

**RAWS Used:** Tusquitee\*, Franklin\*,

Prepared January 2019

Highlands\*, Cheoah\*

\* = Meets national NFDERS standards

## Forecasting Zones

Greenville/Spartanburg (GSP)  
& Morristown (MRX)



**Southern Highlands FDRA**

## Fire Danger Interpretation:

**EXTREME:** >97 percentile. Only 3% of the days from 2002-2018 had an ERC 32 or above.

**VERY HIGH:** 90-97 percentile. ERC values range from 28-31.

**HIGH:** 61-90 percentile. ERC values range from 21-27, most fires occur in this range.

**Moderate:** 15-60 percentile. ERC values range from 13-20.

**LOW:** <15 percentile. ERC values range from 0-12. Very little to no fire activity.

**Local Thresholds-- Watch out:** Combinations of any of these factors can greatly increase fire behavior & contribute to large fires. After review of large fires the following averages were determined.

**Windspeed over 7 mi/h, RH less than 25%, Temperature over 60**

|           | Energy Release Component |                   |                    |
|-----------|--------------------------|-------------------|--------------------|
|           | Average Monthly Value    | Average Max Value | Max Value Observed |
| January   | 11                       | 26                | 39                 |
| February  | 14                       | 25                | 38                 |
| March     | 16                       | 31                | 39                 |
| April     | 19                       | 29                | 43                 |
| May       | 17                       | 29                | 38                 |
| June      | 16                       | 24                | 32                 |
| July      | 14                       | 26                | 32                 |
| August    | 16                       | 25                | 32                 |
| September | 15                       | 27                | 35                 |
| October   | 15                       | 29                | 36                 |
| November  | 16                       | 35                | 48                 |
| December  | 10                       | 19                | 32                 |

**Fuel Model G– Heavy Dead Conifer**

**Energy Release Component** is a number relating to the available energy released from forest fuels at the head of a fire's flaming front. **ERC** is a composite of 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, mop-up requirements.

## Past Experience:

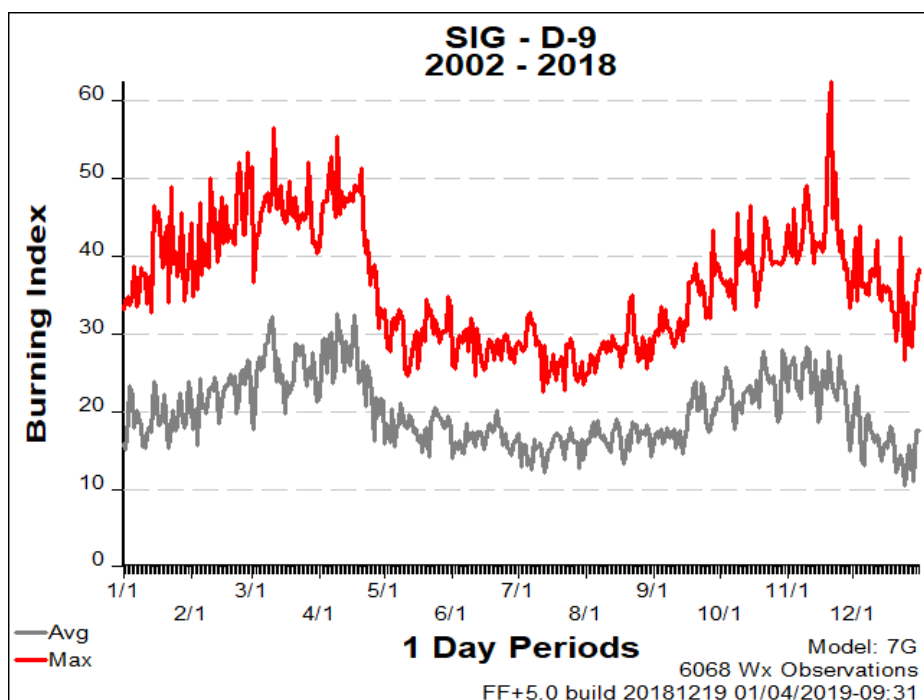
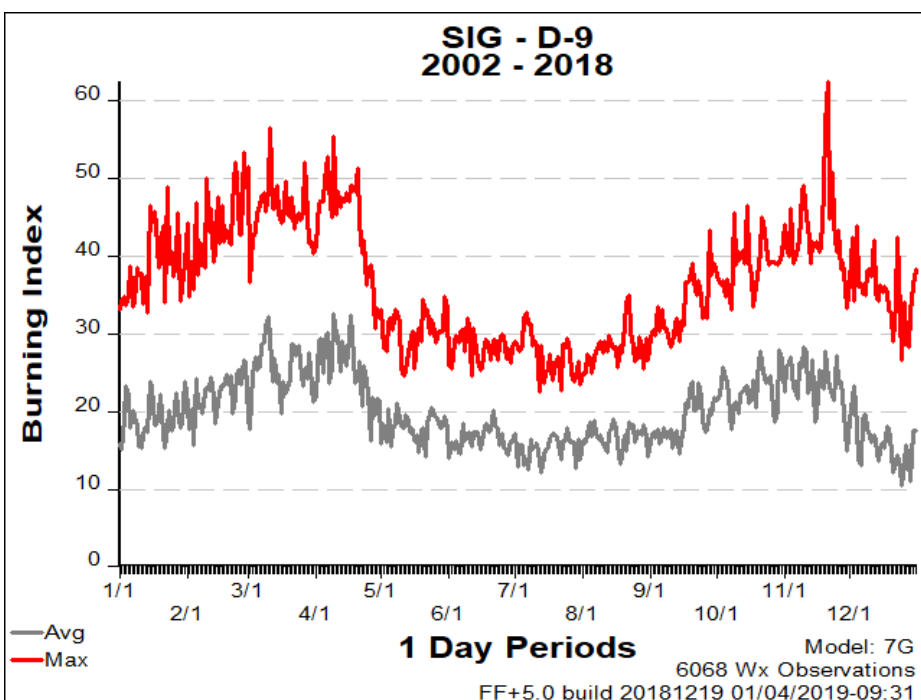
**ERC 10hr 100hr 1000hr BI**

Pinnacle Ridge -4/17/08- 420 acres (Haywood) ★ 36 03 08 23 59

Rock Cliff – 12/06/06- 350 acres (Jackson) ▲ 23 05 10 15 32

Bradley Branch– 4/07/10 – 30 acres (Jackson) ■ 49 04 08 16 63

2016 Fall Fire Season – extended drought, late leaf fall. **56,000** ac's burned. ●



**100 Hour Fuel Moisture (100hr)** – Moisture content of fuels 1 to 3 inches in diameter. 100hr fuel moisture aids in assessing holding tactics & mop-up that may be required. **100hr value of 15% or lower is a critical threshold value** and is a good indicator of when large and multiple fire days can be expected..

**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. It has to have the potential to spread. IC can be an aid in assessing spotting potential. An **IC value of  $\geq 21$  is a critical threshold value**. Values at this level are critical especially during February, March, & April as firebrands initiate spot fires.

**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 accessing spotting & crown fire potential as well as suppression resource needs & tactical considerations. In Hardwood fuels **BI's of 30+**, are known to contribute to large and multiple fire days. The doubling of the BI, 10 to 20 can increase flame length from 1 to 2ft. yet, increases fireline intensity 5 times.

