

2023 New York State Spring Fire Weather Meeting

Introductions and Overview of Fire Weather Program

National Weather Service

Albany, NY
Binghamton, NY
Buffalo, NY
Burlington, VT
Upton, NY





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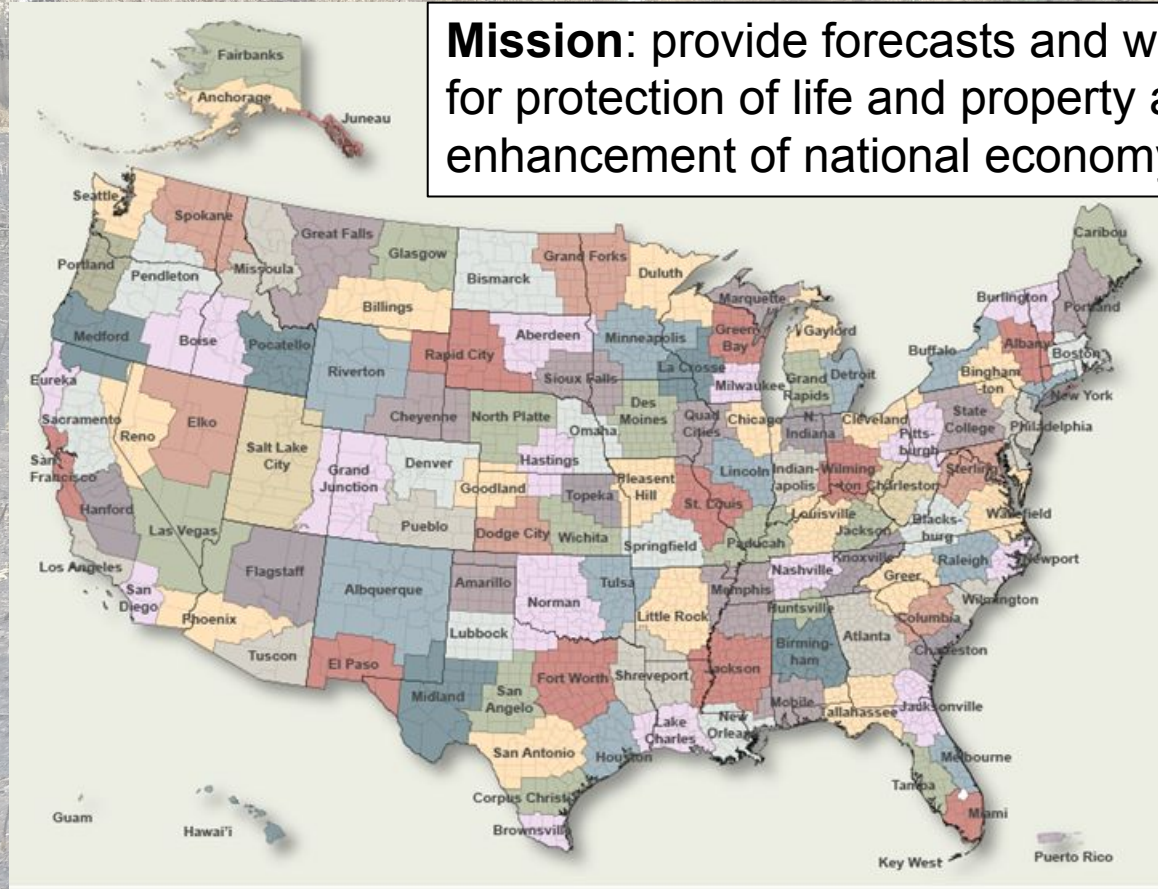
Outline



1. Introductions
2. NWS Background
3. NWS Fire Weather Products
4. NWS Fire Weather Webpages
5. New/Miscellaneous Items



Mission: provide forecasts and warnings for protection of life and property and enhancement of national economy





NWS Offices



- About 25 people on staff
 - Meteorologists, Hydrologist, IT Officer, Electronic Systems Analyst, Electronics Technicians, Admin Assistant, Warning Coordination Meteorologist, Science and Operations Officer, Meteorologist-in-Charge
- 24/7/365 operations





