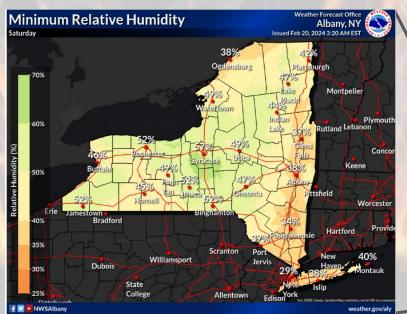
NWS ALY Fire Weather Webpage Review

Mike Main, NWS Albany

https://www.weather.gov/aly/fire

New for 2024

 Statewide forecast maps of minimum RH and maximum wind gusts are now available out through day 7











Max Gust Forecast - Day 1



SPC Fire Weather Outlook - Day 1



Min RH Forecast - Day 2



Max Gust Forecast - Day 2



SPC Fire Weather Outlook - Day 2



Min RH Forecast - Day 3



Max Gust Forecast - Day 3



SPC Fire Weather Outlook - Day 3



Min RH Forecast - Day 4



Max Gust Forecast - Day 4



SPC Fire Weather Outlook - Day 4



Min RH Forecast - Day 5



Max Gust Forecast - Day 5

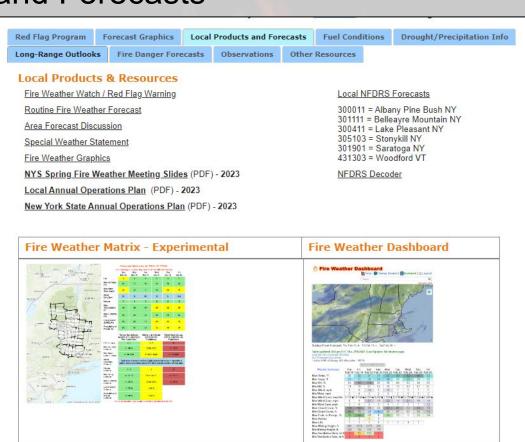


SPC Fire Weather Outlook - Day 5

Review of Local Products and Forecasts

- This is where most of our forecast information lives
- The fire weather matrix has the new NY zones overlaid on the map
- The fire weather dashboard allows users to click anywhere on the map to see detailed forecast information

https://www.weather.gov/aly/fire



Point and click fire weather forecast -

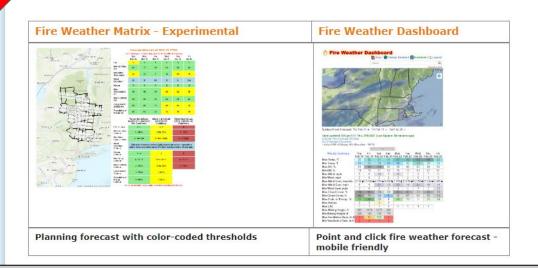
mobile friendly

Planning forecast with color-coded thresholds

Review of Local Products and Forecasts

 AOPs and slides from this meeting will be updated in the coming days

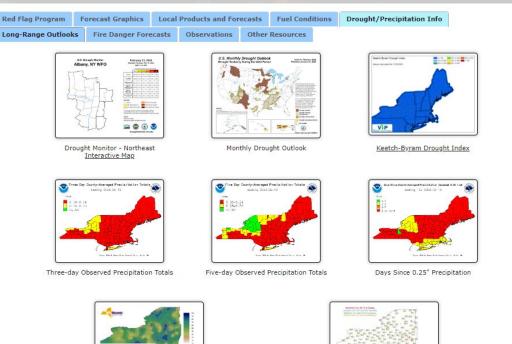


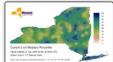


https://www.weather.gov/aly/fire

Review of Drought/Precipitation Info

Information on recent precipitation amounts, soil moisture, and snowfall is available under the "Drought/Precipitation Info" tab





New York State Mesonet 5cm Soil Moisture Percentiles



New York State Mesonet Current Soil Conditions

Snow Depth Resources

Northeast River Forecast Center Snow Information Page NOHRSC Interactive Snow Information

Observed Precipitation Resources

Northeast River Forecast Center Northeast Regional Climate Center Advanced Hydrologic Prediction Service

Review of Long-Range Outlooks

- Long range temperature and precipitation outlooks from the Climate Prediction Center (CPC) are available from day 6 out to 3 months
- The day 6-10 and 8-14 outlooks are updated daily
- These products are solely produced by CPC with not input from the local forecast offices

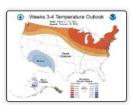




6-10 Day Temperature Probability Interactive Map



8-14 Day Temperature Probability Interactive Map



Week 3-4 Temperature Probability



6-10 Day Precipitation Probability Interactive Map



8-14 Day Precipitation Probability Interactive Map



Week 3-4 Precipitation Probability

Other Sources of Weather Information

- CoCoRaHS
- Will be added to the "Other Resources" tab on the fire weather webpage

If there is anything additional you would like added to our fire weather page, please let us know



2023 NYS DEC Wildland Fire Season Review

NYS DEC Forest Rangers

2023 Wildfire Season Overview

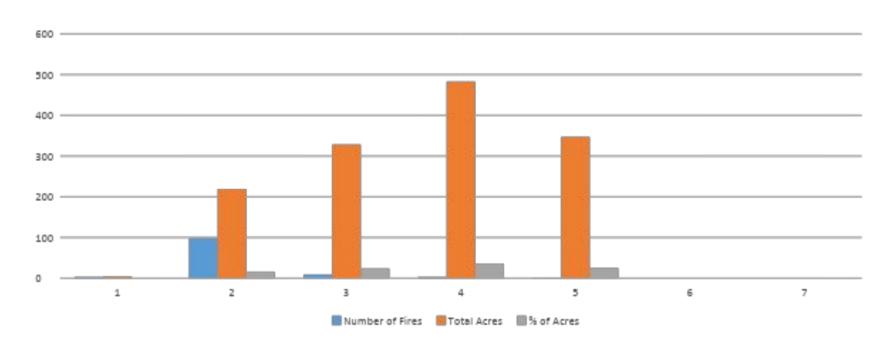
- Combined data from DEC and OFPC:
 - 1,394 Fires burned 2,134 Acres.
 - Many of these fires were suppressed by local fire departments with no DEC involvement.
- DEC Forest Rangers responded to 146 fires which burned 1,382 Acres.

