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.

FIRE WEATHER SERVICES - 2022 ANNUAL OPERATING PLAN FOR NEW YORK STATE

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I. Introduction

This Fire Weather Services Operating Plan serves as the official document governing the interaction and relationships between the National Weather Service (NWS), and the federal, state, and local natural resource and land management agencies or cooperators in New York State. These include the following agencies:

- NOAA National Weather Service (all NWS offices serving parts of NY State)
- USDA Forest Service (USFS)
- NY Department of Environmental Conservation (NYDEC)
- National Park Service (NPS)

The plan identifies meteorological services to be provided by the NWS. Services provided by the NWS fall into two categories, basic and special services. Basic services are provided without cost and are processed directly between the user and the NWS office personnel. Examples of basic services include the Fire Weather Planning Forecast (FWF), numerical forecasts for NFDRS (FWM), spot forecasts, along with Fire Weather Watches and Red Flag Warnings. Spot forecasts are available upon request 24 hours a day throughout the year. Special services are provided on a reimbursable basis. Special services could include teaching weather-related courses, or an onsite Incident Meteorologist (IMET). Please reference the latest versions of the Eastern Area Mobilization Guide and/or the National Mobilization Guide for details about these special services.

Changes from the last AOP:

- Universal Red Flag Criteria for all of NY State

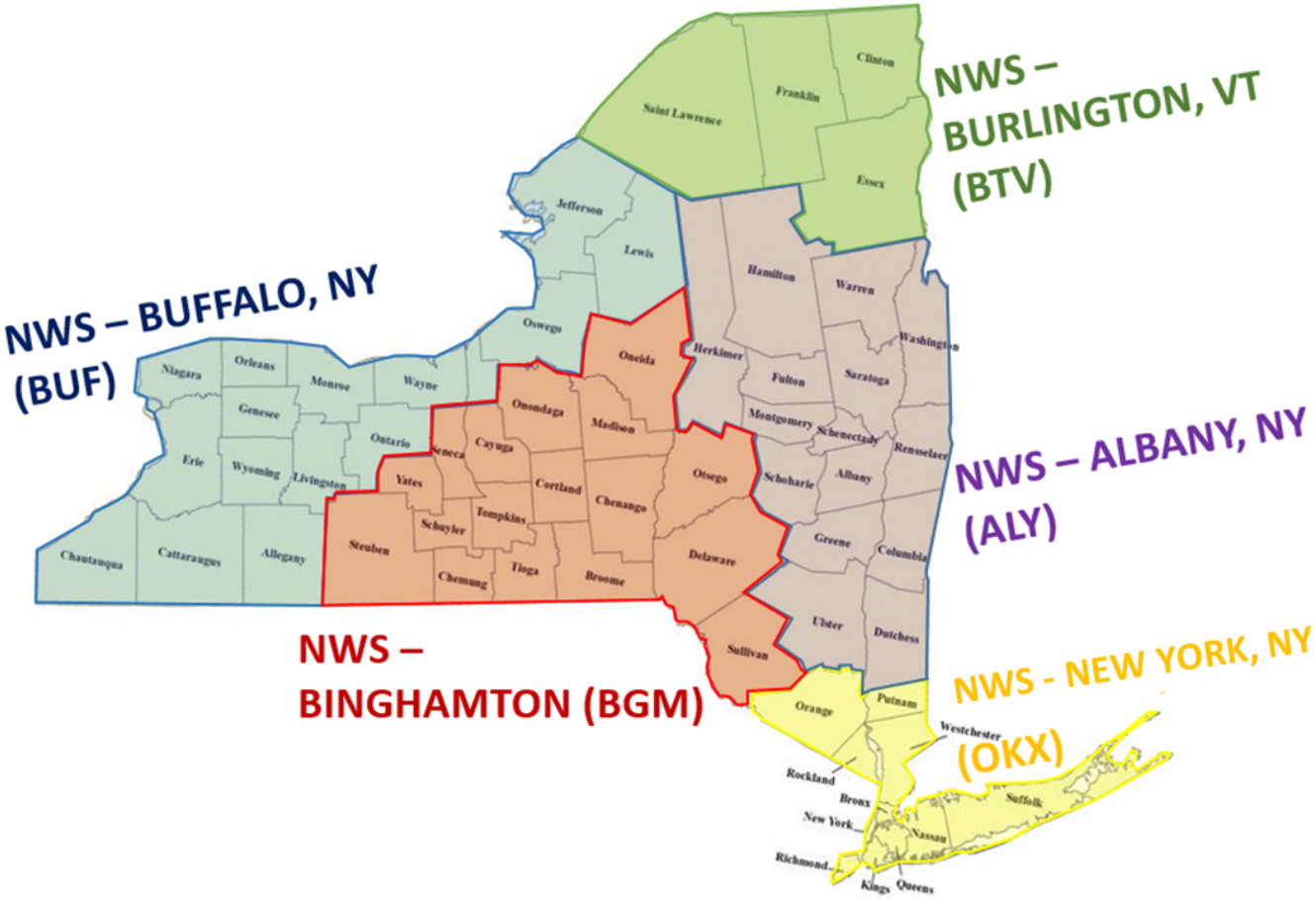
- Consolidation of prior AOPs from NWS offices serving NY, into a single statewide AOP.
    - Statewide maps showing areas of responsibility for NWS offices, NYS DEC regions, and RAWS locations

- Contacts/personnel changes, for NYSDEC, Finger Lakes NF, and other interagency partners; as well as new Fire Weather Program Leaders and/or Contacts for NWS offices. This includes the new address/numbers for NWS Albany, which moved offices in 2021.

- Included links to latest NWS products where appropriate.

