

## Sandhills FUEL MODEL Z

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All stations meet NWCG Weather  
Station standards

# FIRE DANGER CARD

January - December



Anson  
Cumberland  
Harnett  
Hoke  
Lee  
Moore  
Richmond  
Scotland

**MAXIMUM:** Highest BI by day for 2006-2020.

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

**2019:** Representative fire season BI.

**97th PERCENTILE:** Only 3% of the days from 2006-2020 had a BI above 62.

**67th PERCENTILE:** Represents a BI level of 43 where large/multiple fire occurrences increase.

### BURNING INDEX

Fuel Model ?	Average Seasonal Value	Average Highest Value	Highest Observed Value
January	25.3	34.5	67.3
February	30.5	43.2	80.7
March	36.5	46.2	90.6
April	41.4	50.4	86
May	40.5	48.6	83.7
June	41.8	55.2	79.9
July	40.6	47.2	92.4
August	36	51.9	71.9
September	35.5	51.5	85.9
October	31.8	41.4	65.4
November	31.6	45.1	61.1
December	24.7	32.3	63.7

### Local Thresholds-- **Watch out !**

Combinations of any of these 4 factors can greatly increase fire behavior.

**Wind speed** over 8 MPH, **RH** less than 30%, **Temperature** over 60°, **FFM** less than 8%.

### 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.

**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.

### Local Watch Outs

- Wind shift and low rh following passage of dry cold front
- Gusty winds with low rh
- 1000-hour FMC at or below 17%
- KBDI over 500 allows surface fuels to dry much quicker due to sandy soil heating

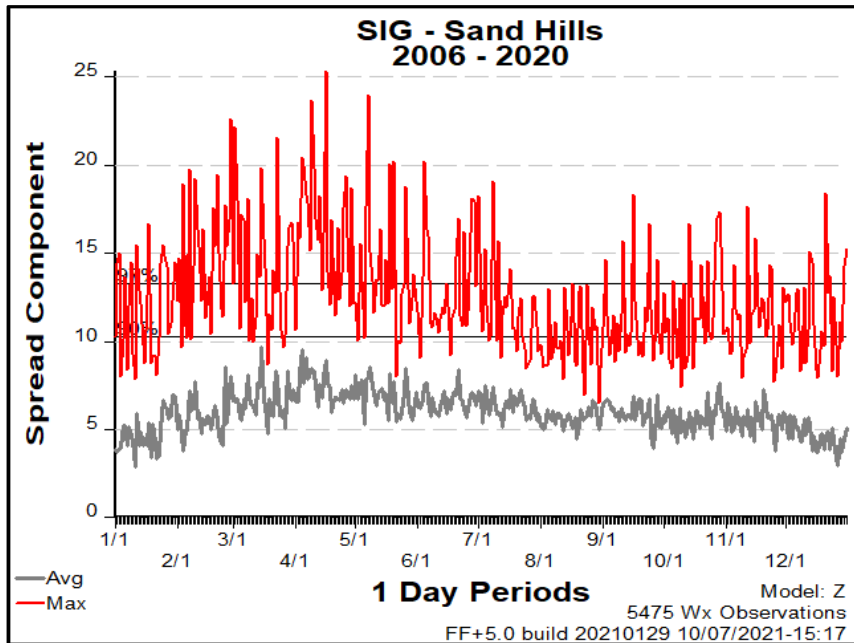
### Memorable Fires

- ◆ **Wildwood Fire: 07/17/2011** Harnett County – 267 acres - BI 45.4
- ▲ **Spread Everywhere Fire: 10/23/2013** Scotland County – 192 acres - BI 50.5
- **Palestine Fire: 04/04/2020** Cumberland County – 177 acres - BI 52.9

1/31/2022

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 8 (70th Percentile) are critical. At this value the fire is moving faster than initial attack with a “booster reel”.***

**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 18+ (70th 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 58+ (70th Percentile) is a critical threshold value.**

