

# Northeast Spring Flood Outlook 2024

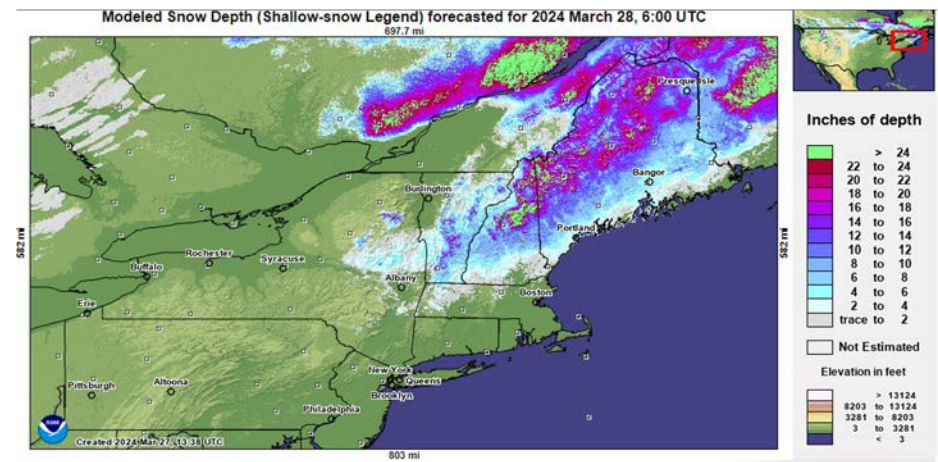
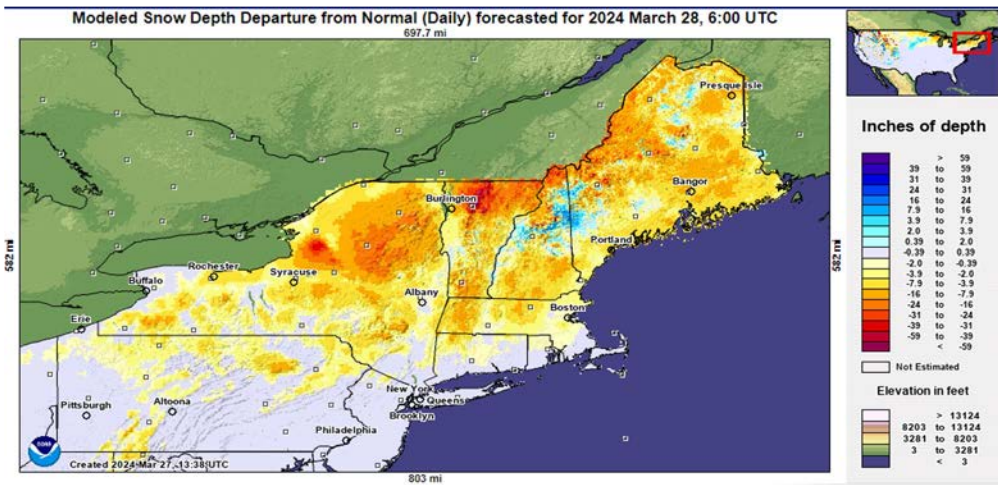
- Climatological winter 2023-24: Below normal snowfall, above average temperatures and precipitation most areas.
- Snow has increased across the northern high terrain this March.
- Below normal snow water found except near normal at elevations 1500+ ft in northern New England
- Flood potential has increased again in extreme southeastern NY...southern and eastern New England.

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BRIEFING VALID: 3/28/2024

Major River basins within the NERFC area:

## NERFC Responsibility

*Major river  
basins include  
Genesee,  
Hudson,  
Housatonic,  
Connecticut,  
Merrimack,  
Kennebec and  
Penobscot,  
Blackstone,  
Pawtuxet*



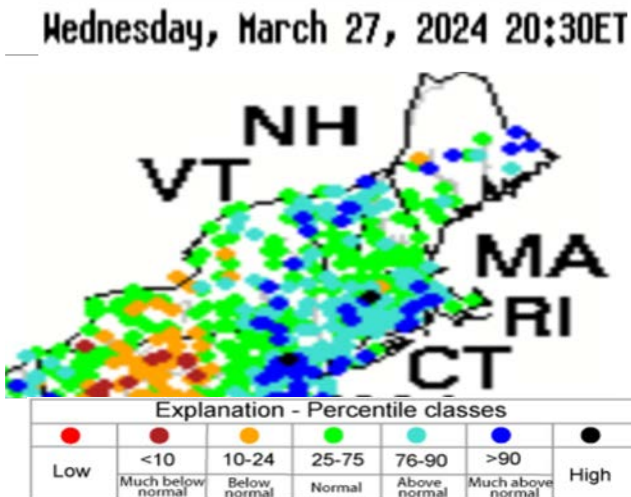
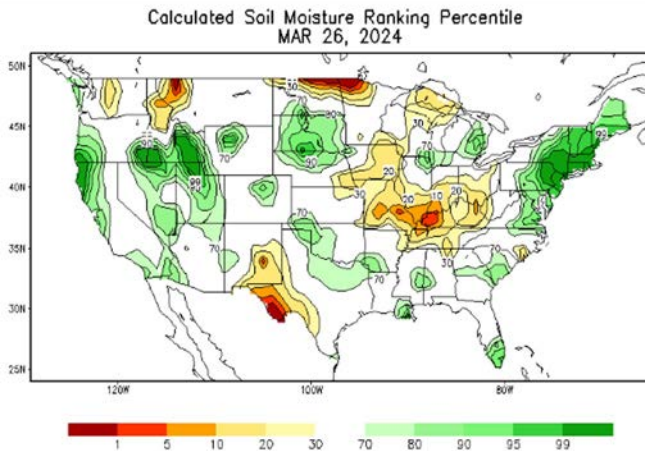
Courtesy Dave Vallee

# Factors for Spring Flood Potential 2024

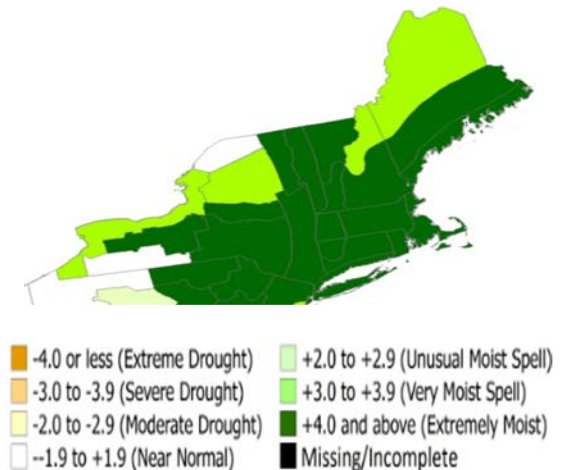
- Soil Moisture and Groundwater levels: Normal to well Above normal central and east.
- Streamflows: Near to Above normal central and east.
- Near normal snowpack and snow water in the higher elevations of Northern New England

Heavy rain can cause flooding even if none of these extra factors exist

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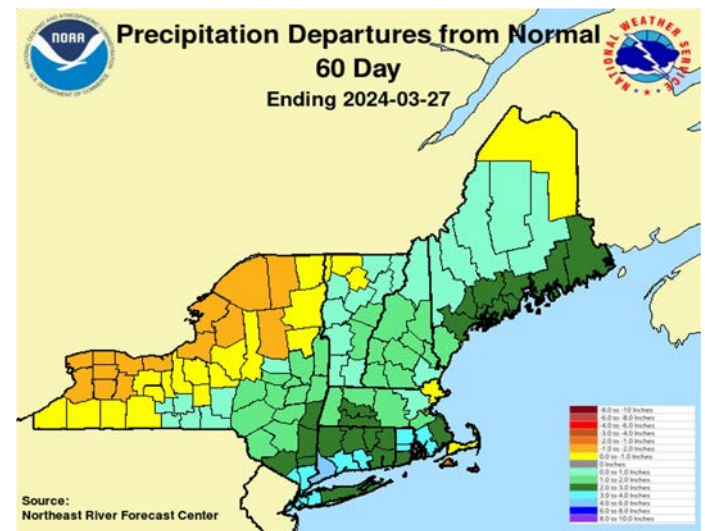
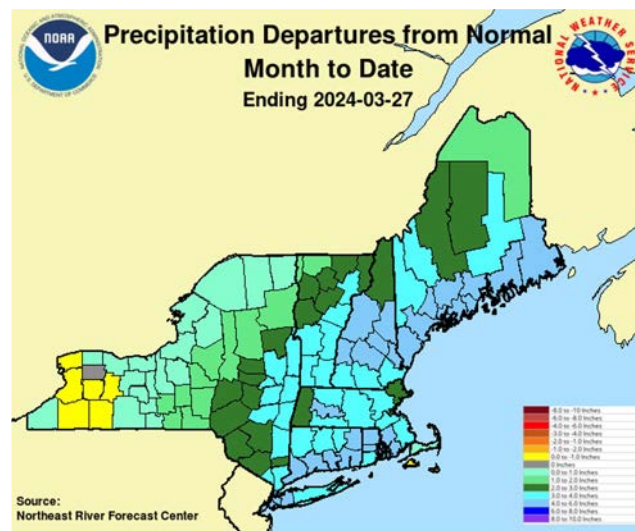
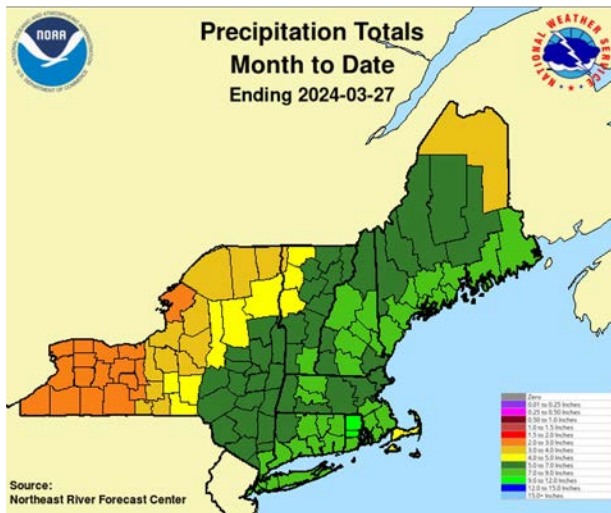
Drought Severity Index by Division  
 Weekly Value for Period Ending Mar 23, 2024  
 Long Term Palmer



