

# August Conditions & Northeast DEWS Discussion

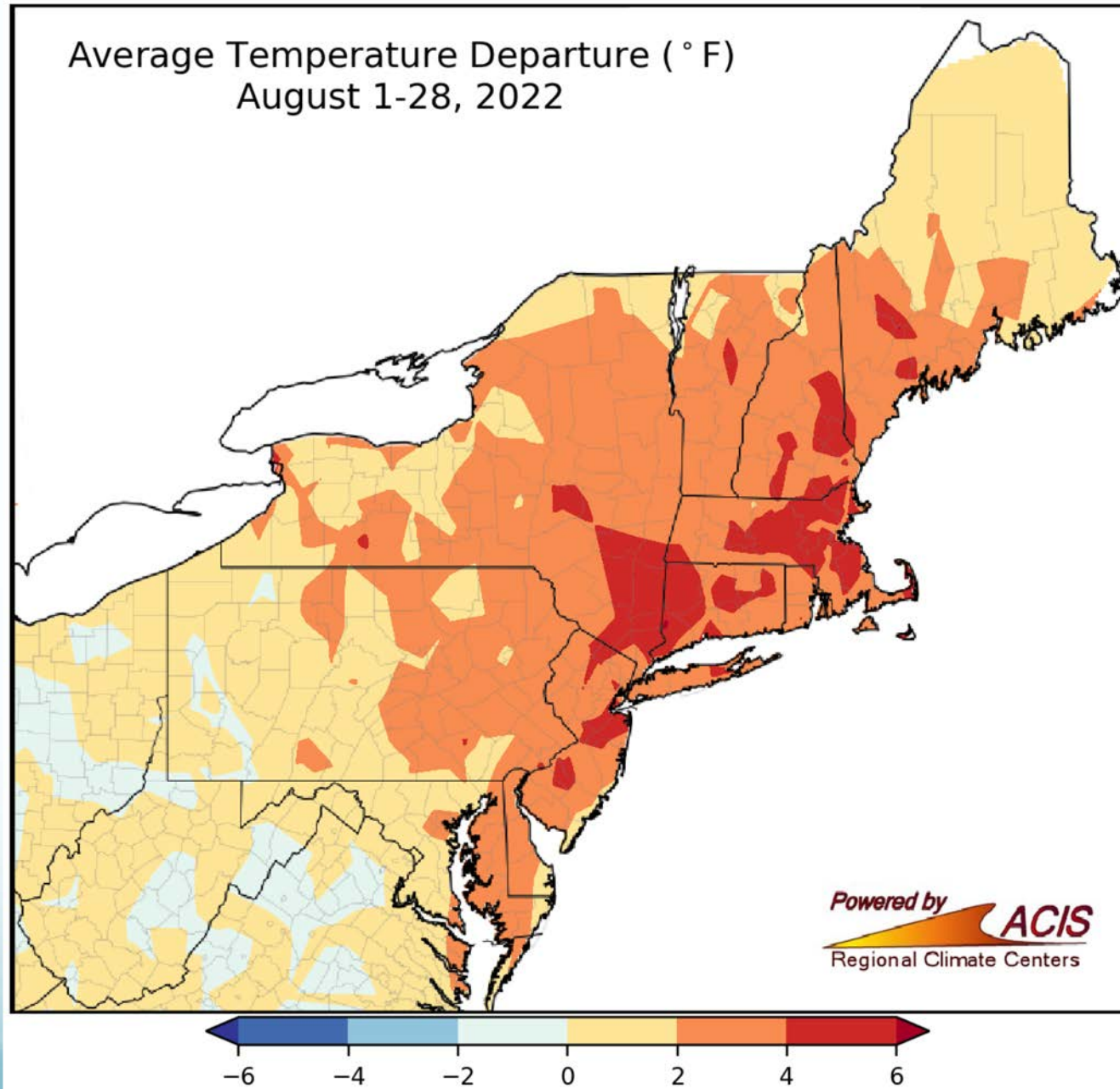
By: Jessica Spaccio, Climatologist  
Northeast Regional Climate Center



