

Fire Weather Program Overview

WFO Buffalo Contacts

Meteorologist-In-Charge (MIC) Thomas Nizioł

Warning Coordination Meteorologist (WCM) Stan Levine

Fire Weather Program Leader: William Hibbert

Introduction

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 forest and rangelands.

The following is based upon national policy as set forth in the National Agreement. Local users should have a copy of these agreements within their copies of the Operation Plan. The National Weather Service agrees to furnish routine forecasts and warnings according to the needs of the fire weather community during the fire weather season. The fire weather season for western New York and the eastern Lake Ontario counties starts in mid-March and continues through mid-November. This schedule may be modified to begin or end earlier or later based on long term weather conditions at the start or finish of the traditional fire weather season.

Provisions will be made for forecaster coverage whenever frequent consultation is needed. On rare occasions, during major fires or projects, a fire control agency may request fire weather forecasts and briefings by telephone call to NWS Buffalo, NY. As is the policy of the National Weather Service, these requests will be honored to the best of our ability.

The Fire Weather Program Leader may participate in forestry training sessions and assist in selecting and inspecting forest service fire danger observation stations. The fire control agencies agree to provide and maintain a network of fire danger observation stations. Daily reports of selected stations should be transmitted to NWS Buffalo.

Each fire control agency headquarters acts as a communications center, collecting and distributing Weather Service forecasts and fire danger station observations.

Fire Weather Products

The Fire Weather Forecast

NWS Buffalo has assumed fire weather forecast responsibility for most of Western New York and the counties immediately east of Lake Ontario. **Refer to Appendix A for a map of our area of responsibility.** This area is made up of four Fire Weather Zones. These zones are areas that are considered to be climatologically homogeneous, and the forecast represents conditions across the zone. Daily changes in weather patterns often result in a re-grouping of the counties within a Fire Weather Zone, or within adjacent Fire Weather Zones, and the grouping of counties will reflect similar weather conditions for the forecast period. The daily Fire Weather Forecasts will be available on the WFO Buffalo internet Web site (<http://www.weather.gov/buffalo>).

The fire weather season for western New York and the eastern Lake Ontario counties starts in mid-March and continues through mid-November. This schedule may be modified to begin or end earlier or later based on long term weather conditions at the start or finish of the traditional fire weather season. The issuance time of the fire weather forecast by NWS Buffalo, NY will be **between 5 and 7 A M.** Updated forecasts, if necessary, will be issued around noon. An example of a fire weather forecast is shown in Appendix B of this document.

Components of Routine Fire Weather Forecast:

Synopsis or Discussion - This is a brief discussion of the weather systems impacting Western New York and the counties immediately east of Lake Ontario through the forecast period: "Today, Tonight, Following Day." It *may* also describe significant trends in temperature, humidity and winds for the next several days. The Synopsis/Discussion will precede the actual forecast parameters.

Tabular Data - will be provided for the three periods: Today, Tonight and the Following Day. Most of the data for the tables will be derived from information input into the Gridded Forecast Editor (GFE) matrix and will concentrate on cloud cover, temperature, humidity and precipitation. Other values for the Haines Index, mixing height and transport winds will be derived from area averaged forecasts within each of the represented groupings of counties.

Cloud Amount -

CLR (clear).....	less than 1/8 clouds
MO CLR (few clouds).....	<1/8 - 1/8 cloud cover
PT CLDY (scattered clouds).....	2/8 - 4/8 cloud cover
MO CLDY (broken clouds).....	5/8 - 7/8 cloud cover
CLDY (overcast).....	8/8 cloud cover

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

Precipitation Type - Precipitation will be expressed as one of the following types:

NONE	DRIZZLE	RAIN	SHOWERS	
TSTMS	FRZ RAIN	SLEET	SNOW	RAIN/SNOW

Max/Min Temperature - The maximum or minimum temperature for each of the 3 time periods. Temperature is given in whole degrees Fahrenheit.

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

Precip Amount - Expressed in decimal fractions of inches.

Precip Duration - The duration of the precipitation event in hours.

Precip Begin - The beginning 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 instability. The **HI** ranges from a 2 to 6, which is a sum of two components, a temperature difference (categorized 1 to 3), and a moisture/dewpoint difference (also categorized 1 to 3).

An **HI** of 2 or 3 is considered VERY LOW

4 is LOW

5 is MODERATE

6 is HIGH.

The **HI** has been related to fire behavior, such that the higher the value, the better the chance of seeing large fire development, mainly where winds are not a factor. There are different options of the Haines index, each customized for elevation. NWS Buffalo will be using the low elevation option.

LAL: Lightning activity level category.

Ranges from 1 to 6 and is related to the maximum rate of lightning strikes expected within any 15 minute time frame during the forecast period.