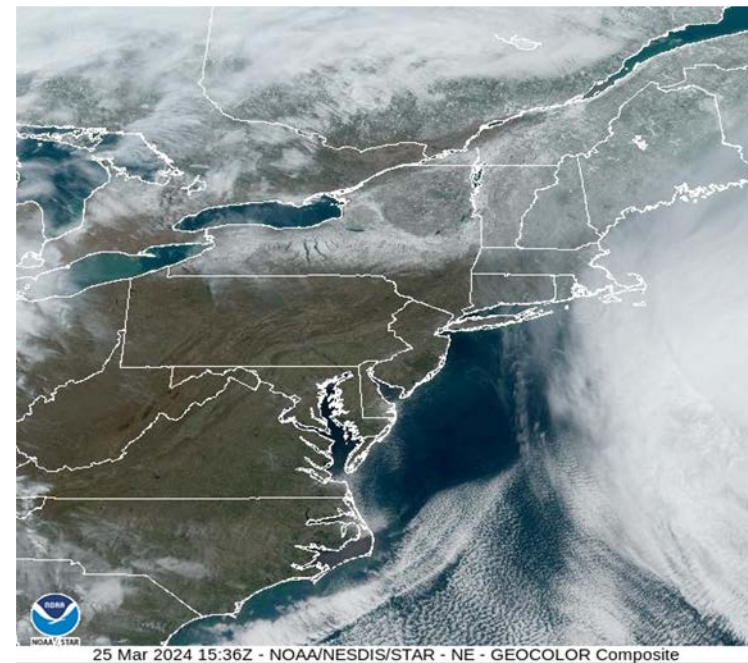
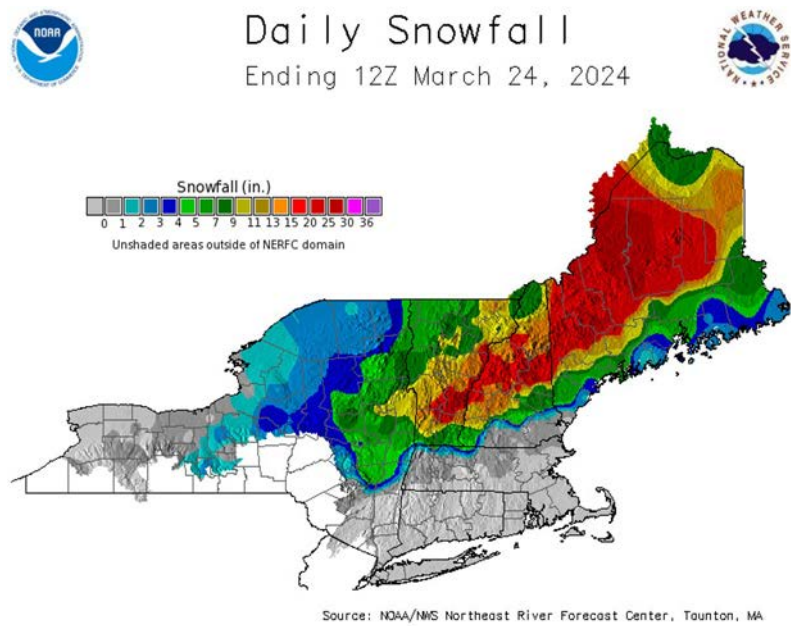
# Recent Precipitation

## Above normal precipitation across most of the NERFC area for March thus far

- For March, monthly precipitation totals are 1-5+ inches above normal except near normal ACK, MVY, Western NY. Double the normal March precipitation so far from NYC, BDL, PVD, PWM, CON.
- Looking out 60 days, mixed precipitation departures:
  - ◆ Above normal precipitation most significant extreme southeastern NY, most of SNE, coastal ME
  - ◆ Near to Below normal for northern & western NY, far northern ME
  - ◆ Below normal Martha's Vineyard and Nantucket

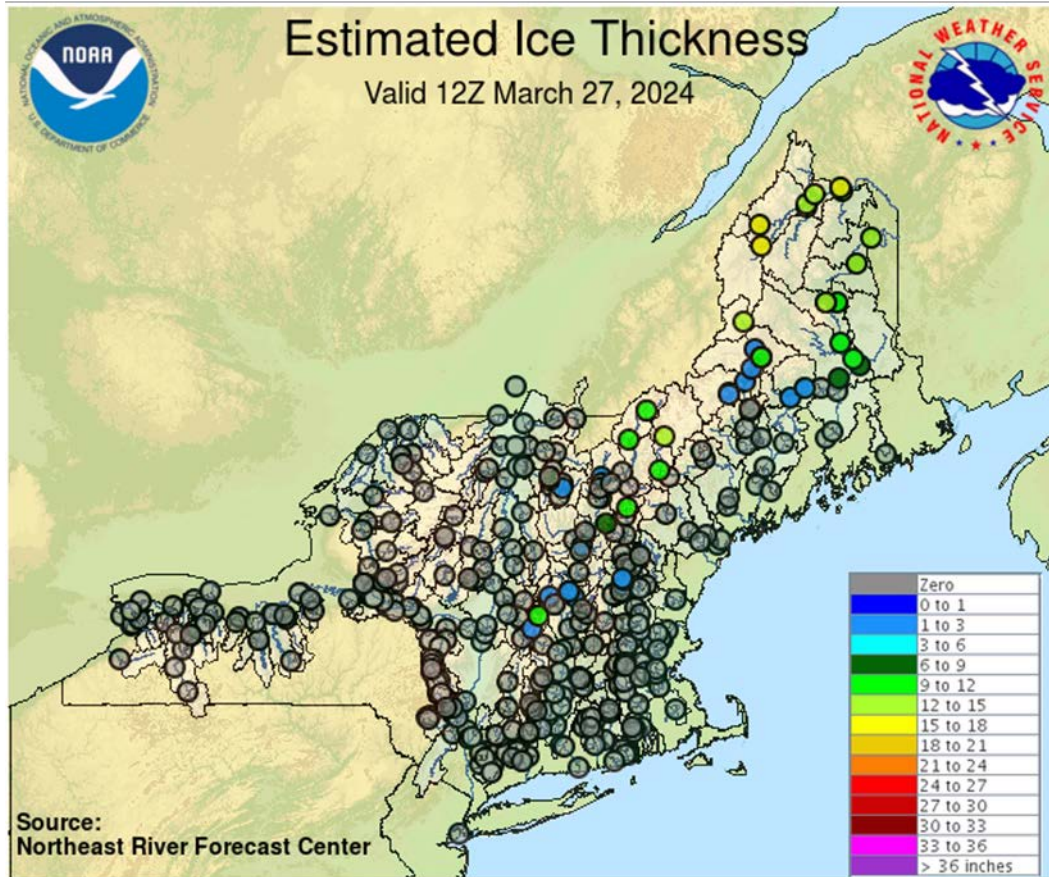


# Significant late March snowfall



New snow totals 1-2+ feet were added across high terrain areas of the northern basins 3/23-24.

# River Ice Conditions



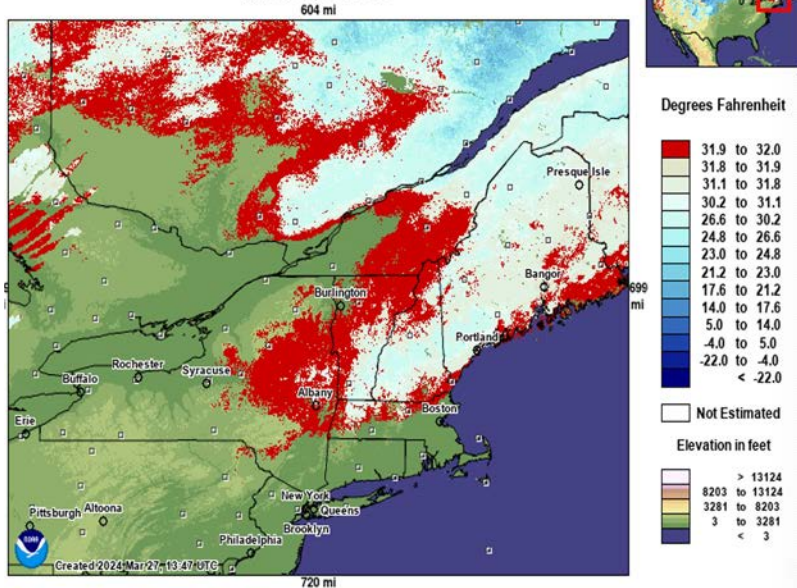
- River ice re-formed in parts of far northern New England.
- Significant river ice remains confined to northern Maine primarily the Saint John and Aroostook Rivers.