NWS Offices

- Core duties
 - Watches, warnings, advisories
 - 7-day forecast
 - Decision support services



Focal Point Duties

- | | |
|---|--|
| <ul style="list-style-type: none">• Fire weather• Aviation• Marine• Severe weather• Winter weather• AWIPS• Radar• Drills | <ul style="list-style-type: none">• Outreach• Climate• Hydrology• Upper air• Mentoring• GIS• Satellite• Web |
|---|--|





NWS

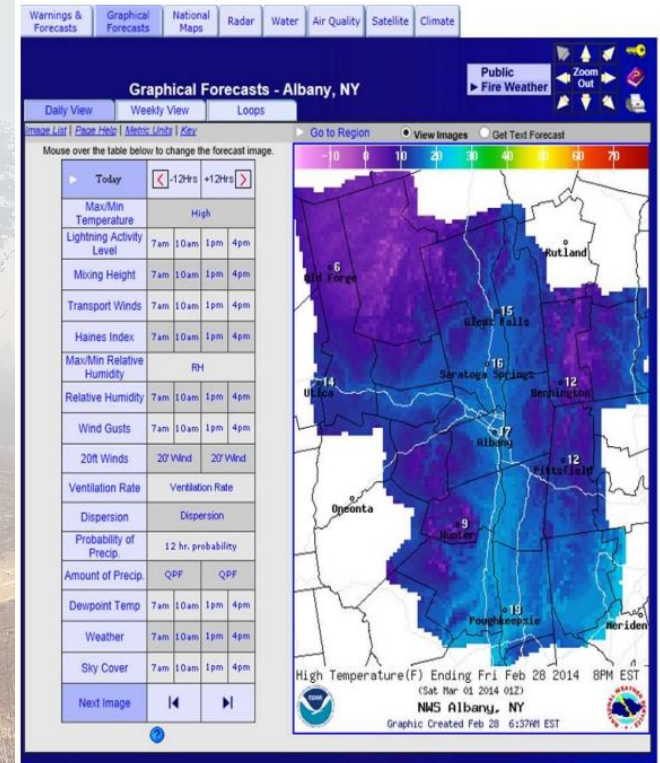
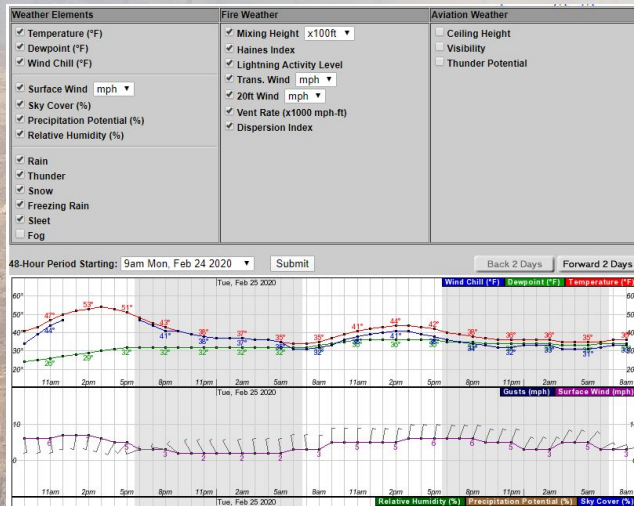
Fire Weather Products



Fire Weather Products

Routine Products

- **Gridded Fire Weather Forecast**
 - Graphical forecast of fire weather elements
 - Updated daily around 4 am/pm (or more frequently if necessary)





Fire Weather Products

Routine Products

- **FWF – Fire Weather Planning Forecast**

- Brief fire weather discussion, followed by tabular forecast for the next ~48 hours and extended forecast
- Zone-averaged forecast
- Issued daily around 4 am/pm
Mar–Nov, updated more frequently if necessary

NYZ032-270915-

Northern Herkimer-

Including the cities of Big Moose, Eagle Bay, McKeever,
Old Forge, Atwell, Nobleboro, and Northwood