1: None

2: 1-8 strikes

3: 9-15 strikes

4: 15-25 strikes

5: more than 25 strikes

6: dry lightning*

* Dry lightning is extremely rare in the eastern United States.

Mixing Height / Dispersion - 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 or warm air advection is present, daytime heating will produce a well mixed atmosphere of 4000 to 7000 ft in depth. The more unstable it is, the greater the mixing height.

Transport Wind - Average wind from surface to mixing height. After calculating the mixing height, the average wind direction and speed within that layer needs to be calculated.

Ventilation Rate / Dispersion Index - To calculate the ventilation rate, multiply the mixing height by the transport wind speed (mph). The dispersion index is the ventilation rate divided by 1000.

Categories of Ventilation and Dispersion:

100 and up	Very Good
61-100	Good
41-60	Average
21-40	Fair
20 or less	Poor

Examples:

A) Mixing height 4500 feet, Transport Wind Speed 20 mph.

$$(4500 \times 20) / 1000 = 90 \text{ GOOD}$$

B) Mixing height 2500 feet, Transport Wind Speed 10 mph

$$(2500 \times 10) / 1000 = 25 \text{ FAIR}$$

Forecast Updates

During the fire weather season, the fire weather forecaster will closely monitor weather conditions and issue an updated forecast if conditions are expected to deviate **significantly** from the original 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.)

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 do not exist without receptive fuel conditions, knowledge of existing fuel conditions is essential. While Red Flag conditions 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 fires.

Red Flag Criteria

Elements considered critical red flag criteria are a combination of current or forecast **meteorological parameters** (winds, RH), **longer term dryness** (past rainfall and Keetch-Byram index), and the **vegetation status**.

WFO Buffalo will use the following sets of criteria to determine when a red flag warning will be issued for particular zones. There are two different criteria based primarily upon the season. All factors within each vegetative stage must 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
- Relative Humidity at or below 30%
- 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
- Relative Humidity at or below 30%
- Rainfall amounts for the previous 8 days of less than 0.25 inches
- Keetch_Byram Drought Index values of 300 or greater
see <http://www.fs.fed.us/land/wfas/kbdi.gif>

Fire Weather Watch

Second and Third Period Watch

Per National Weather Service Instructions 10-401, a “Fire Weather Watch” is usually issued 12 to 48 hours (tonight and tomorrow periods) before the onset of critical weather conditions. If expected conditions fall within Red Flag criteria, a “Fire Weather Watch” should be issued with the early morning Fire Weather Forecast (BUFFWFBUF) for these periods. There will be a headline indicating the important details of “where and when.”

For example:

...FIRE WEATHER WATCH IN EFFECT TUESDAY 6AM EDT THROUGH 6PM EDT FOR THE WESTERN SOUTHERN TIER...

With the issuance of a Fire Weather Watch, an additional statement BUFRFWBUF 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.

If the Fire Weather Watch is issued for the 2nd period (Tonight), an updated BUFRFWBUF should be issued by midday to either cancel the Watch, or to upgrade to a Red Flag Warning. If the Watch is for the 3rd period (Following Day), it shall be up to the afternoon forecaster’s discretion to issue an updated Fire Weather Forecast (BUFFWFBUF) and/or an updated Fire Weather Watch (BUFRFWBUF) to inform of the expected conditions.

Fire Danger Statements

It is office policy, based on conversations with various users, to refrain from issuing statements for “High or Extreme Fire Danger” conditions. The Fire Danger is calculated and posted each day at many or most state and national parks. Their determination is based on their local measurements, leaning heavily toward fuel moistures, which is information for which the National Weather Service is not responsible.

Media inquiries concerning the specific fire danger should be directed to the office of NYS Department of Environmental Conservation or the NYS State Forest Ranger District Offices. However, on rare occasions during extreme events, users of the Fire Weather products may request that we “help get the word out” about the fire danger. In these rare cases, the Senior Forecaster may decide to issue a Special Weather Statement (BUFSPSBUF). This statement would incorporate the information provided by the fire weather community.

NFDRS Point Forecasts

NWS Buffalo is responsible for the National Fire Danger Rating System (NFDRS) forecast for Site #301101 at Iroquois National Wildlife Refuge, issuing AWIPS product BUFFWMBUF. The forecast is valid for the next day at 1300 Local Standard Time. NWS Buffalo will generally issue the product between 2 PM and 4 PM. Updates are not required.

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)

050608: June 8th, 2005

13 Time (forecast valid time 1300 hours/1PM). *Does not change.*

** The double comma ",," in the forecast line between SS and TX is needed to hold the place for *10 hour fuel moisture* values. The NWS does not forecast this however.