Northeast Regional  
Climate Center



# August Temperatures



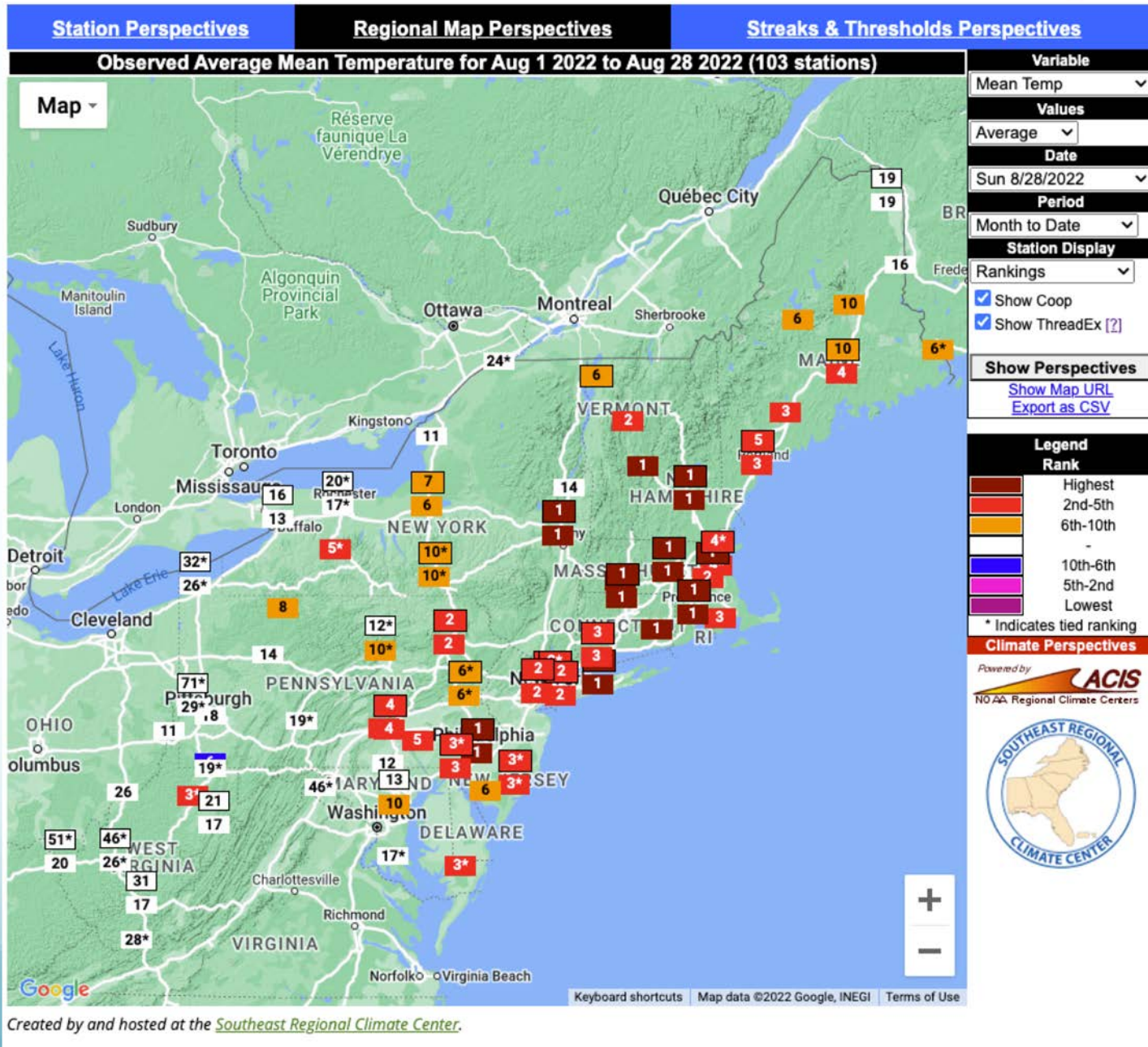
From 2°F below normal to 6°F above normal



# August Temperatures

## Southeast RCC Climate Perspectives

Expand





# August Temperatures

Consecutive days w/ a high  $\geq 95^\circ\text{F}$

**Number of Consecutive Days Max Temperature  $\geq 95$  for Boston Area, MA (ThreadEx)**

Click column heading to sort ascending, click again to sort descending.

Rank	Run Length	Dates
1	7	1944-08-11 through 1944-08-17
2	6	2022-08-04 through 2022-08-09
3	5	1911-07-02 through 1911-07-06
4	4	1984-06-08 through 1984-06-11
-	4	1953-08-28 through 1953-08-31
-	4	1949-07-27 through 1949-07-30
-	4	1948-08-25 through 1948-08-28
-	4	1925-06-03 through 1925-06-06
-	4	1917-07-30 through 1917-08-02
-	4	1882-07-24 through 1882-07-27

Period of record: 1872-03-01 to 2022-08-21

**Number of Consecutive Days Max Temperature  $\geq 95$  for Providence Area, RI (ThreadEx)**

Click column heading to sort ascending, click again to sort descending.

Rank	Run Length	Dates
1	7	1944-08-11 through 1944-08-17
2	6	2022-08-04 through 2022-08-09
3	5	1991-07-17 through 1991-07-21
-	5	1977-07-17 through 1977-07-21
5	4	2002-07-29 through 2002-08-01
-	4	1993-07-07 through 1993-07-10
7	3	2022-07-22 through 2022-07-24
-	3	2020-07-26 through 2020-07-28
-	3	2013-07-18 through 2013-07-20
-	3	2006-08-01 through 2006-08-03

Last value also occurred in one or more previous years.  
Period of record: 1904-11-01 to 2022-08-21

Total number of days w/ a high  $\geq 95^\circ\text{F}$

**Time Series Summary for Boston Area, MA (ThreadEx)**

Click column heading to sort ascending, click again to sort descending.