DEC Forest Ranger Wildfire Response

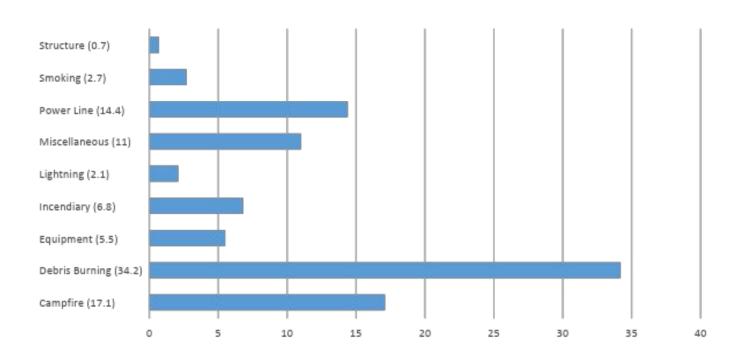
•Rangers responded to wildfires throughout the year. The first fire was February 3rd. The last fire was November 16th.



2023 DEC Wildfires by Size Class



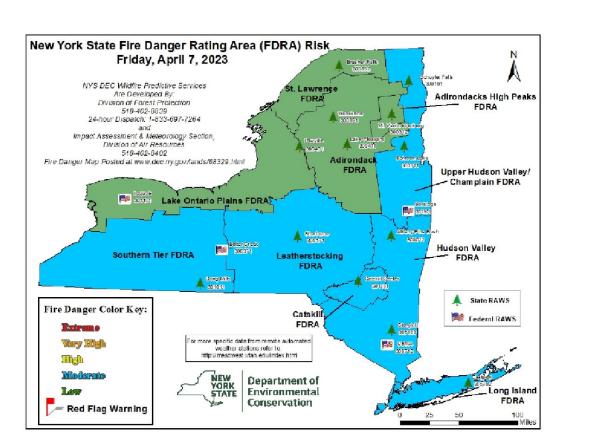
2023 Wildfires by Cause (% of Total)

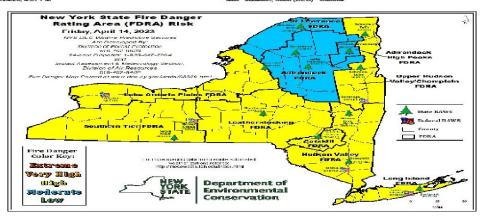




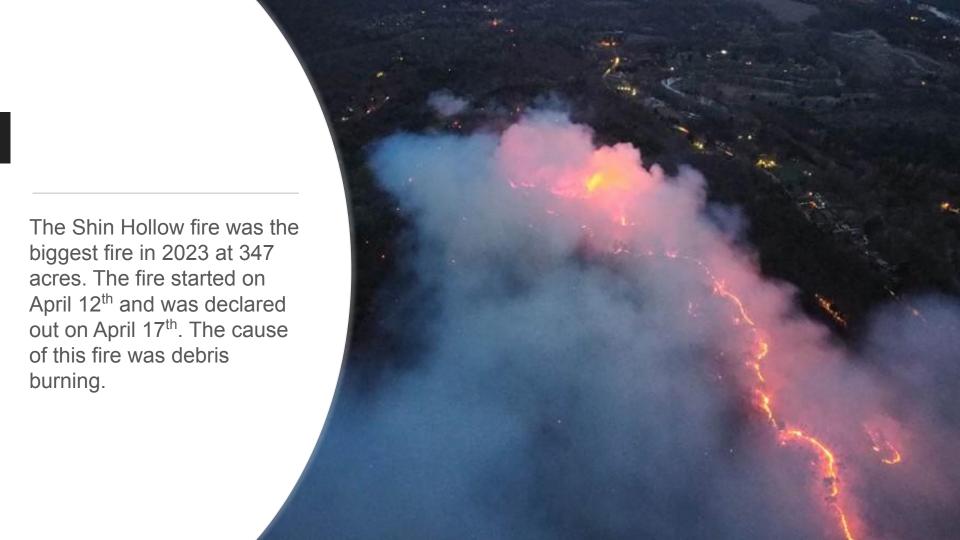
2023 Wildfires: Pre-green up

- Multiple high pressure systems brought dry air over the state throughout the spring resulting in elevated fire danger.
- Annual Statewide burn ban in effect March 15-May 14.
- Some significant dates:
- April 8-14: 38 fires reported in every DEC Region in the state accounting for 949 acres
 - 100+ acres fires reported in DEC Regions 3,4 and 8. (largest was 347 ac.)









2023 Spring Fire Season Video

https://www.facebook.com/watch/?v=625285485769252

2023 Wildfire Assistance

Requests for assistance came as early as May 31st from the provinces of Nova Scotia in Canada.

New York State is a member of the Northeast Forest Fire Protection Compact (NFFPC) that includes 7 states and 5 provinces.