The following parameters are valid at 1300 LST for the forecast valid date:

X Weather Code

Weather Codes:

0 - clear

5 - drizzle

1 - scattered clouds (mostly clear)

6 - rain

2 - broken clouds (partly-mostly cloudy)

7 - snow/sleet

3 - overcast

8 - showers

4 - fog

9 - thunderstorms

TT Dry Bulb Temperature

RH Relative Humidity

DD Wind direction (N, NE, E, SE etc)

SS Wind speed (10 minute average in MPH)

The following parameters are valid for the 24 hour period ending at 1300 LST on the forecast valid date:

L1 Lightning Activity Level (period 1300-0600 hours)

{Maximum rate in any 15 minute time frame during forecast period}

Lightning Codes:

- 1 *None*
- 2 *1-8 strikes*
- 3 *9-15 strikes*
- 4 *15-25 strikes*
- 5 *more than 25 strikes*

- L2 Lightning Activity Level (period 0600-1300 hours on forecast valid date)
- TX Maximum temperature
- TN Minimum temperature
- RX Maximum relative humidity
- RN Minimum relative humidity
- P1 Precipitation duration (1300-0600 period) in whole hours
- P2 Precipitation duration (0600-1300 period) in whole hours
- F Wet Flag "Y/N" (only use Y for widespread heavy rainfall)

Spot Forecasts

Upon receipt of a request for a spot forecast, the first question to ask is:

"Is this a Prescribed Burn or Wildfire?"

Federal legislation (October 1995) discontinued specialized aspects of the fire weather program for non-federal agencies that deal with non-wildfire activities. This includes, among other aspects, spot forecasts for prescribed burns for non-federal agencies or entities.

--Spot forecasts for **wildfires in progress and other emergency situations** (ie. Fires or HAZMAT situations affecting or endangering life or property) are available to **any federal, state or local** agency.

--Spot forecasts for **prescribed burns** are also available at any time, however **only for federal agencies**.

On site weather observations are necessary for the issuance of a spot weather forecast. Minimum requirements for a weather observation include:

- dry bulb temperature
- relative humidity
- surface wind speed and direction

If those elements are unavailable, and the forecaster feels that will negatively impact the forecast, he/she may decline to fulfill a formal spot forecast request.

The user requesting the spot forecast will also, at a minimum, provide the following data: Location (town, county and state or latitude & longitude), size of burn and elevation. Fuel (vegetation) type is also important information (eg is it in a stand of dense pines, or in a grassy field?)

The forecaster should ask what weather elements are needed. Generally, the surface winds are most important, however humidity, transport winds, temperatures etc may also be important to the particular fire.

The forecaster also needs to ask what time periods are desired. Generally, the most detail is given for the first 12 hours, and it is highly advised to break that up into 4 or 6 hour segments. Beyond 12 hours, the forecaster should advise the user that those forecasts will be of a more general nature.

Remember to get a phone or fax number to be able to return the forecast.

The National Weather Service in Buffalo, New York will respond to spot forecast requests via the Internet. Spot forecasts can still be faxed or called into the office,

but those users with Internet access are encouraged to submit the spot forecast request online. The following is a description of how the Spot Program works and the steps you would need to take in order to request a spot forecast via the internet.

From the Fire Weather Main Page on the National Weather Service Buffalo web site (www.weather.gov/buffalo/fire_weather.htm), click on Internet Request Spot Form in the Spot Forecasts menu.

The BUFFALO, NEW YORK SPOT FORECAST page will appear. This page auto-updates every minute, so as new spot forecasts are requested or their status changes, you immediately see the changes on the page! We call this the monitoring page.

Some of the features on this page include...

A) The current date with arrow keys allowing you to step back or forward to a particular date. A calendar is also available, which will allow you to see how many spot forecasts were issued on a certain date. You can also move ahead or back on the calendar as well as clicking on a particular date to view information from that day. (This can help if you want to go back and provide feedback on a past spot forecast).

B) A map of the NWS BUF fire weather area of responsibility. A small box will appear indicating the location of the spot request. The box is colored coded to indicate if the spot forecast is pending (green), which means you have submitted the request and the NWS is working on the forecast. A purple box indicates the NWS has sent you a question with respect to the spot forecast. A red box on the map means the spot forecast is complete and you can either click on the red box or in the Name/Ignition Time/Status Box to see the forecast.

C) A link at the top of the monitoring page exists to take you back to the Burlington Fire Weather Page.

So to submit a spot request online, simply click on SUBMIT A NEW SPOT REQUEST. You will now be taken to the BUFFALO NEW YORK SPOT FORECAST REQUEST page.

***** It is important to note that the elements colored in red are required fields! *****

Let's look at the information fields on this page...