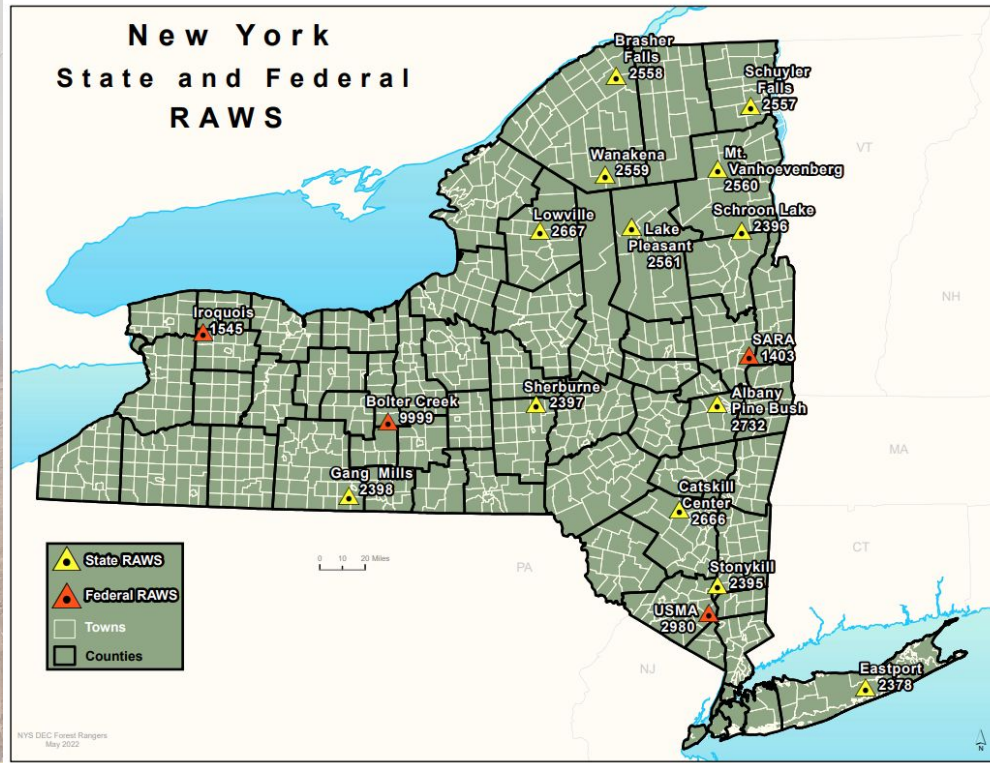
537 PM EDT Thu Apr 26 2018

	Tonight	Fri	Fri Night	Sat
CLOUD COVER	Pcldy	MCldy	MCldy	MCldy
PRECIP TYPE	Showers	Rain	Showers	Showers
CHANCE PRECIP (%)	40	40	40	60
TEMP (24H TREND)	33 (-7)	54 (+8)	38	53
RH % (24H TREND)	94 (-4)	52 (-19)	100	61
20FTWIND-AM(MPH)		S 6		SW 6
20FTWIND-PM(MPH)	W 10 G18	S 9	SE 7	SW 9
PRECIP AMOUNT	0.01	0.06	0.06	0.11
PRECIP DURATION	1	1	4	6
PRECIP BEGIN	6 PM	10 AM	Continuing	Continuing
PRECIP END	8 PM	Continuing	Continuing	Continuing
MIXING HGT(FT-AGL)		5800		6200
TRANSPORT WND (MPH)		S 16		SW 15
VENT RATE (KT-FT)		81200		80600
DISPERSION		5		5
LAL	1	1	1	1
HAINES INDEX	2	3	2	2

REMARKS...None.

Fire Weather Products

Routine Products



- **FWM – National Fire Danger Rating System (NFDRS) Forecast**
 - Coded point forecasts valid 1300 LT for the next 7 days beginning the following day
 - Issued daily around 3 pm Mar–Nov



Fire Weather Products

Non-Routine Products: Red Flag Program

- **Fire Weather Watches** and **Red Flag Warnings** are issued when the combination of dry fuels and weather conditions support extreme fire danger and/or fire behavior

