

South Coast FUEL MODEL X

NWS Forecasting Offices

Raleigh, NC
Newport-Morehead City, NC
Wilmington, NC

RAWS

Hofman Forest 319507
Sunny Point 319803
Whiteville RAWS 319701
Turnbull Creek 319302
New Bern 319004
Beaufort 317801
Finch's Station 317501

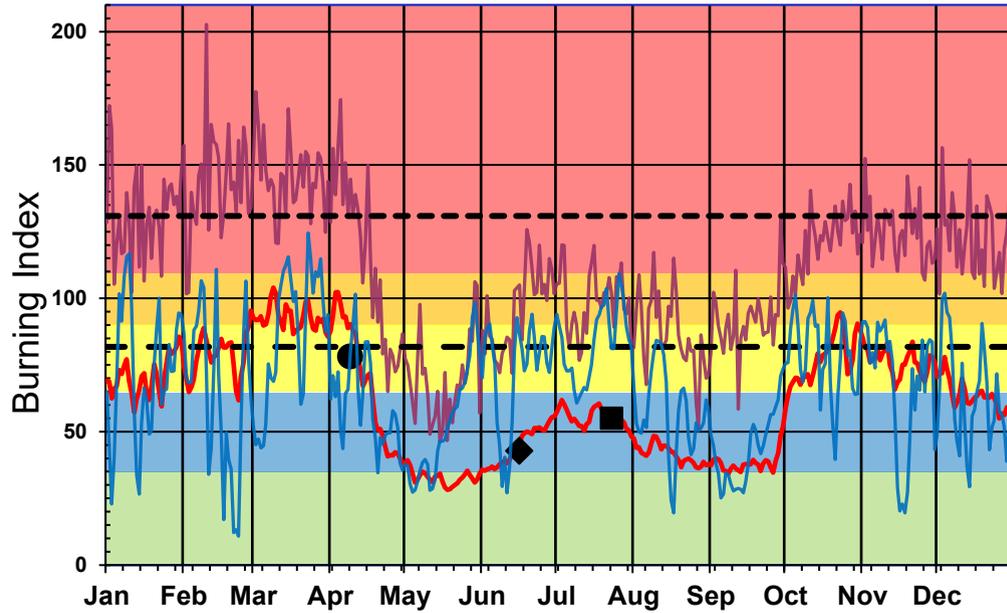
All stations meet NWCG Weather Station standards

FIRE DANGER CARD

January - December



Beaufort	Craven	New Hanover	Robeson
Bladen	Duplin	Onslow	Sampson
Brunswick	Greene	Pamlico	Wayne
Carteret	Jones	Pender	Croatan NF
Columbus	Lenoir	Pitt	Cape Lookout NS
Cedar Island NWR		Moore's Creek NBP	



MAXIMUM: Highest BI by day for 2006-2020.

AVERAGE: Shows mean (3-Day) 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 130.87.

67th PERCENTILE: Represents a BI level of 81.79 where large/multiple fire occurrences increase.

BURNING INDEX

Fuel Model X	Average Seasonal Value	Average Highest Value	Highest Observed Value
January	70.9	84.1	172.2
February	78.3	98.1	202.7
March	92.6	108.1	177.5
April	68.3	94.1	174.5
May	32.8	51.8	106.2
June	44.7	83.2	125.8
July	55.5	87.0	120.1
August	41.4	76.6	117.2
September	38.4	77.4	130.3
October	77.3	89.4	142.7
November	76.2	101.2	152.4
December	64.1	85.1	156.5

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 Weather and Fuels Thresholds-- Watch out !

Combinations of any of these 4 factors can greatly increase fire behavior. **Wind speed** over 10 MPH, **RH** less than 35%, **Temperature** over 65°, **FFM** less than 9%.

Local Watch Outs

- Fire burning in organic soils will retain heat and continue to progress under ground.
- Waxy leaf fuels will burn actively at RH over 40%
- Most significant fires require 2 dozers due to trafficability
- Summer KBDI over 300 can indicate potential for ground fire

Memorable Fires

- **Clemmons Rd.:** 4/19/16, Brunswick Co.- 1,578 ac – BI 78.1
- ◆ **Dad Fire:** 6/16/12, Croatan NF – 21,331 ac – BI 42.7
- **Carolina Bay:** 7/23/09, Croatan NF – 2,660 ac – BI 55

