FIRE WEATHER
PRODUCT & SERVICE GUIDE

FOR

MUCH OF VERMONT & NORTHERN NEW YORK

NATIONAL WEATHER SERVICE
BURLINGTON, VT

2022

(Updated 4/8/2022)

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Product & Service Guide Overview

This document serves as a user guide for fire weather products and services provided by the National Weather Service (NWS) office in Burlington, Vermont. Details of each product and how to find or request it have been provided with product examples found in the Appendix.

For specific procedural and policy information regarding the delivery of these products and services as well as fire weather program goals and details of partner responsibilities see the NWS Burlington Fire Weather Annual Operating Plan (AOP).

The National Weather Service Fire Weather Program provides forecast and warning services in support of fire management and control operations, leading to the effective prevention, suppression, and management of forest and rangeland fires. The major objective of the Fire Weather Program is to provide a service which will meet the meteorological requirements of federal and state wildland management agencies in the protection and enhancement of the nation's forests and rangelands.

The NWS in Burlington agrees to furnish routine forecasts and warnings according to the needs of the fire weather community throughout the entire year although the typical fire weather season for northern New York and much of Vermont starts in mid-late March and continues through mid-November. The coverage area for the NWS Burlington fire weather program is the four northern counties of New York (Saint Lawrence, Franklin, Clinton, and Essex) and the Vermont counties of Grand Isle, Franklin, Chittenden, Addison, Rutland, Windsor, Orange, Washington, Lamoille, Orleans, Caledonia, and Essex. Per the request of our fire weather users the coverage area in Vermont as of 2022 is now by Fire Danger Rating Area (FDRA). The areas served by NWS Burlington are Champlain Valley, Northern Taconics, South Central Greens, Lower Connecticut River North, Central Vermont, and Northeast Vermont. A map of the coverage area is located in Appendix A.

NWS Burlington Contacts

Acting Meteorologist-in-Charge (MIC): Peter Banacos
Warning Coordination Meteorologist (WCM): Scott Whittier
Fire Weather Focal Point: Eric Evenson

To obtain fire weather services mentioned in this plan, local, state, or federal officials may contact NWS Burlington, Vermont.

Phone: 802-658-0207
Email: Eric.Evenson@noaa.gov

Written requests should be addressed to:
National Weather Service Burlington
Attn: Eric Evenson
Burlington International Airport
1200 Airport Drive
Burlington, Vermont 05403

Digital Forecasts and Services

National Digital Forecast Database (NDFD) grids are created by NWS forecasters and used to produce a wide variety of products and services for fire weather support. The fire weather graphical forecasts created by NWS Burlington for northern New York and much of Vermont can be found at the following link with an example of the web page found in Appendix B.

https://graphical.weather.gov/sectors/btvFireDay.php#tabs

Additional tools that can be of assistance to help determine the timing for a spot forecast request are:

- Hourly Weather Graphs with Fire Weather Elements (Example Appendix C): https://forecast.weather.gov/gridpoint.php?site=btv&TypeDefault=graphical
- Weather Activity Planner: https://forecast.weather.gov/wxplanner.php?site=btv
- Point Forecast Matrix: https://forecast.weather.gov/product.php?site=BTV&product=PFM&issuedby=BTV

NWS Burlington has a dedicated fire weather webpage where users can access an abundance of fire weather information including the AOP, graphical forecasts, text forecasts, fire weather guidance and request a Spot forecast. The webpage is found at this link: https://www.weather.gov/btv/firewx

All of these tools and products are accessible nationwide through the national fire weather webpage: https://weather.gov/fire/

NWSChat Live
Chat with NWS Burlington meteorologists 24/7 with NWSChat. This is exclusive to Federal, State or Local Government partners and Media. Users need to set up an account with username and password for access and select WFO Burlington VT as the primary office. Once logged in select Burlington (BTV) Chat (btvchat) from the Chatrooms dropdown list. https://nwschat.weather.gov/

Fire Weather Planning Forecast (FWF)

NWS Burlington has fire weather forecast responsibility for northern New York and much of Vermont**.** This area is made up of Fire Weather Zones usually combined into five groups. These zones are areas considered to be climatologically homogeneous, and the forecast represents conditions across the zone. The daily Fire Weather Planning Forecast (FWF) will be available on the NWS Burlington fire weather webpage.

https://www.weather.gov/btv/firewx

The fire weather season for northern New York and much of Vermont typically starts in mid-late March and continues through mid-November although exact start/end times will be determined each year through coordination with our partners. The forecast is routinely issued once daily between 4:00 am and 6:00 am during the fire weather season, but is updated as needed. During the winter months the FWF will be suspended, but fire weather data will still be available via the hourly weather graph and other graphical products on weather.gov/btv.

An example of a Fire Weather Forecast is shown in Appendix D of this document.

Components of Routine Fire Weather Forecast

HEADLINE – A headline is required when a Fire Weather Watch or Red Flag Warning is in effect. This will include the watch/warning type, geographical area, reason for issuance, and effective time period. The headline will also be included in the appropriate zone grouping. In addition, a headline will also be used for non-watch/warning periods to highlight situations or trends which may become a factor in fire weather operations.

DISCUSSION - This is a brief discussion of the weather systems impacting northern New York and much of Vermont through the forecast period. It may, for example, also describe significant trends in temperature, humidity and winds for the next several days. The discussion will precede the actual forecast parameters.

Tabular Data - Will be provided for the three or four periods depending on issuance time. Three periods “Today, Tonight, Day 2” will be included for morning or early afternoon issuances or four periods “Tonight, Day 2, Day 2 night, Day 3” will be included for late afternoon and evening issuances, which typically occurs when a fire weather watch or red flag warning are issued. The data for the tables will be derived from forecast information input into the Gridded Forecast Editor (GFE) matrix and will include cloud cover, precipitation (probability, type, amount, duration, start time, and end time), temperature, 20 foot winds, humidity, Haines index, lightning activity level (LAL), mixing height, transport winds, and ventilation rate averaged within each of the fire weather zone groupings.

CLOUD COVER -
CLR (clear) ..... 0 to 6 percent coverage
MCLEAR (few clouds) ..... 7 to 31 percent coverage
PCLDY (scattered clouds) ..... 32 to 69 percent coverage

MCLDY (broken clouds) ..... 70 to 94 percent coverage
CLOUDY (overcast) ..... 95 to 100 percent coverage

PRECIP CHC - presented in a Percentage of Probability, expressing the probability of measureable precipitation occurring at any point within the forecasted area during the specified time.

PRECIP TYPE - Precipitation will be expressed as one of the following types:
NONE, DRIZZLE, RAIN SHOWERS, TSTMS, FRZ DRZL, FRZ RAIN, SLEET, SLEET/RAIN, SNOW, SNOW/FZRA

MAX/MIN TEMP - The maximum daytime or minimum nighttime temperature for each of the 3 time periods. Temperature is given in whole degrees Fahrenheit.

AM WIND / PM WIND - Morning/Afternoon 20 foot winds expressed in wind direction (one of the eight points of the compass) and wind speed (in miles per hour)

PRECIP AMOUNT – Average amount of precipitation in hundredths on an inch.
*Calculated as an average of forecasted precipitation within each fire weather zone.

PRECIP DURATION - The duration of the precipitation event in hours.

PRECIP BEGIN - The onset time of precipitation to the nearest whole hour.

PRECIP END - The ending time of precipitation to the nearest whole hour.

HUMIDITY (%) - Relative Humidity range - minimum relative humidity expected during the day, and the maximum at night.

HAINES INDEX (HI) - A measure of moisture and stability. This ranges from 2 to 6, which is a sum of two components, a temperature difference (categorized 1 to 3), and a moisture/dew point difference (also categorized 1 to 3).

HI Value Qualitative Term
2 or 3 VERY LOW
4 LOW
5 MODERATE
6 HIGH

The **HI** has been related to fire behavior, such that **the higher the value, the better the chance of seeing large, plume dominated fire development**. There are different options of the Haines index, each customized for elevation. NWS Burlington will be using the low elevation option.

LAL - Lightning activity level category. Typically it relates to the maximum coverage of lightning strikes expected within any 1 hour time frame during the forecast period. We have modified the LAL to relate to the areal coverage of thunderstorms. Values range from 1 to 6.

1: No thunderstorms (0% coverage)
2: Isolated thunderstorms (1-14% coverage)
3: Widely scattered thunderstorms (15-24% coverage)
4: Scattered thunderstorms (25-54% coverage)
5: Numerous thunderstorms (55%+ coverage)
6: Dry thunderstorms with little or no rain (> 15% coverage)

* Dry lightning is rare in the eastern United States, but common in the western U.S.

MIXING HGT - Maximum depth to which mixing of the lower atmosphere will occur. This can be a difficult parameter to forecast. This is done by estimating the maximum temperature and lifting it dry adiabatically until it reaches the forecast sounding temperature. Generally during the summer, if neither a low-level inversion nor warm air advection are present, daytime heating will produce a well-mixed atmosphere of 4000 to 7000 feet in depth. The more unstable the atmosphere, the greater the mixing height.

TRANSPORT WIND - The average wind from the surface to the mixing height. After calculating the mixing height, the average wind direction and speed within that layer is calculated.

VENTILATION RATE – This is a simple calculation of the mixing height multiplied by the transport wind speed. There is no definitive classification of Ventilation Rate. It is a combination of mixing height and transport wind. Generally, **when the mixing height is low and transport winds are light, the Ventilation Rate will be poor**. The Ventilation Rate will be calculated only for the daytime periods.

The best procedure to manually calculate the ventilation rate is to multiply the mixing height in thousands of feet by the transport wind speed (mph). **These ***numbers*** are placed in the general Fire Weather Forecast. The table below is only a guide.**

100000 and up.....(corresponds to Excellent)
61000 - 100000.....(corresponds to Good)
41000 - 60000.....(corresponds to Average)
21000 - 40000.....(corresponds to Fair)
20000 or less.....(corresponds to Poor)

Examples: A) Mixing height 4500 feet, Transport Wind Speed 20 mph.
4500 x 20 = 90000
B) Mixing height 2500 feet, Transport Wind Speed 10 mph
2500 x 10 = 25000

KEETCH-BYRAM DROUGHT INDEX (KBDI) - Keetch-Byram Drought Index (KBDI) is an index used to determining forest fire potential. The drought index is based on a daily water balance, where a drought factor is balanced with precipitation and soil moisture (assumed to have a maximum storage capacity of 8-inches) and is expressed in hundredths of an inch of soil moisture depletion. The drought index ranges from 0 to 800, where a drought index of 0 represents no moisture depletion, and an index of 800 represents absolutely dry conditions.

REMARKS – Any additional significant information can be included here which relates to that particular fire weather zone. (I.e. Timing of wind shift, frontal passage, etc.)

EXTENDED FORECAST – This is the forecast for days 3 to 7. This includes weather type and temperatures with winds forecast out to day 7. This information is taken from our public zone forecast.