Rank	Year-Month	Number of Days Max Temperature $\geq 95$	Missing Count
1	1944-08	8	0
-	1911-07	8	0
3	1949-07	7	0
4	2022-08	6	3
-	1949-08	6	0

**Time Series Summary for Providence Area, RI (ThreadEx)**

Click column heading to sort ascending, click again to sort descending.

Rank	Year-Month	Number of Days Max Temperature $\geq 95$	Missing Count
1	1944-08	9	0
2	2002-07	7	0
3	2022-08	6	3
-	1991-07	6	0



# August Temperatures

## Time Series Summary for Newark Area, NJ (ThreadEx) - Month of Aug

Click column heading to sort ascending, click again to sort descending.

Rank	Year	Number of Days Max Temperature $\geq 90$	Missing Count
1	2022	17	3
-	1988	17	0
3	1959	15	0

Total number of days in Aug. w/ a high  $\geq 90^{\circ}\text{F}$

## Time Series Summary for Philadelphia Area, PA (ThreadEx) - Month of Aug

Click column heading to sort ascending, click again to sort descending.

Rank	Year	Number of Days Max Temperature $\geq 90$	Missing Count
1	2022	17	3
-	2016	17	0
-	1995	17	0
-	1980	17	0
5	1988	16	0

Warm minimum temperatures

## Maximum 1-Day Mean Min Temperature for Providence Area, RI (ThreadEx)

Click column heading to sort ascending, click again to sort descending.

Rank	Value	Ending Date
1	80.0	1925-06-06
2	78.0	2022-08-08
-	78.0	2019-07-21
-	78.0	2002-07-03
-	78.0	1999-07-05
-	78.0	1978-07-23
-	78.0	1933-08-02
-	78.0	1911-07-11



## Maximum 1-Day Mean Min Temperature for PORTLAND JETPORT, ME

Click column heading to sort ascending, click again to sort descending.

Rank	Value	Ending Date
1	74.0	2022-08-07
-	74.0	2006-08-02
-	74.0	1988-08-05
4	73.0	2022-08-05
-	73.0	1975-08-02
-	73.0	1969-08-17