1 - **Project Name:** typically fires in the Western United States have names with respect to the river drainage basin they are in. If your fire has a name, go ahead and put it in. Otherwise, let's say the fire is 2 miles west of Montague, NY, go ahead and enter in 2W of Montague, NY. Or if the fire is in a State Forest, you could put in the name of the State Forest. Essentially put in something that you will be able to reference on the Spot Request Page because this is a required field.

* select the type of project (either a wildfire or a prescribed burn. Do not worry about what WFU is). If it is a prescribed burn, please enter in the Ignition Time (using the 24 hour clock) and Date. The form defaults to an ignition time about 1/2 hour into the future. If it is a wildfire, remove the default ignition time.

2 - **Requesting Agency:** The Requesting Agency name and phone number are required. Fax number and contact person are optional, but we consider those very important if we have any questions or a breakdown in dissemination capabilities. You will only need to enter your agency name, phone/fax numbers, and your name the first time you request a spot forecast. After that, it will be filled in with the same information as your last request, assuming you use the same computer.

Please note that no other people other than you and the NWS will see this information!

3 - **Location:** You have a couple of options on this one, but they are important with respect to having the location appear on the map. Proper location data will give us detailed map information on the location of the fire and the terrain in the area.

* Enter the Latitude and Longitude of the fire (you can either specify degrees like 45.1486 or degrees/minutes/seconds like 45 13 34). For supplemental information you can reference the 7.5' USGS Quadmap, but you still need to provide the Lat/Lon. As of 4/8/02, the Legal Township/Range (T/R) section is mainly for locations in the Western Region of the National Weather Service, so inputting Lat/Lon information is the required method. The National Weather Service will be looking into this function for all areas in the country.

4 - **Elevation:** The top and bottom elevations of the fire are required. You can just enter the numbers and do not need to mention the word feet. If the burn or fire is on flat ground, you can enter a value in only one of the boxes, preferably the one labeled Top.

* Drainage is optional and once again references the river drainage basin the fire is in. If you know it, you can enter it. **Note that you will be flagged when submitting the request that if possible, we would like the drainage information. If you do not know it, go ahead and just submit the request anyway.**

5 - **Aspect:** This field is required and important to know which side of a mountain the fire may be on. Use direction references such as N, NE, E, SE, S, SW, W, NW. If the fire or burn is in flat terrain, you can type in FLAT.

6 - **Size:** Enter the acreage if known, but it is an optional field.

7 - **Fuel:** Please indicate the type of fuel, either using fuel model numbers, or better yet a description of the fuel such as grass, ponderosa pine, etc. Also, if you can indicate the amount of fuel sheltering, it helps us tremendously in providing accurate wind forecasts.

8 - **Observations:** To receive a spot forecast from the NWS from Buffalo, it is required to provide a current weather observation representative of conditions at the fire site. Please enter in the information with respect to the observation. For each observation we need to know where it is in relation to the burn, the elevation in feet, and the time (preferably using a 24 hour clock). The wind (in mph) can be specified as N12 Gust 25 or North at 10 for example. The temperature and

wetbulb values (in degrees F) should be entered and the RH (in percent) and dewpoint (in degrees F) can also be entered if known. If you enter a temperature and wetbulb, the RH and dewpoint will be calculated for you on the next page. Finally, any remarks about clouds, weather, or other important information should be entered in the final box.

9 - **Primary Forecast Elements:** Not all spot forecasts are created equal, so we are asking you to tell us what are the forecast elements you need, or are particularly important. There are six parameters listed for you. Select which ones you want a forecast for, and for the time period(s) you would like as well (available times are Today, Tonight, and Tomorrow).

10 - **Remarks:** If a meteorological parameter is not listed and you would like to have Haines Index for example, enter that information in the **Remarks** section. You can also enter in information with respect to when you might want the forecast or any other information/input you can give to us with respect to the spot forecast request.

11 - **Action:** You now have three options. You can **Submit Request**, **Cancel Request**, or **Clear Form**. When you hit **Submit Request**, various checks are performed on the data you have entered. Some problems make it impossible for your request to be accepted (for example, if you forget to enter a name for the burn), while others will produce warnings and messages for your information. For example, even though drainage name is not required, it will still ask you if you know what it is. You do not have to answer this question. If an error is found, you will be taken to a page that describes the errors or minor problems. You can click on **Go Back and Fix** and have the opportunity to make the necessary changes. You can click on **Submit Request** Anyway, but more than likely we will probably be sending back a question or calling. You do have one more option and that is to **Cancel Request**.

* After you have submitted a spot forecast request, an individualized spot forecast web page becomes available for that burn. The page automatically updates every minute so that as new information becomes available for the burn, you see it immediately. Detailed maps of the area around the burn are generated and displayed when they become available.

