North Coast FDRA
FUEL MODEL X

FIRE DANGER CARD

January 1 -December 31

Bertie, Camden, Chowan, Currituck, Gates, Hertford, Martin, Pasquotank, Perquimans, Dare, USFWS-Multiple refuges, Hyde, Tyrrell, Washington, Dare Bomb Range, Cape Hatteras NS

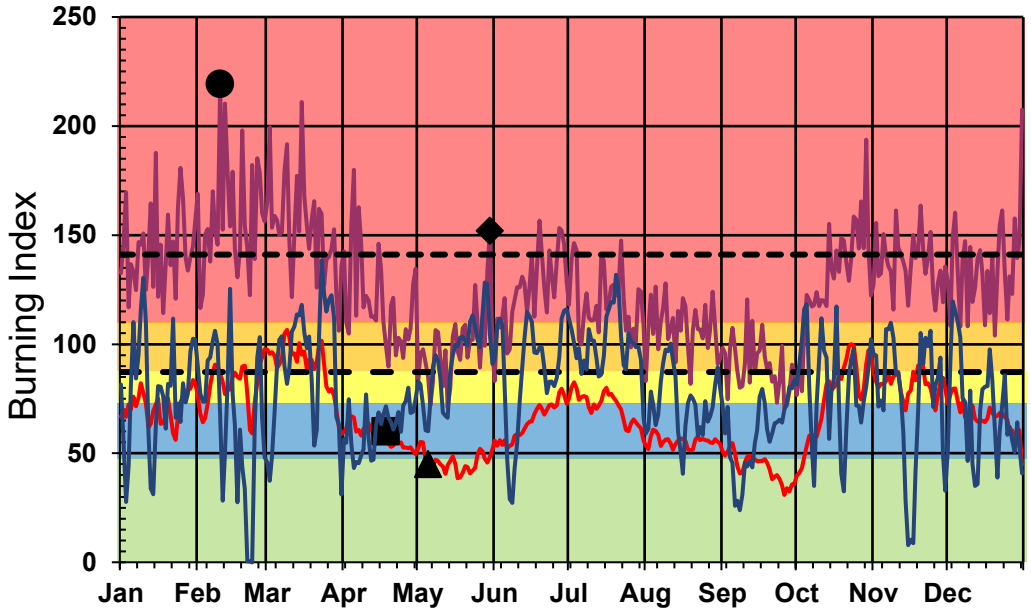
NWS Forecasting Offices

Wakefield, VA (AKQ)
Morehead City, NC (MHC)

RAWS

Elizabeth City	311503
Greens Cross	313001
Pocosin Lakes	315201
Fairfield	317901

All stations meet NWCG Weather Station standards



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 **141.**
67th PERCENTILE: Represents a BI level of **87** where large/multiple fire occurrences increase.

BURNING INDEX

Fuel Model X	Average Seasonal Value	Average Highest Value	Highest Observed Value
January	71	89	187
February	80	105	219
March	90	111	211
April	58	107	180
May	45	92	152
June	64	112	156
July	71	102	147
August	55	94	127
September	43	69	120
October	74	89	193
November	81	93	163
December	67	93	207

Burning Index (BI) relates to the contribution of fire's behavior in containing the fire. The difficulty of containment is directly proportional to the fire line intensity. BI can be a cross reference to fire line intensity & flame length. 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 15 MPH, **RH** less than 35%, **Temperature** over 55°, **FFM** less than 9%.