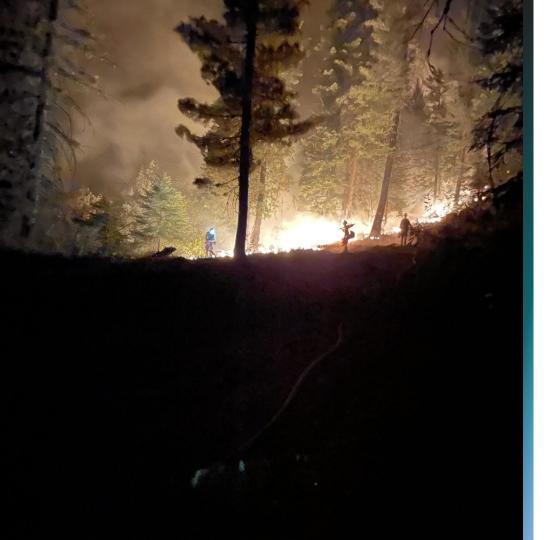


2023 Wildfire Assistance

Interagency crews were deployed to Nova Scotia, Quebec, Idaho and California.

Single Resources were deployed to Idaho, Montana and California





2023 Wildfire Assistance

2023 Wildfires- Fall

•November 13-16 had 5 wildfires report in DEC regions 3,5,8 and 9. These 5 fires burned a total of 186 acres. The largest of these was the 138 acres Rush Creek Fire in Allegeny County.



2023 Prescribed Fire

•DEC Forest Rangers, in cooperation with the Albany Pine Bush and the Central Pine Barrens Commission conducted 52 prescribed burns in 2023. A total of 1,006 acres were treated with prescribed fire.





2023 Prescribed Fire

 Starting mid March and continuing through the middle of May, prescribed burns were conducted in DEC Regions 1, 4, 7 & 8.



2023 Prescribed Fire-Rx Fire Modules

•Modules consisting of 6 Rangers were sent to assist with prescribed fire projects on Long Island. This provided a great training opportunity, and it ensured adequate staffing to conduct the burns.



2023 Prescribed Fire-Regions 4, 7 & 8

•Additional Rangers were sent to assist with prescribed burns in these regions to provide training opportunities and adequate staffing.

•The NWS forecast and the NWS Fire Weather Dashboard were critical decision making tools in planning for these burns.

2023 Prescribed Fire-Regions 1 & 4

•Following green-up and into the fall, additional burns were conducted in DEC Region 4 in partnership with the Albany Pine Bush, and in DEC Region 1 in partnership with the Central Pine Barrens Commission and the Brookhaven National Lab.





Thank You

- Tim Carpenter
- Assistant Fire Mgmt. Officer
- DEC Forest Rangers
- timothy.carpenter@dec.ny.gov
- 0 607 664-1021

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National Weather Service On Site Decision Support for GMNF at the Robert Frost Prescribed Burn on 14 April 2023



Spot Forecasts

- NWS Burlington provided several spot forecasts to GMNF 12 to 24 hours prior to firing operations.
- Provides crew with what conditions to expect throughout the burn.
 - Especially important for winds, relative humidity, and mixing heights for smoke dispersion.
- Discussion was important for highlighting the impacts of the local terrain on the burn site.

Spot Forecast for Robert Frost...Federal or State Agency National Weather Service Burlington VT 1032 AM EDT Fri Apr 14 2023

Forecast is based on ignition time of 1100 EDT on April 14. If conditions become unrepresentative...contact the National Weather Service.

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

.DISCUSSION...

Unusual warmth and low humidity continue, but not as hot or dry as yesterday. Ample sun exposure, northwesterly transport wind, and local terrain will favor a westerly flow at the burn site with speeds running slightly higher than usual upslope driven conditions. As such, sustained speeds of 8 to 11 mph should be expected through the afternoon with gusts to around 15 mph. RH this afternoon will be dropping to near critical levels around 30% but will improve overnight with recoveries in the 65-75% range. High pressure ridging will settle over the site tonight suppressing mixing for Saturday while allowing winds to decouple completely overnight. Expect a downslope wind component to develop after sunset. The burn site's location may be influenced by higher terrain immediately south of the site early in the evening driving a brief light south flow before more typical easterly downslope develops after 2200 local time.

.REST OF TODAY...

```
Sky/weather......Mostly sunny (25-35 percent) with periods of partly cloudy (35-50 percent) due to high clouds.

Chance of pcpn.....0 percent.

LAL.......1.

Max temperature....74-76.

Min humidity.....28-33 percent.

Wind (20 ft)....West-northwest winds 6 to 9 mph increasing to 8 to 11 mph with gusts to 15 mph after 1300.

Mixing height.....3000 ft AGL.

Transport winds....Northwest 7 to 9 mph.

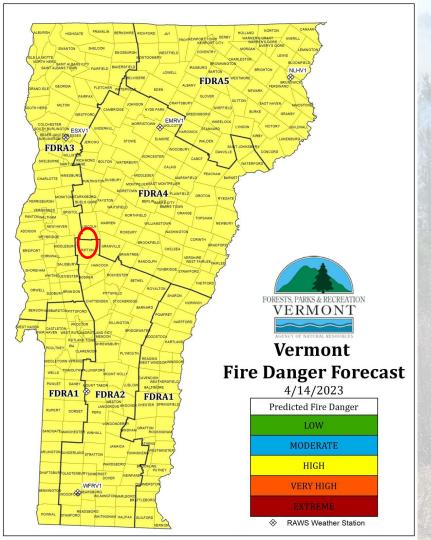
Haines Index......4 or low potential for large plume dominated fire growth.
```