OUTLOOK 8 TO 14 DAYS – A general temperature and precipitation outlook with trends compared to normal. Forecast is from the NWS' Climate Prediction Center.

Forecast Updates

During the fire weather season, forecasters will closely monitor weather conditions and issue an updated forecast if conditions are expected to deviate **significantly** from the most recent forecast. An updated fire weather forecast should be issued only when any of the following criteria are met:

1. Red Flag criteria met, but were previously not anticipated.
2. Observed wind is 10 mph or greater than forecast, and the direction differs by two or more compass points (based on 8 compass points).
3. Relative humidity, originally forecast to be greater than 30 percent, is now expected to be less than 30 percent.
4. Numerous thunderstorms, where none were previously forecast.
5. The occurrence (or non-occurrence) of precipitation will **significantly** differ from the forecast.
6. Any unexpected weather conditions that will **significantly** impact fire service operations. (unexpected wind shifts, etc.)

The internet link for the NWS Burlington Fire Weather Forecast is:
https://forecast.weather.gov/product.php?site=btv&product=FWF&issuedby=BTV

Forecast Backup Responsibilities

In the event NWS Albany is unable to produce their fire weather forecasts, watches and/or warnings, NWS Burlington is their backup. In that role, we would produce their forecasts (ALBFWFALY) with a line in the MND Header stating that the product was produced by NWS Burlington, VT. And if we are unable to produce our fire weather forecasts, watches, and/or warnings, NWS Albany will produce these products.

NFDRS Point Forecasts

The National Fire Danger Rating System (NFDRS) measures wildfire danger. The NWS role in NFDRS is that of forecasting weather parameters for input which when combined with fire weather community input (fuel moisture, etc.) allows the NFDRS software to predict the next day's fire danger rating.

NWS Burlington is responsible for inputting weather parameters (ALBFWMBTV) into the National Fire Danger Rating Forecast. An example can be found in Appendix E. These forecast parameters are generally valid for the next day at 1300 LST, except some parameters (for example max/min temperature and RH) cover a range of time as indicated below. NWS Burlington issues this forecast during the mid-afternoon hours. Updates are not required.

The forecast is for the nine Remote Automatic Weather Stations (RAWS) sites in our forecast area. These locations are as follows:

VERMONT

430501 - Essex Junction, VT (Chittenden County)
Elevation: 340 ft. 44.5078 N 73.1153 W
Owner: State of Vermont

431301 - Sweezy (Mt. Tabor) (Danby), VT (Rutland County)
Elevation: 668 ft. 43.33 N 73.16 W
Owner: Green Mountain National Forest

430601 - Lake Elmore, VT (Lamoille County)
Elevation: 1200 ft. 44.5422 N 72.5266 W
Owner: Green Mountain National Forest/VT Department of Forests, Parks & Recreation

430402 - Nulhegan (near Island Pond), VT (Essex County)
Elevation: 1243 ft. 44.7700 N 71.7017 W
Owner: U.S. Fish and Wildlife

NEW YORK

300311 - Schroon Lake, NY (Essex County)
Elevation: 820 ft. 43.8711 N 73.7519 W
Owner: New York State Forest Rangers

300191 - Schuyler Falls, NY (Clinton County)
Elevation: 650 ft 44.6 N 73.6 W
Owner: New York State Forest Rangers

300892 - Brasher Falls, NY (Saint Lawrence County)
Elevation: 300 ft. 44.8 N 74.8 W
Owner: New York State Forest Rangers

300891 - Wanakena, NY (St Lawrence County)
Elevation: 1500 ft. 44.1469 N 74.9006 W
Owner: New York State Forest Rangers

300312 - Mt VanHoevenberg, NY (Essex County)
Elevation: 2000 ft. 44.2195 N 73.9184 W
Owner: New York State Forest Rangers

The FWM Forecast format is as follows:
FCST,######,YYMMDD,13,X,TT,RH,L1,L2,DD,SS,,TX,TN,RX,RN,P1,P2,F

Where:

######	NFDRS Station Identifier {for example, 301101}
YYMMDD	Year Month Day (forecast valid date which is next day)
050608:	June 8th, 2005
13	Time (forecast valid time 1300 hours/1PM). *Does not change*.
X	Weather Codes:
	0 - Clear — *5 - Drizzle*
	1 - Scattered clouds — *6 - Rain*
	2 - Broken clouds — *7 - Snow/sleet*
	3 - Overcast — *8 - Showers*
	4 - Fog — *9 – Thunderstorms*
TT	Dry Bulb Temperature
RH	Relative Humidity
L1	Lightning Activity Level (period 1300 LST day of issuance to 2300 LST hours) *See FWF section for description of LAL codes.
L2	Lightning Activity Level (period 2300 LST to 2300 on the next day)
DD	Wind direction (N, NE, E, SE etc.)
SS	Wind speed (10 minute average in MPH)
,,	Between SS and TX commas are needed to hold the place for 10 hour fuel moisture values which the NWS does NOT forecast at this time. Space is held for the time being.
TX	Maximum temperature
TN	Minimum temperature
RX	Maximum relative humidity
RN	Minimum relative humidity
P1	Precipitation duration (1500-0600 LST period) in whole hours
P2	Precipitation duration (0600-1300 LST period) in whole hours
F	Wet Flag "Y/N" (Used to define if fuels at 1300 LST are forecasted to be wet. The wet flag will typically be set as N unless there is a 70% chance or higher of weather codes 5, 6 or 7 in the forecast.)

RED FLAG PROGRAM

Red Flag Event

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.**

***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.

Vermont State Liaison

NWS Burlington acts in the role as Vermont state liaison in collection of fuel information for the *entire* state of Vermont. This is part of an effort to streamline coordination with our fire weather users and NWS Albany.

NWS Burlington will have fuel information available for Bennington and Windham counties as well as for the rest of Vermont, as provided by the Vermont Department of Forests, Parks and Recreation.

When NWS Burlington coordinates with representatives of Vermont Forests, Parks and Recreation about fuel conditions, forecasters should ask them about the state of the fuels in NWS Albany's portion of Vermont in addition to our area of responsibility.

NWS Burlington will share this information with NWS Albany via phone or NWSChat *and* place the information in the station worklog so that others may reference it.

NWS Albany can contact NWS Burlington for the fuel information when dealing with potential red flag events, instead of having to contact the Vermont users. NWS Albany is still free to contact users directly if they require additional information. This process should make collaboration easier when trying to determine if any fire weather headlines may be required.

Red Flag Criteria

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

NWS 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 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 (for at least 2 hours), **and**
- Relative Humidity at or below 30% (for at least 2 hours), **and**
- Partner confirmation of dry/receptive fuels

When in Vegetative Stage III (green_Summer)

- Winds ***sustained*** or with ***frequent*** gusts above 25 mph (for at least 2 hours), **and**
- Relative Humidity at or below 30% (for at least 2 hours), **and**
- Rainfall amounts for the previous 8 days of less than 0.25 inches, **and**
- Keetch-Byram Drought Index values of 300 or greater with partner confirmation of dry/receptive fuels

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

Fire Weather Watch

A Fire Weather Watch (ALBRFWBTV) is issued 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 will remain in effect until it is cancelled, or upgraded to a Red Flag Warning, or expires. An updated RFW product will be issued as well as an updated routine fire weather forecast to reflect these changes.

Fire Weather Watch issuance for the first period is *NOT* allowed. Fire Weather Watches should be issued 18 to 72 hours in advance of the expected onset of criteria (2nd period on). And fire weather watches should not be issued for marginal events.

When a watch is issued, a headline needs to be included in the daily Fire Weather Planning Forecast (ALBFWFBTV) and an appropriate ALBRFWBTV statement is required. The headline should state something similar to the following (ensure time, location, and reason for are mentioned):

...FIRE WEATHER WATCH FOR TUESDAY IN THE CHAMPLAIN VALLEY OF VERMONT AND NORTHERN NEW YORK FOR STRONG WINDS AND LOW HUMIDITY…

With the issuance of a Fire Weather Watch, an additional statement ALBRFWBTV will be issued. This product will describe in more detail, the areas, reasons and timing for the watch. This product will also be issued as needed to upgrade or cancel the watch, or to provide additional information. See Appendix F for an example of a Fire Weather Watch.

Red Flag Warning

A Red Flag Warning is issued to warn of an impending or occurring Red Flag Event. It is issued when both fuel and weather parameters will meet Red Flag criteria within **24 hours**. If a Red Flag Warning is issued, this information can be included in the fire weather section of the Area Forecast Discussion (AFD). A Red Flag Warning may or may not be preceded by a Fire Weather Watch. The warning will be issued via ALBRFWBTV and contain a headline and basis for the warning issuance. A Red Flag Warning headline will also be included in the affected areas daily routine Fire Weather Planning Forecast. A Red Flag Warning will be cancelled via a ALBRFWBTV product if subsequent information indicates that the conditions are no longer expected to develop or have changed. See Appendix G for an example of a Red Flag Warning.

In some synoptic situations, weather conditions meeting warning criteria may exist for portions of a two day period, with only a break of several hours where red flag criteria are not met. In these situations, it is less confusing for fire agency customers if a Red Flag Warning or Fire Weather Watch is issued for the entire period, as opposed to issuing and cancelling warnings and watches each time weather conditions go into and out of warning criteria. If a Red Flag Warning or Fire Weather Watch is issued in this fashion, the discussion portion of the warning must contain explicit information regarding the short term periods(s) when critical conditions will subside.

Special Weather Statement

It is NWS Burlington office policy, based upon user input, to refrain from issuing statements for High or Extreme Fire Danger conditions. The Fire Danger is something that is calculated and posted each day at state and national parks. Their determination is based on local measurements, leaning heavily toward various fuel moistures. Media inquiries concerning the specific fire danger should be directed to the appropriate State Division of Forestry.

On *rare occasions*, the fire weather community may request that we help get the word out about their fire danger calculations. In these cases, the lead forecaster may decide to issue a statement, if requested by the forestry officials. This statement would incorporate portions or all of the information received from the fire weather community. *The fire danger information should be attributed to the user agencies providing us with the information.*

...DRY FUELS AND LOW RELATIVE HUMIDITIES WILL INCREASE FIRE WEATHER CONCERNS THIS AFTERNOON…

Fine fuels remain very dry across all of northern New York and Vermont according to the Vermont Department of Forests, Parks, and Recreation and the New York State Department of Environmental Conservation. This combined with minimum relative humidity values in the 20 to 30 percent range and northwest winds in the 10 to 20 mph range will lead to fire weather concerns this afternoon.

Given these expected weather conditions any fires that do start could spread quickly, burn intensely, and be difficult to contain. In Vermont consult your local Fire Warden before doing any open burning. And in New York remember a burn ban is in place through May 14th which means open burning is not allowed.

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Fire Weather Area Forecast Discussion

The Area Forecast Discussion (AFD) focuses on the most significant weather issues affecting a NWS office's forecast area over the next seven days. During heightened fire activity a fire weather section (.FIRE WEATHER...) will likely be included in the AFD containing weather information of interest to fire managers. Information found here will likely be similar information found in the synopsis of the Fire Weather Planning Forecast.