Red Flag Criteria	Vegetation Stage I or II cured/transition - Spring/Fall	Vegetation Stage III green - Summer
Relative Humidity	Less than 30% for at least 2 hours	Less than 30% for at least 2 hours
Rainfall	N/A	Less than 1/4 inch in previous 8 days
Wind	Sustained or frequent gusts above 25 mph for at least 2 hours	Sustained or frequent gusts above 25 mph for at least 2 hours
Fuel	Partner confirmation of dry/receptive fuels	Keetch-Byram Drought Index above 300 Partner confirmation of dry/receptive fuels
Temperature	N/A	N/A

**2022
changes in
bold**



Fire Weather Products

Non-Routine Products: Red Flag Program

- **Fire Weather Watch:** Issued 18–96 hours in advance of the expected onset of Red Flag conditions to give advance notice
 - Issued per coordination with state fire weather contacts
- **Red Flag Warning:** Issued typically within 24 hours of Red Flag conditions when confidence is high in reaching criteria
 - Issued per coordination with state fire weather contacts
- **Special Weather Statement:** Issued when conditions support enhanced fire weather behavior, but at levels below Red Flag criteria
 - Issued per coordination with state fire weather contacts
 - Also can be issued to raise elevated fire weather awareness for the fire weather community and/or general public



Fire Weather Products



Non-Routine Products: Red Flag Program

- **Collaboration Procedures**

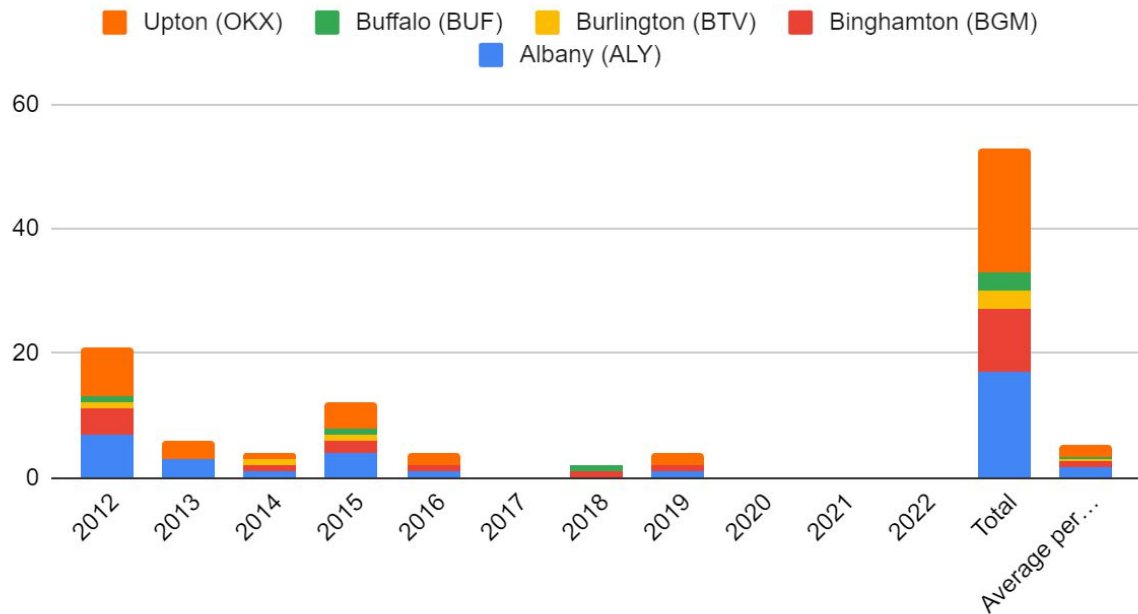
- ☐ A representative from one of the NWS offices will contact Cpt. Jaime Laczko or other NYSDEC contact to advise of fire weather conditions nearing or exceeding critical thresholds
- ☐ Ideally done the day before the expected conditions
- ☐ Cpt. Laczko or other NYSDEC contact will advise regarding fuel conditions and whether the combination of fuels and weather conditions supports a Special Weather Statement or Red Flag Warning



Fire Weather Products

Non-Routine Products: Red Flag Program

NYS Red Flag Warnings per Year



Days with weather conditions (not fuels) meeting RFW criteria over NWS Albany County Warning Area:

2020: 3

2021: 3

2022: 6



Fire Weather Products



Non-Routine Products: Spot Forecast

- Detailed forecasts of local conditions in support of wildfire suppression and natural resource management (e.g., prescribed burns)
- Typically issued with a ~20 minute turnaround time from the request
- Requests can be made via **weather.gov/spot**

The screenshot shows the National Weather Service Spot Forecast Request web form. The header includes the NOAA logo and the title "National Weather Service Spot Forecast Request". Navigation links for Home, NWS Home, News, and Organization are present. A yellow box contains a NOTICE about the form's purpose and legal requirements. Below this, a section titled "Incident and Decision Support Forecast Request" provides a description of the site's function. A link is provided for "Spot Webpage Testing Feedback". Two main options are listed: "Submit Spot Request" (Interactive Request) and "Monitor Spot Forecasts" (Monitor). The bottom of the page includes a survey link and a link to download the Product Description Document (PDD).

National Weather Service
Spot Forecast Request

Home NWS Home News Organization

Spot Forecast Request

NOTICE - This interface is intended to be used solely for the relay of forecast information to the National Weather Service. Submissions sent through this online form are intended for internal agency use. We are required (by e-Gov Act of 2002) to explicitly state that submission of any information is voluntary. For further information please read our Privacy Policy and Disclaimer. False statements on this form may be subject to prosecution under the False Statement Accountability Act of 1996 (18 U.S.C. § 1001) or other statutes.

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 \(PDD\)](#)



Buffalo NY (BUF)
weather.gov/buf/FireWeather

Burlington VT (BTV)
weather.gov/btv/firewx

Albany NY (ALY)
weather.gov/aly/fire

Upton NY (OKX)
[weather.gov/okx/
fireweather](https://weather.gov/okx/fireweather)

Binghamton NY (BGM)
weather.gov/bgm/fireWeatherMain



New/Miscellaneous Items - Statewide





NEW:

Statewide AOP



Fire Weather Services Annual Operating Plan For New York State

National Weather Service Offices:

**Albany, NY (ALY)
Binghamton, NY (BGM)
Buffalo, NY (BUF)
Burlington, VT (BTV)
New York, NY (OKX)**

2022

This operating plan is a semi-permanent document, specifying Fire Weather services provided by the National Weather Service Offices serving New York State. It incorporates procedures detailed in the Interagency Agreement for Meteorological Services.

<https://www.weather.gov/media/bgm/NYSfireAOP.pdf>

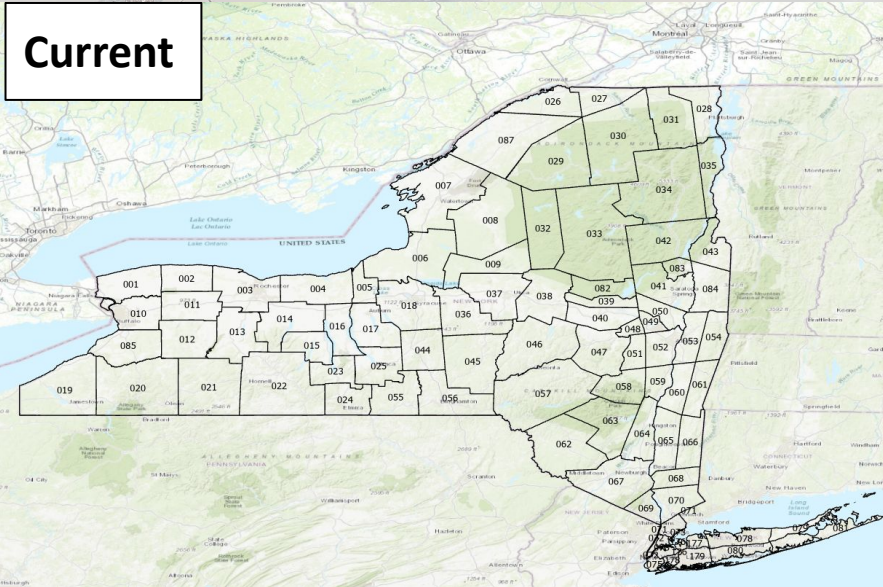


SOON:

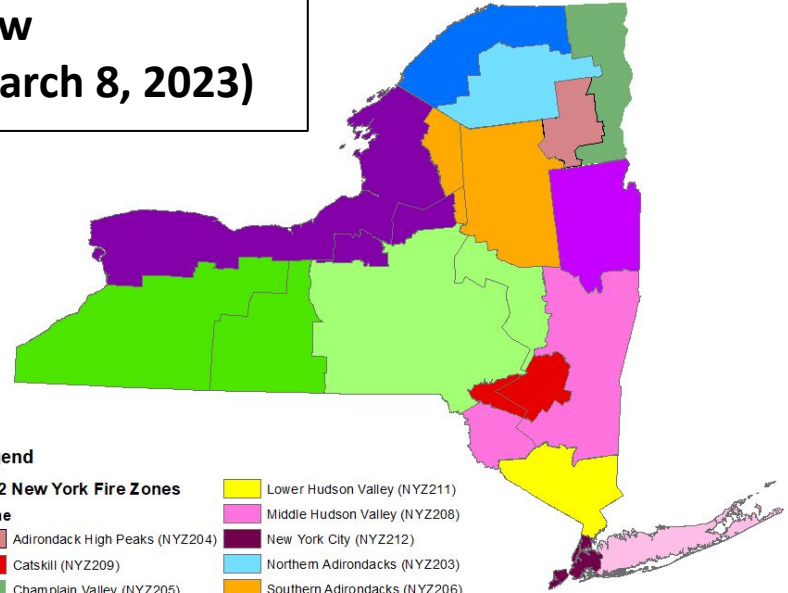
Fire Weather Zone Changes



Current



**New
(March 8, 2023)**



Legend

2022 New York Fire Zones

Name

- | | |
|--------------------------------|-------------------------------|
| Adirondack High Peaks (NYZ204) | Lower Hudson Valley (NYZ211) |
| Catskill (NYZ209) | Middle Hudson Valley (NYZ208) |
| Champlain Valley (NYZ205) | New York City (NYZ212) |
| Lake Ontario Plains (NYZ201) | Northern Adirondacks (NYZ203) |
| Leatherstocking (NYZ210) | Southern Adirondacks (NYZ206) |
| Long Island (NYZ213) | Southern Tier (NYZ200) |
| | St. Lawrence (NYZ202) |
| | Upper Hudson Valley (NYZ207) |

SOON:



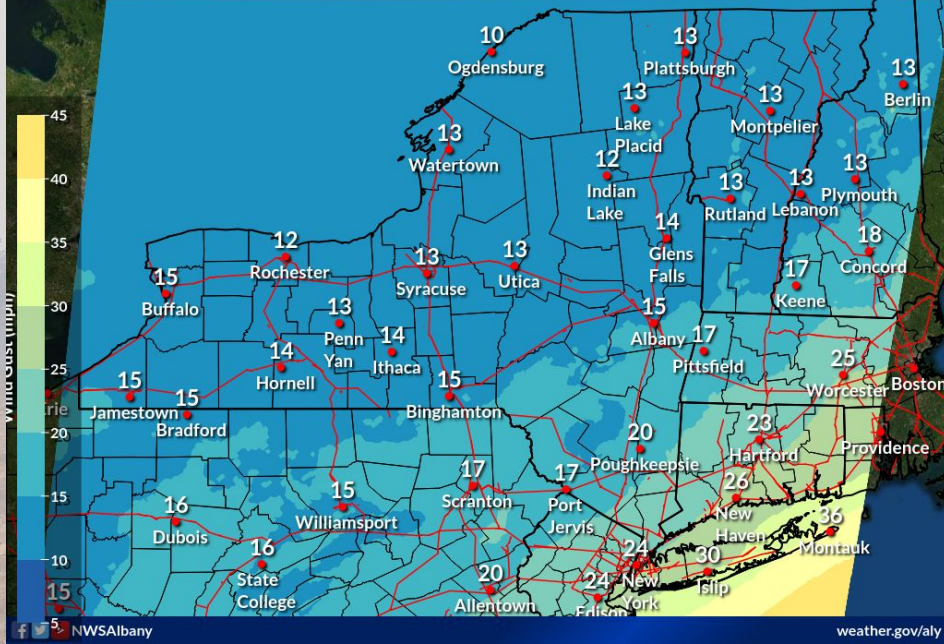
Peak Wind Gust

Monday

Weather Forecast Office

Albany, NY

Issued Feb 08, 2023 4:48 PM EST



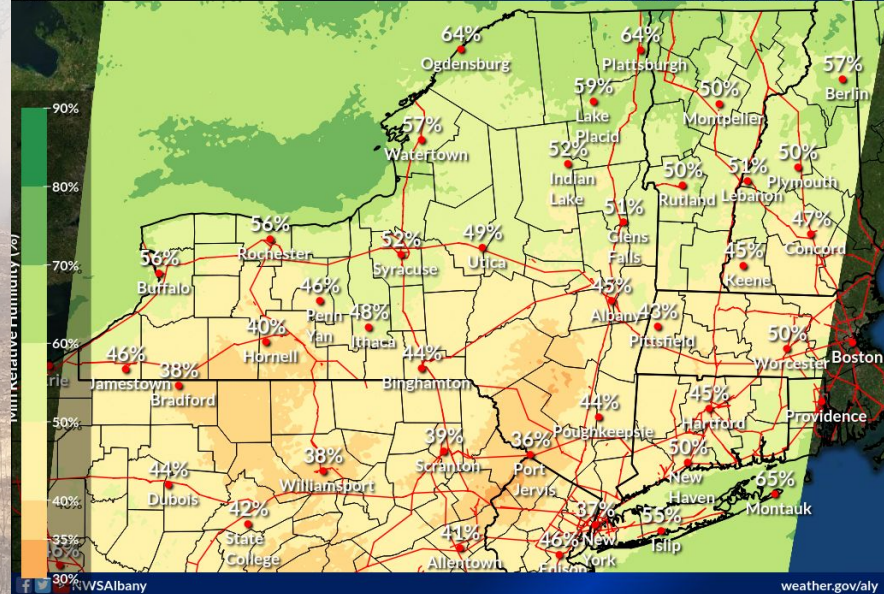
Minimum Relative Humidity

Monday

Weather Forecast Office

Albany, NY

Issued Feb 08, 2023 4:47 PM EST





Looking Ahead

Hazard Simplification: Fire Statements



- As part of NWS Hazard Simplification (HazSimp), Special Weather Statements for fire weather will be replaced by Fire Statements
- There may be opportunities to provide feedback on proposed wording/format

FIRE STATEMENT

...FIRE WEATHER CONDITIONS...

DESCRIPTION

...Elevated fire weather conditions from time 1 to time 2...

IMPACT

...Conditions are favorable for active fire spread from time 1 to time 2... OR ... Active fires may be hard to control from time 1 to time 2...

COMBINATION

...Gusty winds will cause fires that are difficult to control from time 1 to time 2... OR ...Isolated lightning strikes may trigger new fire starts from time 1 to time 2...



New/Miscellaneous Items - NWS Albany





One-Page Briefings

- Sent to the NY fire weather email lists when we issue a Special Weather Statement for elevated risk of fire spread (usually AM)
- Used to raise situational awareness of fire weather conditions
- A more extensive briefing will be issued for Red Flag Warnings

Elevated Risk of Fire Spread Today



Albany, NY
WEATHER FORECAST OFFICE

OVERVIEW

- Westerly winds gusting to near 20 mph combined with relative humidity values falling below 30 percent in the afternoon will contribute to an elevated risk of fire spread today.

TIMING

- 9 am to 6 pm today

LOCATION

- The risk will be highest over the Mid Hudson Valley, Capital District, and lower elevations of the eastern Catskills, Schoharie Valley, central Mohawk Valley, and Taconics.

ADDITIONAL INFORMATION

- Rain is expected tonight, bringing an end to the fire weather concerns.