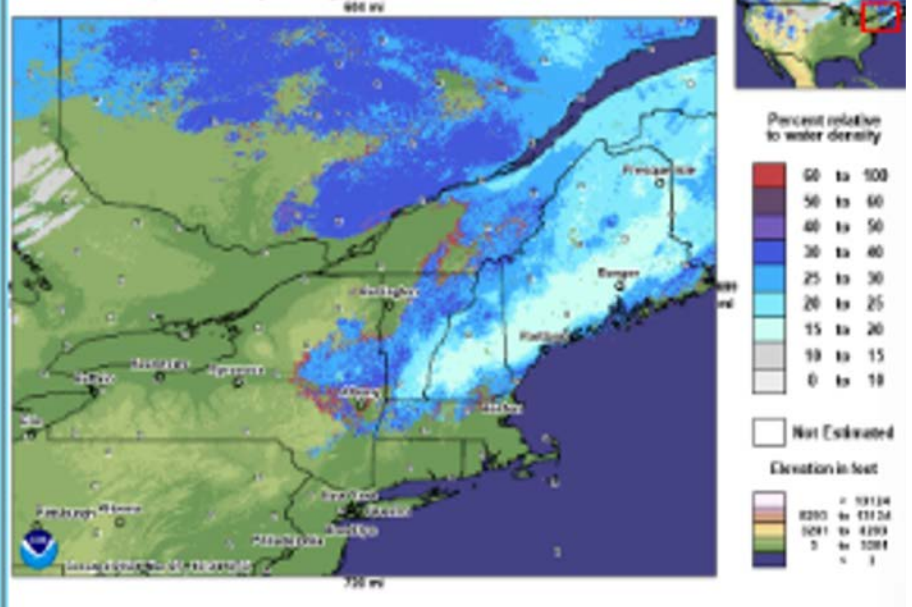
Webcam image along the Saint John River at Dickey, Maine.

# Snowpack Temperature and Snow Density values

Average Modeled Snowpack Temperature forecasted for 24h preceding 2024  
March 28, 6:00 UTC



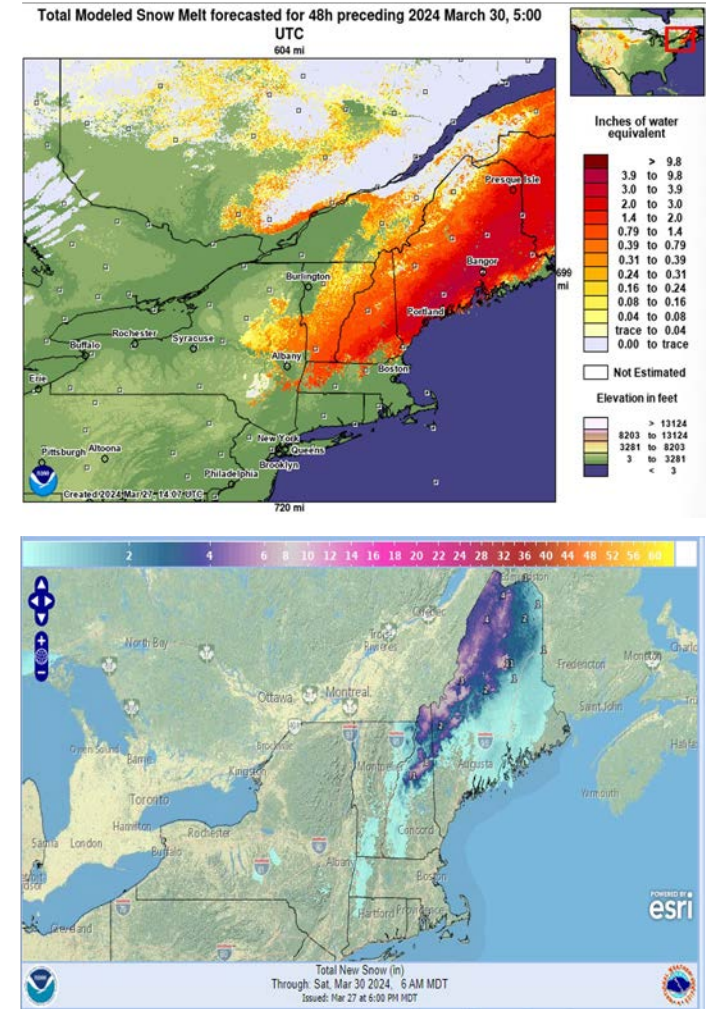
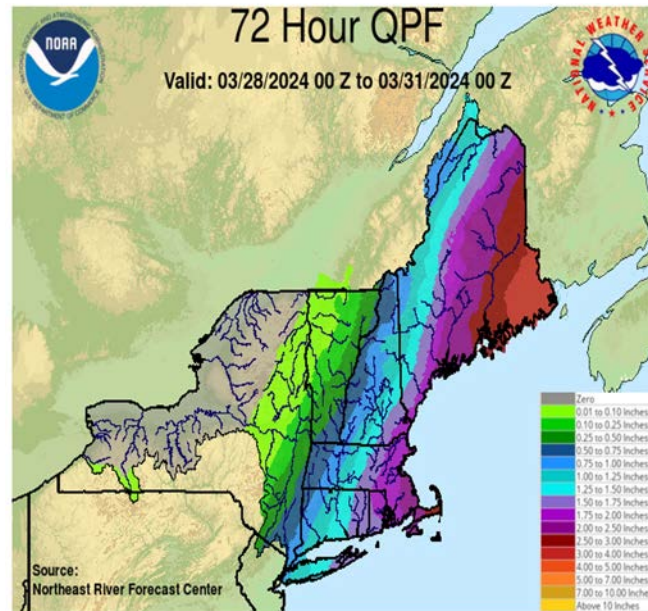
Modeled Snowpack Density (Hourly) forecasted for 2024 March 27, 23:00 UTC



- Coldest snowpack temperatures found across high terrain areas and northwestern Maine.
- Higher snowpack densities from southern/central Green Mountains into central New Hampshire to the foothills of interior Maine.

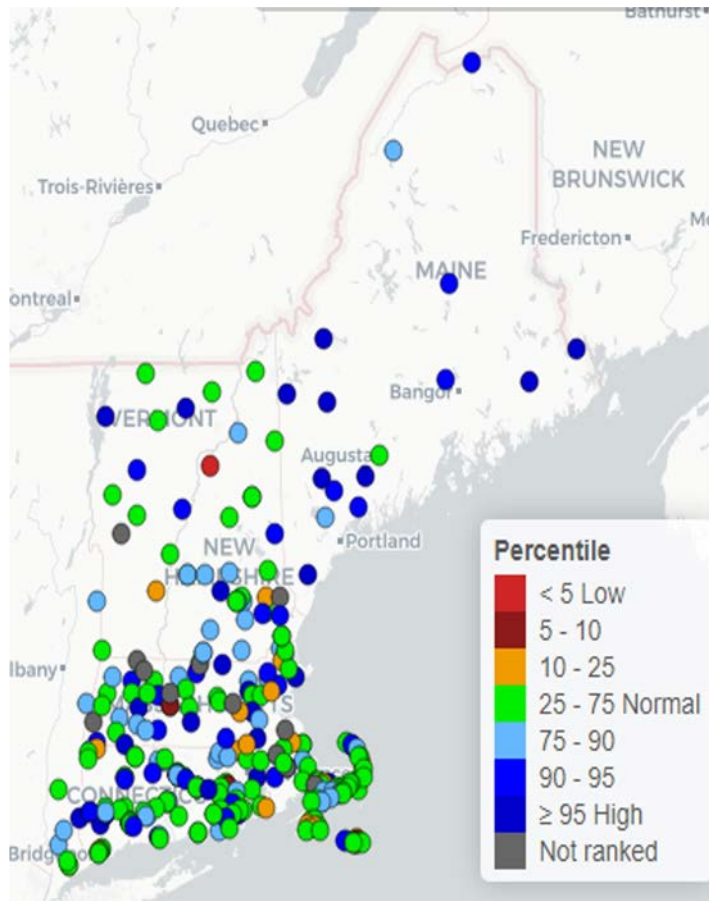
# NERFC 72 hour Precipitation and Snowmelt, Snowfall forecasts

- Rain changing to snow primarily across interior northern New England
- Drier weather conditions this weekend.
- Some significant snow accumulations forecast across northern New Hampshire and northwestern Maine.
- Heaviest amounts expected in the higher elevations



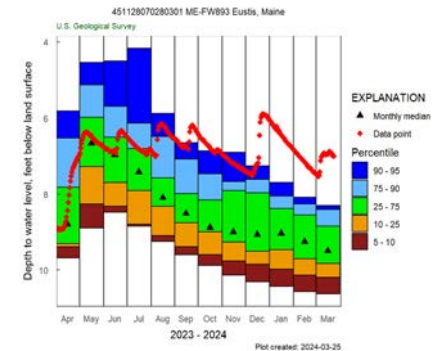
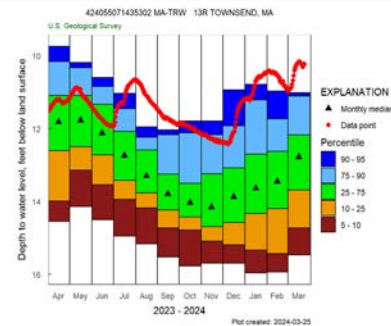
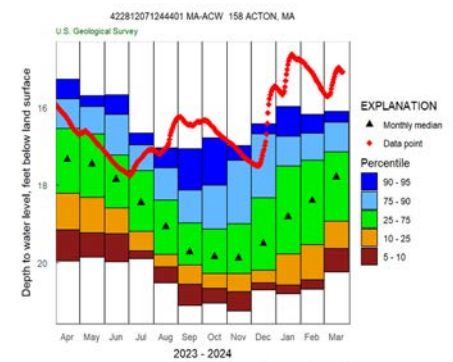
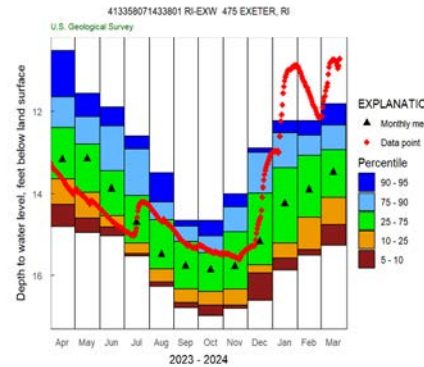