Spot Forecasts

What is a Spot Forecast and Who Can Request One?

Site-specific (spot) forecasts are localized near-term forecasts issued by the NWS in support of wildfire and natural resource management. These forecasts aid the land management and fire control agencies in protecting life and property during wildland fires, hazardous fuels reduction and rehabilitation and restoration of natural resources. Spot forecasts are also issued for hazardous materials incidents, marine incidents, search and rescue response and other threats to public safety. Spot forecasts are available anytime of the day, week or season and are considered one-time requests which are not routinely updated.

NWS Burlington will provide spot forecasts upon request of any federal, state, tribal or local public safety official who represents the spot forecast is required to support a wildland fire. For non-wildfire purposes, NWS Burlington will provide spot forecast service under the following circumstances and conditions:

- Upon request of any federal official who represents that the spot forecast is required under the terms of the National Interagency Agreement for Meteorological Services.

- Upon request of any state, tribal, or local official who represents that the spot forecast is required to carry out their wildland fire management responsibilities in coordination with any federal land management agency participating in the Interagency Agreement for Meteorological Services.

- Upon request of any public safety official who represents the spot forecast is essential to public safety, e.g. due to the proximity of population centers or critical infrastructure, essential to protect incident responders, and/or essential to protect vital resources. A “public safety official” is an employee or contract agent of a government agency at any level (federal, state, local, tribal, etc.) charged with protecting the public from hazards including wildland fires of whatever origin and/or other hazards influenced by weather conditions such as hazardous material releases.

- In support of Homeland Security Presidential Directive #5 (HSPD 5).

https://training.fema.gov/EMIWeb/IS/ICSResource/assets/HSPD-5.pdf

How to request a spot forecast

Spot forecast requests can be made via the following methods:

1) Navigate to the NWS National Spot Forecast Request web page **https://www.weather.gov/spot/** (***preferred method***) An example of this webpage can be found in Appendix H.

-Or- when internet service is not available:

2) Call the office via the phone number listed on page 4

The Spot Forecast Request web page is also accessible through the NWS Burlington Fire Weather web page https://www.weather.gov/btv/firewx by clicking on the Request A Spot Forecast link, which is highlighted in yellow
.
After reaching the Spot Forecast Request web page, **click on the "Submit Spot Request" link.** Then:

The following 3 steps will be entered on the Incident Location and Type Webpage. An example of this webpage can be found in Appendix I (As in India).
Step 1: select the incident location using option A or B.
Step 2: select the incident type
Step 3: click **Generate A Spot Request** to proceed to the Detailed Incident Request Form.
Step 4: fill out all the required fields highlighted in red on this form. An example of the Detailed Incident Request Form can be found in Appendix J.

The following information must be provided to NWS Burlington by the requester in order for the spot forecast to be completed:

1. Project Name

2. Name of Requesting Agency and Requesting Official with E-mail address and contact Phone Number

**This information will be displayed on the spot webpage which is accessible to the public. You may want to use a listed public number instead of a private number. I.e. office number, 911 center or EM office*

3. If Incident Type is a Prescribed Burn then you will have to select a "Reason For Prescribed Fire Spot Request" needs to be selected

4. Location (This will be filled in based on the incident location you entered on the previous page)

5. Enter additional Location and Fire Weather Supplemental Information if you can

6. Edit the Forecast Information section as needed including the time you would like the forecast delivered and the time you would like the forecast to start at

7. Select the requested forecast periods (Today and/or Tonight and/or Tomorrow) or if requesting in the evening (Tonight and/or Tomorrow and/or Tomorrow Night and/or Day 3

8. Select the weather elements you would like in your forecast

9. Check Yes in the NOAA Hysplit Model Box if you would like it included with your forecast

10. Enter any Remarks or special requests to be sent to the forecaster. The Remarks space is provided for the requestor to include more specific information or ask more specific questions on the expected weather such as “When will the cold front arrive?.”

11. Enter current weather observations, with as much detail as possible

Step 5: After all the required fields are filled out, click **Submit Request**. Some recommended fixes to the entered data may then show up on the next page. Click “Go Back and Fix” to make changes otherwise click “Submit Request Anyway”. You will then be taken back to the original Spot Forecast Request page.

Step 6: Finally, you will need to click “**Monitor Spot Forecasts”** and zoom into the location of your incident. You should see the status labeled as “Request pending” until the forecast is completed. When completed the status will change to “Completed:” with a date and time stamp. Click on the incident name to see the complete forecast. An example of the Spot Forecast Monitor Webpage can be found in Appendix K.

Spot forecast requests sent to NWS Burlington will alarm in our system under the product code ALBSTQBTV. (An example can be found in Appendix L) A forecaster will call to acknowledge the request using the phone number entered on the request page. The forecaster will request additional information if needed to complete the forecast. For requests where fire weather parameters are not needed, a forecaster will ask if a verbal point and click forecast would be sufficient.

The spot forecasts will usually be issued with a turn-around time of 30 to 60 minutes. This is unless the request is for the next day; where in such a case, fulfillment may be delayed until the date of ignition depending on forecast workload and duty priorities.

The completed spot forecast will be issued under the product code ALBFWSBTV and posted to the Spot Forecast Monitor webpage. An example of a completed spot forecast can be found in Appendix M. If you do not have internet service then a forecaster can call you back with the details of the forecast just indicate this in the Remarks section when requesting the spot forecast. If we have to update the forecast, a forecaster will call to inform you of the upcoming change.

Requests may be submitted up to one day before the specified ignition time if used for prescribed burning. For one-day advance forecast requests and beyond, users should use the Digital Forecasts and Services detailed on page 5 and the Fire Weather Planning Forecast detailed on page 6. Multiple requests for the same project prior to ignition are strongly discouraged. The purpose of the spot forecast is for active wildfires, active all-hazard incidents, search and rescue, and prescribed projects that are intended to be performed within one day of the spot request. Planned, advanced spot forecasts up to one day in advance can however be coordinated for active, long-duration emergencies or fires. Once the project has begun, the frequency of spot updates is coordinated with the requestor.

Feedback and Validation

Feedback on spot forecasts is required to validate forecasts and improve accuracy.
Feedback should ideally be submitted within a day or two of the burn or incident.
The type of feedback preferred is the character of temperature, humidity and wind affecting the burn or incident period. At a minimum, the following should be included for a burn:

1) Maximum temperature
2) Minimum relative humidity
3) Significant afternoon winds (speed and direction)

Example of Minimum Required Feedback:

1) Maximum temperature = 61
2) Minimum RH = 18%
3) Afternoon winds south 2-4G8 mph (eye level) shifting to west at around 1500 hours

Acceptable Methods of Providing Spot Forecast Feedback preferably within a day or two:

1) Enter Feedback on spot forecast page. Simply type in your feedback into the box near the bottom of the forecast and click Send Feedback. ***(preferred method)***
2) Phone call to NWS Burlington
3) Faxed copies of fireline (belt weather) observations
4) Faxed or electronically transmitted copies of hourly data from an on-site portable weather station
5) Notification of deployment of a portable GOES telemetered RAWS, so NWS can access and download the necessary data

HYSPLIT Trajectories

The HYSPLIT (Hybrid Single-Particle Lagrangian Integrated Trajectory) model is a model which determines trajectories for particles at a given height above ground level. The HYSPLIT trajectories can be used for many purposes including but not limited to HAZMAT and smoke dispersion. These are available to be sent along with the spot forecast if desired.

HYSPLIT output represents computer model forecasts without any human interaction. They do not take into account information on burn size or fuels, thus generate trajectory forecasts for 500, 1500, and 3000 meters above ground level without regarding whether fire plume height will reach that altitude.

To utilize this feature, simply check **Yes** in the NOAA Hysplit Model Box of the spot forecast request form. An automated trajectory model run will then be emailed to the included email address or addresses on the request web page.

An example of a HYSPLIT Trajectory is available in Appendix O.

Incident Meteorologist Request and Decision Support Services

Incident Meteorologist Request

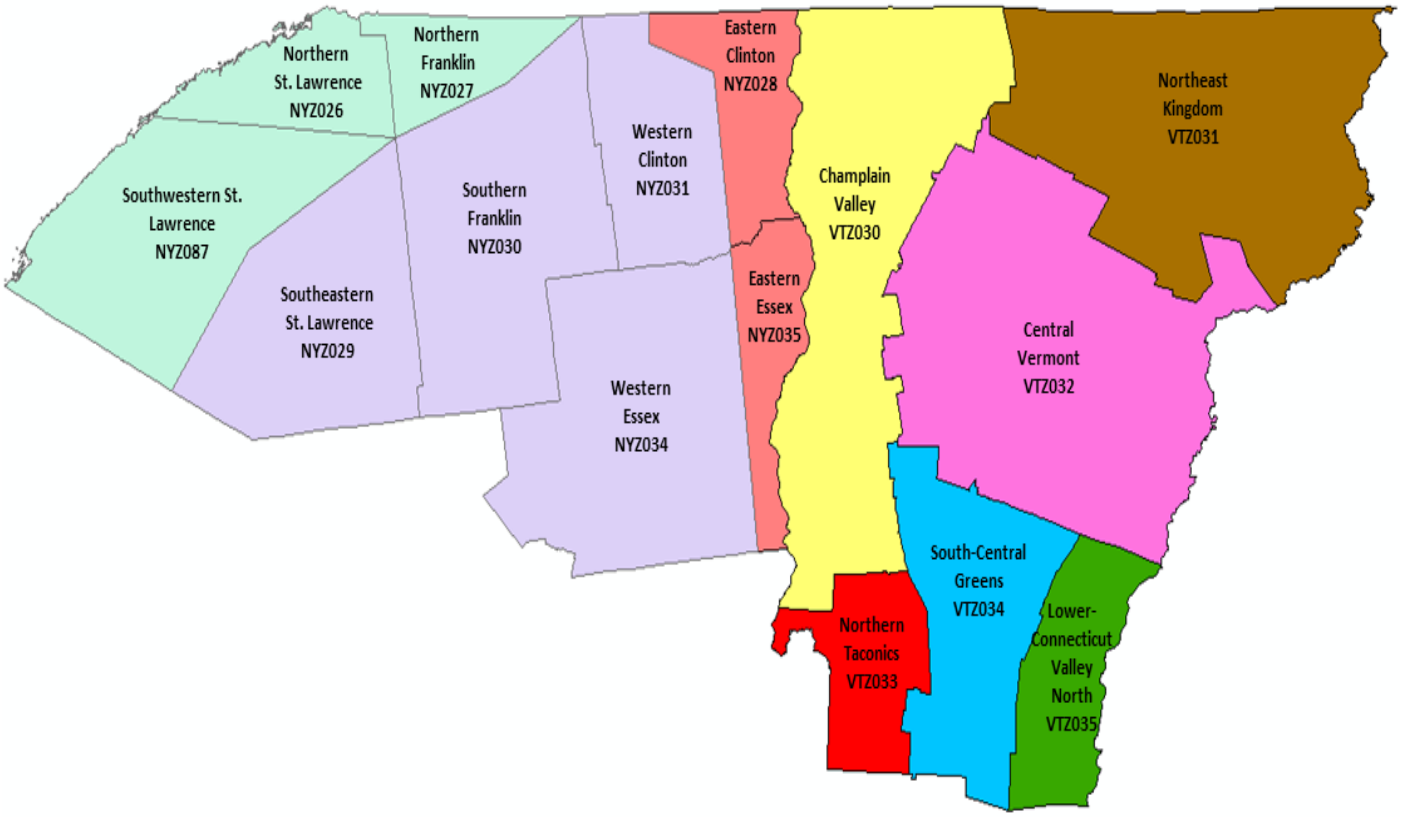
The NWS maintains a cadre of trained Incident Meteorologists (IMETs) per NWS Instruction 10-402. https://www.nws.noaa.gov/directives/sym/pd01004002curr.pdf

IMETs are available for on-site or off-site decision support services for wildfires or other events that threaten life or property. All requests for IMET support from federal, state, tribal or local government emergency response agencies will be requested through the NWS National Fire Weather Operations Coordinator (NFWOC).

