

Local Thresholds Watch out!

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

Wind speed over 7 mi/h
RH less than 25%
Temperature over 60

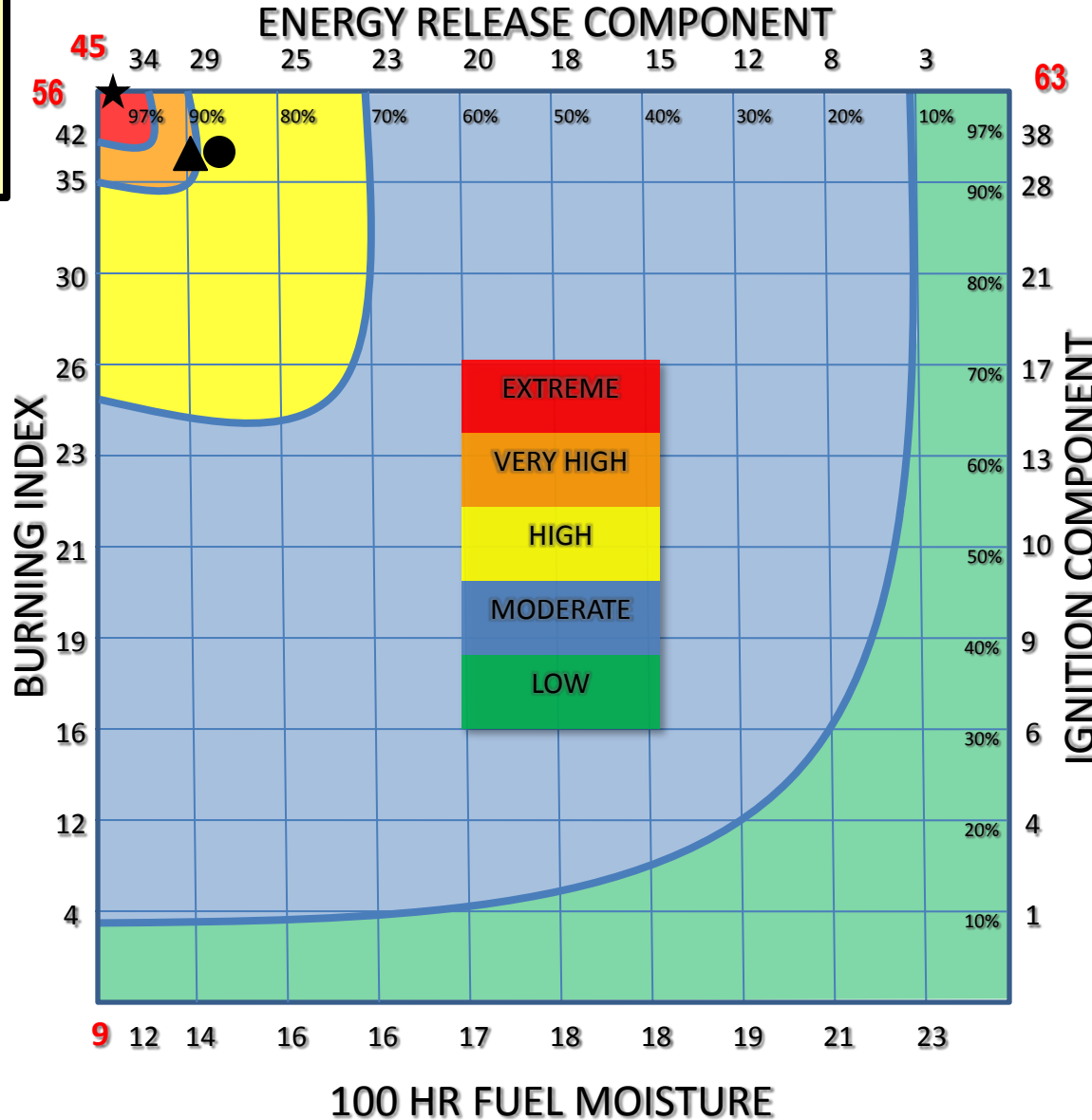
FIRE DANGER POCKET CARD (SUPPLEMENTAL)



Southern Highlands DISTRICTS 9 & 1 FUEL MODEL G SHORT NEEDLE (HEAVY DEAD)

NWS Forecasting Offices
Morristown, TN
Greenville/Spartanburg, SC

RAWS Stations
Cheoah-315501
Jackson-315902
Highlands-315803
Tusquitee-315602
Guion Farm-316102