# Groundwater (courtesy USGS)

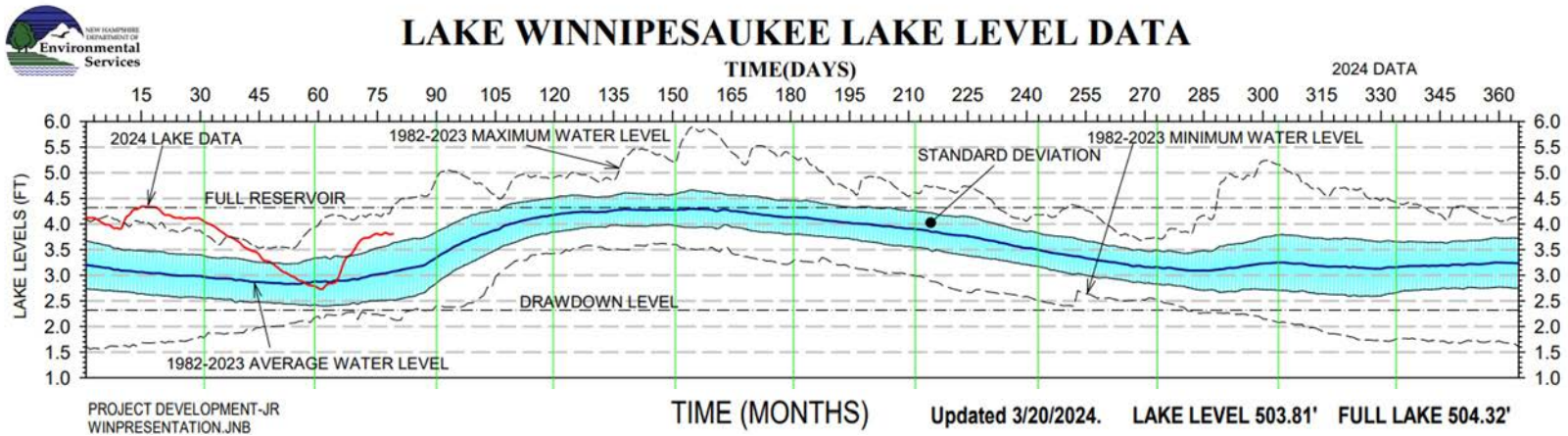


## Near normal to above normal outside of western New York

- Groundwater wells in New England and eastern New York are in the normal to well above normal range
- Widespread below normal groundwater levels observed in western New York & Nantucket Island. Some maximum levels for late March in eastern NY and New England.
- Reduced storage for additional runoff in these areas.



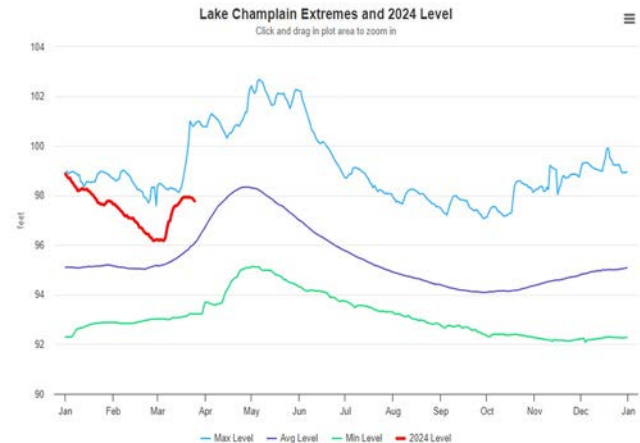
# New England Lake Levels



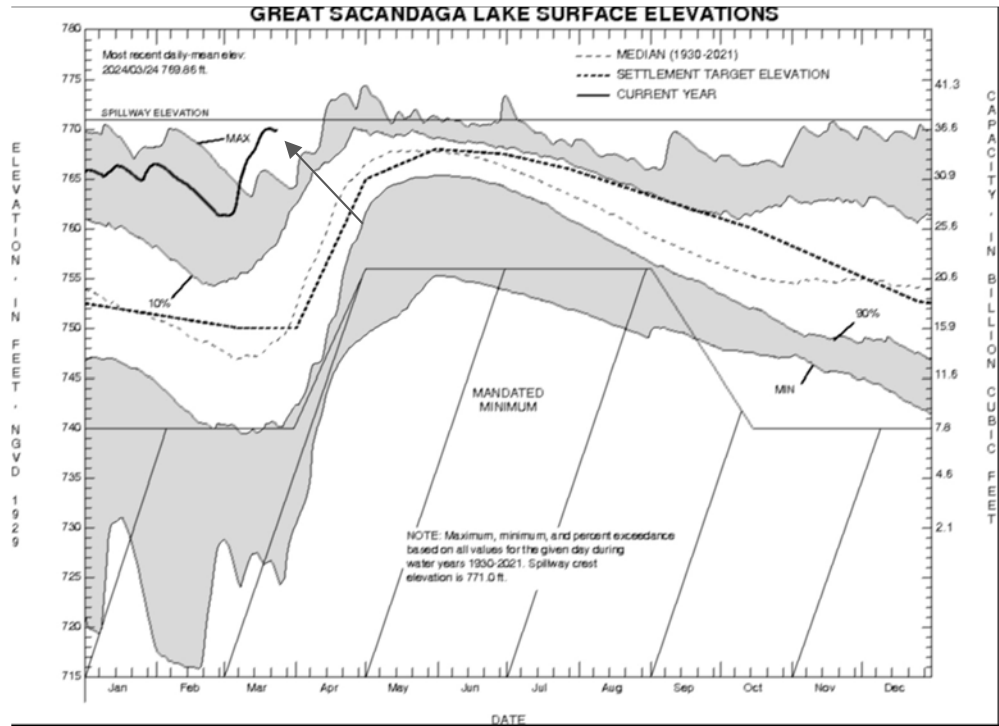
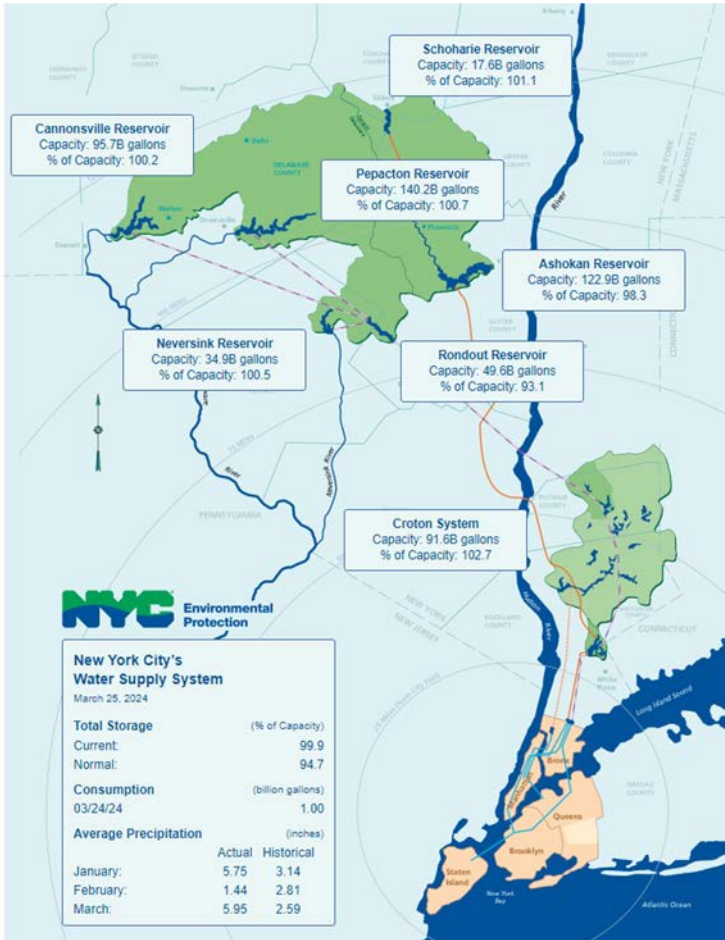
- Significant increase at Lake Winnepesaukee from normal levels from early March to above normal now.
- Lake Champlain remains above average with a net increase since the beginning of March.

Other reservoirs of note (all increased since the end of February):

- Quabbin - 100.9% (as of 3/25 overflowing)
- Scituate - 105.8% (overflowing)

