Job Aid 6 Climatological Breakpoints

Introduction

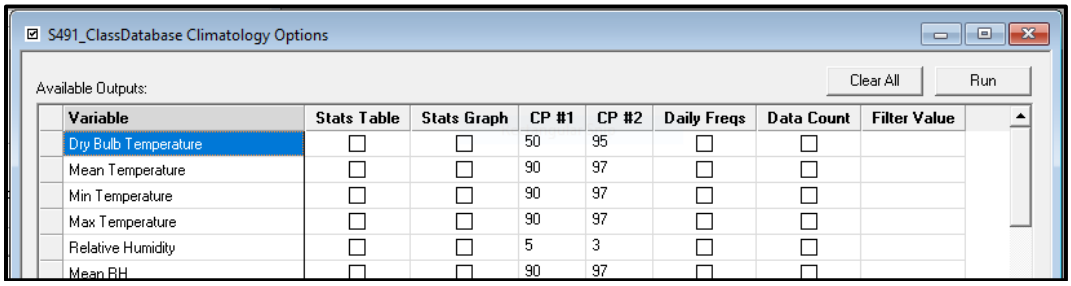
The key element of Climatological Breakpoints is that they are **based only on weather**. They do not consider historical fire occurrence. Climatological Breakpoints are described as percentiles relative to a whole. For example, the value of the 90th Percentile ERC is the Climatological Breakpoint at which only 10 percent of the ERC values are greater.

The percentiles used in WIMS for Climatological Breakpoints follow agency standards.

- The Forest Service, Bureau of Indian Affairs, Fish & Wildlife Service, and National Park Service use the 90th and 97th Percentiles.
- The Bureau of Land Management uses the 80th and 95th Percentiles.

Determining Climatological Breakpoints

In FireFamilyPlus, there are three methods to determine Climatological Breakpoints. The path for all of them is **Weather > Climatology** or  . In each method, the user can keep the default critical percentiles or change them in the CP #1 and CP #2 columns in the **Climatology Options** window.

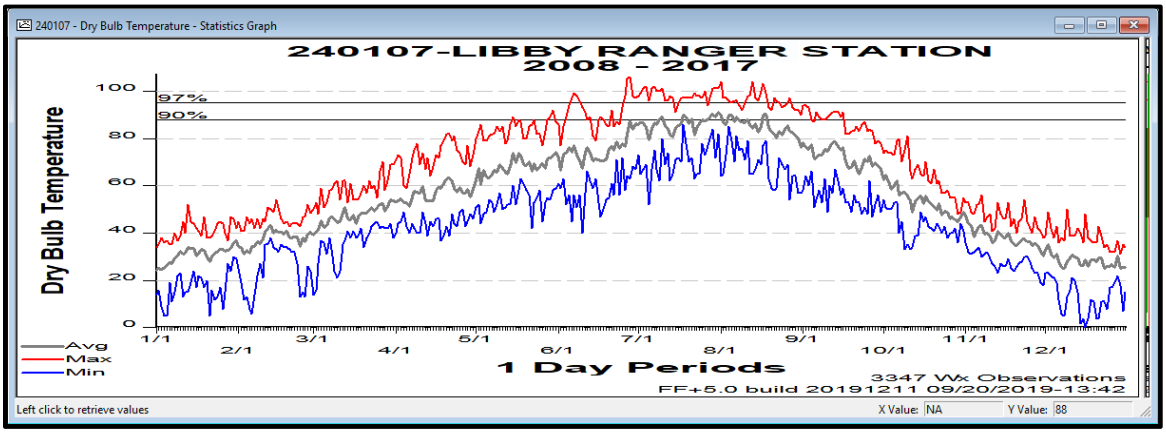


Variable	Stats Table	Stats Graph	CP #1	CP #2	Daily Freqs	Data Count	Filter Value
Dry Bulb Temperature	☐	☐	50	95	☐	☐	
Mean Temperature	☐	☐	90	97	☐	☐	
Min Temperature	☐	☐	90	97	☐	☐	
Max Temperature	☐	☐	90	97	☐	☐	
Relative Humidity	☐	☐	5	3	☐	☐	
Mean RH	☐	☐	90	97	☐	☐	