II. Service Area and Organizational Directory

A. List of weather offices and points of contact



NWS OFFICES SERVING NEW YORK

NWS - Albany, NY Weather Forecast Office (ALY WFO), weather.gov/aly/
(518) 626-7572, FAX (518) 626-7565, ALB.Stormreport@noaa.gov
Dan Thompson, Fire Weather Program Leader, Dan.B.Thompson@noaa.gov
Steve DiRienzo, Warning Coordination Meteorologist,
stephen.dirienzo@noaa.gov
1400 Washington Avenue, Albany, NY 12222

NWS - Binghamton, NY Weather Forecast Office (BGM WFO), weather.gov/bgm/
(607) 798-6625, FAX (607) 798-6624
Mark Pellerito, Fire Weather Program Leader/IMET, mark.pellerito@noaa.gov
Mike Kistner, IMET Trainee, mike.kistner@noaa.gov

Dave Nicosia, Acting Warning Coordination Meteorologist, david.nicosia@noaa.gov
32 Dawes Drive, Johnson City, NY 13790

NWS - Buffalo, NY Weather Forecast Office (BUF WFO), www.weather.gov/buf/
(716) 565-0013, (716) 565-0014, FAX (716) 565-9002
Aaron Reynolds, Fire Weather Program Leader, aaron.reynolds@noaa.gov
Jon Hitchcock, Assistant Fire Weather Program Leader, jon.hitchcock@noaa.gov
Mike Fries, Warning Coordination Meteorologist, michael.j.fries@noaa.gov
587 Aero Drive, Cheektowaga, NY 14225-1405

NWS - Burlington, VT Weather Forecast Office (BTV WFO), www.weather.gov/btv
(802) 862-2475, FAX 802-660-0705
Eric Evenson, Fire Weather Program Leader to May/IMET, eric.evenson@noaa.gov
Brooke Taber, Fire Weather Program Leader after May/IMET, brooke.taber@noaa.gov
Scott Whittier, Warning Coordination Meteorologist, scott.whittier@noaa.gov
Burlington International Airport, 1200 Airport Drive, South Burlington, VT 05403

NWS – New York, NY Weather Forecast Office (OKX WFO), weather.gov/okx/
(631) 924-0383, FAX 631-345-2869
Tim Morrin, Fire Weather Program Leader, tim.morrin@noaa.gov
Nelson Vaz, Warning Coordination Meteorologist, nelson.vaz@noaa.gov
175 Brookhaven Avenue, Upton, NY 11973

NWS REGIONAL/NATIONAL CONTACTS	**PHONE**
NWS Eastern Region Headquarters	
Melissa DiSpigna, Regional Fire Program Manager	(631) 244-0122
Melissa.DiSpigna@noaa.gov	FAX (631) 244-0167
Airport Corporate Center	
630 Johnson Ave.	
Bohemia, NY 11716	
NWS Headquarters	
National Fire Weather Operations Coordinator	(208) 334-9824
National Weather Service	cell (xxx) xxx-xxxx
Larry Van Bussum	FAX: (208) 334-1660
Larry.VanBussum@noaa.gov	
NWS National Fire Program Leader	
Heath Hockenberry	(208) 334-9824
heath.hockenberry@noaa.gov	(208) 334-9862
3833 South Development Avenue, Building 3807	
Boise, ID 83705	

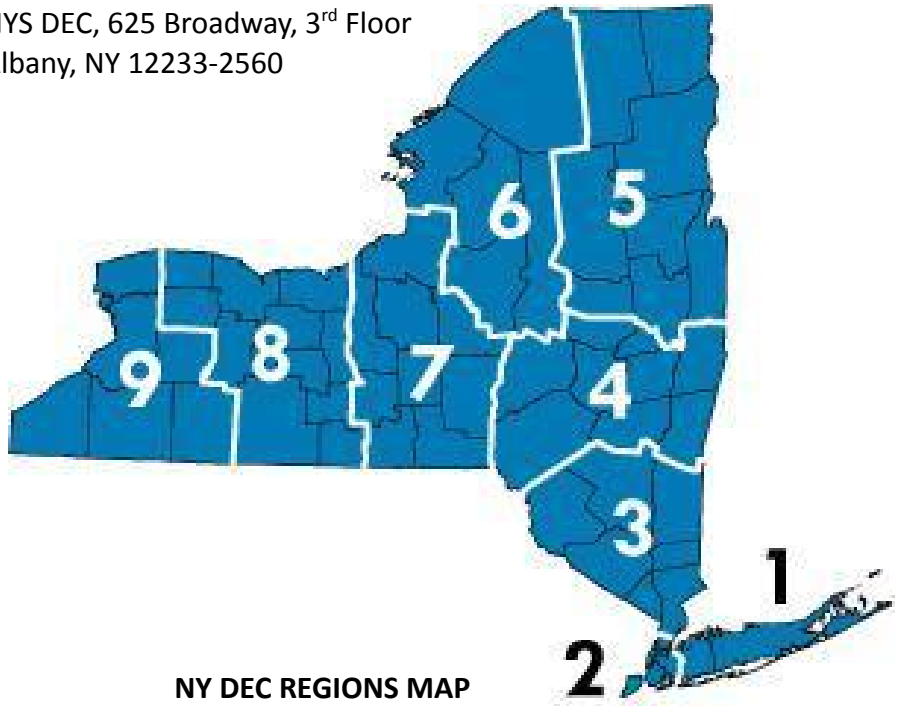
NWS Storm Prediction Center (xxx) xxx-xxxx (non-public ops line/lead forecaster)

Evan Bentley, Fire Weather Program Leader FAX: (405) 325-2938
evan.bentley@noaa.gov
120 David L. Boren Blvd, Suite 2300
Norman, OK 73072

B. PARTICIPATING AGENCIES

NEW YORK - DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYS DEC) Albany Central Office

Director of Forest Protection and Fire Management John Solan
(518) 402-8839, Fax (518) 402-8840, john.solan@dec.ny.gov
Statewide Fire Supervisor/Primary contact for NWS – Captain Jaime Laczko, (518) 335-3429, jaime.laczko@dec.ny.gov
Fire Program Specialist/Backup contact for NWS – Lieutenant Kevin Slade, (845) 663-6484, kevin.slade@dec.ny.gov
Emergency Management/Backup contact for NWS – Captain Dave Kallen, (518) 866-4509, david.kallen@dec.ny.gov
Backup: NYSDEC 24-Hour Dispatch (xxx) xxx-xxxx (ask for Forest Rangers Statewide Duty Officer)
NYS DEC, 625 Broadway, 3rd Floor
Albany, NY 12233-2560



NY DEC REGIONS MAP

DEC Contacts as of April 2022: (see https://www.dec.ny.gov/about/667.html for updates)

NYS DEC REGION 1- Nassau and Suffolk Counties - served by NWS OKX

Captain Timothy Byrnes, Regional Forest Ranger (631) 444-0291
timothy.byrnes@dec.ny.gov, FAX (631) 444-0401
NYS DEC
50 Circle Road
Stony Brook, NY 11790