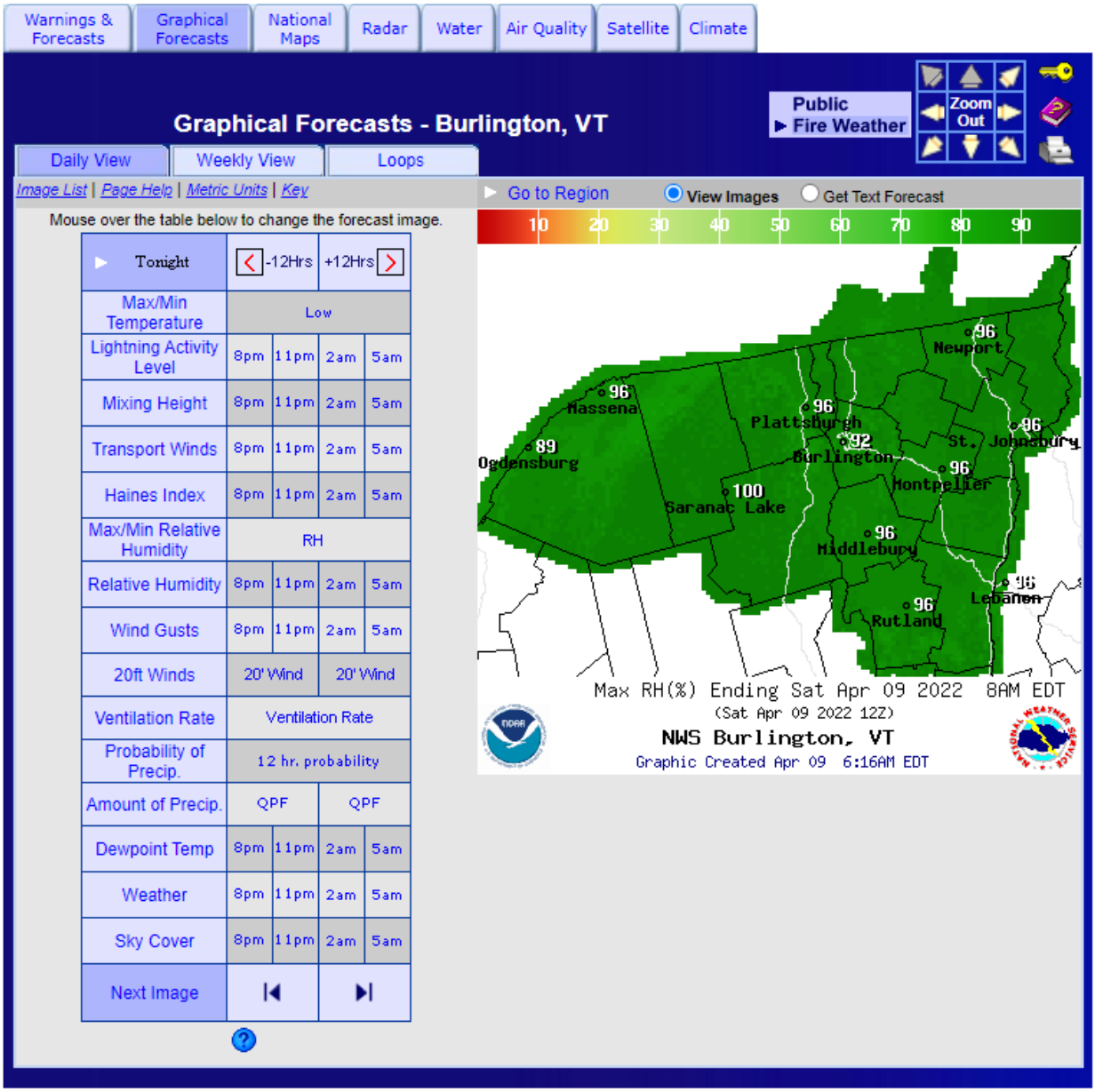
Decision Support Services

For non-wildfires such as local prescribed burns across western or north-central New York, request for on-site or off-site forecasting service can be made to the Burlington National Weather Service Office. The fire weather program leader or another assigned staff member if available and approved by management would then provide the requested service.

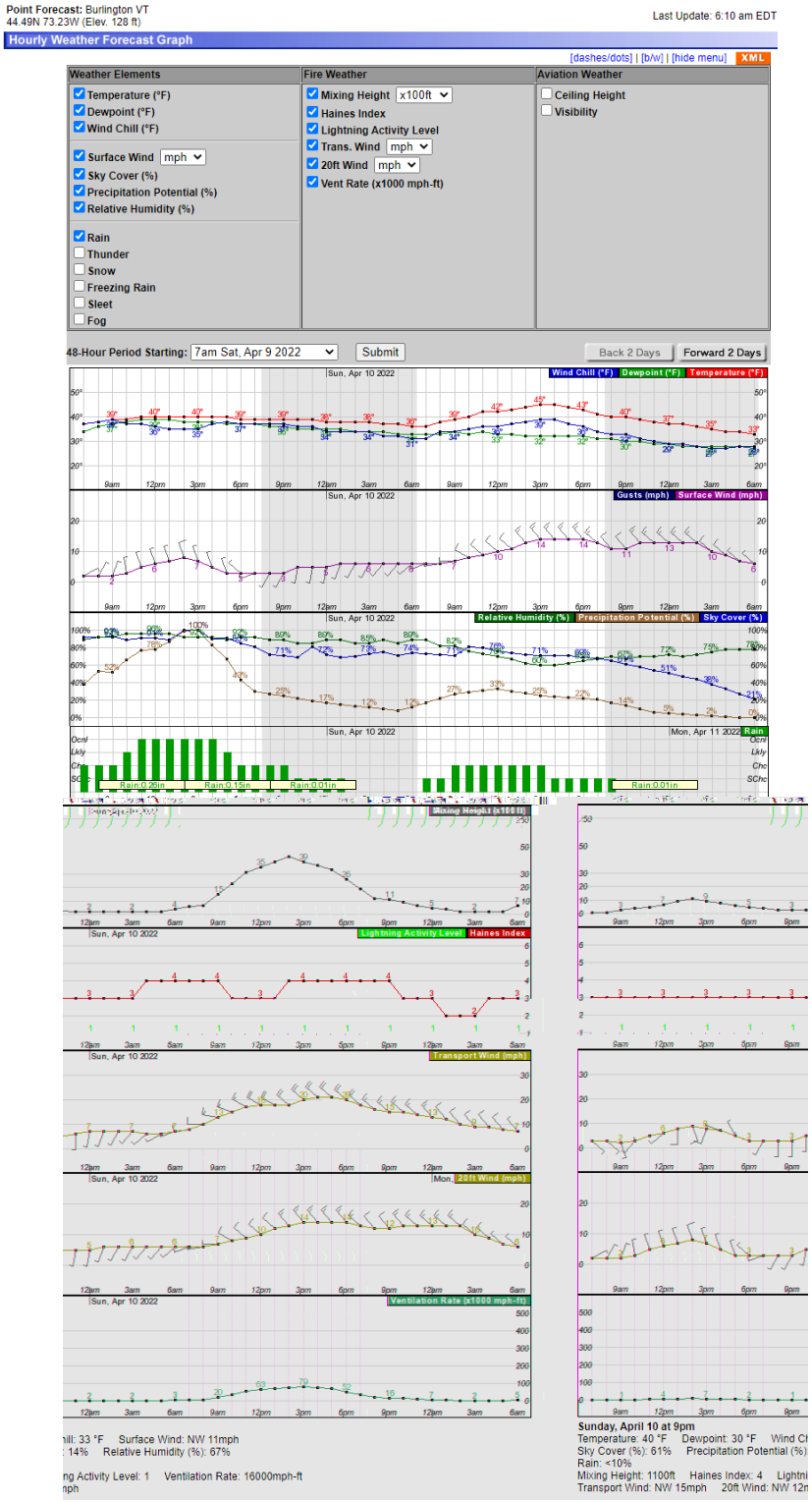
APPENDIX A - Fire Weather Forecast Zones



APPENDIX B – Example of NWS Burlington Graphical Fire Weather Forecasts on weather.gov http://graphical.weather.gov/sectors/btvFireDay.php#tabs



APPENDIX C - Example of Hourly Weather Graphs with Fire Weather Elements



APPENDIX D - Example of the Daily Fire Weather Forecast (ALBFWFBTV)

Fire Weather Planning Forecast for Central/Northern Vermont and
Northern New York
National Weather Service Burlington VT
509 AM EDT Sat Apr 9 2022

...Widespread Soaking Rain Today, Snow at Higher Elevations...

.DISCUSSION...
Widespread rain will move through the area today as a compact low
pressure system tracks through. Some snow will mix in with the rain
at times, especially over higher elevations. Some of the rain and
snow will be briefly heavy in nature around midday today, especially over
the northeastern Adirondacks, Champlain Valley, and into northern Vermont.
Precipitation will come to an end from south to north towards this evening
Total rainfall amounts will range from a quarter to a half inch, except
lighter amounts in the Saint Lawrence Valley. Winds today will be light
and variable, except southern Vermont where some briefly gusty west winds
are expected. There is a small chance for some thunderstorms today over
southern Vermont, which may result in wind gusts to 25 mph and/or some
small hail.