# August Rainfall

## Last Night's Rain & Flooding

**4.44"**

Total Rainfall at Yeager Airport  
5:30pm Sun – 5:00am Mon

**3.54"**

Calendar Day Total for  
Monday

**1.66"**

Previous Record – 8/15/1950



Flooding & Aftermath in Smithers, WV. Credit Fayette Cty Sheriff's Office



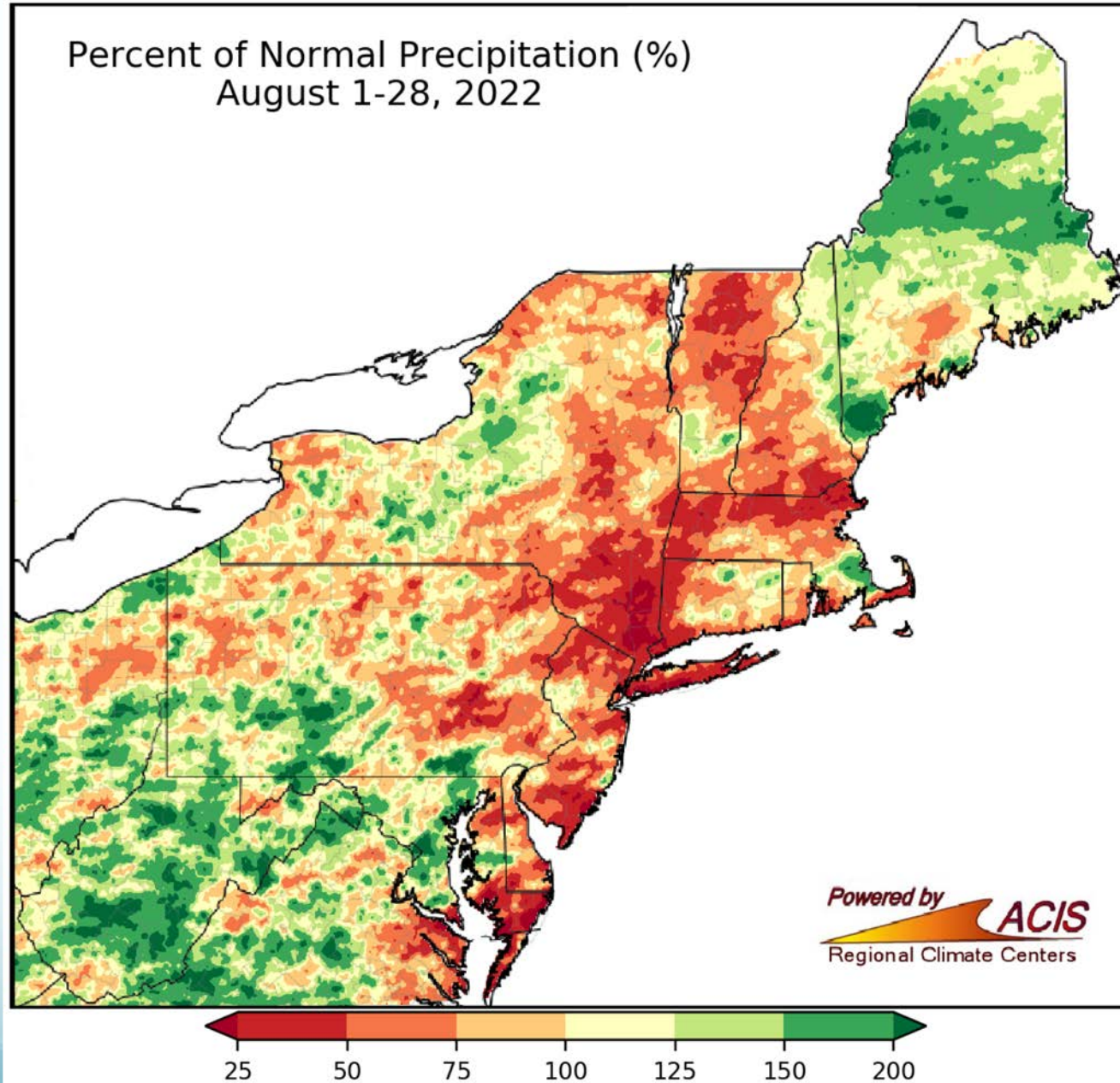
NWS Charleston, WV



[Weather.gov/rlx](https://www.weather.gov/rlx) 8/15/2022 7:50 pm



# August Precipitation



From less than 25% of normal to more than 200% of normal



# Drought Monitor

## U.S. Drought Monitor Northeast

**July 26, 2022**  
(Released Thursday, Jul. 28, 2022)  
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0	D1	D2	D3	D4
<b>Current</b>	50.54	28.39	18.28	2.80	0.00	0.00
<b>Last Week</b> 07-19-2022	52.72	24.86	21.21	1.21	0.00	0.00
<b>3 Months Ago</b> 04-26-2022	81.37	17.40	1.24	0.00	0.00	0.00
<b>Start of Calendar Year</b> 01-04-2022	84.91	12.92	1.32	0.85	0.00	0.00
<b>Start of Water Year</b> 09-28-2021	90.30	6.56	2.35	0.80	0.00	0.00
<b>One Year Ago</b> 07-27-2021	77.06	14.26	7.31	1.38	0.00	0.00

Intensity:

None	D2 Severe Drought
D0 Abnormally Dry	D3 Extreme Drought
D1 Moderate Drought	D4 Exceptional Drought

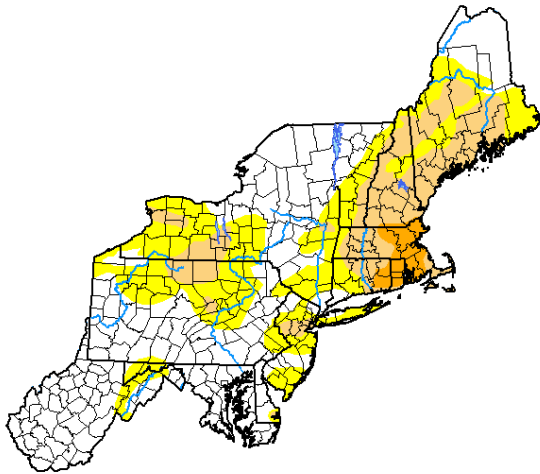
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

Curtis Riganti  
National Drought Mitigation Center



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



## U.S. Drought Monitor Northeast

**August 23, 2022**  
(Released Thursday, Aug. 25, 2022)  
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0	D1	D2	D3	D4
<b>Current</b>	49.73	27.69	12.38	7.71	2.48	0.00
<b>Last Week</b> 08-16-2022	49.35	28.82	12.13	7.22	2.48	0.00
<b>3 Months Ago</b> 05-24-2022	84.88	12.88	2.24	0.00	0.00	0.00
<b>Start of Calendar Year</b> 01-04-2022	84.91	12.92	1.32	0.85	0.00	0.00
<b>Start of Water Year</b> 09-28-2021	90.30	6.56	2.35	0.80	0.00	0.00
<b>One Year Ago</b> 08-24-2021	77.36	12.05	9.05	1.54	0.00	0.00

Intensity:

None	D2 Severe Drought
D0 Abnormally Dry	D3 Extreme Drought
D1 Moderate Drought	D4 Exceptional Drought