NYS DEC REGION 2- Bronx, Kings (Brooklyn), New York, Queens, Richmond (Staten Island) Counties - Served by NWS OKX

Captain Timothy Byrnes, Regional Forest Ranger (631) 444-0291
timothy.byrnes@dec.ny.gov, FAX (631) 444-0401
NYS DEC
50 Circle Road
Stony Brook, NY 11790

NYS DEC REGION 3- Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, and Westchester Counties – Served by NWS offices OKX, ALY, and BGM

Captain Gregory Tyrrell, Regional Forest Ranger/RAWS coordinator,
(845) 256-3025, cell (xxx) xxx-xxxx, gregory.tyrrell@dec.ny.gov,
FAX (845) 255-4659
NYS DEC
21 South Putt Corners Rd.
New Paltz, NY 12561-1696

NYS DEC REGION 4- Albany, Columbia, Greene, Montgomery, Rensselaer, Otsego, Delaware, Schenectady, and Schoharie Counties - Served by NWS ALY and BGM

Captain Adam Pickett, Regional Forest Ranger, (518) 357-2161
adam.pickett@dec.ny.gov, FAX (518) 357-2291
1130 North Westcott Rd.
Schenectady, NY 12306-2014

Regional RAWS Coordinator Tyler Briggs, Fire Management Specialist
(518) – 456 -0655 x1220 tbriggs@albanypinebush.org
Albany pine Bush
95 New Karner Rd #1
Albany, NY 12203

NYS DEC REGION 5 North - Clinton, Essex, Franklin, and Hamilton Counties – Served by NWS offices ALY and BTV

Captain Christopher Kostoss, Regional Forest Ranger, (518) 897-1303
Cell (518) 418-9404, christopher.kostoss@dec.ny.gov, FAX (518) 897-1331
NYS DEC
P.O. Box 296
1115 State Route 86

Ray Brook, NY 12977-0296

NYS DEC REGION 5 South - Essex, Fulton, Hamilton, Saratoga, Warren, and Washington Counties – Served by NWS offices ALY and BTV

Captain Jaime Laczko, Regional Forest Ranger, (518) 623-1200,
Cell (518) 335-3429, jaime.laczko@dec.ny.gov, FAX (518) 623-3603
NYS DEC
232 Golf Course Rd.
Warrensburg, NY 12885-0220

NYS DEC REGION 6 - Herkimer, Jefferson, Lewis, Oneida, and St. Lawrence Counties. Served by NWS offices ALY, BGM, BTV, and BUF.

Captain Robert (Drew) Cavanagh, Regional Forest Ranger, (315) 785-2558,
Cell (315) 794-6074, robert.cavanagh@dec.ny.gov, FAX (315) 785-2242
NYS DEC
317 Washington St.
Watertown, NY 13601

NYS DEC REGION 7- Broome, Cayuga, Chenango, Cortland, Madison, Onondaga, Oswego, Tioga, and Tompkins Counties. Served by NWS offices BGM and BUF.

Captain James McPherson, Regional Forest Ranger, (607) 674-4017 x639,
Cell (315) 886-1669, james.mcpherson@dec.ny.gov, FAX (607) 674-9034
Regional RAWS Coordinator Mike Burkholder, (607) 373-1013
michael.burkholder@dec.ny.gov
NYS DEC
2715 State Highway 80
Sherburne, NY 13460

NYS DEC REGION 8 - Chemung, Genesee, Livingston, Monroe, Ontario, Orleans, Schuyler, Seneca, Steuben, Wayne, and Yates Counties. Served by NWS BGM & BUF.

Captain Robert Rogers, Regional Forest Ranger, (585) 226-2466,
Cell (716) 771-7199 robert.rogers@dec.ny.gov, FAX (585) 226-9485
6274 E. Avon-Lima Rd.
Avon, NY 14414
Regional RAWS Coordinator Ranger Anne Staples,
anne.staples@dec.ny.gov, cell (xxx) xxx-xxxx

NYS DEC REGION 9 - Allegany, Cattaraugus, Chautauqua, Erie, Niagara, and Wyoming Counties. Served by NWS office BUF.

Captain Shawn Plastied, Regional Forest Ranger, (716) 379-6362,
Cell (xxx) xxx-xxxx, shawn.plastied@dec.ny.gov
NYS DEC
182 East Union - Suite 3
Allegany, NY 14706

GEOGRAPHIC COORDINATION CENTERS (GACC) FIRE WEATHER METEOROLOGISTS

National Interagency Fire Center
Jim Wallmann, Meteorologist, jwallmann@blm.gov (208) 387-5449
3833 S. Development Ave FAX: (208) 387-5663
Boise, ID 83705-5354

Eastern Area
Steve Marien, Fire Weather Program Manager (612) 713-7300
Stephen_Marien@nps.gov FAX: (612) 713-7317

US FISH & WILDLIFE SERVICE CONTACTS

Department of the Interior
U. S. Fish and Wildlife Service - Northeast Region

John Ashcraft – ZFMO office (410) 221-1191
john_ashcraft@fws.gov cell (xxx) xxx-xxxx
2145 Key Wallace Dr
Cambridge, MD 21613

Tomas Liogys – Prescribed Fire Specialist cell (xxx) xxx-xxxx
tomas_liogys@fws.gov
241 Pleasant Plains Rd
Basking Ridge, NJ 07290

GREEN MOUNTAIN/FINGER LAKES NATIONAL FOREST

U. S. Department of Agriculture, Forest Service
Martel (Martie) Knipe, FMO, martel.knipe@usda.gov (802) 747-6740
Dave DiSanto, Assistant FMO, david.disanto@usda.gov (802) 747-6796
Green Mountain/Finger Lakes National Forest
231 N. Main Street
Rutland, VT 05701

NATIONAL PARK SERVICE

Saratoga National Historical Park
648 Route 32
Stillwater, NY 12170
David Lamere, Chief Ranger (518) 670-2960, david_lamere@nps.gov
Bill Crolly (570) 588-1845, william_crolly@nps.gov

III. Services Provided by the National Weather Service

A. Basic Services

1. Routine Fire Weather Forecasts (FWF)

a) Issuance – The NWS Weather Forecast Offices serving NY will issue the Fire Weather Forecast (FWF) for their respective County Warning Areas/designated Fire Weather Zones. Special requests for spot fire weather forecasts can also be made at any time.

- NWS Albany, NY (ALY): Twice daily around 4 AM/4 PM during fire season; generally March through November with specific dates as coordinated with users.