Updated 1/22

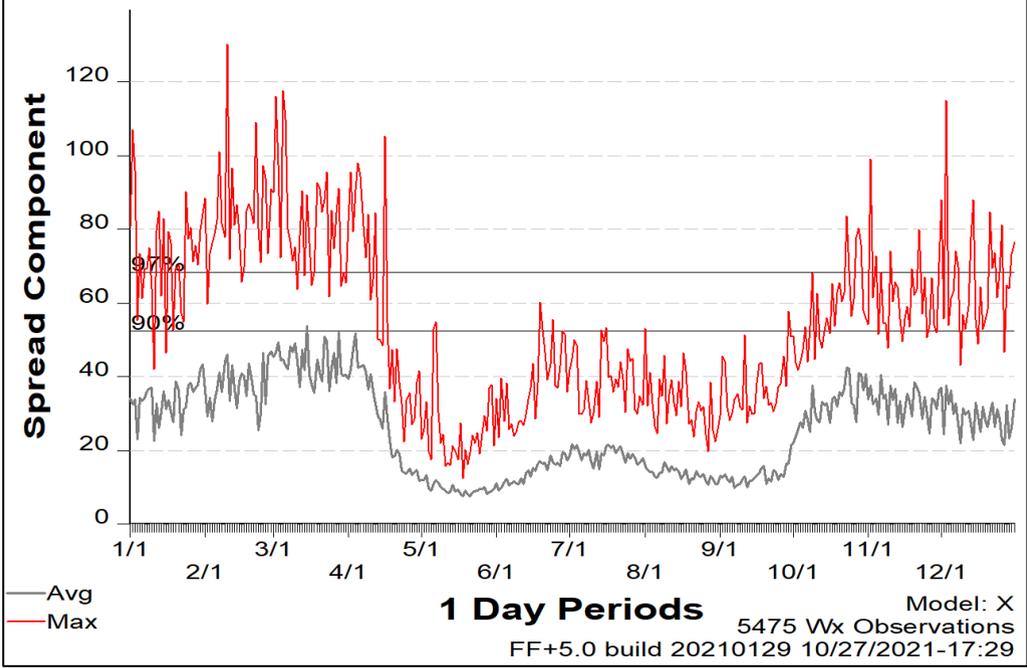
This card is based on 15 years of data



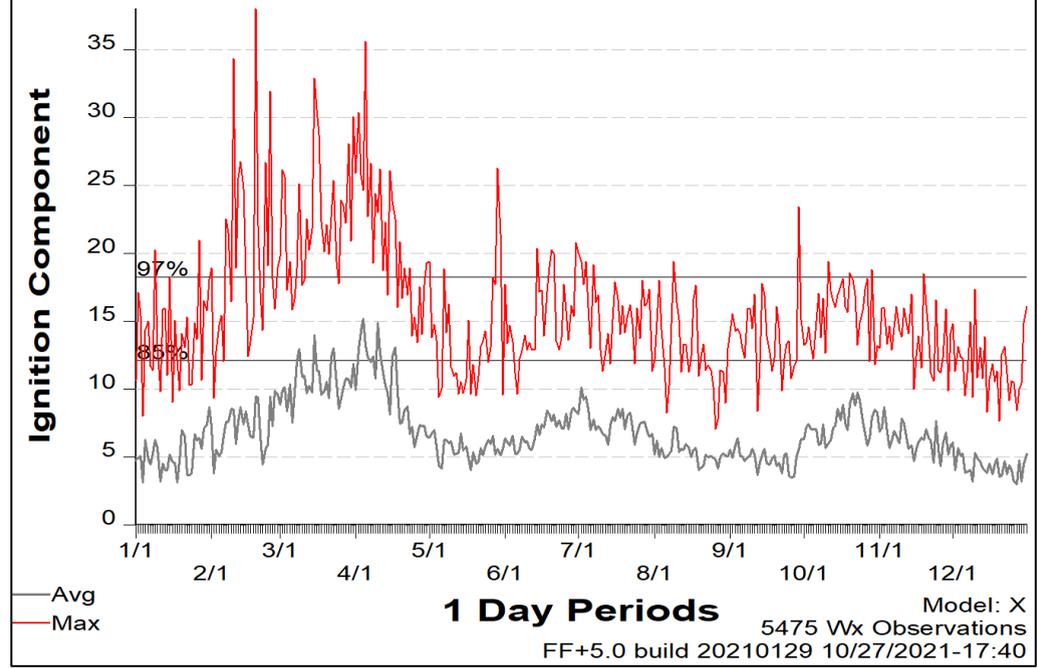
Scan for forecast BI for S Coast.



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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 52 (90th 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 12+ (85th 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 38+ (60th Percentile) is a critical threshold value.**

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