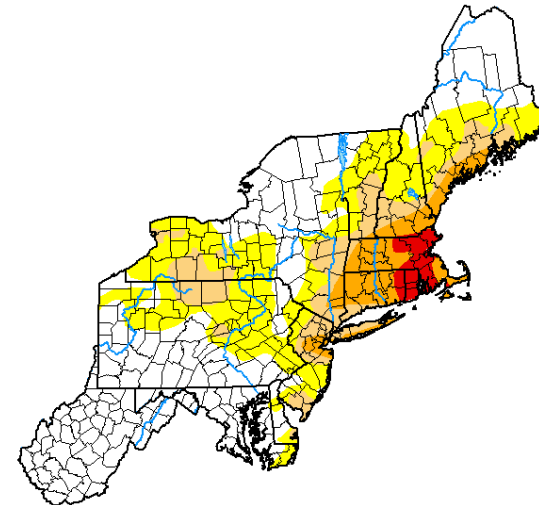
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Author:

Deborah Bathke  
National Drought Mitigation Center

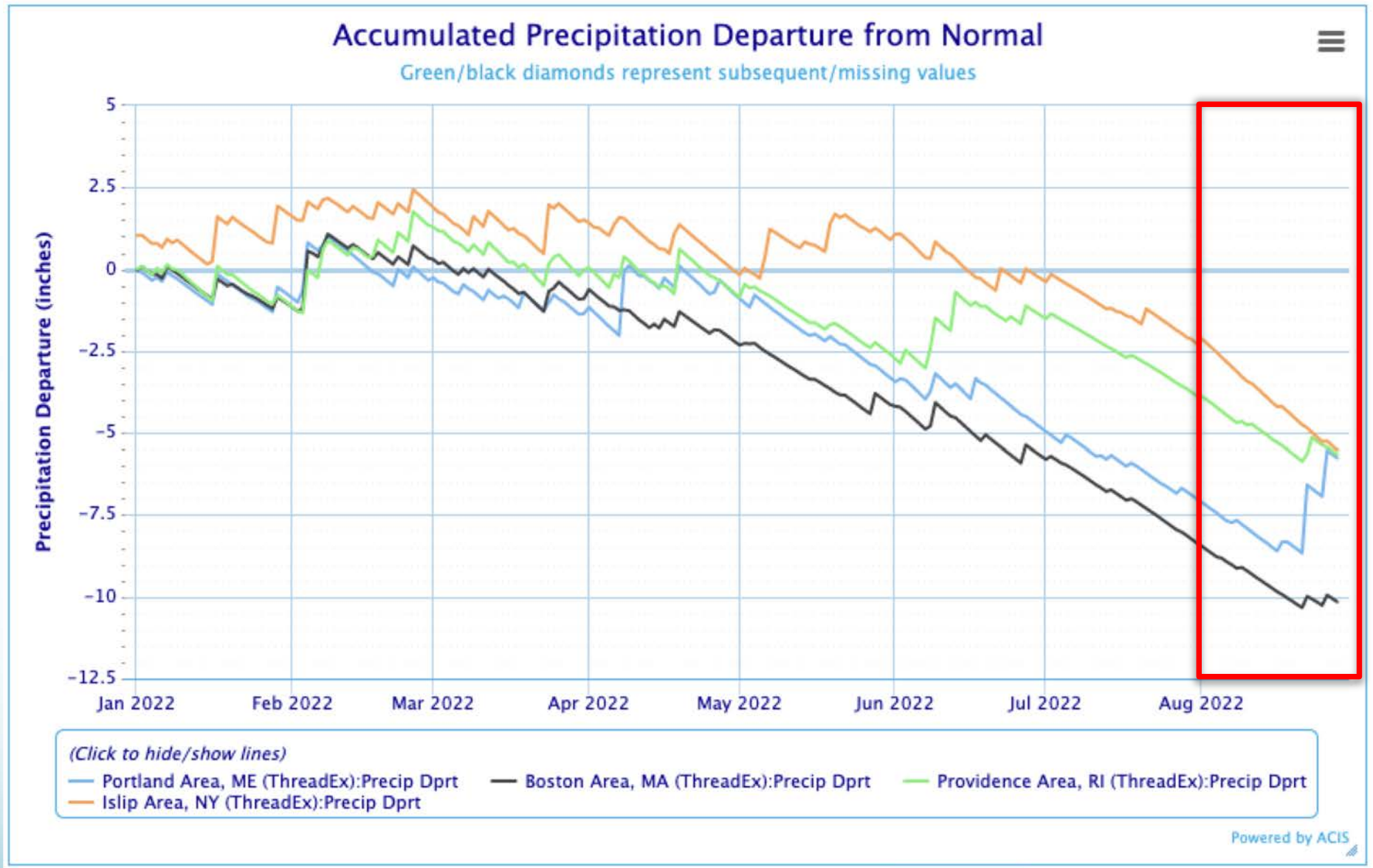


[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)