- NWS Binghamton, NY (BGM): Three times daily all year; 5 AM, 11 AM, and 330 PM.

- NWS Buffalo, NY (BUF): Every 3 hours during fire season; suspended during winter months though fire weather data/parameters will still be accessible online.

- NWS Burlington, VT (BTV): Once daily no later than 6 AM during fire season; with specific beginning and ending dates as coordinated with users. Suspended during winter months though fire weather data/parameters will still be accessible online.

- NWS New York, NY (OKX): Once daily no later than 6 AM during fire season; with specific beginning and ending dates as coordinated with users.

b) How forecast is issued and accessed

Fire Weather Forecasts are issued from the gridded database and are transmitted automatically to the internet. It can be accessed through the link at on Fire Weather pages of each NWS Office:

- NWS Albany, NY (ALY) Fire Page - NWS ALY Fire Weather Forecast (FWF)
- NWS Binghamton, NY (BGM) Fire Page - NWS BGM Fire Weather Forecast (FWF)
- NWS Buffalo, NY (BUF) Fire Page - NWS BUF Fire Weather Forecast (FWF)
- NWS Burlington, VT (BTV) Fire Page - NWS BTV Fire Weather Forecast (FWF)
- NWS New York , NY (OKX) Fire Page - NWS OKX Fire Weather Forecast (FWF)

c) Content of the forecast.

Headline - A headline when a Fire Weather Watch or Red Flag Warning is in effect; including the watch/warning type, geographical area, reason for issuance, and effective time period.

Discussion - Per NWS Directive 10-401, this is a brief, clear and non-technical description of the weather systems impacting the region. Emphasis should be on the first two days, but later periods

may be included if significant weather is expected and the forecaster has a reasonable confidence level that it will occur**.**

Parameters **-** The Fire Weather Planning Forecast (FWF) uses the Universal Generic Code (UGC) zone format. The early morning forecast consists of three 12 hour time frames. The following meteorological parameters are included:

CLOUD AMOUNT:
CLR (clear).....0 to 6 percent coverage
MO CLR (mostly clear).....7 to 31 percent coverage
PT CLDY (partly cloudy).....32 to 69 percent coverage
MO CLDY (mostly cloudy).....70 to 94 percent coverage
CLDY (cloudy).....95 to 100 percent coverage

PRECIP CHC (%): Probability of precipitation in percent (0 - 100%)

PRECIP TYPE: The type of precipitation expected.

MAX/MIN TEMP: Maximum daytime and minimum nighttime temperatures. (Temperature 24 hour trends are optional.)

20 FT WND AM: The prevalent 20 foot wind direction (8 compass points) and speed (mph) during the morning.

20 FT WND PM: The prevalent 20 foot wind expected during the afternoon for the daytime period and at night for the nighttime period (follow same nomenclature as AM wind).

PRECIP AMOUNT: Amount of average precipitation in inches.

PRECIP DURATION: Duration of precipitation in hours during the forecast period. Today/Tomorrow refers to 7 AM to 7 PM, Tonight is 7 PM to 7 AM. Duration does not have to quantitatively equal Precipitation Begin minus Precipitation End times (i.e., on/off precipitation).

PRECIP BEGIN: The onset time of any expected precipitation.

PRECIP END: The ending time of precipitation.

HUMIDITY (%): The minimum relative humidity during the day and the maximum value at night.

HAINES: The **Haines Index** (HI) which is a **measure of stability and moisture** (does not incorporate wind or fuel moisture). The **HI** ranges from 2 to 6, which is a sum of two components; a temperature difference (categorized 1 to 3), and a moisture/dewpoint difference (also 1 to 3).

The following is a ***qualitative*** **guide** for using the **Haines Index :**

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 fire development**, mainly where winds are not a factor.

LAL: Lightning activity level category. Ranges from 1 to 6 and relates to the areal coverage of thunderstorms, corresponding to Lightning Activity Levels (LAL) from the National Fire Danger Rating System (NFDRS). LAL and areal coverage should correspond as follows:

LAL	Level Coverage	(%) Descriptor
1	0	None
2	1-14	Isolated
3	15-24	Widely Scattered
4	25-54	Scattered
5	55+	Numerous
6 (Dry lightning)* (little/no rain)	>=15	Widely Scattered or greater

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

MIXING HGT/DISP: The mixing height and inversion/dispersion. The Mixing Height is forecast during the day and inversion/dispersion is forecast at night.

The **Mixing Height** is the Maximum depth to which mixing will occur. This can be a difficult parameter to forecast. One way to view this is 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 is present, daytime heating will produce a well mixed atmosphere of 4000 to 7000 ft in depth. The more unstable the atmosphere, the greater the mixing height.

The **Inversion** time is the start and break times of the ground based inversion. If an inversion is not expected, then forecast NONE. The dispersion is the average dispersion during the night. General guidance for dispersion based on surface winds:

0-4 mph: Poor to Very Poor (VP to PO)
5-7 mph: Fair (FA)
8-9 mph: Good (GD)
10 mph or greater: Excellent (EX)

*So, for example, a daytime entry might be 3000, a nighttime entry might be 1AM - 8am/PO, or a nighttime entry for no inversion might be NONE/GD

TRANSPORT WIND: The Transport Wind is the Average wind from the surface to the mixing height. After calculating the mixing height, the average wind direction and speed within that layer needs to be calculated. One way to view this is as an estimate based on the surface to 850 mb wind field (approximately 5000 ft). The direction will be specified using 8 compass points, and the speed in miles per hour.

VENTILATION RATE: Generalized descriptions range from "Poor" to "Excellent". 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 <u>table below is only a guide</u>.**

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

<u>Expanded Forecast Section</u> - This is the forecast for days 3-7, averaged across fire weather zones.

***<u>Outlook 8 to 14 Day</u>* -** Brief qualitative outlook for above/near/below average temperatures and precipitation, using the 8-14 day outlook from the NWS Climate Prediction Center (CPC).

