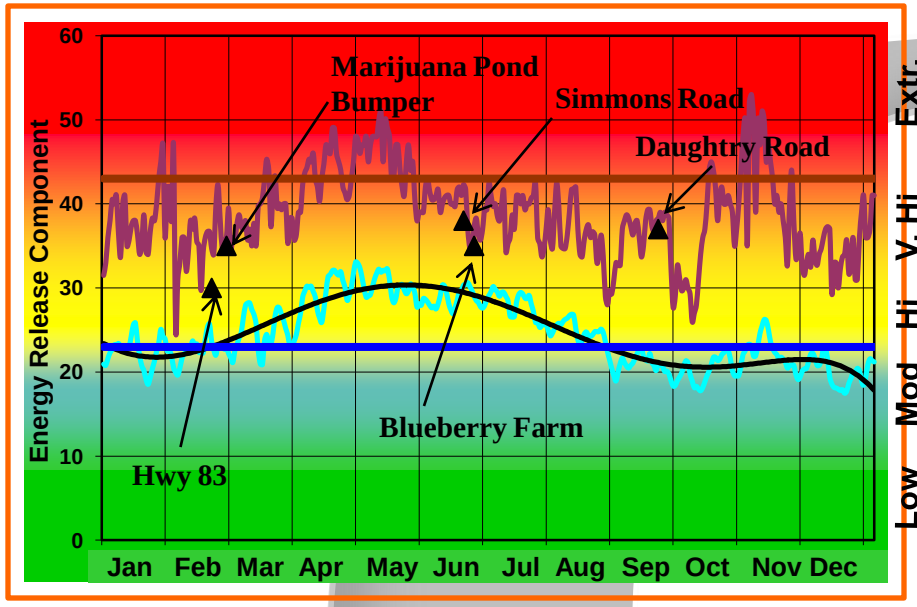
FIRE DANGER - Fayetteville District

Maximum, Average, 98th & 73th Percentiles



	Energy Release Component		
	Average Monthly Value	Highest Month Values	Daily Max Value Observed
January	21	30	43
February	22	28	43
March	24	34	46
April	28	39	46
May	28	39	48
June	27	35	41
July	28	32	39
August	24	33	39
September	20	33	40
October	17	33	32
November	19	22	37
December	18	27	38

Fuel Model G -- Mixed Pine

Fire Danger Area

North Carolina Southern Piedmont

NWS Forecasting Offices: Raleigh and Wilmington NC

Stations meet NWCG Standards

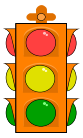
Average Reading from 3 Stations:

Ft. Bragg, Turnbull and Clayton RAWS

Prepared May 2013

J. Mewborn, R. Hart

Fire Danger Interpretation:



EXTREME -- Use extreme caution

(Caution) -- Watch for change

Moderate -- Lower potential, but always be aware

Maximum -- highest ERC by day for 2000 - 2012

Average -- Shows the past fire seasons 3 Day run Mean.

98th Percentile -- **Only 2%** of the days on a daily **annual** analysis from 2000 - 2012 had an **ERC above 43**

73th percentile - At the ERC value of **29**, the likelihood of large and multiple fire occurrence increases.

Local Thresholds-- *Watch out* : Combinations of any of these factors can greatly increase large and multiple fire occurrence. After review of large fires the following averages where determined.

Windspeed over 8 mi/h, **RH** less than 30%, **Temperature** over 70

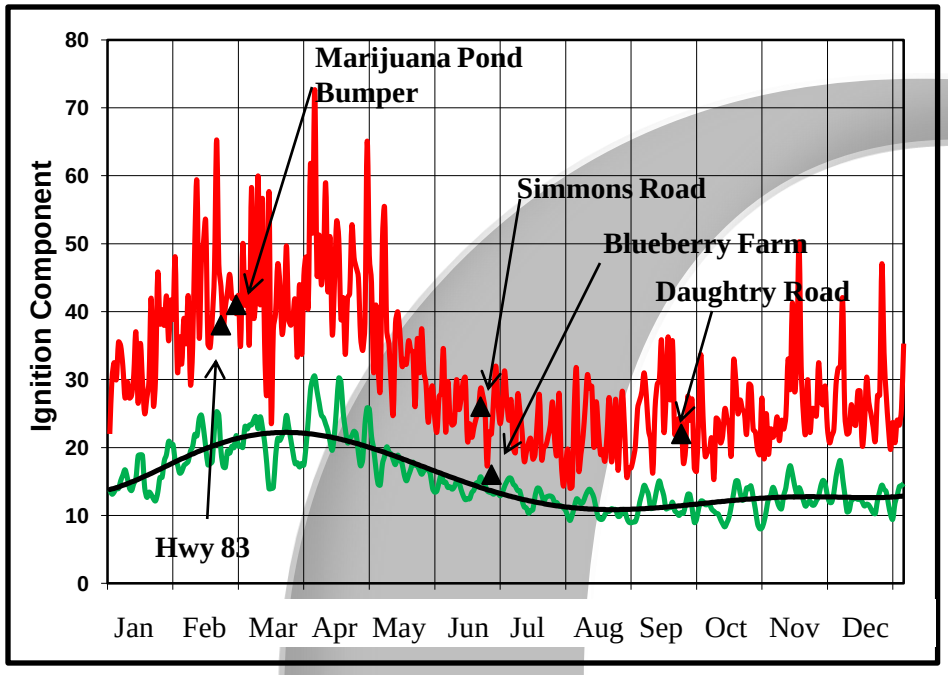
Remember what Fire Danger tells you:

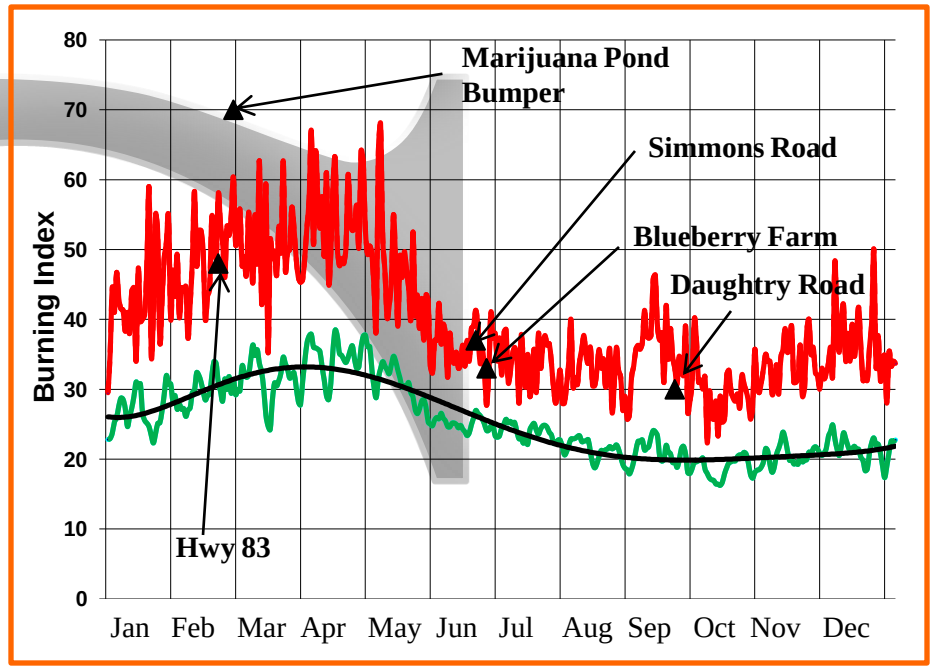
- ✓ ERC gives general seasonal trends calculated from precipitation, temp, and RH.
- ✓ Wind speed is not part of the ERC calculation.
- ✓ Watch local conditions and variations across the landscape--Fuel, Weather, Topography
- ✓ Listen to weather forecasts--especially WIND.

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 & Air support.

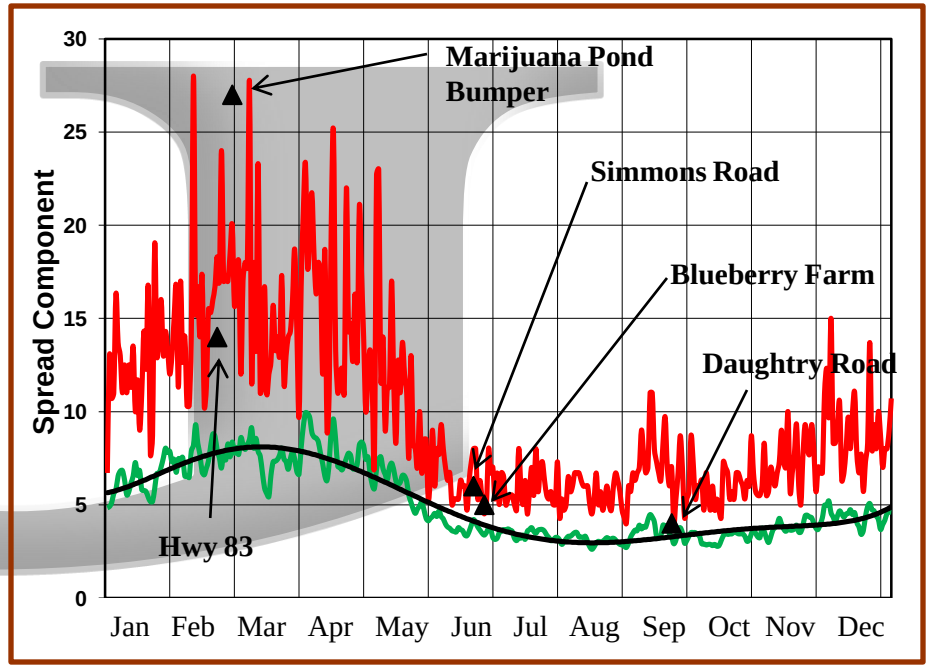
Past Experience:

		Timelag fuels				
		ERC	**1hr**	**10hr**	**100hr**	**1000hr**
2/21/11 – Hwy 83 Fire –	438 acres	**30**	**6%**	**7%**	**13%**	**20%**
2/28/11 – Marijuana Pond Fire –	44 acres					
Bumper Fire	132 acres	**35**	**7%**	**8%**	**13%**	**18%**
6/20/11 – Simmons Road Fire –	438 acres	**38**	**5%**	**7%**	**15%**	**16%**
6/25/11 – Blueberry Farm Fire –	599 acres	**35**	**7%**	**9%**	**15%**	**17%**
9/20/10 – Daughtry Road Fire –	50 acres	**37**	**5%**	**7%**	**15%**	**16%**





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 > 13 + is a critical threshold value**.

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. Large and multiple fire occurrence increase at **BI's of 25.** The doubling of the BI, 20 to 40 can increase flame length from 2 to 4 ft. yet, increases fireline intensity 5 times.

Spread Comp. (SC) – is the "theoretical ideal" rate of spread (ROS) expressed in feet per minute. It is a guide to the fastest spread of a fire, which is at its head. Wind speed, slope & fuels are key inputs. The SC value "usually exceeds" the fire's true ROS. **SC values exceeding 5+ are critical.**