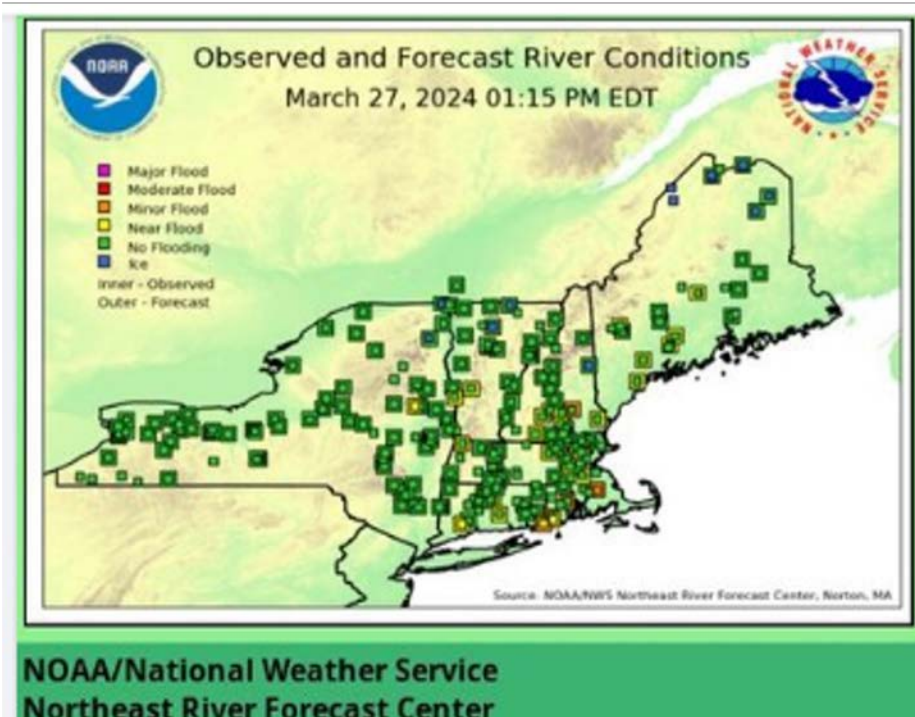


# New York Lake Levels / Water Supply

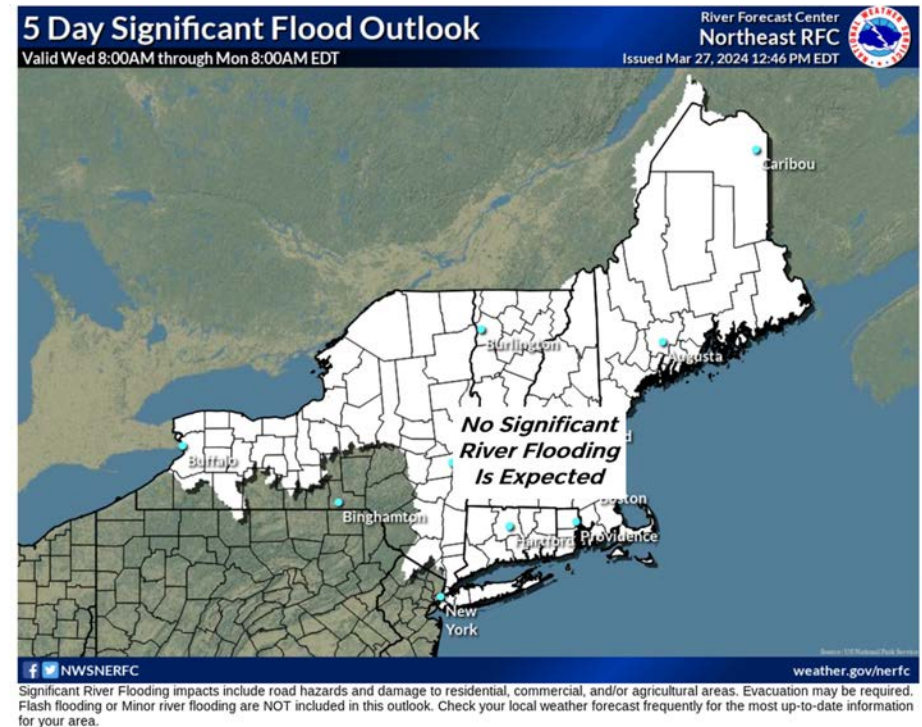


- NYC system is at 99.9% capacity (normal is 94.7%)
- Great Sacandaga remains above maximum levels for this time of year.

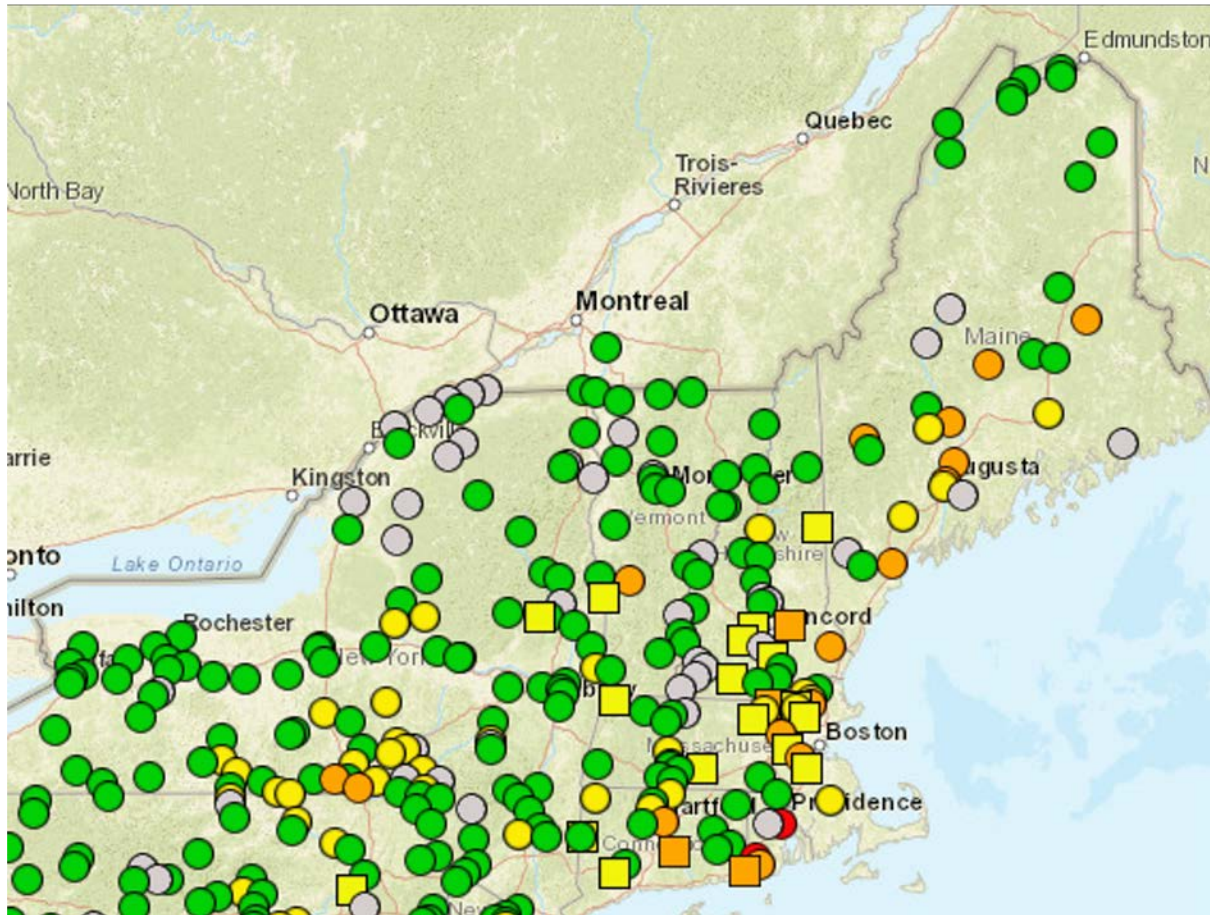
# NERFC River Conditions and 5 day Significant River Flood Outlook



- Action to Minor River flooding primarily along the eastern New England coastal basins



# Ensemble Streamflow Predictions

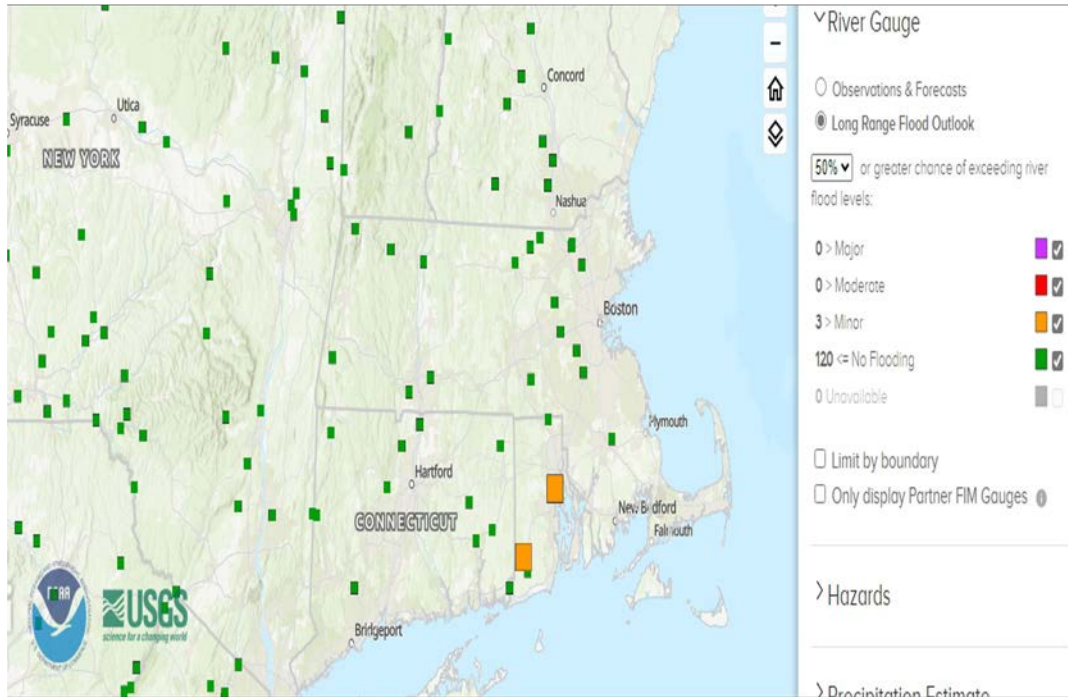


Chance of Exceedance		
30%	Level	70%
●	Action	■
●	Minor Flood	■
●	Moderate Flood	■
●	Major Flood	■
●	= less than 30% chance of reaching Action level	
●	= no critical levels defined for this point	