Additionally, the NWS office in Binghamton also includes ADI and LVORI in all portions of the NWS BGM FWF (including their NY counties), due to request of fire weather partners in Pennsylvania:

Atmospheric Dispersion Index (ADI)

DAYTIME ADI VALUES	0-20	Poor dispersions; stagnant if persistent.
	21-40	Poor to fair; stagnation if accompanied by low wind speeds
	41-60	Generally good
	61-80	Very good dispersion; 75 and above, control problems likely
	80+	Excellent dispersion; control problems expected
NIGHTTIME ADI VALUES	0-2	Poor
	3-4	Poor to Fair
	5-8	Good
	8+	Very Good

Low Visibility Occurrence Risk Index (LVORI) – Ranges from 1 (low chance of low visibility) to 10 (high chance of low visibility)

2. Site-specific or Non-routine Wildland Fire Forecasts

a) NFDRS Point Forecasts

The National Fire Danger Rating System (NFDRS) measures wildfire fire 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 index.

NWS offices are responsible for inputting weather parameters - also called Fire Weather Matrices (FWMs) - into the NFDRS. **Forecast parameters are generally valid at 1300 LST, except some parameters (for example, max/min temperature and RH) are for a range of time. NWS now provides NFDRS forecasts out 7 days instead of the only the next day.** NWS offices issue these FWM/NFDRS weather parameters at least daily to multiple times daily; it varies by office. Times may be adjusted to better meet needs of fire partners.

Per NWS Directive 10-401, a fire weather observation must be received for an NFDRS forecast to be generated. The forecast is for RAWS sites. The New York State locations are as follows:

NWS Albany, NY - NWS ALY NFDRS/FWM issued ~3 PM daily for the next day through day 7.

#300011 (APBN6) Albany Pine Bush (Albany County). Click for observations.
Elevation: 325' ft Lat/Lon 42° 43' 10.35" N, 73° 51' 55.87" W
Owner: New York State DEC Forest Rangers Contact: Tyler Briggs

#301111 Belleayre Mountain (Ulster County)
Elevation: 1925 ft Lat/Lon 42° 08' 37.12" N, 74° 29' 43.12" W
Owner: New York State DEC Forest Rangers Contact: Captain Jaime Laczko

#300411 (LPSN6) Lake Pleasant (Hamilton County). Click for observations.
Elevation: 1790 ft Lat/Lon: 43° 28' 12.57" N, 74° 24' 47.04" W
Owner: New York State DEC Forest Rangers Contact: Captain Jaime Laczko

#305103 (BCHN6) Stony Kill (Dutchess County). Click for observations.
Elevation: 230 ft Lat/Lon 41° 32' 29.70" N, 73° 57' 06.52" W
Owner: New York State DEC Forest Rangers Contact: Captain Jaime Laczko

#301901 (SHPN6) Saratoga Battlefield (Saratoga County). Click for observations.
Elevation 375 ft Lat/Lon 43° 00' 09.7" N, 73° 32' 05.50" W
Owner: National Park Service Contact: Chief Ranger David Lamere

NWS Binghamton, NY - NWS BGM NFDRS/FWM issued around 5 AM , 11 AM, and 330 PM

#300171 (SHFN6) – Sherburne (Chenango County). Click for observations.

Elevation: 1120 ft. Lat/Lon 42° 40' 52.94" N, 75° 31' 08.72" W
Owner: State of New York, Department of Environmental Conservation

#301011 (GMFN6) – Gang Mills (Steuben County). Click for observations.
Elevation: 950 ft. Lat/Lon 42° 08' 28.52" N, 77° 07' 12.14" W
Owner: State of New York, Department of Environmental Conservation

NWS Buffalo, NY - NWS BUF NFDRS/FWM issued at 446 PM for the next day through day 7

#301101 (ABMN6) – Iroquois NWR, Basom (Genesee County). Click for observations.
Elevation: 628 ft. Lat/Lon 43° 06' 46.30", -78° 24' 15.50"
Owner: Dept. of Interior, Fish & Wildlife Service

#300491 (LWLN6) – Lowville Dem. Area, Lowville (Lewis County). Click for observations.
Elevation: 740 ft. Lat/Lon 43° 48' 35.00", -75° 28' 23.99"
Owner: State of New York, Department of Environmental Conservation

NWS Burlington, VT - NWS BTV NFDRS/FWM issued daily (fire season), next day through day 7

#300311 (SRON6) - Schroon Lake (Essex County). Click for observations.
Elevation: 820 ft. 43.8 N 73.77 W
Owner: New York State Forest Rangers

#300191 (SFAN6) - Schuyler Falls (Clinton County). Click for observations.
Elevation: 650 ft 44.6 N 73.6 W
Owner: New York State Forest Rangers

#300892 (BFAN6) - Brasher Falls (St Lawrence County). Click for observations.
Elevation: 300 ft. 44.8 N 74.8 W
Owner: New York State Forest Rangers

#300891 (WNKN6) - Wanakena (St Lawrence County). Click for observations.
Elevation: 1500 ft. 44.1667 N 74.9 W
Owner: New York State Forest Rangers

#300312 (MVAN6) - Mt VanHoevenberg (Essex County). Click for observations.
Elevation: 2000 ft. 44.22 N 73.89 W
Owner: New York State Forest Rangers

NWS New York, NY - NWS OKX NFDRS/FWM issued several times daily

#305702 (TT587) - Eastport (Suffolk County). Click for observations.
Elevation: 100 ft. Lat/Lon 40° 52' 25.00", -72° 42' 50.00"

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 {see above}
YYMMDD Year Month Day (**forecast valid date which is the next day**)
210606: June 6th, 2021
13 Time (forecast valid time 1300 hours/1PM EST) D*oes 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 EST for the forecast valid ***<u>date (next day)</u>*:**

X Weather
<u>Codes</u>: *0 - clear*
1 - scattered clouds (mostly clear)
2 - broken clouds (partly-mostly cloudy)
3 - overcast
4 - fog
5 - drizzle
6 - rain
7 - snow/sleet
8 - showers
9 - thunderstorms
Note; categories 5, 6, or 7 sets NFDRS index to 0 Try to avoid.

TT Dry Bulb Temperature
RH Relative Humidity
DD Wind direction (N, NE, E, SE etc)
SS Wind speed (10 minute average in MPH)
L1 Lightning Activity Level (period 1300 - 2300 LST hours)
<u>Codes</u>: LAL Level Coverage (%) Descriptor
1 0 None
2 1-14 Isolated
3 15-24 Widely Scattered
4 25-54 Scattered
5 55+ Numerous
6 (Dry lightning) >=15 Widely Scattered or greater (little/no rain)
L2 Lightning Activity Level (period 2300 - 2300 LST hours on forecast valid date)
The following parameters are valid for the 24 hour period ending at 1300 EST on the forecast valid date:

TX Maximum temperature
TN Minimum temperature
RX Maximum relative humidity
RN Minimum relative humidity
P1 Precipitation duration (1300-0500 LST period) in whole hours

P2 Precipitation duration (0500-1300 LST period) in whole hours
F Wet Flag "Y/N" (Only use Y for widespread rainfall. This will set all NFDRS indices to 0!)