TIME (EDT) 1	1 AM	1 PM	3 PM	5 PM
Sky (%)5	1	43	17	2
Weather cov				
Weather typeN	ONE	NONE	NONE	NONE
Tstm cov				
Chc of pcpn (%).0		0	0	0
LAL1		1	1	1
Temp6	6	71	74	74
RH4	8	38	35	35
20 ft windW	9	W 10	W 10	W 6
20 ft wind gust.				
Mix hgt (ft)2	000	2600	3000	2400
Transport windN	W 9	NW 8	NW 7	N 7
Haines index4		4	4	4
	Sky (%)	Sky (%)51 Weather cov Weather typeNONE Tstm cov Chc of pcpn (%).0 LAL1 Temp66 RH48 20 ft windW 9	Sky (%)51 43 Weather cov Weather typeNONE Tstm cov Chc of pcpn (%).0 0 LAL1 1 Temp66 71 RH48 38 20 ft windW 9 W 10 20 ft wind gust. Mix hgt (ft)2000 2600 Transport wind.NW 9 NW 8	Sky (%) 51 43 17 Weather cov NONE NONE NONE Tstm cov 0 0 0 LAL 1 1 1 Temp 66 71 74 RH 48 38 35 20 ft wind W 9 W 10 W 10 20 ft wind gust Mix hgt (ft) 2000 2600 3000 Transport wind NW 8 NW 7

About the Burn Site

- Robert Frost Interpretive Trail in Ripton, VT.
- Meteorologists were stationed about ¼ mile away from the burn site in a location with similar conditions in order to provide accurate observations.
 - Being further from the burn site allowed for good observations on smoke behavior.



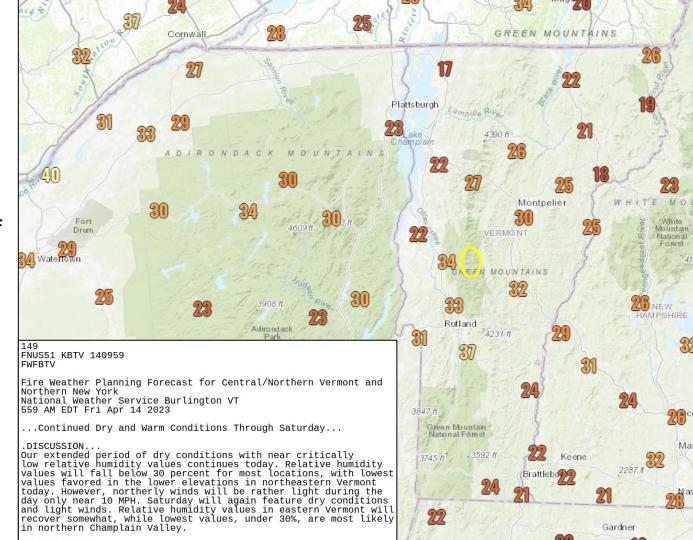


Weather Conditions

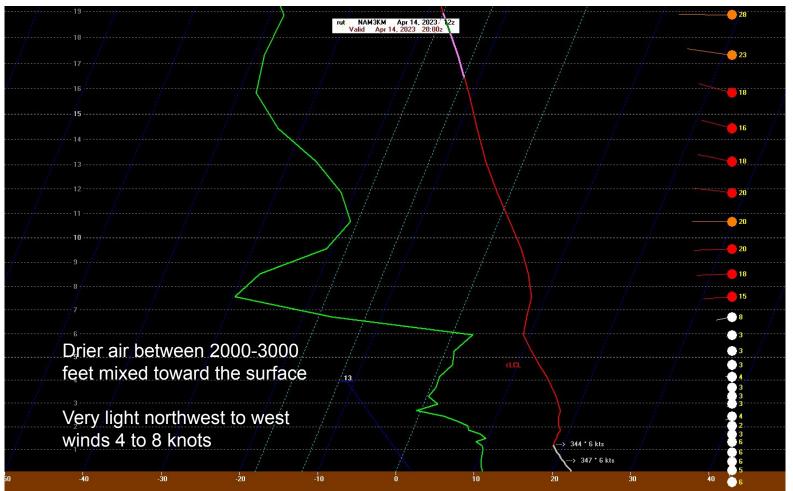
- The best days for prescribed burns are associated with near critical fire weather conditions.
- Early April was characterized by a prolonged period of dry weather due to high pressure building over the region.
 - Red Flag Warning was issued for the Champlain Valley earlier in the week.

Weather Conditions

- Near critical RH values across the region during a prolonged period of warm and dry weather.
- Winds were much lighter compared to the Red Flag Warning earlier in the week.



NAM 3KM at RUT at 3 PM on 14 April 2023



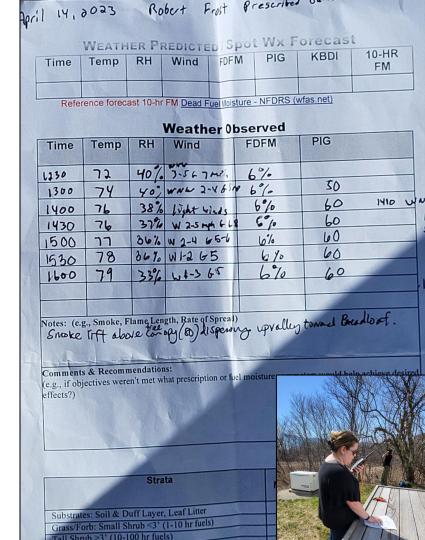


Weather Briefing

- Meteorologists provided the crew with a verbal weather briefing the morning of the burn at the GMNF Rochester Ranger Station prior to firing operations.
 - The verbal briefing is often very similar to the spot forecast
 - Provides better situational awareness for the entire crew and onsite Mets involved in the prescribed burn
 - Chance to ask questions with two way communications

During the Prescribed Burn

- Throughout the burn, weather observations were taken every half hour to update the crew via radio.
 - Observations included the current temperature, RH, wind speed and direction (including gusts).
 - Fine Dead Fuel Moisture (FDFM) and Probability of Ignition (PIG) were also relayed to the crew to provide insight on the fire behavior.
- Smoke behavior and movement were also shared so the crew had a sense of any impacts given the proximity to Rt. 125 and the Middlebury Bread Loaf Campus.