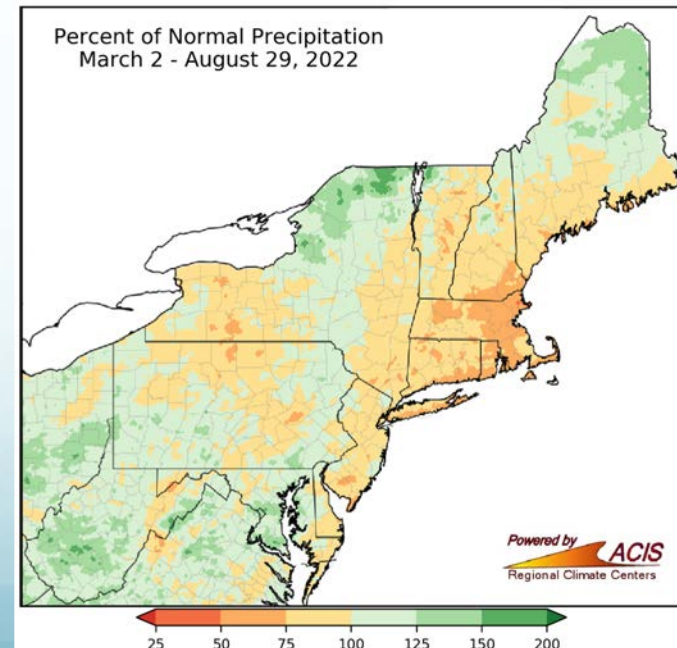
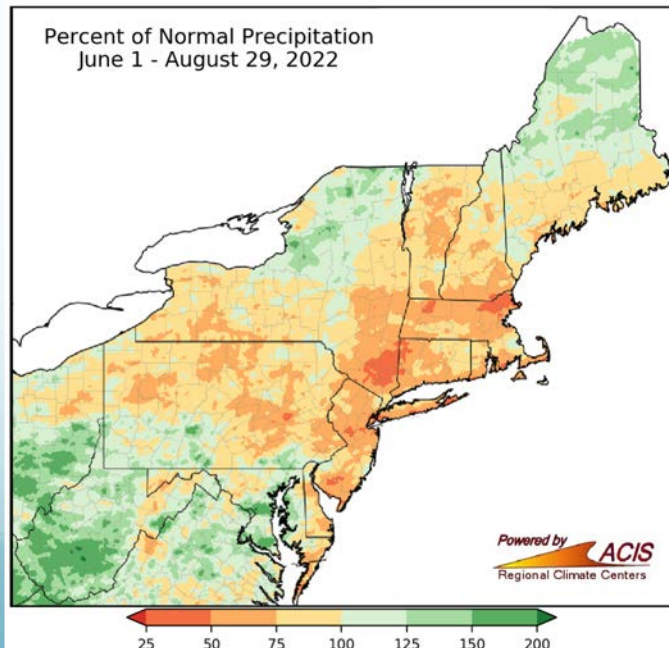
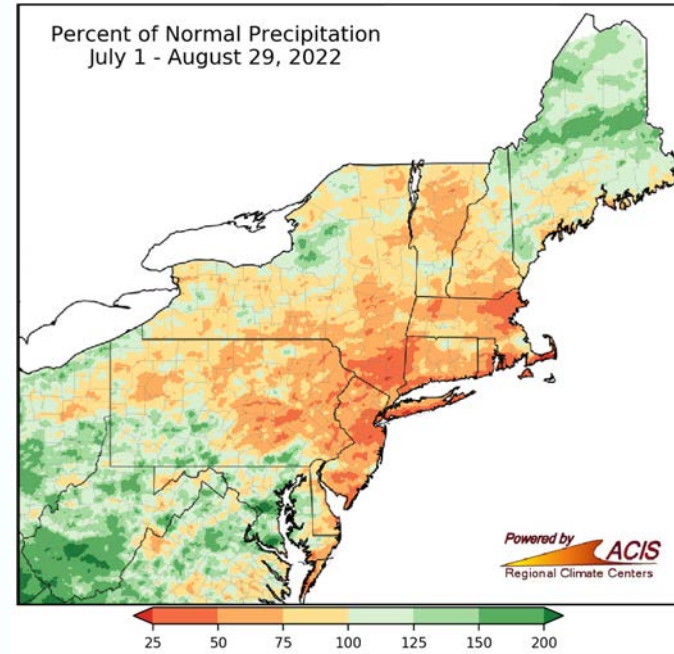
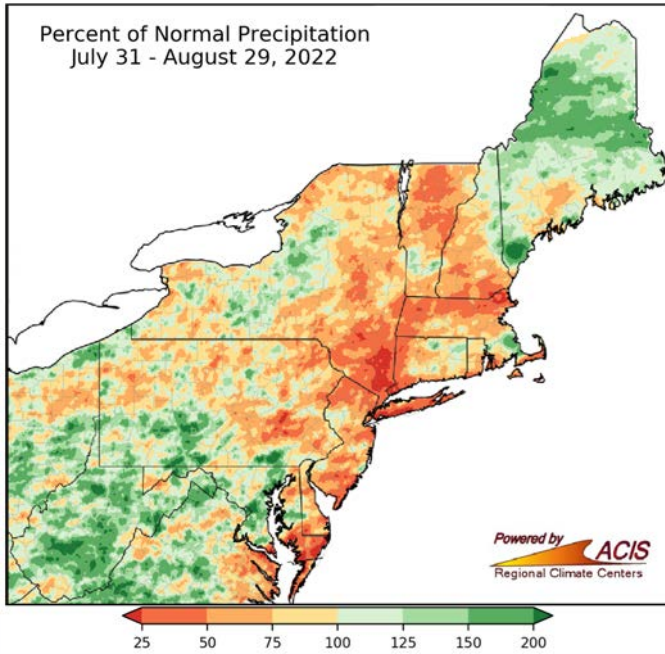