Example of FWM Point Forecast:

```
FCST,301011,210326,13,2,58,53,1,2,WSW,21,,76,56,90,36,6,0,N
FCST,301011,210327,13,1,57,37,1,1,W,08,,59,36,82,36,0,0,N
FCST,301011,210328,13,2,59,60,1,1,WSW,13,,65,45,93,30,0,0,N
FCST,301011,210329,13,1,43,30,1,1,NW,17,,61,30,72,29,0,0,N
FCST,301011,210330,13,1,58,29,1,1,S,10,,59,26,74,26,0,0,N
FCST,301011,210331,13,2,61,47,1,1,SSW,12,,63,38,85,26,0,0,N
FCST,301011,210401,13,2,46,43,1,1,WNW,14,,65,34,92,41,0,0,N
```

Remember...the double comma **",,"** in the forecast line above, between SS and TX is needed to hold the place for *10 hour fuel moisture* values. The NWS is not responsible for this parameter. Guidance products used to develop these forecasts include, but are not limited, to the following sources:
-- Numerical MOS guidance for nearby stations,
-- Fire weather observations (Observation is REQUIRED per Directive 10-401),
-- Current METAR surface observations, and
-- Satellite and Radar imagery.

b) SPOT and Pre-suppression FORECASTS

The spot and pre-suppression forecast is a site-specific, localized weather forecast including a forecast of wind, temperatures, humidity and any effects local topography will have on the weather. A spot forecast will normally cover a 12-hour period and is issued on request. Spot forecasts can be monitored at https://www.weather.gov/spot/monitor/.

The agency requesting a spot fire weather forecast in New York should use the **NWS Spot Forecast Request page at https://www.weather.gov/spot/request/**; also linked on the fire pages of the NWS offices serving New York: NWS Albany, NY (ALY) Fire Page, NWS Binghamton, NY (BGM) Fire Page, NWS Buffalo, NY (BUF) Fire Page, NWS Burlington, VT (BTV) Fire Page and NWS New York, NY (OKX) Fire Page. If it is not available a request can be called or faxed in. The forecast staff will provide the information also via the internet or when not available by fax or phone (Appendix E) for the particular area affected when duties allow. Higher priorities, such as severe weather, may delay the response until time permits. The following information should be exchanged whenever a spot or presuppression forecast is requested:

THE REQUESTING AGENCY WILL PROVIDE THE FOLLOWING:

1) The name of the agency 2) Location and size of the fire

3) Elevation/Geography/Topography
4) Recent weather observations if any
5) Any additional information that would help the forecaster

THE FORECASTER WILL PROVIDE:

1) Time period for forecast (usually for 12 hours)
2) Brief synopsis
3) Relative humidity forecast (forecast minimum value during the day and forecast maximum value at night)
4) 20 ft forecast wind direction/speed (state height of wind if other than 20 ft)
5) Probability of precipitation
6) Mesoscale features associated with thunderstorms/fronts
7) Other weather phenomena deemed important by the duty forecaster

c) Non-routine Forecasts

Although the Department of Environmental Conservation Forest Protection and Fire Management in New York, the Bureau of Land Management, and Fish and Wildlife Service are the main agencies using and requesting fire weather information; other federal, state and local agencies may also request non-routine fire weather (spot and pre-suppression) forecasts anytime during the year. During times of high to extreme fire danger, these same entities may request updates to the fire weather forecast product as needed. An agency may request a revised forecast when there is a significant change from the previous forecast in wind, relative humidity or thunderstorm activity.

During periods of very high or extreme fire danger, a supplemental verbal phone briefing may also be requested of NWS. The briefing can provide updated information pertaining to the progress of frontal systems, lightning storms, wind shifts, approaching rain or other rapidly changing weather features.

3. Fire Weather Watch and Red Flag Warning Programs

a) Critical Fire Weather/Red Flag Criteria

Fire Weather Watches and Red Flag Warnings are used to convey the likelihood of severe fire weather to fire control agencies. Meeting criteria is considered rare.

As of March 2022, **RED FLAG CRITERIA is unified for all of New York State** (must meet all):

During vegetation stage I or II (cured/transition B spring/fall)
1) Winds sustained or frequently gusting above 25 mph for at least two hours.
2) Relative Humidity less than 30% for at least two hours.
3) Partner confirmation of dry/receptive fuels.

During vegetation stage III (green B summer)
1)Winds sustained or frequently gusting above 25 mph for at least two hours.
2) Relative Humidity less than 30% for at least two hours.
3) Rainfall less than 1/4 of an inch during the previous 8 or more days.
4) Keetch Byram Drought Index (KBDI) above 300 and partner confirmation of dry/receptive fuels.

KBDI Definition: An estimate (0-800) of the amount of precipitation (in 100ths of inches) needed to bring the top 8 inches of soil back to saturation. A value of 0 is complete saturation of the soil, a value of 800 means 8.00 inches of precipitation would be needed for saturation. National observed KBDI map: http://www.wfas.net/images/firedanger/kbdi.png

Red Flag events normally require the combination of very dry fuels as confirmed by land agencies, and critical weather conditions (significantly increased winds and wind shifts, thunderstorm activity containing little or no rain, and significantly decreased humidity). The issuance of red flag events are based on the criteria of the users (state and federal) and require advance coordination.

It is users' responsibility (in NY) to inform the NWS of the following:
Current stage (I, II, or III), and when measured KBDI is: approaching 300, over 300, and falls back below 300. With no input from the users on these parameters, the NWS will assume climatological timing for various stages.

Stage I cured: >75% dead; Stage II transition: 25%-75% dead; Stage III green: <25% dead

During the winter the stage will be cured. Generally speaking, transition will occur 2 to 4 weeks after the last freeze. After about 30 days the stage will be green. The process will work backwards starting with the first freeze of fall.