	FM E HDWD LITTER (WINTER)	FM R HDWD LITTER (Summer)
100%	IC-46 BI-40 ERC-29 SC-12 100-8	IC-56 BI-21 ERC-20 SC-4 100-8
97%	IC-39 BI-36 ERC-26 SC-10 100-12	IC-44 BI-18 ERC-19 SC-3 100-12
90%	IC-28 BI-32 ERC-23 SC-8 100-14	IC-32 BI-16 ERC-16 SC-3 100-15
80%	IC-21 BI-28 ERC-20 SC-7 100-16	IC-23 BI-14 ERC-14 SC-2 100-16
70%	IC-16 BI-24 ERC-17 SC-5 100-16	IC-15 BI-11 ERC-11 SC-1 100-16
60%	IC-13 BI-18 ERC-15 SC-4 100-17	IC-9 BI-8 ERC-8 SC-1 100-17

★ **Bradley Branch Fire**
Jackson County
30 Acres
04/07/2010
IC- 52
BI- 53
ERC- 36
SC- 15
100HR - 11%

▲ **Pinnacle Ridge Fire**
Haywood County
420 Acres
04/17/2008
IC- 42
BI- 39
ERC- 30
SC- 09
100HR- 15%

● **High Wind**
Swain County
260 Acres
3/11/2007
IC- 36
BI- 40
ERC- 26
SC- 11
100HR- 14%

Fuel Model G Short Needle (Heavy Dead)	IGNITION COMPONENT			BURNING INDEX			ENERGY RELEASE COMPONENT			100 HR FUEL MOISTURE		
	Average Seasonal Value	Average Highest Value	Highest Value Observed	Average Seasonal Value	Average Highest Value	Highest Value Observed	Average Seasonal Value	Average Highest Value	Highest Value Observed	Average Seasonal Value	Average Lowest Value	Lowest Value Observed
January	15	24	42	22	36	46	15	28	36	19	13	11
February	15	27	46	23	40	50	16	30	39	18	13	10
March	19	29	55	27	43	51	18	35	43	17	12	10
April	22	32	63	29	48	56	21	37	45	16	12	9
May	13	19	45	23	35	49	21	34	39	17	13	11
June	10	14	28	18	29	33	19	32	36	17	14	12
July	9	12	22	19	27	30	19	29	32	17	15	14
August	10	13	25	19	29	36	20	30	35	18	15	13
September	9	14	30	16	28	32	16	29	32	20	16	14
October	11	17	39	16	29	47	15	27	33	19	15	12
November	15	23	51	21	38	50	16	33	40	19	13	12
December	13	21	41	18	35	47	11	27	37	20	14	11

REMEMBER WHAT FIRE DANGER TELLS YOU

✓ **Ignition Component (IC)** – the probability a firebrand will cause an “actionable” fire, & requires suppression. **IC** is more than just a probability of a fire start. It has to have the potential to spread. **IC** can aid in assessing spotting potential. An **IC value of >21 + is a critical threshold value**. Values at this level are critical during March and April as firebrands can initiate spot fires very easily.

- ✓ **IC** gives day-to-day fluctuations calculated from 2 PM temperature, humidity, state of the weather and wind.
- ✓ Wind speed is part of **IC** calculation.

Burning Index (BI) - relates to the contribution of the fire’s behavior in containing the fire. **BI** is derived from the SC + the ERC. **BI** is a cross reference of fireline intensity & flame length. It accesses spotting & crown fire potential as well as suppression resource needs & tactical considerations. In pine plantations, **BI’s > 30 +**, are exceptional intense fires with much spotting. The doubling of the **BI**, 20 to 40 can increase flame length from 2 to 4 ft. yet, this is a 5 fold increase in fireline intensity.

- ✓ **BI** gives day-to-day fluctuations calculated from 2 PM temperature, humidity, wind, daily temperature and RH ranges, and precip duration.
- ✓ Wind speed is part of **BI** calculation.

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 very valuable in assessing the depth of a burn, consumption of the various fuel sizes, residual burning , and mop-up requirements.

- ✓ **ERC** gives general seasonal trends calculated from precip, temp, and RH.
- ✓ Wind speed is not part of the **ERC** calculation.

100 Hour Fuel Moisture (100 HR) The 100 hour fuel moisture value represents the modeled moisture content of dead fuels in the 1 to 3 inch diameter class. It can also be used as a very rough estimate of the average moisture content of the forest floor from three-fourths inch to 4 inches below the surface. A **100 HR** fuel moisture <15% indicates when response to initial attack fires begin.

- ✓ **100 HR** gives general seasonal trends calculated from precip, temp, and RH.
- ✓ Wind speed is not part of the **100 HR** calculation.



February 20, 2011

This card is based on 11 years of data