

## Severe Fire Weather

### Description of Severe Weather Analysis

Severe fire weather is defined using the Fire Weather Index (FWI) developed by the USDA Forest Service Riverside Fire Lab. The FWI combines air temperature, relative humidity, and wind speed into a combined score. The FWI gives wildland fire managers an index that indicates potential changes in fire behavior due to fire weather (temperature, relative humidity, wind and dew point) characteristics. It is important to note that fuel and topography conditions are not included in the FWI calculation. Severe fire weather occurs when the FWI, calculated from the hourly weather measurement, exceeds a predetermined threshold. The threshold FWI is derived from average bad fire weather of (approximately) 95° F, 20% relative humidity, and a 7 mph eye-level wind speed. Frequency of Severe Fire Weather is defined as the percent of time during the budgeted fire season that the weather station records severe fire weather. Individual weather stations are ranked as low, medium, or high frequency of severe fire weather. This ranking can then be applied to the area on the ground represented by the weather station.



In March of 2000 the Butte Meadows Remote Area Weather Station (RAWS) was moved to Carpenter Ridge, therefore data for Butte Meadows is no longer being generated. Carpenter Ridge RAWS will be used for the collection of weather data in this zone.

#### Severe Weather Analysis Parameters

FWI CUTOFF	START LOW RANK	START MED RANK	START HIGH RANK
29.725	0%	5%	20%

STATION	OWNER	LATITUDE	LONGITUDE	ELEVATION	WXSCORE %	WXRANK
BANGOR	CDF	39.38	121.38	840	.12	L
CARPENTER RIDGE	CDF	40.07	121.34	4812	N/A	N/A
COHASSET	CDF	39.87	121.76	1670	1.38	L
*JARBO GAP	CDF					
PIERCE CREEK	USFS	40.13	120.95	5800	.90	L
PIKE COUNTY L.O.	USFS	39.47	121.20	3714	3.53	L
QUINCY	USFS	39.96	120.93	3500	1.12	L
STAMPEDE	USFS	39.48	120.05	6867	.41	L

\*Note: The Jarbo Gap weather station located in the Feather River Canyon, Yankee Hill area of Butte County has been on line since 2003. Historic weather data will not be available for several years after that time.

#### WxSCORE

[SevereWx]/[WxInSeas] The weather score is a percentage of the number of days of severe weather during the designated fire season. Non-fire season data is not considered as the fuel are not in a state in which the readily burn regardless of the severity of weather. Naturally, there are rare exceptions to this; however it is not feasible to factor in all possible contingencies. Moreover, including this data would only serve to weaken the representative impact that severe weather plays on fire behavior during the fire season.

#### WxRANK

The WxSCORE intensity rating is lumped into three categories, low, medium and high, to create a severe fire weather frequency ranking.