Overall Takeaways

- The prescribed burn was a great success with all of the roughly 7 acres properly and safely burned.
 - This will promote growth of the blueberries located in the Robert Frost Interpretive Trail and improved habitat for the local wildlife.
- On-site support allows NWS Burlington to build our relationship with GMNF and our other fire weather partners.

BTV Fire Weather Program Review

- Red Flag Event on 11 April 2023, first since April 2021
- Issued 52 Spots, 38 prescribed burns and 3 wildfires, only 39 total in 2022
- Provided onsite support to GMNF for Robert Frost Prescribed Burn
- Expanding FWF and FWM to twice a day starting March 20th
- Fire Weather Users Meeting on 13 March 2024 from 9 AM to Noon
- IMET deployment in Fall of 2023 to Anvil Fire in SW Oregon



Fire Weather Outlook

NWS Albany

Fire Weather Outlook Spring 2024 Wednesday March 7, 2024

Presented by: Steve DiRienzo Warning Coordination Meteorologist NWS Albany



- About NOAA's Seasonal Outlooks
- 8-14 Day Outlook
- March 2024 May 2024 and June 2024 Aug 2024 Outlooks
- El Niño First Time in 4 Years
- 2024 Precipitation to Date
- Fire Weather Climatology
- Summary
- Statewide Fire Weather Links
- Hurricane Awareness Tour May 7, 2024 Albany Intl Apt



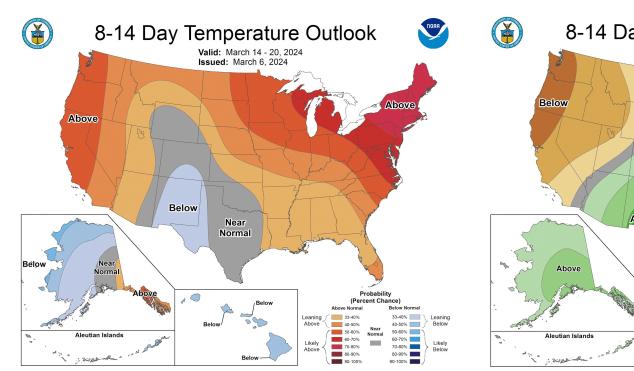


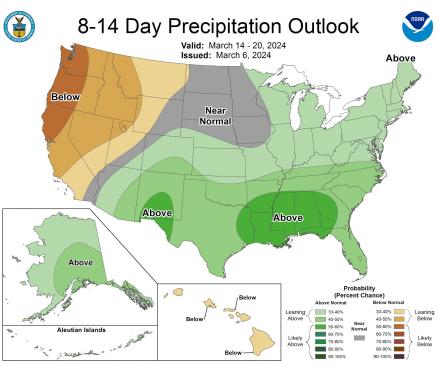
About NOAA's Seasonal Outlooks

- NOAA's seasonal outlooks provide the likelihood that temperatures and total precipitation amounts will be above, near, or below-average, and how drought conditions are anticipated to change in the months ahead.
- NOAA's Climate Prediction Center updates the monthly and three-month outlooks each month. The next update will be available Thursday Mar 21, 2024.



8-14 Day Outlook



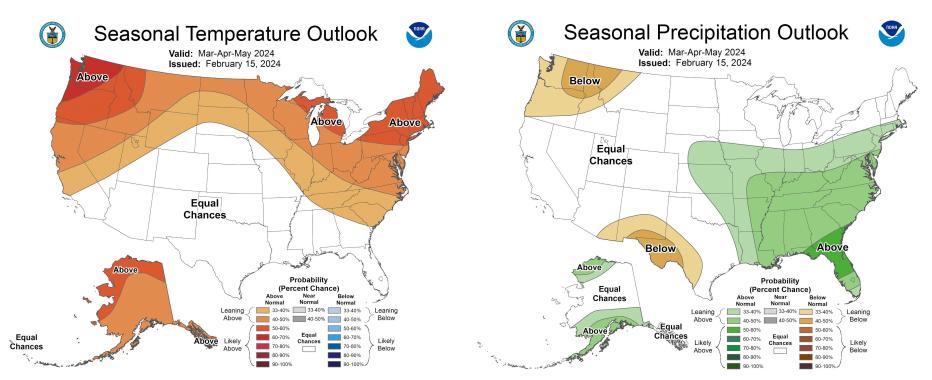


Signals for warmer and wetter than normal.





Spring Outlook (Mar 2024 - May 2024)

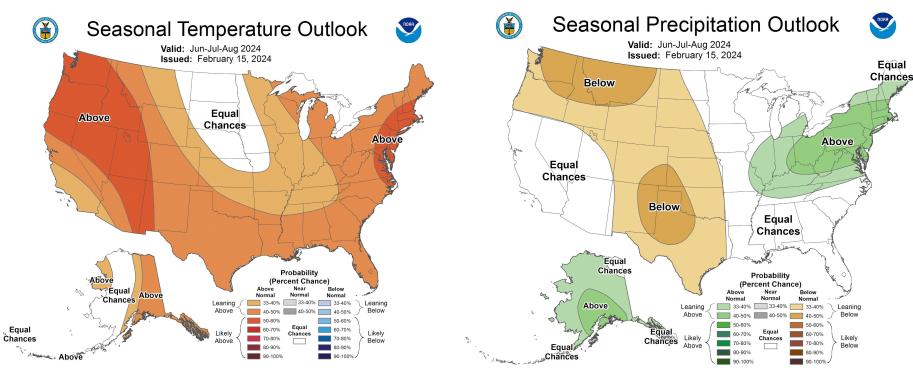


Southeastern NY looks to be wetter than northern NY.