Changes to FWF Elements for 2023

Add: Atmospheric Dispersion Index (ADI)

Add: Low Visibility Occurrence Risk Indicator (LVORI)

Subtract: Dispersion

ADI early	9 Poor	19 Gen Poor	18 Gen Poor	53 Gen Good
ADI late	6 Very Poor	21 Fair	34 Fair	43 Gen Good
Max LVORI early	8	6	5	4
Max LVORI late	9	5	5	4

Dispersion Index Values; Lavdas 1986

Dispersion Index	Interpretation
>100	Very good (but may indirectly indicate hazardous conditions)
61-100	Good (typical-case burning weather values are in this range)
41-60	Generally good (climatological afternoon values in most inland forested areas of the U.S. fall in this range)
21-40	Fair (stagnation may be indicated if accompanied by persistent low windspeeds)
13-20	Generally poor; stagnation if persistent (although better than average for a night value)
7-12	Poor; stagnant at day (but near or above average at night)
1-6	Very poor (very frequent at night; represents the majority of nights in many locations)

Table 3. LOW VISIBILITY OCCURRENCE RISK INDEX as a function of relative humidity and Dispersion Index (Based on the proportion of accidents with fog and/or smoke, as reported by the Florida Highway Patrol, 1979-1991, after Lavdas and Hauck (1991))

	DISPERSION INDEX											
	1- 1	2- 2	3- 4	5- 6	7- 8	9- 10	11- 12	13- 15	17- 25	26- 30	31- 40	> 40
R.H.												
<55	2	2	2	2	2	2	2	2	2	2	1	1
55-59	3	3	3	3	3	2	2	2	2	2	1	1
60-64	3	3	3	3	3	3	2	2	2	2	1	1
65-69	4	3	3	3	3	3	3	3	3	3	3	1
70-74	4	3	3	3	3	3	3	3	3	3	3	3
75-79	4	4	4	4	4	4	4	4	3	3	3	3
80-82	6	5	5	4	4	4	4	4	3	3	3	3
83-85	6	5	5	5	4	4	4	4	4	4	4	4
86-88	6	6	6	5	5	5	5	4	4	4	4	4
89-91	7	7	6	6	5	5	5	5	4	4	4	4
92-94	8	7	6	6	6	6	5	5	5	4	4	4
95-97	9	8	8	7	6	6	6	5	5	4	4	4
>97	10	10	9	8	8	8	7	5	5	4	4	4

Key to 10 point scale of proportions of smoke and/or fog accidents:

- 1—Lowest proportion of accidents with smoke and/or fog reported (130 of 127,604 accidents, or just over 0.0010 accidents)
- 2—Physical or statistical reasons for not including in category 1, but proportion of accidents not significantly higher
- 3—Higher proportion of accidents than category 1, by about 30 to 50 per cent, marginal significance (between 1 and 5 per cent)
- 4—Significantly higher than category 1, by about a factor of 2
- 5—Significantly higher than category 1, by a factor of 3 to 10
- 6—Significantly higher than category 1, by a factor of 10 to 20
- 7—Significantly higher than category 1, by a factor of 20 to 40
- 8—Significantly higher than category 1, by a factor of 40 to 75
- 9—Significantly higher than category 1, by a factor of 75 to 100
- 10—Significantly higher than category 1, by about 100 per cent or more

Note: The overall number of accidents with fog and/or smoke included was 2,972. Included fog, and 341 included smoke.

https://www.weather.gov/media/rnk/fire/ADI_Guide.pdf



New/Miscellaneous Items - NWS Burlington





NWS Burlington Update:

- Eric Evenson retired in Spring of 2022
- Currently down 3 METS with only myself on the fire weather team this spring
- Last year very quiet fire with no Red Flag Warning Events across WFO BTV forecast area
- Issued ~8 Special Weather Statements (SPS) in Spring of 2022 for near critical fire weather conditions
- Training will focus on adding value to spot forecasts, favorable patterns for fire weather concerns, minimum relative humidity forecasting, reviewing new fire weather zones, National Fire Danger Rating System (NFDRS) weather elements and internal fire weather google sites review
- IMET deployment to Southwest Oregon in Summer of 2022 for weather support on Windigo Fire
- Did participate in the Northeast Compact Meeting Winter of 2023
- WFO BTV Virtual Fire Weather User Meeting planned for March 9th from 0900 to 1100, but date might change due to scheduling conflicts