Stats Graph

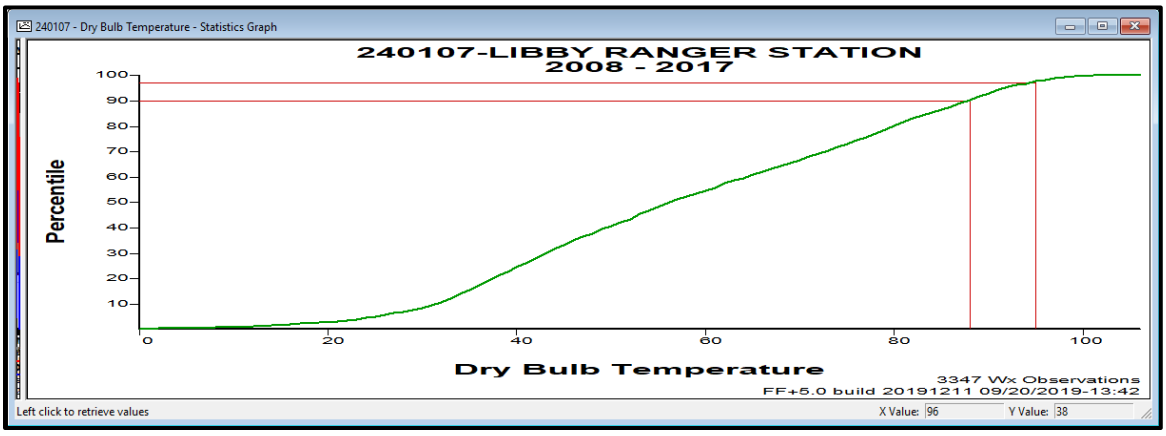
In a Stats Graph, CP #1 and CP #2 are displayed. Only the values for the two critical percentile lines can be determined. Click on either of them on the left axis. View the value in the lower right-hand corner. In this example, the 90th Percentile value is 88°F.

***Tip:** Look at the **Y Value**.*



Percentile Graph

In a Percentiles Graph, CP #1 and CP #2 are displayed using red lines. Click any place along the green line to view the values (X Value) and associate percentile (Y Value) in the lower right-hand corner.



Unlike on the Stats Graph, you can find the value for any percentile value you would like on the Percentiles Graph. For example, the 68th Percentile for Dry Bulb Temperature is 74°F.

Daily Frequency Report

In the Daily Frequency Report, CP #1 and CP #2 are displayed at the top of the table. In this example, the 90th Percentile is 88°F and the 97th Percentile is 95°F.

Variable: Dry Bulb Temperature

90% = 88.00
97% = 95.00
3347 Days

Range	Frequency	Relative %	Cumulative %
0.0 - 1.8	1	0.03	0.03
2.0 - 3.8	1	0.03	0.06
4.0 - 5.8	8	0.24	0.30
6.0 - 7.8	3	0.09	0.39
8.0 - 9.8	6	0.18	0.57
10.0 - 11.8	5	0.15	0.72
12.0 - 13.8	12	0.36	1.08
14.0 - 15.8	12	0.36	1.43
16.0 - 17.8	17	0.51	1.94
18.0 - 19.8	16	0.48	2.42
20.0 - 21.8	14	0.42	2.84

The table can also be used to determine other percentiles and associated values. Use the Cumulative % column and scroll down to find the percentile you wish to determine. Then, look at the left-most column for Range and find the variable value. For example, the 9th percentile is about 31°F, while the 15th Percentile is about 35°F.

You can also read the table the other way. You can scroll through the Range column to find the value that you are interested in. Then, look at the right-most column to find the associated percentile. For example, a temperature of 24°F is the 4.75th (or 5th) Percentile.