Summer Outlook (Jun 2024 - Aug 2024)

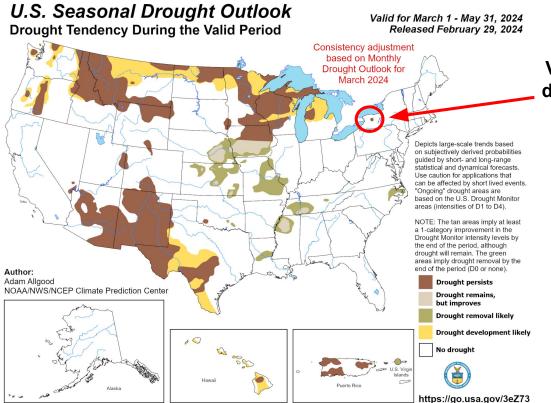


https://www.cpc.ncep.noaa.gov/





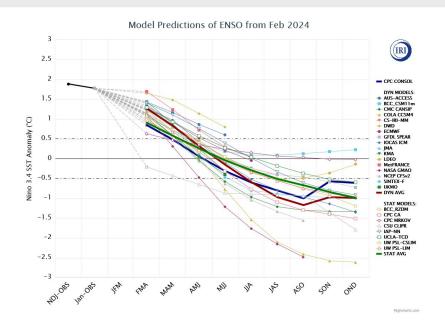
Drought Outlook (Nov 30, 2023 - February 29, 2024)



Very Small area of drought in western NY: Forecast to persist.



ENSO Outlook - El Niño in Progress (Pacific Warm Phase)



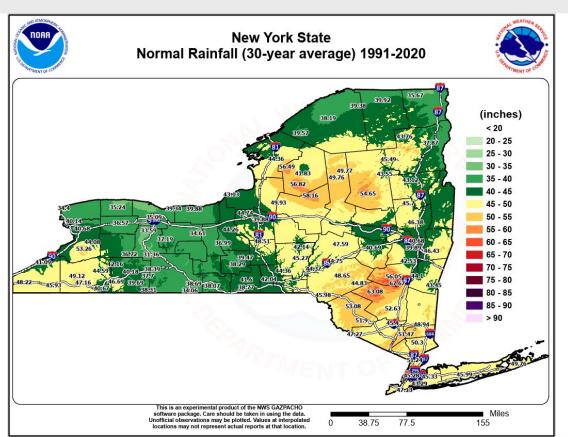
El Niño transitions to La Niña this summer:

- La Niña tends to increase Atlantic tropical cyclone development.
- Fall may be wetter than normal.