* Once the forecast is **COMPLETED** and made available to you, the page will not update anymore. Thus if we have to update the forecast, we would be calling you to inform you of the upcoming change, since the page no longer updates or has a way to inform you that a change has been sent. When you go back into the forecast, the only way you might pick up on the changed forecast is at the top of the page it shows the time that the spot was requested and the time it was issued. The issue time will have changed.

Keep in mind that "sensitive" information like your name, phone number, and the exact location of the burn are NOT visible to others - only to you and the NWS.

* If we have questions about your request, we may send you back a question about it. If this happens, the Status Box will show the word **QUESTION** and the box on the map will turn purple. Click on this and you will see a big red box in the forecast page with our question. Usually there is some problem with the request that you can probably fix (use the **CHANGE REQUEST** link to do this, make your changes if necessary, then submit the request once again. The purple box will return to green and the word **QUESTION** will change back to **PENDING**) or you can call us.

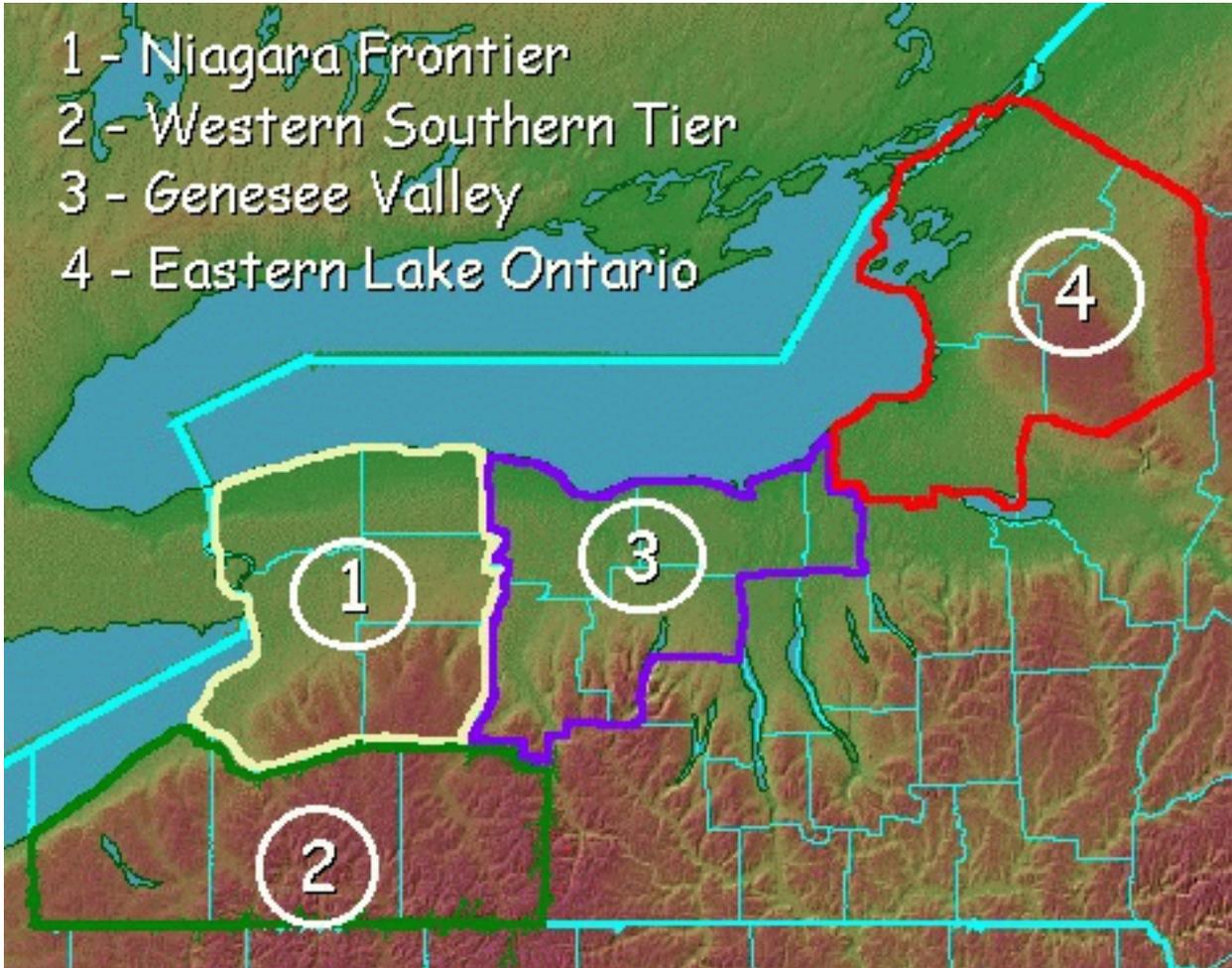
* When your forecast is complete, it will show up in the spot forecast web page (clicking on the red box in the map or **COMPLETED** in the Status Box can access the spot). On the forecast page a **Feedback** box will appear where you can provide us information with respect to how the forecast worked out, perhaps later in the day or several days down the road. This feedback helps us to improve. Simply type in your feedback into the box and click on **Send Feedback**.