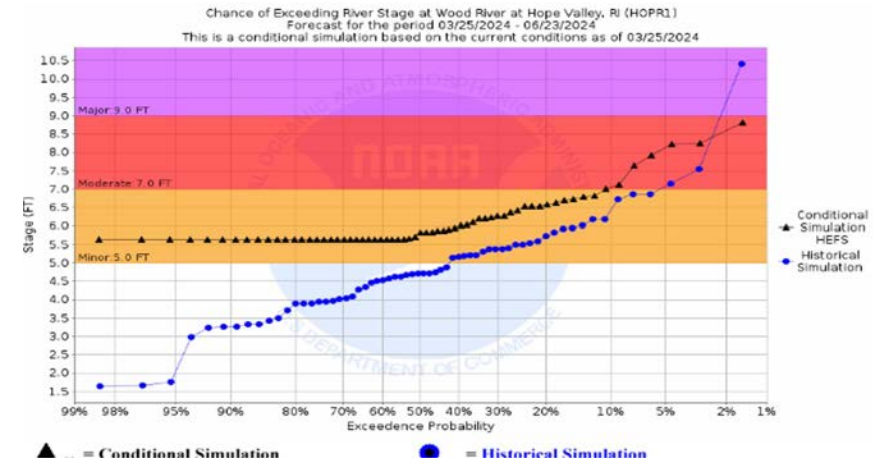
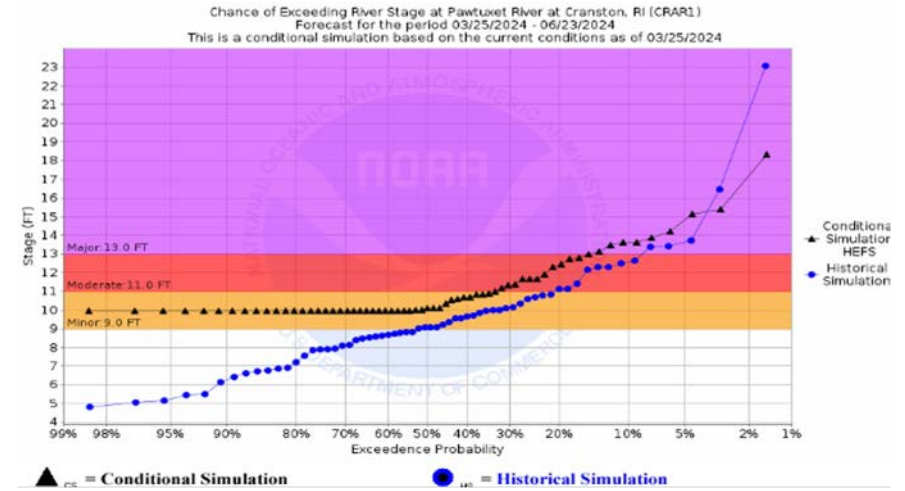
Signals in the NAEFS ensemble for action and minor flood level rises mostly through this weekend due to QPF and melt runoff.

Additional signal noted around 4/3-4/4 subject to ptype and QPF amounts with the low track.

# NERFC Long Range Flood Outlook through the next 90 days

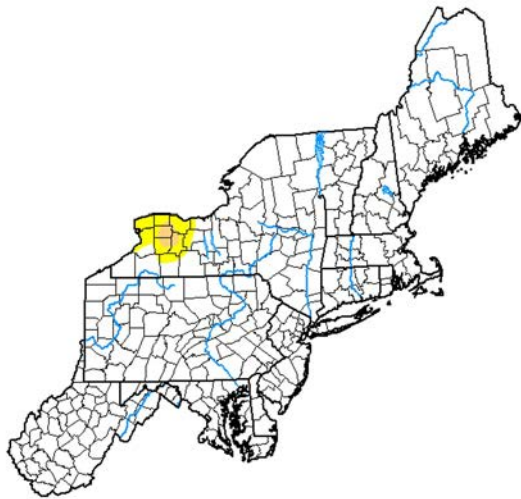


- Chance of exceeding flood vs the historical values: Greatest signal: Pawtuxet River at Cranston RI and Wood River at Hope Valley RI



# Drought Monitor

## U.S. Drought Monitor Northeast



**March 19, 2024**

(Released Thursday, Mar. 21, 2024)  
Valid 8 a.m. EDT

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	97.54	2.46	0.49	0.00	0.00	0.00
<b>Last Week</b> 03-12-2024	97.41	2.59	0.49	0.00	0.00	0.00
<b>3 Months Ago</b> 12-19-2023	83.93	16.07	3.39	0.68	0.00	0.00
<b>Start of Calendar Year</b> 01-01-2024	67.20	12.80	2.50	0.67	0.00	0.00
<b>Start of Water Year</b> 09-26-2023	88.48	11.52	1.44	0.08	0.00	0.00
<b>One Year Ago</b> 03-21-2023	95.91	4.09	0.00	0.00	0.00	0.00

Intensity:



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

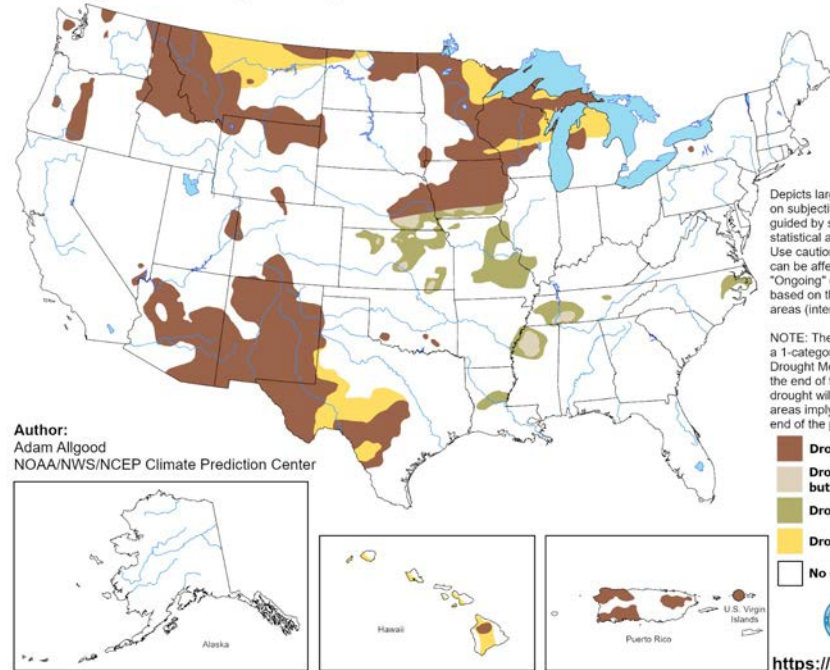
Brad Rippey  
U.S. Department of Agriculture



[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)

## U.S. Monthly Drought Outlook Drought Tendency During the Valid Period

Valid for March 2024  
Released February 29, 2024



Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

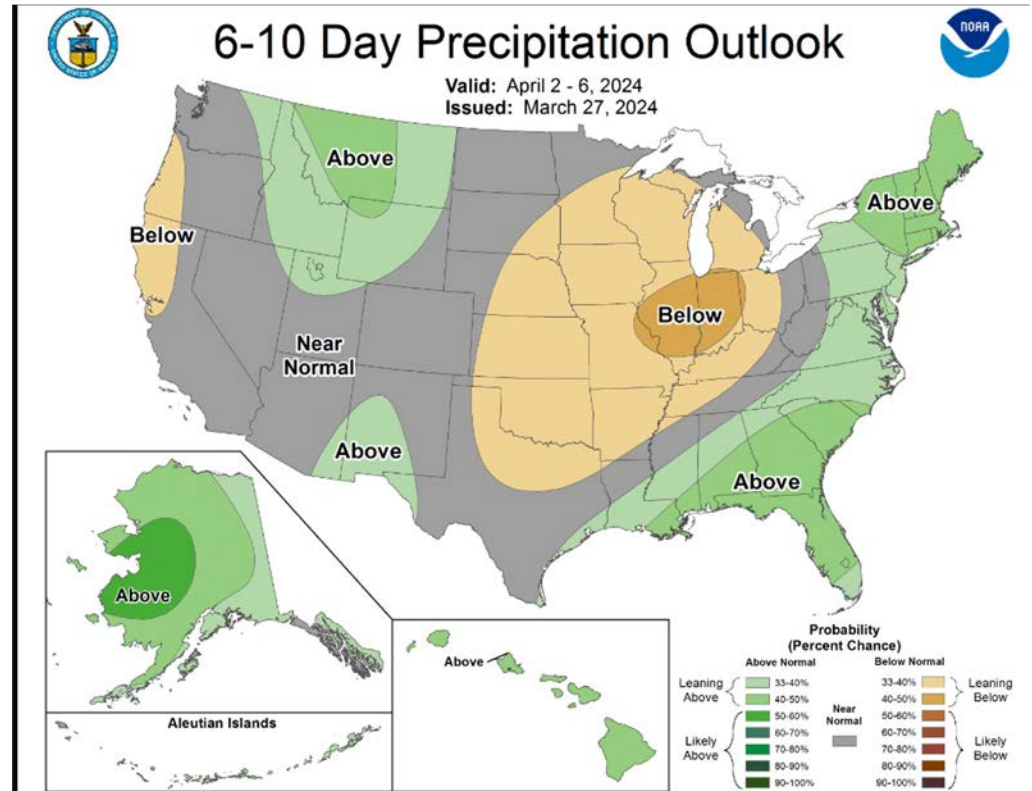
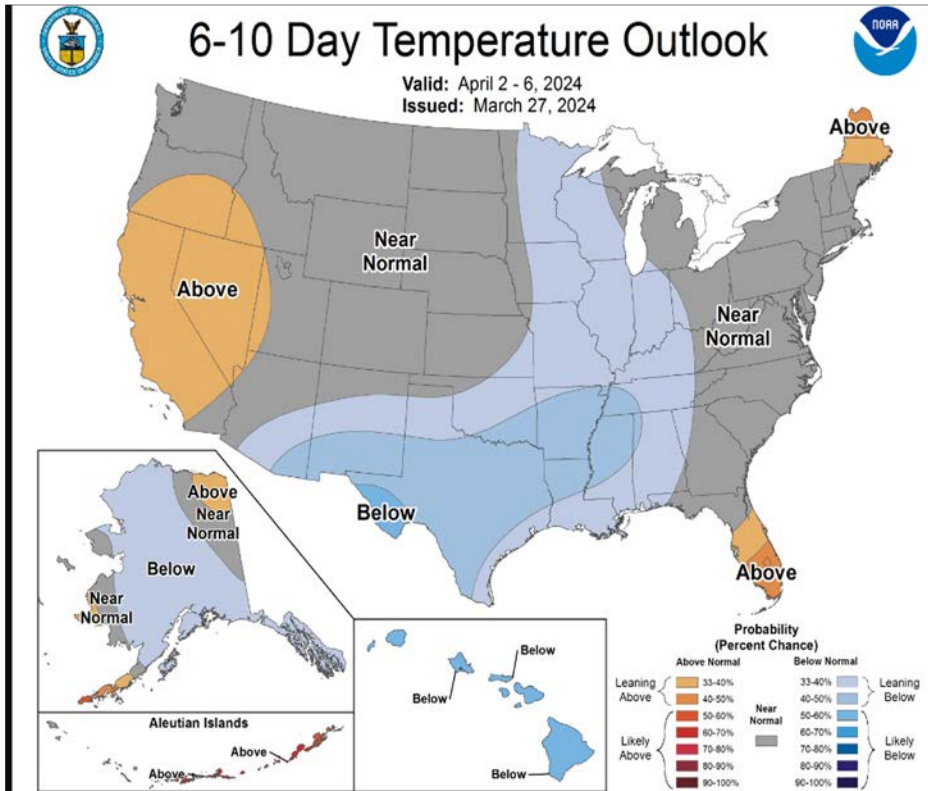
- Drought persists
- Drought remains, but improves
- Drought removal likely
- Drought development likely
- No drought



