



Excerpt from [\*Fire Weather Services Annual Operating Plan for Vermont and Northern New York\*](#), National Weather Service, Burlington, Vermont.  
March 2014



## **Red Flag Event**

*from NWS Directives 10-401:*

Forecasters will issue Fire Weather Watches/Red Flag Warnings when the combination of dry fuels and weather conditions support extreme fire behavior. These conditions alert land management agencies to the potential for widespread new ignitions or control problems with existing fires, both of which could pose a threat to life and property.

A red flag event is the **combination of a critical fire weather pattern and significantly dry fuels**. This combination could lead to the occurrence of large and dangerous wildfires. Since the potential for Red Flag conditions does not exist without receptive fuel conditions, knowledge of existing fuel conditions is essential. While Red Flag conditions may vary for each fire weather district, the purpose of the Red Flag Program is to alert land management agencies to developing weather conditions that, when coupled with critically dry wildland fuels, could lead to dangerous fire behavior. It is important to point out that High Fire Danger by itself does not necessarily result in Red Flag conditions. **Red Flag generally reflects how fires may behave after they are ignited, while fire danger specifically relates to the likelihood of fire development.**

## **Red Flag Criteria**

NWS Directives 10-401 states that *both fuel and weather parameters* are important considerations. It suggests that the following weather criteria be considered:

- a. Lightning after an extended dry period
- b. Significant dry frontal passage
- c. Strong winds
- d. Very low relative humidity
- e. Dry thunderstorms

Thus, in the WFO Burlington Fire District, elements considered critical for red flag consist of a combination of:

- a. **Meteorological parameters** (winds, relative humidity, etc),
- b. **Long term dryness** (past rainfall and Keetch-Byram index), and
- c. **Vegetation status.**

WFO Burlington shall use the following sets of criteria to determine when a red flag warning will be issued for particular zones. Note there are two different criteria based primarily upon the season. *Forestry personnel will inform us of which vegetative stage we are in.*

**\*\*ALL OF THESE FACTORS HAVE TO BE MET IN ORDER TO HAVE A RED FLAG EVENT\*\***

**When in Vegetative Stage I & II (cured & pre - green-up Spring/Fall)**

- Winds sustained or with frequent gusts above 25 mph, **and**
- Relative Humidity at or below 30%, **and**
- Rainfall amounts for the previous 5 days of less than 0.25 inches

**When in Vegetative Stage III (green - Summer)**

- Winds sustained or with frequent gusts above 25 mph, **and**
- Relative Humidity at or below 30%, **and**
- Rainfall amounts for the previous 8 days of less than 0.25 inches, **and**
- Keetch-Byram Drought Index values of 300 or greater

Note: WFO Burlington does not have any temperature criteria or restrictions for issuing a Fire Weather Watch or Red Flag Warning.

**A. Fire Weather Watch**

**Fire Weather Watches and Red Flag Warnings will be broadcast on NOAA Weather Radio.**

Forecasters should issue a Fire Weather Watch when there is a high potential for development of a Red Flag Event (per directives 10-401). The watch may be issued for the entire area or selected portions. The watch remains in effect until: 1.) It is cancelled, 2.) Upgraded to a Red Flag Warning, or 3.) Expires. Whenever any of the 3 actions in the previous sentence occur, an updated RFW will be issued as well as an updated routine fire weather forecast to reflect these changes.

**Fire Weather Watches are issued 18 to 72 hours in advance of the expected onset of criteria.**