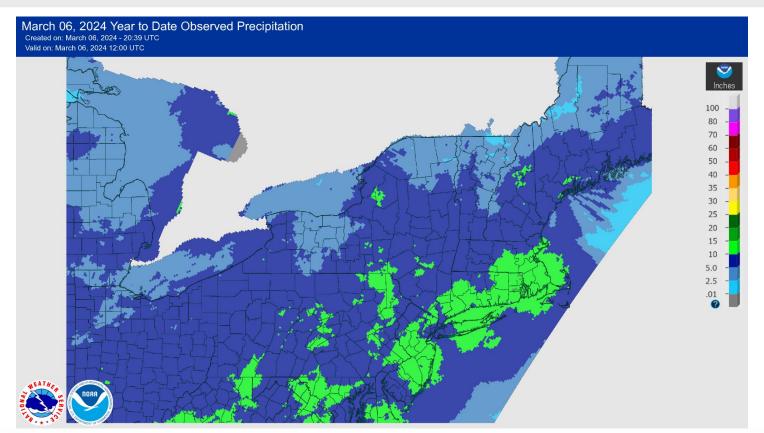
New York Annual Rainfall







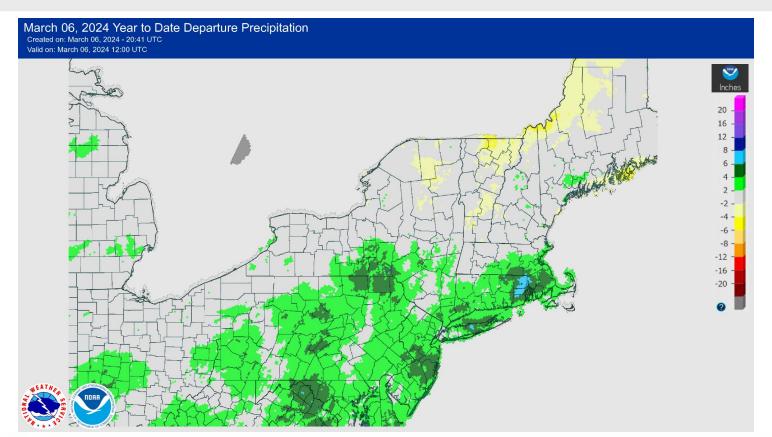
New York Rainfall - Year to Date





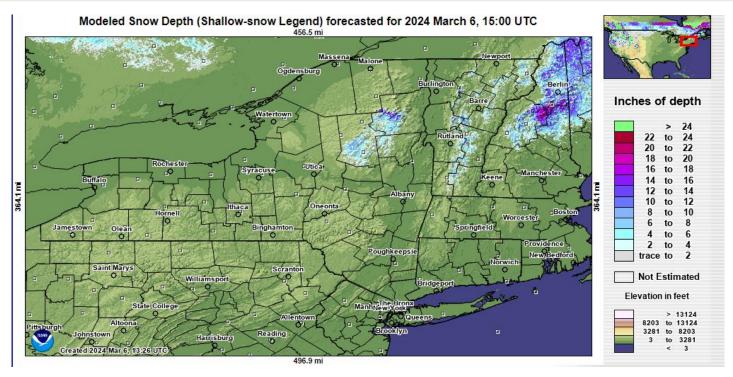


New York Rainfall - Year to Date Departure From Normal





New York Snow on Ground - Mar 6 - 10 AM

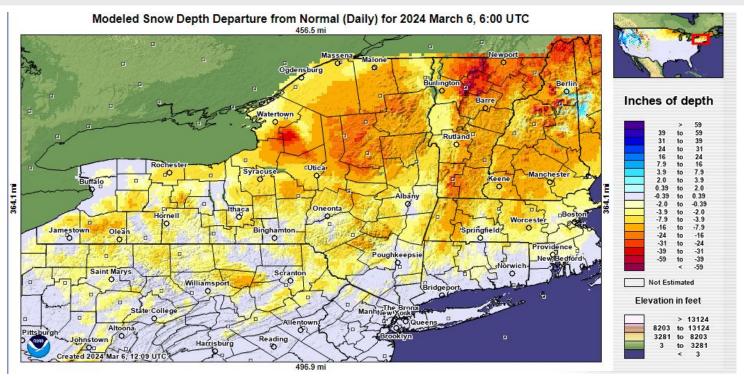


https://www.nohrsc.noaa.gov/interactive/html/map.html?ql=station&zoom=&loc=Latitude%2CLongitude%38+City%2CST%38+or+Station+ID&var=snow_depth_shallow&dy=2023&dm=12&dd=12&dh=16&snap=1&o11=1&o9=1&o12=1&o13=1&ibl=m&mode=pan&extents=us&min x==80.01666666669&min y=40.0999
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New York Snow on Ground - Mar 6 - 01 AM

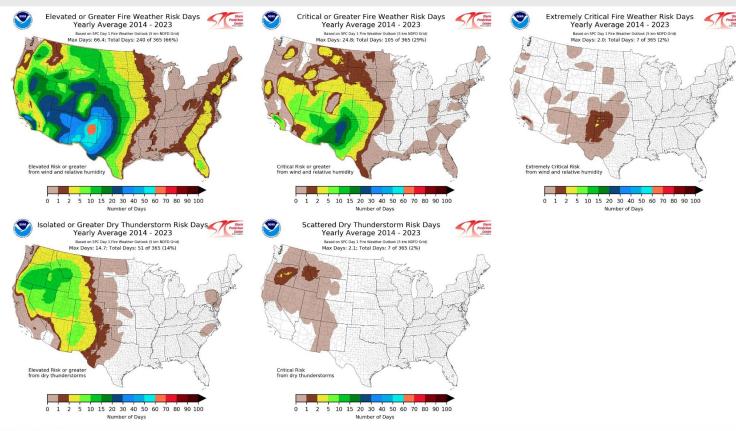


https://www.nohrsc.noaa.gov/interactive/html/map.html?ql=station&zoom=&loc=40.85+N%2C+70.92+W&var=ssm_depth_norm_d&dy=2023&dm=12&dd=12&dh=16&666666668&min_y=40.099999999968max_x=-70.6333333333636
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Fire Weather Climatology





Fire Weather Outlook Summary

- Rainfall Near Normal
- Snowpack Well Below Normal
- Fine Fuels will dry quickly with no snow cover
- Conflicting signals: Possibility of above normal fire season this spring if no additional snow, but there is a wet signal after greenup for this summer





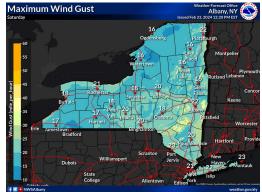
Statewide Fire Weather Information

New York State Briefing Graphics: https://www.weather.gov/aly/nys







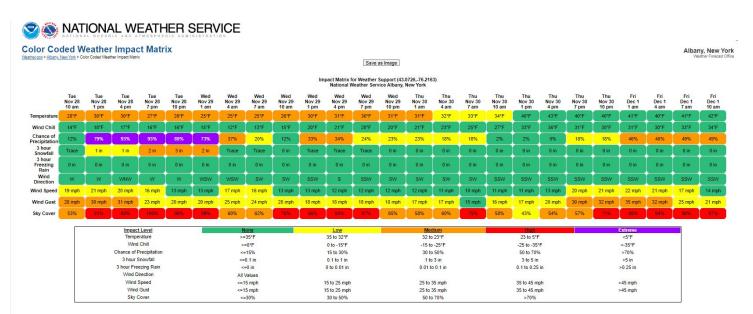




Weather Forecast Matrices

Weather Matrices: https://www.weather.gov/aly/nysDSSMatrix

<u>https://www.weather.gov/aly/NYSThruway</u>
Display Winter Weather Elements now into spring.







Hurricane Awareness Tour



Planned stop at Albany Apt May 7 2024.

Invites go out soon.

- About NOAA's Seasonal Outlooks
- 8-14 Day Outlook
- March 2024 May 2024 and June 2024 Aug 2024 Outlooks
- El Niño First Time in 4 Years
- 2024 Precipitation to Date
- Fire Weather Climatology
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- Statewide Fire Weather Links
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Steve DiRienzo
Warning Coordination Meteorologist
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(518) 626-7542

Michael Main Meteorologist/Fire Weather Focal Point michael.main@noaa.gov (518) 626-7572