* At the bottom of the forecast page are links for actions that you can take. For example, you can go "**Back to Spot List**" to return to the monitor page. If you are on the same computer where you made the original request, you can click on "**Change Request**" to change the details of your request and then send the request again. This is what you would do if we send you a question and you need to change some information. If you need to delete a request, simply click on "**Delete Request**".

* You can also click on "**Copy Info to New Spot Request**". This is helpful for burns that last over several days. Rather than having to re-enter the data in the form to get a new forecast, you can view the previous spot request and then copy all the location parameters to a new request using this link. This will save you some time when filling out the request form.

* **If something goes wrong at some point, you might not be able to request or receive spot requests via the web page. In such cases, you can call in or fax us the spot forecast.**

APPENDIX A - Fire Weather Forecast Zones



Counties within each Fire Weather Zone:

- 1) Niagara Frontier - Niagara, Orleans, Erie, Genesee, Wyoming
- 2) Western Southern Tier - Chautauqua, Cattaraugus, Allegany
- 3) Genesee Valley and Western Finger Lakes - Monroe, Wayne, Northern Cayuga, Livingston, Ontario
- 4) Eastern Lake Ontario and Tug Hill Plateau - Oswego, Lewis, Jefferson

APPENDIX B - Example of the Daily Fire Weather Forecast (BUFFWFBUF)

BUFFWFBUF

Issued at: 457 AM EST FRI NOV 18 2005

Issued by: NATIONAL WEATHER SERVICE BUFFALO NY

.DISCUSSION...

HIGH PRESSURE WILL SLIDE TO OUR SOUTH TODAY AND TURN WINDS MORE SOUTHWESTERLY AGAIN...SO ANY LAKE SNOWS SHOULD MOVE NORTH LATER IN THE DAY BUT NOT PERSIST LONG.

THE WEEKEND WILL BE RELATIVELY MILD AS WE WILL LIE UNDER A SOUTHWESTERLY FLOW OF WARMER AIR. THE NEXT FRONT WILL APPROACH SUNDAY WITH THE THREAT OF A FEW RAIN SHOWERS. A STRONGER FRONT WILL CROSS THE REGION TUESDAY WITH A BIT OF PRECIPITATION...THEN MUCH COLDER AIR WILL FOLLOW FOR THE THANKSGIVING HOLIDAY.

NYZ001-002-010-011-182200-
NIAGARA-ORLEANS-NORTHERN ERIE-GENESEE-
457 AM EST FRI NOV 18 2005

	TODAY	TONIGHT	SAT
CLOUD COVER	PCLDY	MCLDY	PCLDY
PRECIP CHC (%)	40	30	0
PRECIP TYPE	SNOW SHOWERS	SNOW SHOWERS	NONE
MAX/MIN TEMP	36	27	48
AM WIND (MPH)	W 9		SW 14
PM WIND (MPH)	SW 14	SW 13	SW 18
PRECIP AMOUNT	0.04	0.01	0.00
PRECIP DURATION	2	1	
PRECIP BEGIN	6 AM	CONTINUING	
PRECIP END	CONTINUING	10 PM	
HUMIDITY (%)	50	78	47
HAINES INDEX	2	3	3
LAL	1	1	1
MIXING HGT (FT-AGL)	6040	150	2640
TRANSPORT WIND (KT)	W 15	SW 16	SW 21
VENT RATE (KT-FT)	90600	2400	55440
DISPERSION INDEX	91	2	55
REMARKS...NONE.			
\$\$			

NYZ012-085-182200-
WYOMING-SOUTHERN ERIE-
457 AM EST FRI NOV 18 2005

	TODAY	TONIGHT	SAT
CLOUD COVER	MCLDY	MCLDY	PCLDY
PRECIP CHC (%)	30	20	0
PRECIP TYPE	SNOW SHOWERS	SNOW SHOWERS	NONE
MAX/MIN TEMP	34	20	48
AM WIND (MPH)	W 7		SW 16
PM WIND (MPH)	SW 13	SW 15	SW 19
PRECIP AMOUNT	0.05	0.00	0.00
PRECIP DURATION	2		
PRECIP BEGIN	6 AM		
PRECIP END	6 PM		
HUMIDITY (%)	47	78	42
HAINES INDEX	2	3	3
LAL	1	1	1