# Precipitation

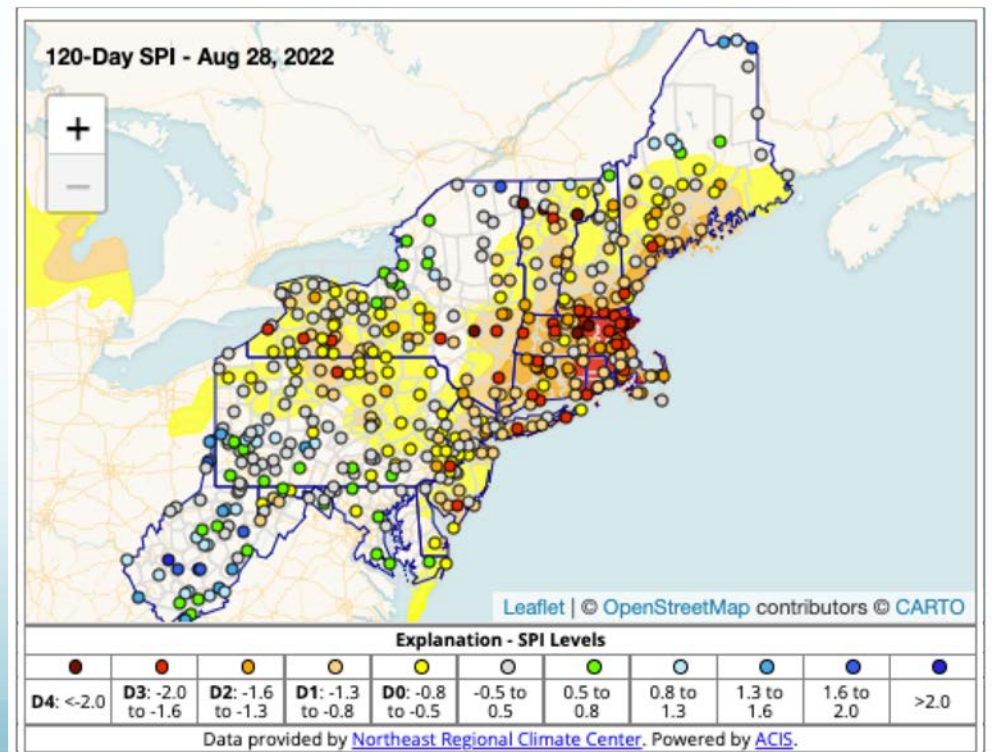
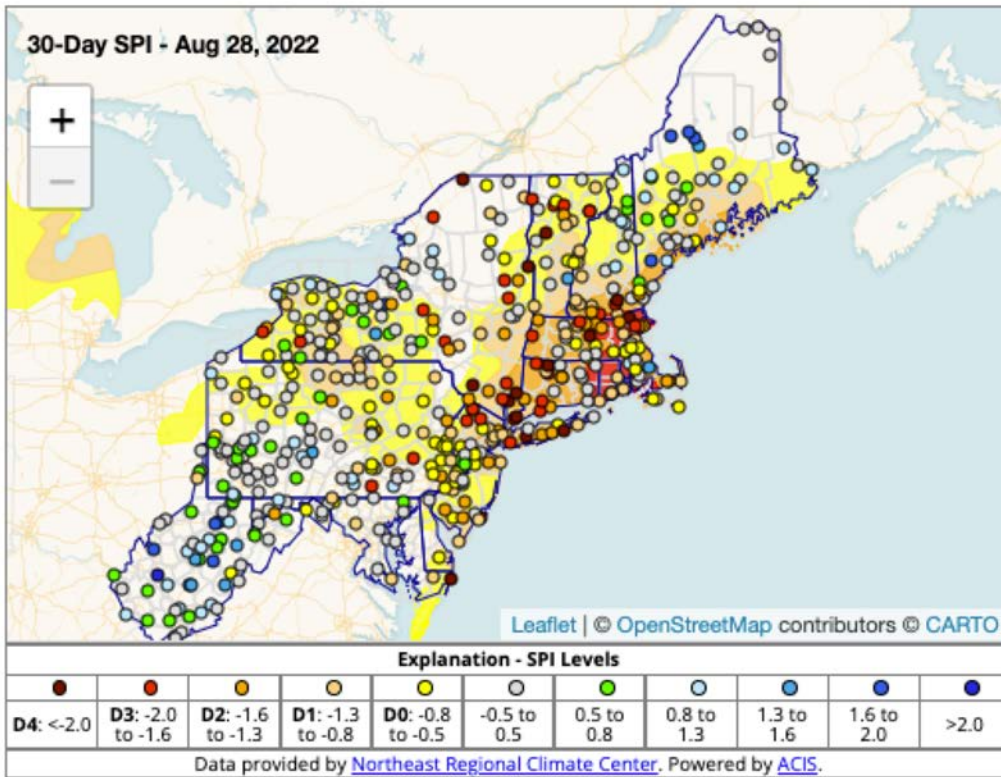