VTZ030-092130-
Champlain Valley-
Including the cities of Burlington, Shelburne, Middlebury,
Vergennes, St. Albans, Swanton, Enosburg Falls, and Bristol
509 AM EDT Sat Apr 9 2022

	Today	Tonight	Sun
Cloud cover	Mcldy	Mcldy	Mcldy
Chance precip (%)	100	40	30
Precip type	Snow/Rain	Showers	Showers
Max/Min Temp	45	35	44
20ftWnd AM(mph)	Lgt/Var		W 6 G18
20ftWnd PM(mph)	N 5	Lgt/Var	NW 12 G21
Precip amount	0.38	0.07	0.01
Precip duration	8	2	2
Precip begin	6 AM	Continuing	Continuing
Precip end	Continuing	Continuing	Continuing
Humidity (%)	67	99	56
Haines Index	3	3	3
LAL	1	1	1
Mixing hgt	1780		5660
Transport wnd (mph)	W 7		NW 18
Ventilation rate	12460		101880
KBDI	<=200	<=200	<=200

Remarks...None.

$$

VTZ033-035-092130-
Northern Taconics-Lower Connecticut Valley North-
Including the cities of Fair Haven, Rutland, Danby, Springfield,
White River Junction, and Woodstock
509 AM EDT Sat Apr 9 2022

	Today	Tonight	Sun
Cloud cover	Mcldy	Pcldy	Pcldy
Chance precip (%)	100	30	30
Precip type	Showers	Showers	Showers
Max/Min Temp	46	33	44
20ftWnd AM(mph)	Lgt/Var		W 8 G19
20ftWnd PM(mph)	SW 6	W 6	NW 11 G23
Precip amount	0.28	0.05	0.02
Precip duration	9	1	1
Precip begin	6 AM	Continuing	8 AM
Precip end	Continuing	1 AM	Continuing
Humidity (%)	66	96	52
Haines Index	4	3	3
LAL	1	1	1
Mixing hgt	2370		6480
Transport wnd (mph)	W 13		NW 18
Ventilation rate	30810		116640
KBDI	<=200	<=200	<=200

Remarks...None.

$$

VTZ034-092130-
South Central Greens-
Including the cities of Ripton, East Wallingford, Killington,
Bethel, and Ludlow
509 AM EDT Sat Apr 9 2022

	Today	Tonight	Sun
Cloud cover	Mcldy	Pcldy	Pcldy
Chance precip (%)	100	40	50
Precip type	Snow/Rain	Showers	Showers
Max/Min Temp	44	32	40
20ftWnd AM(mph)	SE 5		W 10 G23
20ftWnd PM(mph)	SW 8 G21	W 9 G21	NW 12 G24
Precip amount	0.28	0.06	0.03
Precip duration	9	1	2
Precip begin	6 AM	Continuing	7 AM
Precip end	Continuing	3 AM	Continuing
Humidity (%)	69	99	61
Haines Index	3	3	3
LAL	1	1	1
Mixing hgt	1960		6040
Transport wnd (mph)	W 14		NW 18
Ventilation rate	27440		108720
KBDI	<=200	<=200	<=200

Remarks...None.

$$

VTZ032-092130-
Central Vermont-
Including the cities of Richmond, Underhill, Johnson, Stowe,
Montpelier, Waitsfield, Starksboro, Bradford, Randolph,
and St. Johnsbury
509 AM EDT Sat Apr 9 2022

	Today	Tonight	Sun
Cloud cover	Mcldy	Mcldy	Mcldy
Chance precip (%)	100	60	40
Precip type	Snow/Rain	Showers	Showers
Max/Min Temp	45	34	42
20ftWnd AM(mph)	Lgt/Var		NW 9 G20
20ftWnd PM(mph)	SW 6	W 6	NW 13 G24
Precip amount	0.29	0.08	0.01
Precip duration	8	2	2
Precip begin	6 AM	Continuing	Continuing
Precip end	Continuing	Continuing	Continuing
Humidity (%)	65	100	58
Haines Index	3	3	3
LAL	1	1	1
Mixing hgt	2770		6100
Transport wnd (mph)	SE 10		NW 22
Ventilation rate	27700		134200
KBDI	<=200	<=200	<=200

Remarks...None.

$$

VTZ031-092130-
Northeast Kingdom-
Including the cities of Derby, Newport, Island Pond, Lunenburg,
and Hardwick
509 AM EDT Sat Apr 9 2022

	Today	Tonight	Sun
Cloud cover	Mcldy	Mcldy	Mcldy
Chance precip (%)	100	80	60
Precip type	Snow/Rain	Snow/Rain	Showers
Max/Min Temp	47	34	40
20ftWnd AM(mph)	SE 5		W 9 G19
20ftWnd PM(mph)	SW 6	W 5	NW 12 G23
Precip amount	0.29	0.13	0.03
Precip duration	6	4	6
Precip begin	8 AM	Continuing	Continuing
Precip end	Continuing	Continuing	Continuing
Humidity (%)	62	100	66
Haines Index	3	3	3
LAL	1	1	1
Mixing hgt	3760		4020
Transport wnd (mph)	SE 13		NW 20
Ventilation rate	48880		80400
KBDI	<=200	<=200	<=200

Remarks...None.

$$

NYZ028-035-092130-
Eastern Clinton-Eastern Essex-
Including the cities of Champlain, Plattsburgh, Port Henry,
and Ticonderoga
509 AM EDT Sat Apr 9 2022

	Today	Tonight	Sun
Cloud cover	Mcldy	Pcldy	Pcldy
Chance precip (%)	100	40	30
Precip type	Snow/Rain	Showers	Showers
Max/Min Temp	44	36	45
20ftWnd AM(mph)	Lgt/Var		W 9 G21
20ftWnd PM(mph)	N 5	Lgt/Var	NW 13 G23
Precip amount	0.32	0.04	0.00
Precip duration	9	1	1
Precip begin	6 AM	Continuing	7 AM
Precip end	Continuing	3 AM	6 PM
Humidity (%)	69	94	52
Haines Index	3	3	4
LAL	1	1	1
Mixing hgt	2130		6420
Transport wnd (mph)	S 8		NW 21
Ventilation rate	17040		134820
KBDI	<=200	<=200	<=200

Remarks...None.

$$

NYZ026-027-087-092130-
Northern St. Lawrence-Northern Franklin-Southwestern St. Lawrence-
Including the cities of Massena, Norfolk, Fort Covington, Malone,
Ogdensburg, Potsdam, and Gouverneur
509 AM EDT Sat Apr 9 2022

	Today	Tonight	Sun
Cloud cover	Mcldy	Mcldy	Mcldy
Chance precip (%)	40	20	50
Precip type	Showers	Showers	Showers
Max/Min Temp	49	34	44
20ftWnd AM(mph)	Lgt/Var		W 8 G17
20ftWnd PM(mph)	W 7 G17	SW 8	W 10 G20
Precip amount	0.02	0.03	0.01
Precip duration	2	1	2
Precip begin	6 AM	Continuing	Continuing
Precip end	Continuing	Continuing	Continuing
Humidity (%)	57	91	56
Haines Index	3	3	3
LAL	1	1	1
Mixing hgt	6060		4970
Transport wnd (mph)	W 10		NW 18
Ventilation rate	60600		89460
KBDI	<=200	<=200	<=200

Remarks...None.

$$

NYZ029>031-034-092130-
Southeastern St. Lawrence-Southern Franklin-Western Clinton-
Western Essex-
Including the cities of South Colton, Star Lake, Saranac Lake,
Tupper Lake, Dannemora, Ellenburg, Lake Placid, and Newcomb
509 AM EDT Sat Apr 9 2022

	Today	Tonight	Sun
Cloud cover	Mcldy	Mcldy	Mcldy
Chance precip (%)	90	30	60
Precip type	Showers	Showers	Showers
Max/Min Temp	43	31	39
20ftWnd AM(mph)	Lgt/Var		W 10 G21
20ftWnd PM(mph)	NW 5 G17	W 7 G18	NW 12 G25
Precip amount	0.20	0.05	0.03
Precip duration	8	1	5
Precip begin	6 AM	Continuing	Continuing
Precip end	Continuing	Continuing	Continuing
Humidity (%)	67	96	62
Haines Index	3	3	3
LAL	1	1	1
Mixing hgt	5310		6310
Transport wnd (mph)	NW 10		NW 21
Ventilation rate	53100		132510
KBDI	<=200	<=200	<=200

Remarks...None.

$$

.FORECAST FOR DAYS 3 THROUGH 7...
.SUNDAY NIGHT...Partly cloudy. Lows in the lower 30s. Northwest
winds around 10 mph.
.MONDAY...Mostly sunny. Highs in the mid 50s. West winds around
5 mph.
.MONDAY NIGHT...Mostly cloudy with showers likely. Lows in the
upper 30s. South winds 5 to 10 mph.
.TUESDAY...Partly sunny. Highs in the lower 60s. West winds 10 to
15 mph.
.TUESDAY NIGHT...Partly cloudy. Lows in the upper 30s. Northwest
winds 10 to 15 mph.
.WEDNESDAY...Mostly sunny. Highs in the upper 50s. North winds
10 to 15 mph.
.WEDNESDAY NIGHT...Mostly cloudy with a chance of showers. Lows
in the lower 40s. Southeast winds 10 to 15 mph.
.THURSDAY...Mostly cloudy with a chance of showers. Highs in the
lower 60s. South winds 10 to 15 mph.
.THURSDAY NIGHT...Mostly cloudy with a chance of showers. Lows in
the upper 40s. South winds 10 to 15 mph.
.FRIDAY...Mostly cloudy with showers likely. Highs in the lower
60s. South winds 10 to 15 mph.

.OUTLOOK 8 TO 14 DAYS...
Temperatures near normal. Precipitation above normal.

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APPENDIX E - Example of the National Fire Danger Rating System Forecast (ALBFWMBTV)

```
FNUS81 KBTV 081832
FWMBTV

FCST,430501,220409,13,6,37,100,1,1,WSW,04,,50,37,100,68,0,0,N
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FCST,430501,220410,13,2,46,60,1,1,NW,08,,46,36,100,60,7,0,N
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FCST,430601,220414,13,2,57,67,1,1,SSE,04,,59,45,100,55,0,0,N
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FCST,300311,220415,13,1,60,57,1,1,W,10,,60,44,100,57,0,0,N
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FCST,300312,220415,13,1,54,61,1,1,W,20,,54,42,100,61,0,0,N
```

APPENDIX F - Example of Fire Weather Watch (ALBRFWBTV)

WWUS81 KBTV 041851
RFWBTV

URGENT – FIRE WEATHER MESSAGE
National Weather Service Burlington VT
251 PM EDT Sun Apr 4 2021

NYZ035-VTZ005-009>012-051000-
/O.NEW.KBTV.FW.A.0001.210405T1500Z-210406T0000Z/
Eastern Essex-Western Chittenden-Western Addison-Orange-Western Rutland-Windsor-
251 PM EDT Sun Apr 4 2021

…FIRE WEATHER WATCH IN EFFECT FROM 11 AM MONDAY MORNING UNTIL 8 PM MONDAY EVENING FOR GUSTY WINDS AND LOW RELATIVE HUMIDITY FOR CENTRAL AND SOUTHERN CHAMPLAIN VALLEY AND LOWER CONNECTICUT RIVER VALLEY…

The National Weather Service in Burlington has issued a Fire Weather Watch for gusty winds and low relative humidity, which is in effect from 11 AM Monday until 8 PM Monday evening.