FIRE WEATHER WATCH

A Fire Weather Watch is used to advise of the **high probability of a red flag event in the near future**. A Fire Weather Watch will normally be issued 24 to 48 hours in advance of the probable onset of severe fire weather conditions; earlier if confidence is very high. The watch will be issued via an RFW product. The product will contain a headline and the basis for the watch issuance. Fire Weather Watch information will be included in the affected areas of the daily routine Fire Weather Forecast. A Fire Weather Watch will be canceled via an RFW if subsequent information indicates that the conditions are no longer expected to develop.

RED FLAG WARNING

A Red Flag Warning is issued to indicate the **expected imminent danger of severe fire weather**. A Red Flag Warning will normally be issued in less than 12 hours before onset of severe fire weather, but as much as 24 hours if confidence is very high. A Red Flag Warning may or may not be preceded by a Fire Weather Watch. The warning will be issued via an RFW product and contain a headline and basis for the warning issuance. Red Flag Warning information will be included in the affected areas of the daily routine Fire Weather Forecast. A Red Flag Warning will be canceled via an RFW if subsequent information indicates that the conditions are no longer expected to develop, or if the severe fire weather has passed. (See appendix D for an example of a red flag warning.)

If there are any Fire Weather Watches or Red Flag Warnings in effect, they are retrievable at:

- NWS Albany, NY (ALY) Fire Weather Watch or Red Flag Warning (RFW)
- NWS Binghamton, NY (BGM) Fire Weather Watch or Red Flag Warning (RFW)
- NWS Buffalo, NY (BUF) Fire Weather Watch or Red Flag Warning (RFW)
- NWS Burlington, NY (BTV) Fire Weather Watch or Red Flag Warning (RFW)
- NWS New York, NY (OKX) Fire Weather Watch or Red Flag Warning (RFW)

b) Options for Near-Critical Fire Weather

Special Weather Statements (SPS)

NWS policy somewhat varies office-to-office, but Special Weather Statements (SPS) can be issued when conditions support enhanced fire weather behavior, but at levels below Red Flag criteria. SPSs can also be issued to raise elevated fire awareness amongst the fire weather community and the general public. Fire weather partners can reach out to NWS offices to confirm applicability or desire for SPS to raise awareness.

SPSs can be issued when the following occurs:

- Red Flag weather criteria is met but fuels are not quite yet dry enough for extreme fire behavior, so fire weather partners prefer SPS over Red Flag.
- Fire weather partners request SPS to raise awareness to the fire weather community and/or the general public. This is only issued at the request of primary NY state

contacts. For example, if fuels are dry enough and humidity low enough, yet winds will fall short of Red Flag criteria.

Example SPS:

Special Weather Statement
National Weather Service Albany NY
440 AM EDT Mon Mar 9 2020

...ELEVATED RISK OF FIRE SPREAD TODAY...

Southwesterly winds gusting to around 20 mph combined with relative humidity values falling below 30 percent in the afternoon will contribute to an elevated risk of fire spread today. The risk will be highest over the Mid Hudson Valley, Capital District, Saratoga-Glens Falls Region, and lower elevations of the eastern Catskills, Schoharie Valley, central Mohawk Valley, and Taconics.

The annual statewide burn ban is in effect until May 14. No burn permits are issued.

Fire Weather Section of Area Forecast Discussion

The Area Forecast Discussion (AFD) is a routinely issued and continuously updated product that focuses on the most significant weather issues affecting an NWS office's forecast area over the next seven days. During heightened fire activity, a fire weather section (.FIRE WEATHER...) may be included in the AFD containing weather information of interest to fire managers. Whether or not fire weather concerns are occurring, these AFDs can be seen at:

- NWS Albany, NY (ALY) Area Forecast Discussion (AFD)
- NWS Binghamton, NY (BGM) Area Forecast Discussion (AFD)
- NWS Buffalo, NY (BUF) Area Forecast Discussion (AFD)
- NWS Burlington, VT (BTV) Area Forecast Discussion (AFD)
- NWS New York, NY (OKX) Area Forecast Discussion (AFD)

Social Media/Websites

NWS offices may create, promote, or share fire weather messages on their websites and/or social media. Fire weather partners can contact the NWS for help spreading messages such as avoiding burning, and heeding regulations/burn bans, on fire weather-sensitive days.

B. Special Services

ON-SITE METEOROLOGICAL SUPPORT (IMET and AMRS):

Large wildfires may need an incident response. If the occasion should arise, an Incident Meteorologist (IMET) and All-hazards Meteorological Response System (AMRS) would be requested by the state or federal government through the U.S. Forest Service or the National Interagency Fire Center. The user agency requesting the on-site forecast service has the primary responsibility for transporting the AMRS and IMET to and from the incident. See page 39 of the National Mobilization Guide for more details.

C. NWS Forecaster Training

The NWS recognizes the need for specialized training in fire weather meteorology for forecasters. Any NWS meteorologist producing fire weather products shall have met the requirements set forth in NWS Fire Weather Services Directive 10-405.