<https://go.usa.gov/3eZGd>

→ Drought conditions expected to persist in a small portion of western New York State

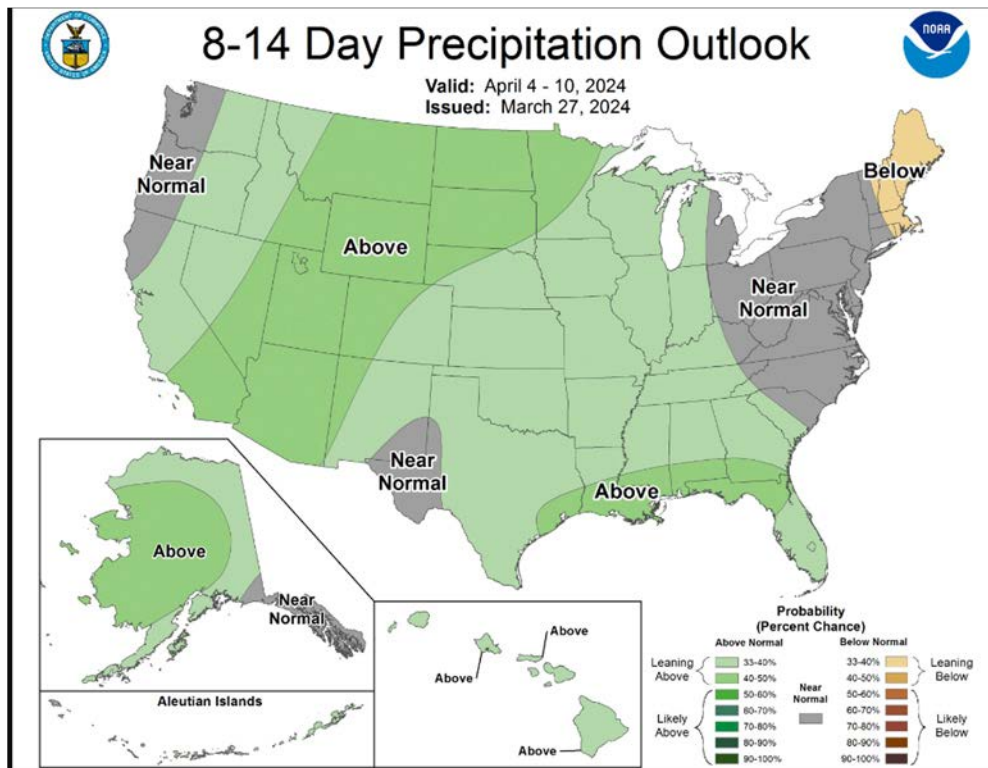
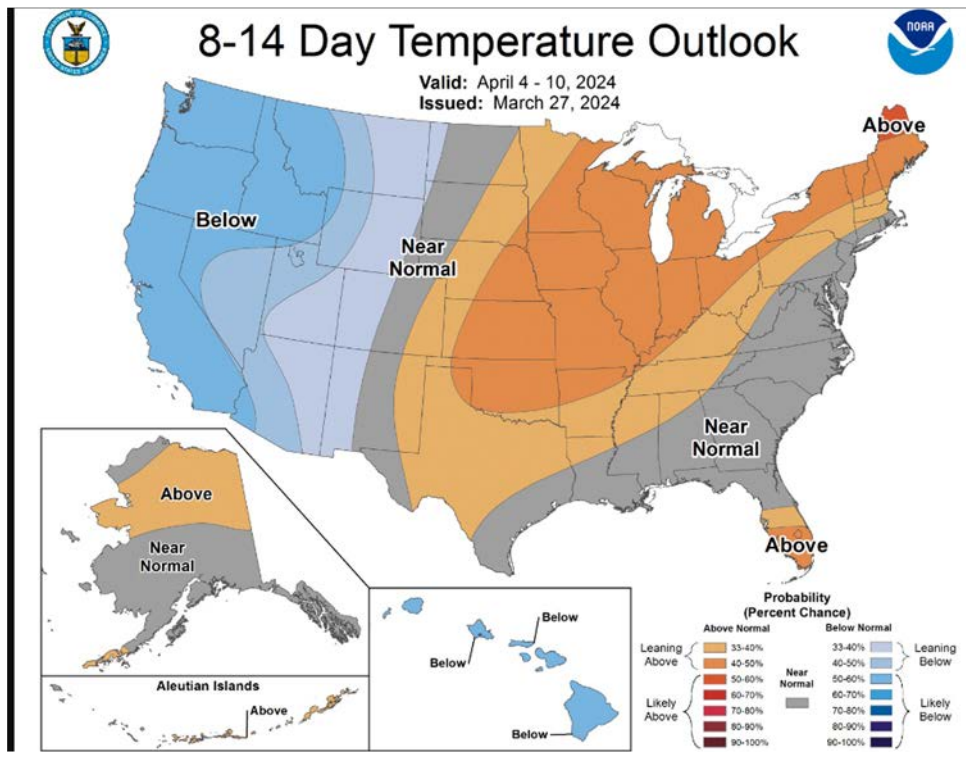
# CPC 6-10 Day Outlook



Near to above normal temperatures and above normal precipitation favored for the Northeast.



# CPC 8-14 day Outlook

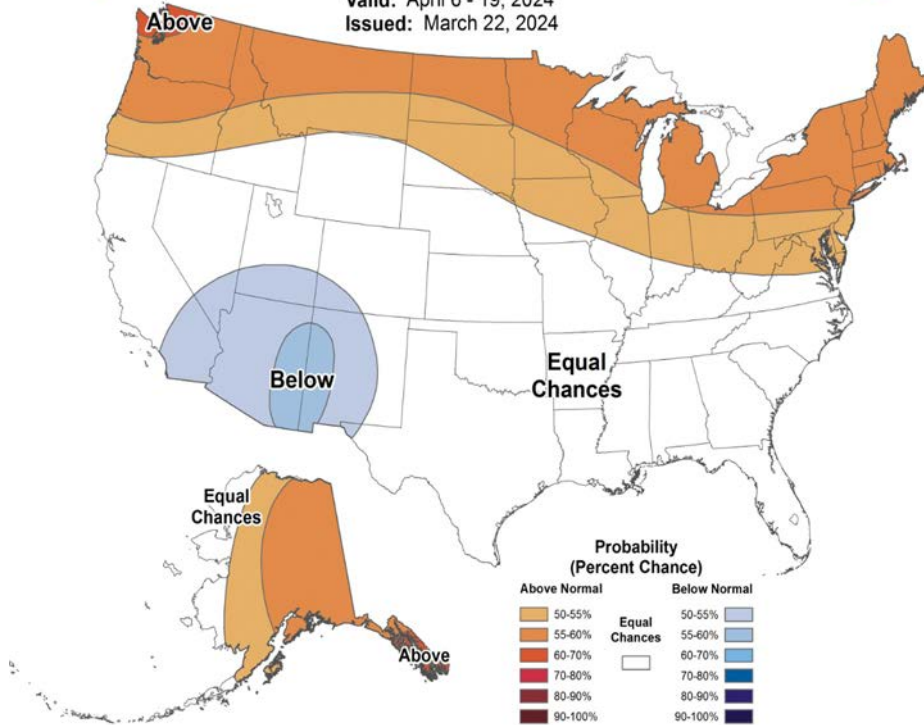


Near normal to above normal temperatures and below normal to near normal precipitation.