* AFFECTED AREA…In New York, Eastern Essex County. In Vermont, Western Chittenden, Western Addison, Orange, Western Rutland, and Windsor Counties.

* TIMING…The lowest relative humidity values and strongest winds will occur between Noon and 5 PM on Monday.

* WINDS…Northwest 10 to 20 mph with gusts up to 30 mph.

* RELATIVE HUMIDITY…As low as 25 percent.

* TEMPERATURES…In the upper 40s to mid 50s.

* Impacts…Any fires that do start will have the potential to spread rapidly.

PRECAUTIONARY/PREPAREDNESS ACTIONS…

A Fire Weather Watch means that critical fire weather conditions may occur. Listen for later forecasts and possible Red Flag Warnings.

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APPENDIX G - Example of Red Flag Warning (ALBRFWBTV)

WWUS81 KBTV 050836
RFWBTV

URGENT – FIRE WEATHER MESSAGE
National Weather Service Burlington VT
436 AM EDT Mon Apr 5 2021

NYZ035-VTZ005-009>012-052000-
/O.UPG.KBTV.FW.A.0001.210405T1500Z-210406T0000Z/
/O.NEW.KBTV.FW.W.0001.210405T1600Z-210405T2300Z/
Eastern Essex-Western Chittenden-Western Addison-Orange-Western Rutland-Windsor-
436 AM EDT Mon Apr 5 2021

…RED FLAG WARNING IN EFFECT FROM NOON TODAY TO 7 PM THIS EVENING FOR GUSTY WINDS AND LOW RELATIVE HUMIDITY FOR CENTRAL AND SOUTHERN CHAMPLAIN VALLEY AND LOWER CONNECTICUT RIVER VALLEY…

The National Weather Service in Burlington has issued a Red Flag Warning for low relative humidity and gusty winds, which is in effect from noon today to 7 PM this evening. The Fire Weather Watch is no longer in effect.

* AFFECTED AREA…In New York, Eastern Essex County. In Vermont, the western portions of Chittenden, Addison, and Rutland counties as well as Orange and Windsor counties, especially near the Connecticut River Valley.

* TIMING…The lowest relative humidity values and strongest winds will occur between Noon and 7 PM.

* WINDS…Northwest 10 to 20 mph with frequent gusts in the 25 to 30 mph range.

* RELATIVE HUMIDITY…As low as 25 percent.

* TEMPERATURES…In the lower to mid 50s.

* Impacts…Because of the dry fuels, low relative humidity, and gusty winds any fires that do start will have the potential to spread rapidly.

PRECAUTIONARY/PREPAREDNESS ACTIONS…

A Red Flag Warning means that dangerous fire weather conditions are expected due to the combination of gusty winds, low relative humidity, and dry fuels. Any fires that develop may quickly get out of control and become difficult to contain.

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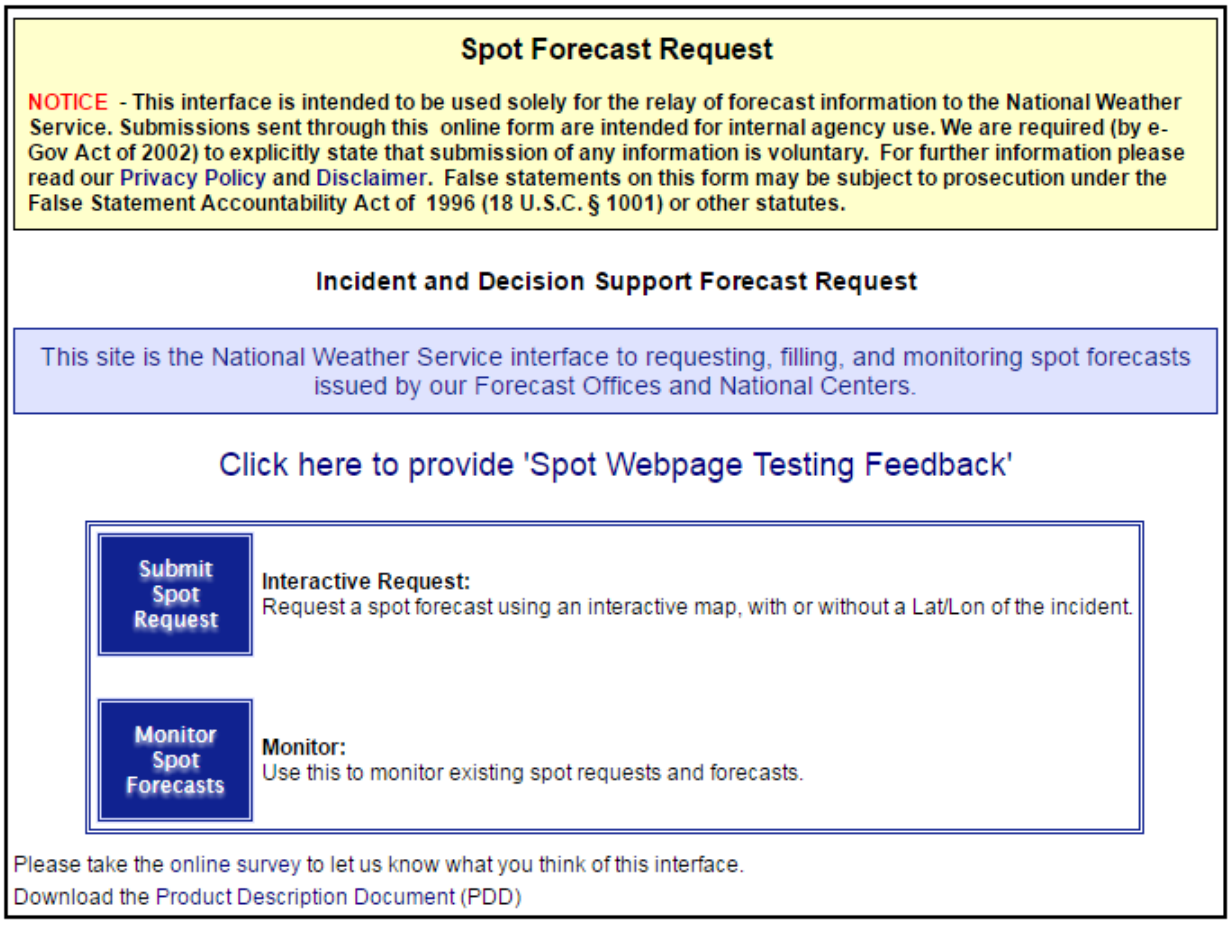
APPENDIX H - Example of Spot Forecast Webpage
http://www.weather.gov/spot/



Spot Forecast Request

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Incident and Decision Support Forecast Request

This site is the National Weather Service interface to requesting, filling, and monitoring spot forecasts issued by our Forecast Offices and National Centers.

Click here to provide 'Spot Webpage Testing Feedback'

Submit Spot Request

Interactive Request:
Request a spot forecast using an interactive map, with or without a Lat/Lon of the incident.

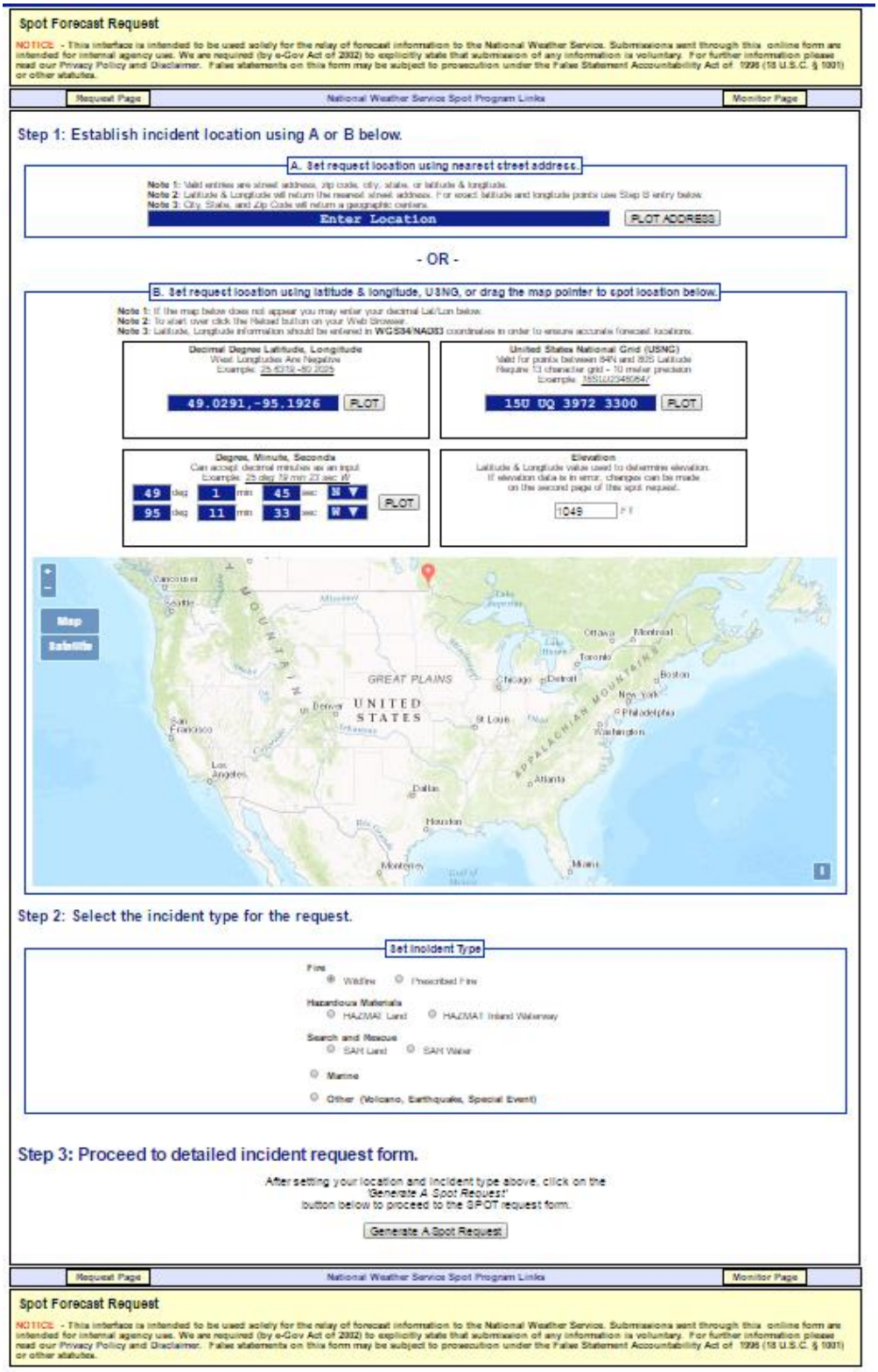
Monitor Spot Forecasts

Monitor:
Use this to monitor existing spot requests and forecasts.