IV. WILDLAND FIRE AGENCY RESPONSIBILITIES

Operational Support and Predictive Services

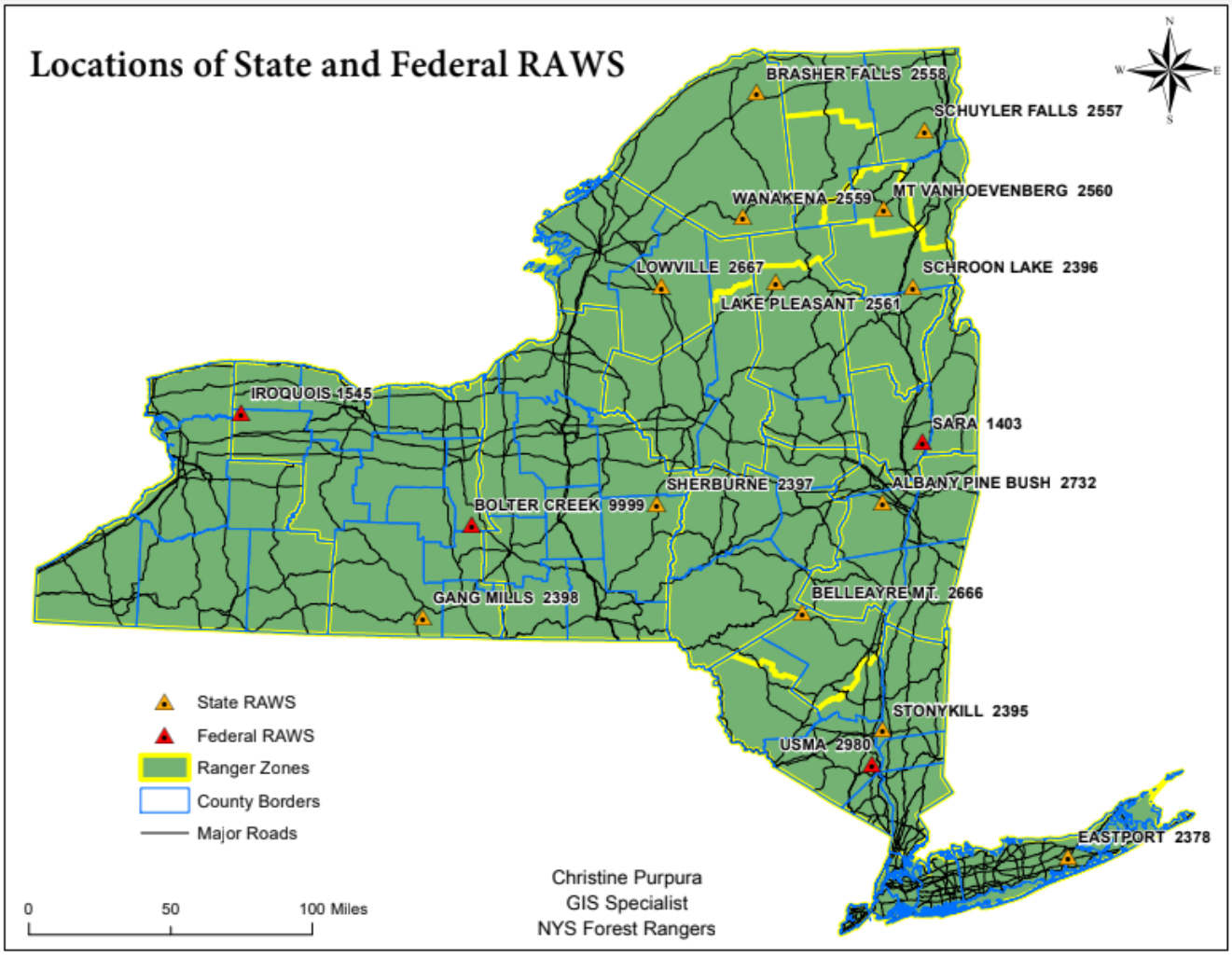
Program Management
The natural resource agencies will oversee the fire weather observation program, including the siting and maintenance of the observing equipment, fire weather training of their personnel, and the proficiency of their personnel in the use of the NWS Spot software.

Monitoring, Feedback and Improvement
Natural resource agencies will monitor the quality and timeliness of NWS fire weather products, and provide feedback to the NWS in order to improve services to the agencies.

Technology Transfer
The natural resource agencies may, from time to time, advise the NWS of new technologies being implemented to monitor meteorological or fuel parameters, or to improve communication, coordination, training or reference. Natural resource agency personnel may, with prior arrangement, visit an NWS office to acquire knowledge of NWS technologies used in the monitoring of weather, or the preparation of products.

Agency Computer Resources
Internet will be the primary method of obtaining the Fire Weather Forecast, Red Flag Warning, Fire Weather Watch, and for both requesting and receiving a Spot Forecast. As a backup method, a request can be made to the NWS for a product to be faxed to the customer agency. NFDRS observations will be entered into WIMS, and forecasts and calculations based on these observations will be received by WIMS, or by internet via a WIMS website.

Fire Weather Observations
Fire weather observation stations provide the specialized weather observations for fire weather forecasts, wildfire control and suppression, and various other land management operations. Stations may either be manned sites operated by land management agencies, or unmanned, Remote Automatic Weather Stations (RAWS) maintained by any of the federal or state land management agencies in the area.



Sensor failure will often result in erroneous or (at best) suspicious values. If the NWS becomes aware of such a situation, it is prudent to contact the station owner. Similarly, if a station owner becomes aware of sensor failure, he should relay that information to the appropriate NWS office. It is that stations owner's responsibility to make sure that their station is and remains in good working order and that any repairs are made in a timely manner. Owners of NFDRS stations can still (and should) correct any errors in their respective observations.

FUELS/FIRE DANGER: New York State DEC Predictive Services issues a statewide Fire Danger Rating Area Risk Forecast covering Day 2. When forecast fire danger levels reach critical levels, NYS DEC should coordinate with NWS offices. This forecast can be found here: http://www.dec.ny.gov/lands/68329.html

Training

The responsibility of training natural resource agency employees will be that of the agencies themselves. However, the NWS will be available to assist when requested to do so.

V. Joint Responsibilities

Joint responsibilities include the following:

Meetings between the NWS offices and the natural resource agencies.

At least one statewide meeting hosted by the NWS is normally attempted each year, usually coordinated by the NWS State Liaison Office in Albany. The 5 NWS offices serving New York State will also conduct local users meetings for their respective areas each year.

Maintenance and Revision of the Annual Operating Plan.

It is recognized that for this time-intensive first statewide consolidation Annual Operating Plan (AOP), the NY Fire Weather Services AOP is coming out just as Spring Fire Season 2022 is getting underway. However, going forward, the AOP should be revised at least once each year by the end of January, with cooperation and participation from NWS offices serving NY, and each natural resource agency.

Workplace Visits.

Natural resource agencies and the NWS should collaborate on familiarization of personnel in each others' fields of expertise, operations and equipment. Visits to offices and work centers, as well field job sites can meet part of these requirements.

Service Evaluation.

Services provided by the NWS, and delivery of observations and information from the natural resource agencies to the NWS in support of these services, shall be under constant evaluation by both parties.

More information can be found in the National Interagency Agreement for Meteorological and Other Technical Services at https://www.weather.gov/media/akq/fire/2017_National_Agreement.pdf

VI. EFFECTIVE DATES ON THE AOP

The effective date of this Annual Operating Plan will be through December 31 of the current calendar year. This plan will be subject to review and revision by all signatory parties each year, or more frequently as operations warrant. This plan will be available on the WFO fire weather webpages. A copy of this plan will be sent to NWS Eastern Region Headquarters upon completion in the current year, with annual updates by January 31 in subsequent years. Eastern Region Headquarters will forward a copy of the plan to NIFC and NWS Headquarters.

VII. SIGNATURE PAGE

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NWS Albany, NY

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