# CPC Week 3-4 Outlook

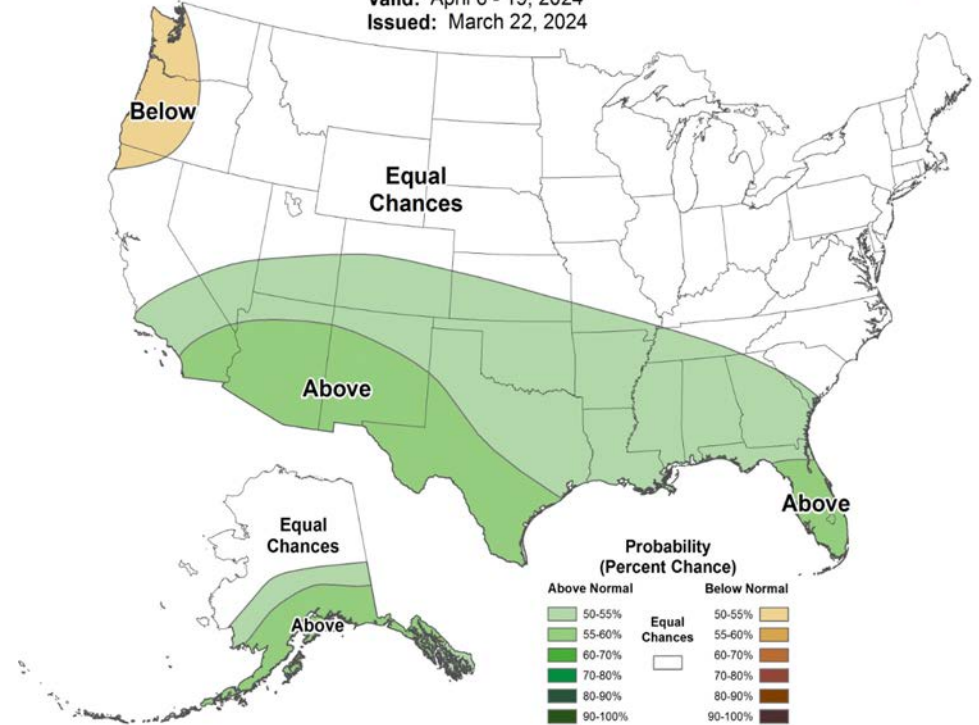
## Weeks 3-4 Temperature Outlook

Valid: April 6 - 19, 2024  
Issued: March 22, 2024



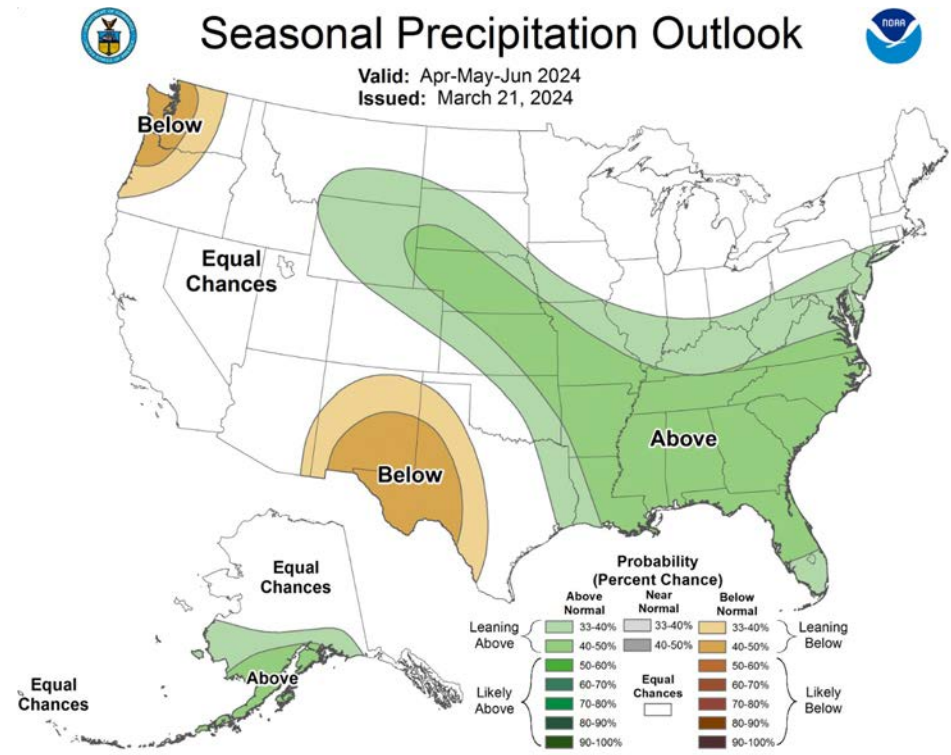
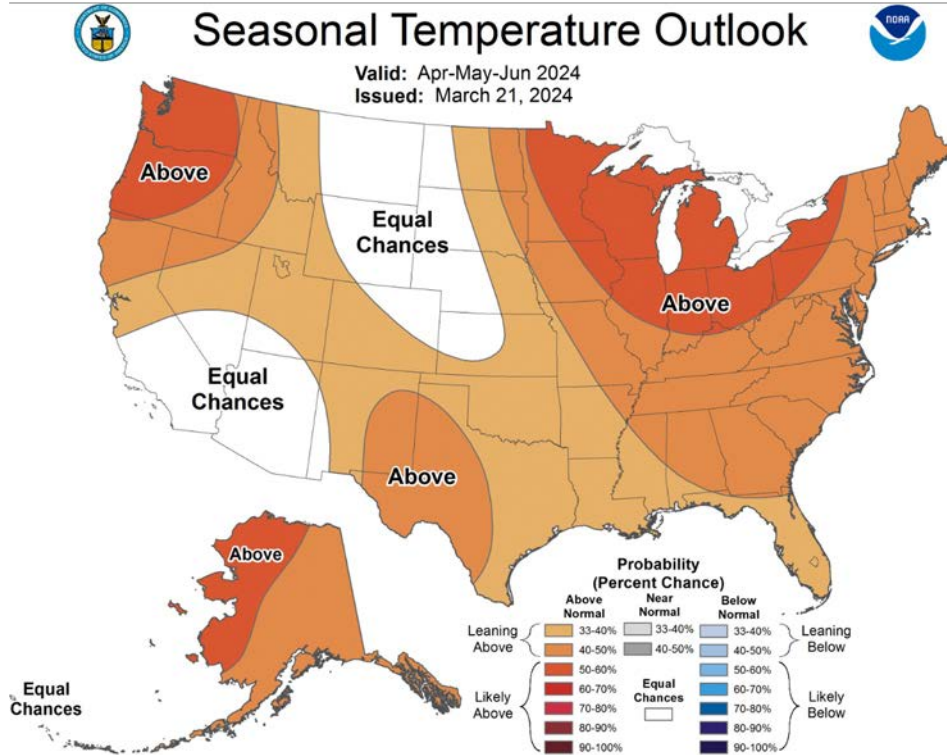
## Weeks 3-4 Precipitation Outlook

Valid: April 6 - 19, 2024  
Issued: March 22, 2024



Signal for above normal temperatures in the 3-4 week Outlook. Precipitation outlook leans near the climatological normal.

# CPC 90 Day Seasonal Outlook

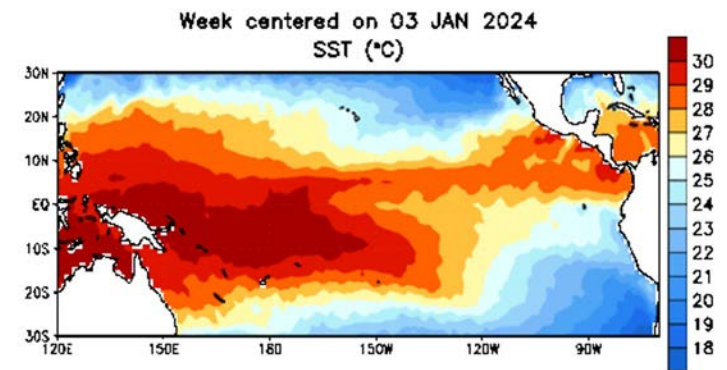
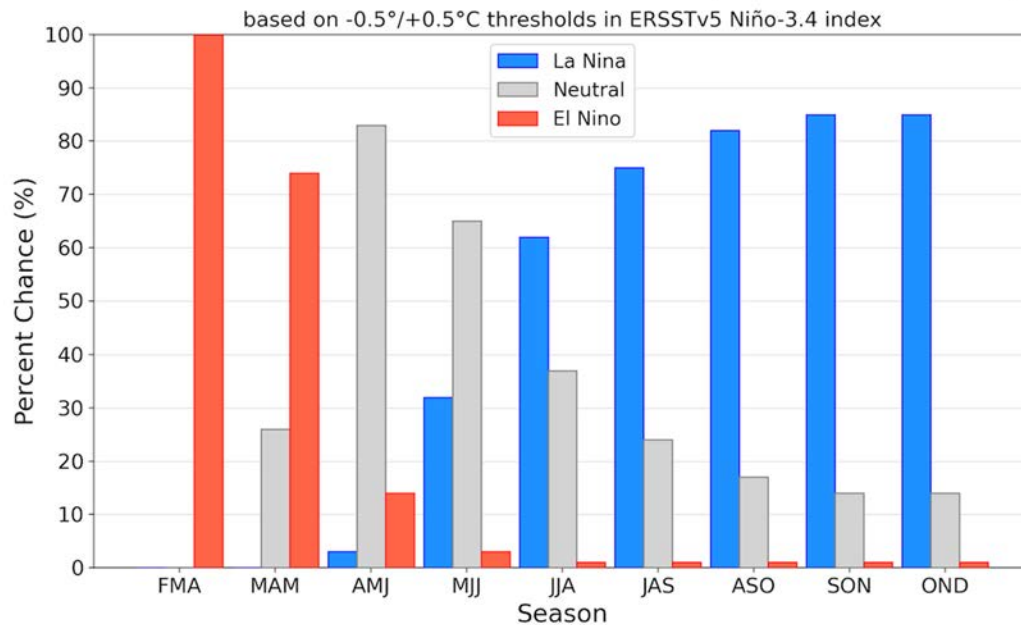


In the 90 day seasonal outlook, there is a signal for above normal temperatures. Precipitation outlook is near the climatological normal to leaning above normal approaching the Mid Atlantic.

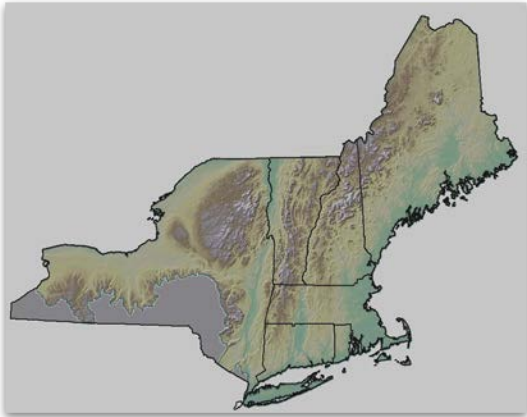
# ENSO Conditions

- Moderate El Nino is in progress. Current +1.3C SST anomaly in Nino 3.4 region. Recent three month DJF average +1.8C
- Likely transition to ENSO neutral late Spring, and La Nina in late Summer.

Official NOAA CPC ENSO Probabilities (issued Mar. 2024)



# Northeast Spring Flood Outlook 2024



## Summary:

- ( Spring ) flood potential is above normal across extreme southeastern New York...southern and eastern New England, normal elsewhere except below normal in western NY.
- Water Supply may become a concern across western New York State
- Ice jam flood potential slightly above normal in northern Maine. Elsewhere below normal or passed for season.

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