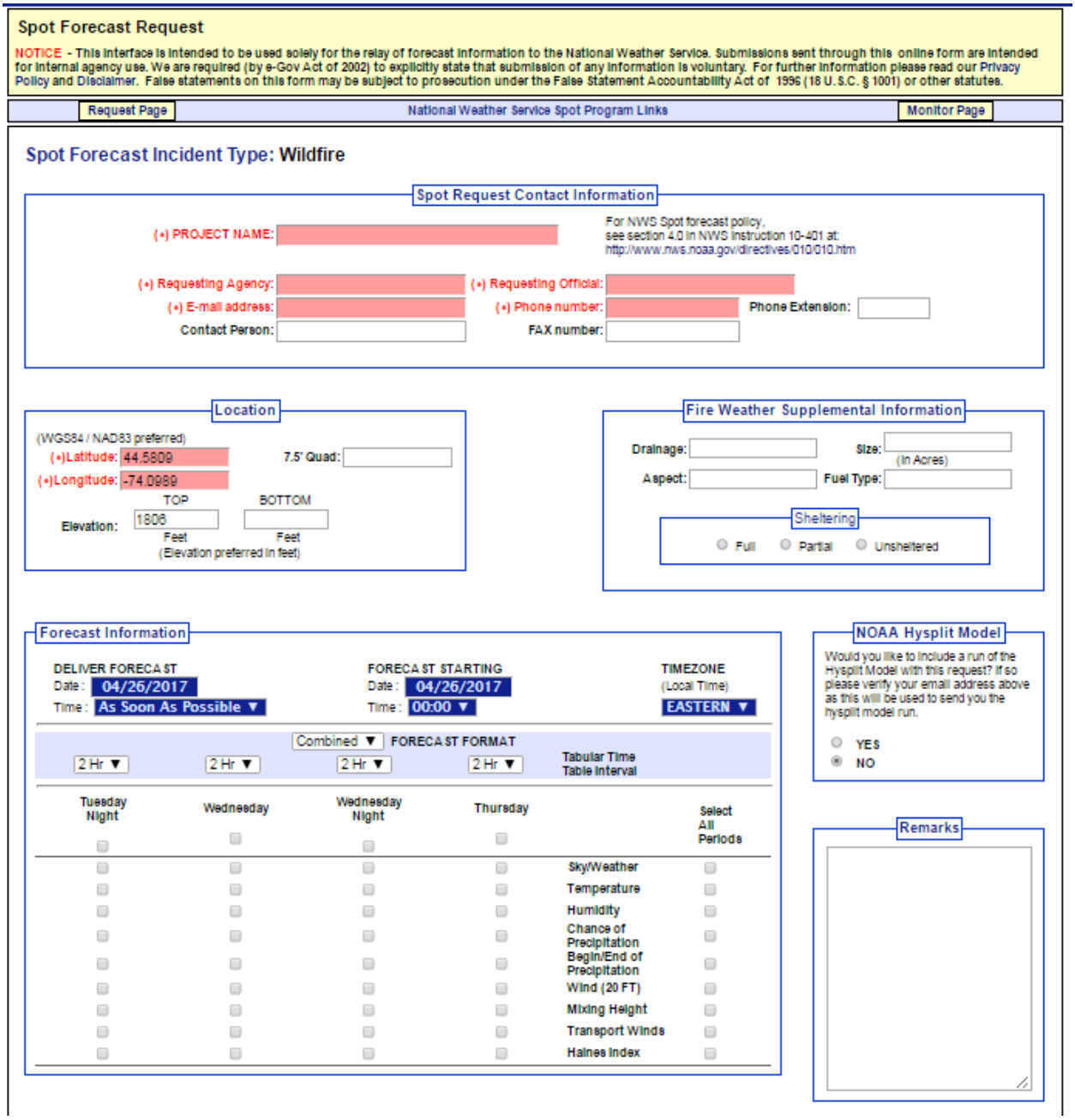
Please take the online survey to let us know what you think of this interface.
Download the Product Description Document (PDD)

Spot forecast alpha 2, revision 218
Spot forecast database schema 2.20

APPENDIX I (India) - Example of the Incident Location and Type Selection Webpage for Spot Forecast Requests



APPENDIX J - Example of the Detailed Incident Request Form Webpage for Spot Forecast Requests



Spot Forecast Request

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Request Page | National Weather Service Spot Program Links | Monitor Page

Spot Forecast Incident Type: Wildfire

Spot Request Contact Information

(*) PROJECT NAME:

For NWS Spot forecast policy, see section 4.0 in NWS Instruction 10-401 at: http://www.nws.noaa.gov/directives/010/010.htm

(*) Requesting Agency: (*) Requesting Official:

(*) E-mail address: (*) Phone number: Phone Extension:

Contact Person: FAX number:

Location

(WGS84 / NAD83 preferred)

(*)Latitude: 44.5809 7.5' Quad:

(*)Longitude: -74.0989

Elevation: TOP 1806 Feet BOTTOM Feet

(Elevation preferred in feet)

Fire Weather Supplemental Information

Drainage: Size: (In Acres)

Aspect: Fuel Type:

Sheltering

Full Partial Unsheltered

Forecast Information

DELIVER FORECAST Date: 04/26/2017 Time: As Soon As Possible

FORECAST STARTING Date: 04/26/2017 Time: 00:00

TIMEZONE (Local Time) EASTERN

Combined FORECAST FORMAT

2 Hr | 2 Hr | 2 Hr | 2 Hr | Tabular Time Table Interval

Tuesday Night	Wednesday	Wednesday Night	Thursday		Select All Periods
				Sky/Weather	
				Temperature	
				Humidity	
				Chance of Precipitation	
				Begin/End of Precipitation	
				Wind (20 FT)	
				Mixing Height	
				Transport Winds	
				Haines Index	

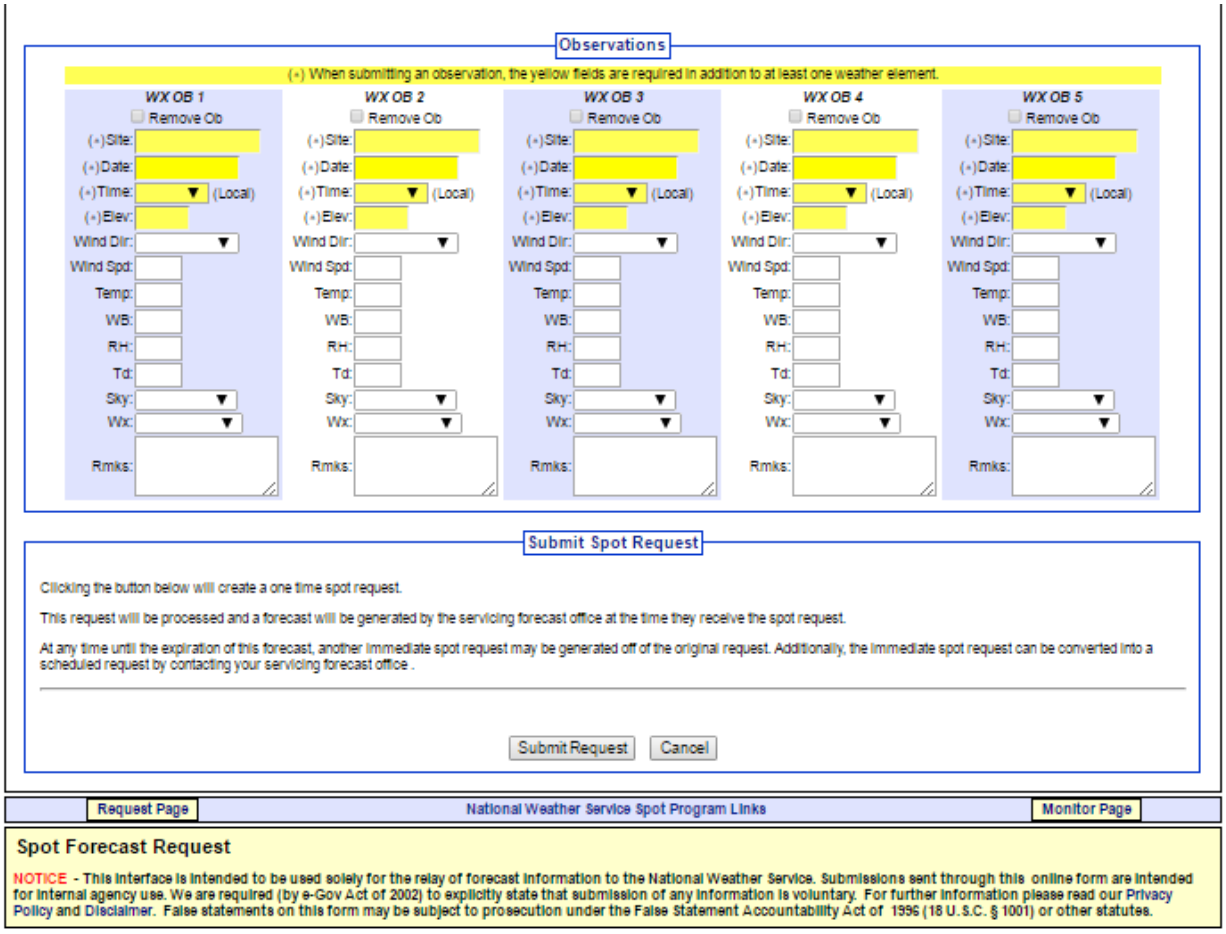
NOAA Hysplit Model

Would you like to include a run of the Hysplit Model with this request? If so please verify your email address above as this will be used to send you the hysplit model run.

YES NO

Remarks

APPENDIX J - Continued



Observations

(+) When submitting an observation, the yellow fields are required in addition to at least one weather element.

WX OB 1	WX OB 2	WX OB 3	WX OB 4	WX OB 5
Remove Ob	Remove Ob	Remove Ob	Remove Ob	Remove Ob
(+)Site:	(+)Site:	(+)Site:	(+)Site:	(+)Site:
(+)Date:	(+)Date:	(+)Date:	(+)Date:	(+)Date:
(+)Time: (Local)	(+)Time: (Local)	(+)Time: (Local)	(+)Time: (Local)	(+)Time: (Local)
(+)Elev:	(+)Elev:	(+)Elev:	(+)Elev:	(+)Elev:
Wind Dir:	Wind Dir:	Wind Dir:	Wind Dir:	Wind Dir:
Wind Spd:	Wind Spd:	Wind Spd:	Wind Spd:	Wind Spd:
Temp:	Temp:	Temp:	Temp:	Temp:
WB:	WB:	WB:	WB:	WB:
RH:	RH:	RH:	RH:	RH:
Td:	Td:	Td:	Td:	Td:
Sky:	Sky:	Sky:	Sky:	Sky:
Wx:	Wx:	Wx:	Wx:	Wx:
Rmks:	Rmks:	Rmks:	Rmks:	Rmks:

Submit Spot Request

Clicking the button below will create a one time spot request.

This request will be processed and a forecast will be generated by the servicing forecast office at the time they receive the spot request.