"New" NY Fire Weather Zones

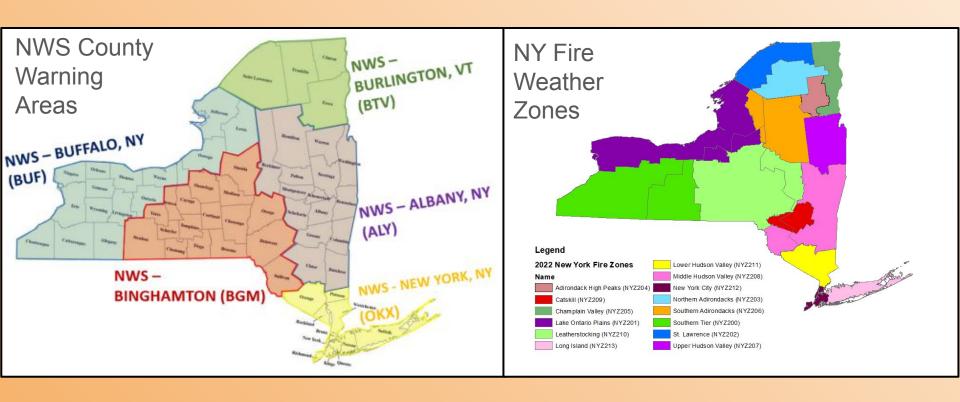
Mike Main, NWS Albany

Refresher on the new NY Fire Weather Zones

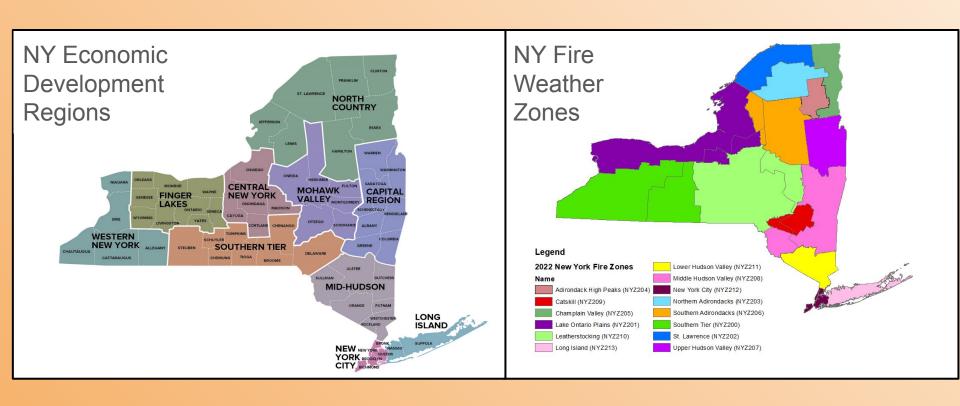
- Last year, the NWS and our partners at the DEC agreed to the implementation of 14 new fire weather zones
- These fire weather zones group areas of similar fuels, topography, and weather conditions instead of grouping by counties
- Fire weather zones adhere more closely to FDRA boundaries, making Red Flag coordination and messaging easier



...However, NWS County Warning Areas Do Not Match Fire Weather Zones



...Or the NY Economic Development Regions



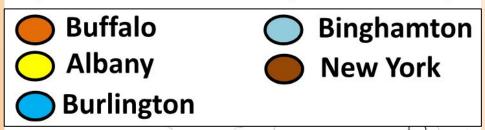
How did implementation of these zones go in 2023?

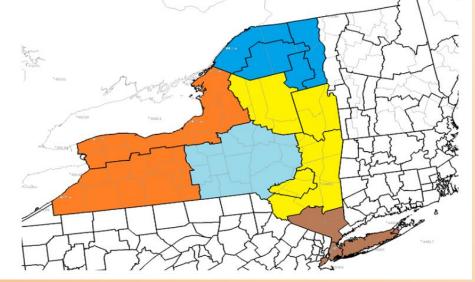
- Initially, there was confusion due to these inconsistencies
- In an attempt to avoid confusion, the NWS will refer specifically to the affected FDRAs (i.e. saying "Middle Hudson Valley FDRA" instead of "the Mid Hudson Valley") in our briefings
- Discussion Questions:
 - Does anyone need further clarification on the new fire weather zones?
 - Does referring to the FDRAs in this manner avoid confusion
 - Any other suggestions/things that need to be changed for 2024?

Other Miscellaneous Notes

- Special Weather Statements
 (SPSs) are still issued by
 county. Therefore, the area
 included in an SPS may not
 exactly match the borders of the
 FDRA
- Spot forecasts for wildfires and prescribed burns are tied to the new fire weather zones, so don't be surprised if you receive a spot forecast from a different office than in the past for a given location

Spot forecast responsibility





Discussion Topics

RFW/SPS Issuance Discussion Topics

- How did collaboration go last year? Does anything need to change this year?
- Were there any cases where the NWS and DEC disagreed on RFW/SPS issuance last year? If so, how was this resolved? What can be done to make things go smoother going forward?
- When is the best time to collaborate RFW/SPS issuance (morning or afternoon)
- Would it be useful for NWS Albany as the state liaison office to email RH/Wind maps?
- We want to have just 1 call to the FMO/AFMO and avoid early wake up calls

SPS Discussion

- The NWS is looking at defining set criteria (wind, RH) for when an SPS will be issued
 - Currently, there is a lot of "forecaster discretion" involved
 - SPS are usually used when we are close to RFW criteria, but what does "close" mean?
- We are just starting this discussion, don't have to have an answer today
- Should an SPS be used when 2/3 of wind/RH/fuel criteria are met? What about if all 3 are just short of RFW criteria?
- Will keep option for SPS issuance at the request of the DEC to raise "elevated fire awareness"

Open Discussion - Final Session

- Any lingering questions/comments/concerns
- Is there anything that wasn't addressed in this meeting that you feel needs to be addressed?
- If there's time -
 - How often do you read the fire weather section of the NWS area forecast discussion? Do we need to include it on non-fire weather days
 - Is there any additional information you would like included in the forecast discussion (ie forecast confidence/uncertainty)?
 - How far out (day 2, day 5...) would you like to see us discuss the potential for fire weather?