MIXING HGT (FT-AGL)	5570	320	2500
TRANSPORT WIND (KT)	W 15	SW 15	SW 21
VENT RATE (KT-FT)	83550	4800	52500
DISPERSION INDEX	84	5	53
REMARKS...NONE.			
\$\$			

NYZ019-020-182200-
CHAUTAUQUA-CATTARAUGUS-
457 AM EST FRI NOV 18 2005

	TODAY	TONIGHT	SAT
CLOUD COVER	MCLDY	PCLDY	PCLDY
PRECIP CHC (%)	40	0	0
PRECIP TYPE	SNOW SHOWERS	NONE	NONE
MAX/MIN TEMP	34	19	47
AM WIND (MPH)	W 9		S 15
PM WIND (MPH)	SW 14	SW 14	SW 19
PRECIP AMOUNT	0.08	0.00	0.00
PRECIP DURATION	2		
PRECIP BEGIN	6 AM		
PRECIP END	6 PM		
HUMIDITY (%)	47	88	40
HAINES INDEX	2	3	3
LAL	1	1	1
MIXING HGT (FT-AGL)	5580	150	2710
TRANSPORT WIND (KT)	W 17	SW 14	SW 22
VENT RATE (KT-FT)	94860	2100	59620
DISPERSION INDEX	95	2	60
REMARKS...NONE.			
\$\$			

NYZ021-182200-
ALLEGANY-
457 AM EST FRI NOV 18 2005

	TODAY	TONIGHT	SAT
CLOUD COVER	MCLDY	PCLDY	PCLDY
PRECIP CHC (%)	40	0	0
PRECIP TYPE	SNOW SHOWERS	NONE	NONE
MAX/MIN TEMP	35	18	46
AM WIND (MPH)	W 5		SW 14
PM WIND (MPH)	SW 12	SW 12	SW 17
PRECIP AMOUNT	0.02	0.00	0.00
PRECIP DURATION	2		
PRECIP BEGIN	6 AM		
PRECIP END	6 PM		
HUMIDITY (%)	45	85	40
HAINES INDEX	2	3	3
LAL	1	1	1
MIXING HGT (FT-AGL)	5180	230	2750
TRANSPORT WIND (KT)	W 16	SW 13	SW 23
VENT RATE (KT-FT)	82880	2990	63250
DISPERSION INDEX	83	3	63
REMARKS...NONE.			
\$\$			

NYZ003-013-014-182200-
MONROE-LIVINGSTON-ONTARIO-
457 AM EST FRI NOV 18 2005

	TODAY	TONIGHT	SAT
CLOUD COVER	PCLDY	MCLDY	PCLDY
PRECIP CHC (%)	20	20	0
PRECIP TYPE	SNOW SHOWERS	SNOW SHOWERS	NONE
MAX/MIN TEMP	37	22	49
AM WIND (MPH)	W 8		S 13
PM WIND (MPH)	SW 10	SW 11	SW 15

PRECIP AMOUNT	0.00	0.00	0.00
PRECIP DURATION			
PRECIP BEGIN			
PRECIP END			
HUMIDITY (%)	46	81	42
HAINES INDEX	2	3	3
LAL	1	1	1
MIXING HGT (FT-AGL)	6070	0	2970
TRANSPORT WIND (KT)	W 15	SW 10	SW 19
VENT RATE (KT-FT)	91050	0	56430
DISPERSION INDEX	91	0	56
REMARKS...NONE.			
\$\$			

NYZ004-005-182200-
WAYNE-NORTHERN CAYUGA-
457 AM EST FRI NOV 18 2005

	TODAY	TONIGHT	SAT
CLOUD COVER	MCLDY	MCLDY	PCLDY
PRECIP CHC (%)	50	20	0
PRECIP TYPE	SNOW SHOWERS	SNOW SHOWERS	NONE
MAX/MIN TEMP	38	25	48
AM WIND (MPH)	W 10		S 12
PM WIND (MPH)	SW 9	SW 10	S 14
PRECIP AMOUNT	0.09	0.00	0.00
PRECIP DURATION	3		
PRECIP BEGIN	6 AM		
PRECIP END	6 PM		
HUMIDITY (%)	50	81	47
HAINES INDEX	3	3	3
LAL	1	1	1
MIXING HGT (FT-AGL)	6160	0	2900
TRANSPORT WIND (KT)	W 14	SW 11	SW 17
VENT RATE (KT-FT)	86240	0	49300
DISPERSION INDEX	86	0	49
REMARKS...NONE.			
\$\$			