At any time until the expiration of this forecast, another immediate spot request may be generated off of the original request. Additionally, the immediate spot request can be converted into a scheduled request by contacting your servicing forecast office .

Submit Request Cancel

Request Page | National Weather Service Spot Program Links | Monitor Page

Spot Forecast Request

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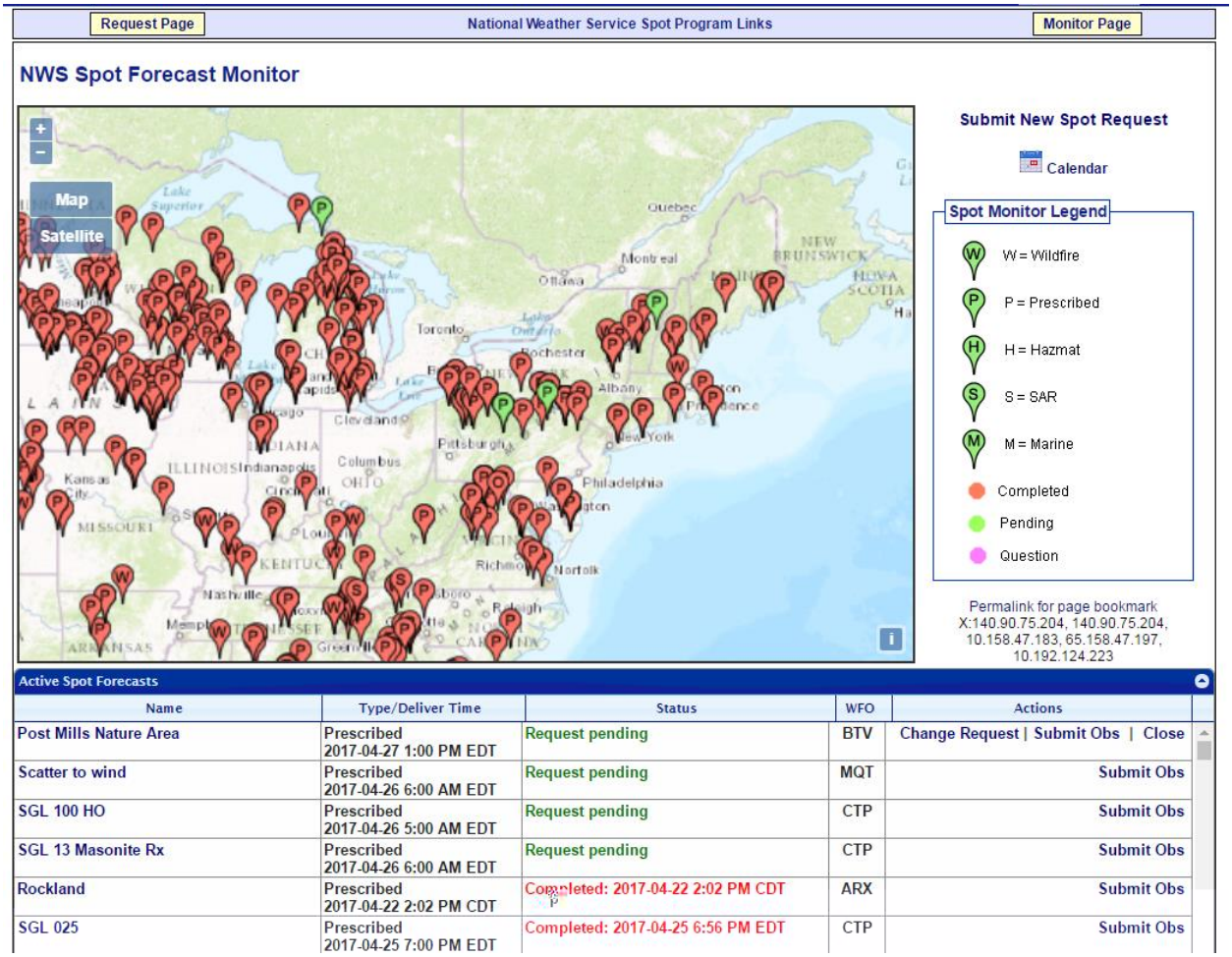
APPENDIX K - Example of Spot Forecast Monitor Webpage http://www.weather.gov/spot/monitor/



Name	Type/Deliver Time	Status	WFO	Actions
Post Mills Nature Area	Prescribed 2017-04-27 1:00 PM EDT	Request pending	BTV	Change Request | Submit Obs | Close
Scatter to wind	Prescribed 2017-04-26 6:00 AM EDT	Request pending	MQT	Submit Obs
SGL 100 HO	Prescribed 2017-04-26 5:00 AM EDT	Request pending	CTP	Submit Obs
SGL 13 Masonite Rx	Prescribed 2017-04-26 6:00 AM EDT	Request pending	CTP	Submit Obs
Rockland	Prescribed 2017-04-22 2:02 PM CDT	Completed: 2017-04-22 2:02 PM CDT	ARX	Submit Obs
SGL 025	Prescribed 2017-04-25 7:00 PM EDT	Completed: 2017-04-25 6:56 PM EDT	CTP	Submit Obs

APPENDIX L - Example of Spot Forecast Request (ALBSTQBTV)

```
BMBB91 KBTV 242122
STQBTV

A SPOT FORECAST REQUEST HAS BEEN RECEIVED FOR INCIDENT TYPE
PRESCRIBED NAMED "Pawlet RX"

       REQUEST TYPE:  IMMEDIATE
               DATE:  04/25/17
               TIME:  0800
       DELIVER DATE:  04/24/17
       DELIVER TIME:  1721
        SUBMIT DATE:  04/24/17
        SUBMIT TIME:  1721
       PROJECT NAME:  Pawlet RX
       PROJECT TYPE:  PRESCRIBED
     REQUEST REASON:  STATE LOCAL
  REQUESTING AGENCY:  VT-FPR
REQUESTING OFFICIAL:  Lars Lund
    EMERGENCY PHONE:  802-777-4188
              EMAIL:  Lars.Lund@vermont.gov
              STATE:  VT
               DLAT:  43.3548
               DLON:  73.1763
               CLON:  -73.1763
                FAX:
          EXPOSURE:  West
         FUEL TYPE:  Grass/Brush
        SHELTERING:  partial
   BOTTOM ELEVATION:  720
      TOP ELEVATION:  760
       SIZE (ACRES):  5
 REQUESTING HYSPLIT:  NO
             FORMAT:  C
           INTERVAL:  2,2,2,2

WEATHER CONDITION AT INCIDENT OR NEARBY STATIONS

...REMARKS...


...WEATHER PARAMETERS REQUESTED...
               TEMPERATURE:  1,1,1,1
                  HUMIDITY:  1,1,1,1
BEGIN/END OF PRECIPITATION:  1,1,1,1
              SKY/WEATHER:  1,1,1,1
           TRANSPORT WINDS:  1,1,1,1
            MIXING HEIGHT:  1,1,1,1
             WIND (20 FT):  1,1,1,1
             HAINES INDEX:  1,1,1,1
   CHANCE OF PRECIPITATION:  1,1,1,1

SITE: BTV
OFILE: 1707698.0
TIMEZONE: EST5EDT
```

APPENDIX M - Example of Spot Forecast (ALBFWSBTV)

```
Spot Forecast for Pawlet RX...VT-FPR
National Weather Service Burlington VT
645 PM EDT Mon Apr 24 2017

Forecast is based on ignition time of 0800 EDT on April 25.
If conditions become unrepresentative...contact the National Weather
Service.

Please contact our office at (802) 658-0207, if you have questions
or concerns with this forecast.

.DISCUSSION...
Increasing southerly low level flow on Tuesday will bring deeper
moisture to the region. This means more cloud cover...higher
humidities...and increasing chances for rain. The best chances for
rain will come Tuesday afternoon and especially Tuesday night
before rain eventually moves east of the area on Wednesday. The
other element of note will be gusty southeast winds through much
of the burn period.

.TUESDAY...

Sky/weather.........Cloudy (90-100 percent). A chance of showers
                    early in the morning...then showers likely in
                    the afternoon.
Chance of pcpn......70 percent.
Begin/end of pcpn...After 8am and continues through the day.
Max temperature.....Around 51.
Min humidity........68 percent.
Wind (20 ft)........Southeast winds 8 to 12 mph. Gusts up to 25 mph
                    in the afternoon.
Mixing height.......1300-2600 ft AGL.
Transport winds.....Southeast 10 to 20 mph...increasing to 20 to 26
                    mph early in the afternoon.
Haines Index........2 to 3 or very low potential for large plume
                    dominated fire growth.

TIME (EDT)      8 AM   10 AM  NOON   2 PM   4 PM
Sky (%).........89     96     100    100    100
Weather cov.....CHANCE CHANCE LIKELY LIKELY LIKELY
Weather type....RNSHWR RNSHWR RNSHWR RNSHWR RNSHWR
Tstm cov........
Chc of pcpn (%).30     40     60     70     70
Temp............45     47     48     49     49
RH..............73     71     68     68     68
20 ft wind......SE 6   SE 9   SE 10  SE 12  SE 12
20 ft wind gust.15     15     20     20     20
Mix hgt (ft)....1300   1800   2200   2600   2200
Transport wind..SE 16  SE 18  SE 22  SE 26  SE 24
Haines index....2      3      3      3      3
```

.TUESDAY NIGHT...

Sky/weather.....Cloudy (95-100 percent). Showers likely.
Chance of pcpn.....70 percent.
Begin/end of pcpn...Showers continue through much of the night.
Min temperature.....Around 45.
Max humidity.....89 percent.
Wind (20 ft).....Southeast winds 8 to 12 mph. Gusts up to 25 mph
in the evening.
Mixing height.....500-1800 ft AGL.
Transport winds.....Southeast 14 to 22 mph...decreasing to 10 to 12 mph
after midnight.
Haines Index.....2 to 3 or very low potential for large plume
dominated fire growth.

TIME (EDT)	6 PM	8 PM	10 PM	MIDNGT	2 AM	4 AM
Sky (%)	100	100	100	100	100	100
Weather cov	LIKELY	LIKELY	LIKELY	LIKELY	LIKELY	LIKELY
Weather type	RNSHWR	RNSHWR	RNSHWR	RNSHWR	RNSHWR	RNSHWR
Tstm cov						
Chc of pcpn (%)	70	70	70	70	70	70
Temp	48	47	47	47	46	47
RH	71	74	74	76	83	83
20 ft wind	SE 12	SE 12	SE 12	SE 9	SE 8	SE 8
20 ft wind gust	25	25	20	15	15	15
Mix hgt (ft)	1800	1500	1500	1000	500	500
Transport wind	SE 22	SE 22	SE 21	SE 17	SE 12	SE 10
Haines index	3	3	2	2	2	2

$$
Forecaster...Evenson
Requested by...Lars Lund
Type of request...PRESCRIBED
.TAG 1707698.0/BTV
.EMAIL Lars.Lund@vermont.gov

APPENDIX N - Example of HYSPLIT Model Trajectories Forecast