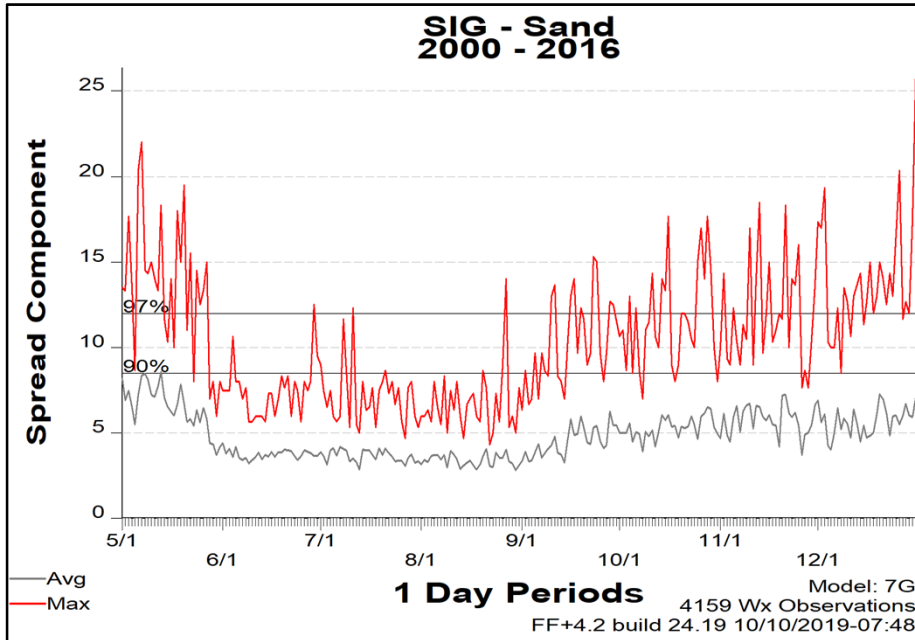
Past Experience:

- ◆ **Wildwood:** 7/17/11, Harnett Co.- 267 ac - ERC 39
- ▲ **Rifle Range:** 7/25/15, Scotland Co.- 681 ac - ERC 34
- **Spread Everywhere:** 10/12/13, Scotland Co.- 192 ac - ERC 28



October 10th, 2019

This card is based on 17 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 7+ 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.