Local Watch Outs

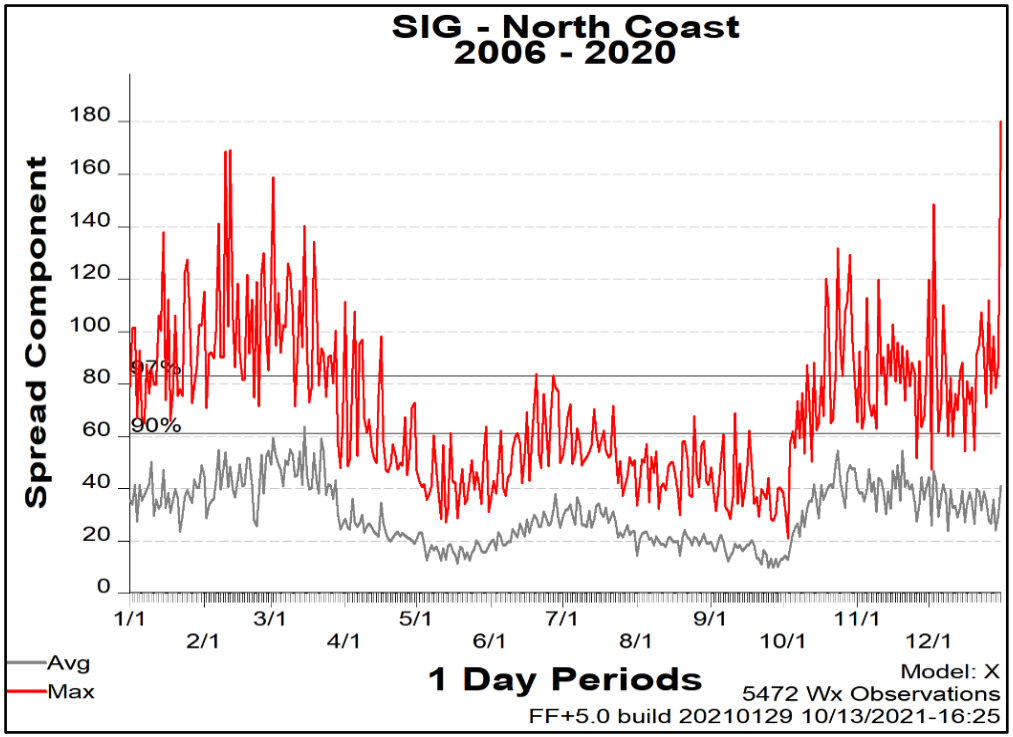
- Fires burning in organic soils can retain heat and continue to progress under ground.
- Waxy leaf fuels can burn actively at RH over 40%.
- Most significant fires require 2 dozers due to trafficability.
- Summer KBDI over 300 can indicate potential for organic soil burning.

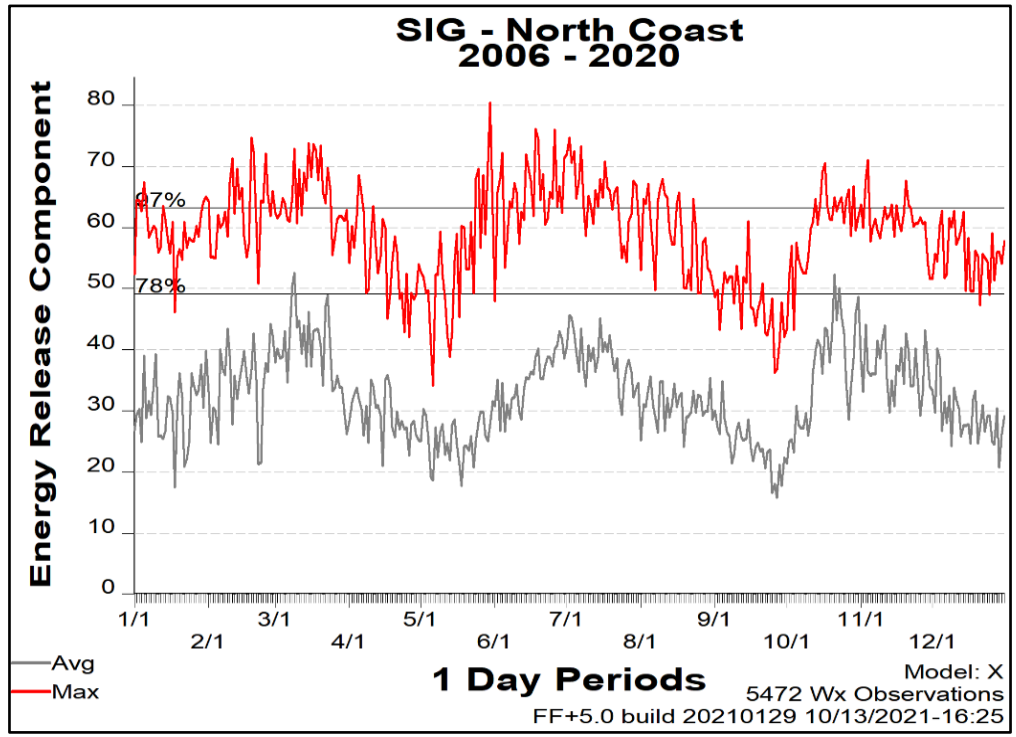
Memorable Fires

- ◆ **Lee House: 5/30/2019** Martin Co.- 16 ac - BI 152
- ▲ **Pains Bay: 5/5/2011** Dare Co.- 21,290 ac - BI 45
- ■ **Whipping Creek: 4/18/2016** Dare Co.- 15,449 ac - BI 60
- ● **Black Sunday: 2/10/2008** 22 Fires – 4,652 ac. BI 219

Updated 1/2022

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 61 (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 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 50+ (78th Percentile) is a critical threshold value****.*