NYZ006-182200-
OSWEGO-
457 AM EST FRI NOV 18 2005

	TODAY	TONIGHT	SAT
CLOUD COVER	MCLDY	MCLDY	PCLDY
PRECIP CHC (%)	30	20	0
PRECIP TYPE	SNOW SHOWERS	SNOW SHOWERS	NONE
MAX/MIN TEMP	38	24	46
AM WIND (MPH)	NW 12		S 12
PM WIND (MPH)	SW 7	S 10	S 14
PRECIP AMOUNT	0.12	0.00	0.00
PRECIP DURATION	2		
PRECIP BEGIN	6 AM		
PRECIP END	6 PM		
HUMIDITY (%)	48	79	48
HAINES INDEX	3	3	2
LAL	1	1	1
MIXING HGT (FT-AGL)	6060	0	3170
TRANSPORT WIND (KT)	W 14	SW 11	S 16
VENT RATE (KT-FT)	84840	0	50720
DISPERSION INDEX	85	0	51
REMARKS...NONE.			
\$\$			

NYZ007-182200-
JEFFERSON-
457 AM EST FRI NOV 18 2005

	TODAY	TONIGHT	SAT
CLOUD COVER	MCLEAR	MCLDY	PCLDY
PRECIP CHC (%)	40	60	0
PRECIP TYPE	SNOW SHOWERS	SNOW SHOWERS	NONE
MAX/MIN TEMP	37	23	44
AM WIND (MPH)	W 9		S 15
PM WIND (MPH)	SW 9	SW 10	S 17
PRECIP AMOUNT	0.03	0.06	0.00
PRECIP DURATION	3	3	
PRECIP BEGIN	6 AM	CONTINUING	
PRECIP END	CONTINUING	1 AM	
HUMIDITY (%)	42	81	50
HAINES INDEX	3	3	2
LAL	1	1	1
MIXING HGT (FT-AGL)	6090	320	4140
TRANSPORT WIND (KT)	SW 13	SW 16	S 15
VENT RATE (KT-FT)	79170	5120	62100
DISPERSION INDEX	79	5	62
REMARKS...NONE.			
\$\$			

NYZ008-182200-
LEWIS-
457 AM EST FRI NOV 18 2005

	TODAY	TONIGHT	SAT
CLOUD COVER	MCLEAR	MCLDY	PCLDY
PRECIP CHC (%)	30	20	0
PRECIP TYPE	SNOW SHOWERS	SNOW SHOWERS	NONE
MAX/MIN TEMP	35	20	43
AM WIND (MPH)	NW 11		S 13
PM WIND (MPH)	W 9	S 9	S 15
PRECIP AMOUNT	0.02	0.00	0.00
PRECIP DURATION	2		
PRECIP BEGIN	6 AM		
PRECIP END	6 PM		
HUMIDITY (%)	44	89	54
HAINES INDEX	3	3	2
LAL	1	1	1
MIXING HGT (FT-AGL)	5190	250	2840
TRANSPORT WIND (KT)	W 16	S 11	SW 17
VENT RATE (KT-FT)	83040	2750	48280
DISPERSION INDEX	83	3	48
REMARKS...NONE.			
\$\$			

.EXTENDED FORECAST...

.SATURDAY NIGHT...PARTLY CLOUDY. LOWS AROUND 30.
.SUNDAY...MOSTLY CLOUDY WITH A 30 PERCENT CHANCE OF RAIN SHOWERS
OR SNOW SHOWERS. HIGHS IN THE LOWER 40S.
.MONDAY...MOSTLY CLOUDY WITH A 30 PERCENT CHANCE OF RAIN SHOWERS
AND SNOW SHOWERS. LOWS AROUND 30. HIGHS IN THE LOWER 40S.
.TUESDAY...MOSTLY CLOUDY WITH A 40 PERCENT CHANCE OF RAIN
SHOWERS. LOWS IN THE LOWER 30S. HIGHS AROUND 40.
.WEDNESDAY...MOSTLY CLOUDY WITH SNOW SHOWERS LIKELY. LOWS AROUND
30. HIGHS IN THE MID 30S. CHANCE OF SNOW 60 PERCENT.
.THURSDAY...PARTLY CLOUDY WITH A 40 PERCENT CHANCE OF SNOW
SHOWERS. LOWS IN THE MID 20S. HIGHS IN THE LOWER 30S.

WIND SATURDAY NIGHT...SOUTHWEST AROUND 15 MPH.
WIND SUNDAY...SOUTHWEST AROUND 15 MPH.
WIND MONDAY...SOUTHWEST 5 TO 10 MPH.
WIND TUESDAY...SOUTHWEST 10 TO 15 MPH.

.OUTLOOK 8 TO 14 DAYS...
TEMPERATURES BELOW NORMAL. PRECIPITATION BELOW NORMAL.

\$\$