# Precipitation





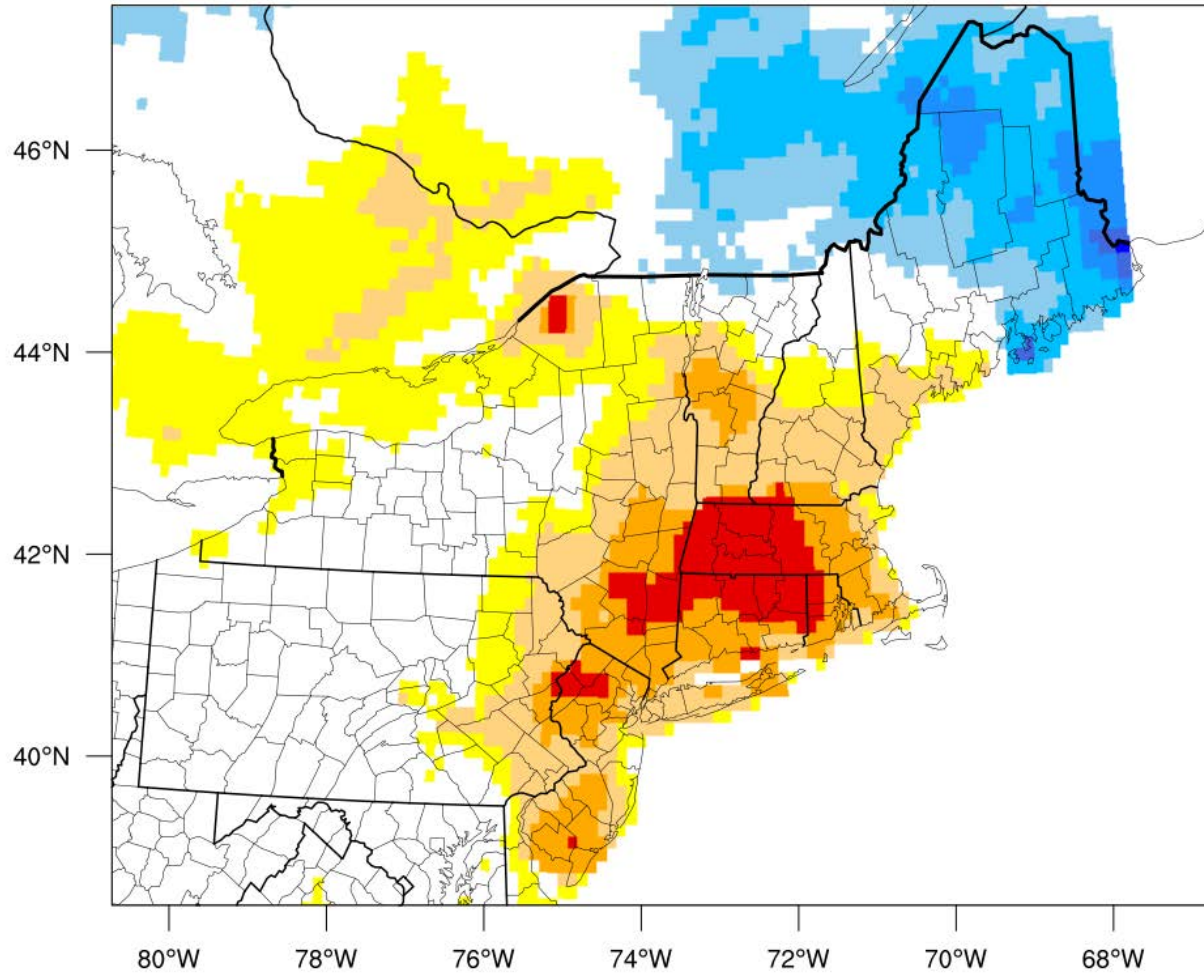
# Standardized Precipitation Index





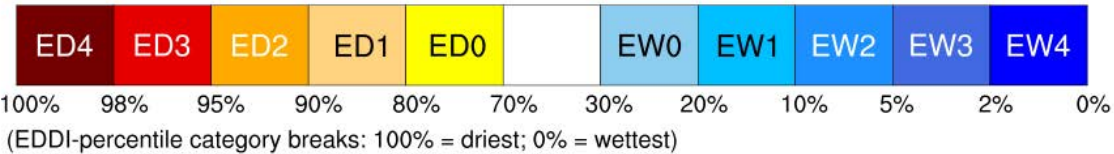
# Evap. Demand Drought Index

3-week EDDI categories for August 24, 2022



Drought categories

Wetness categories

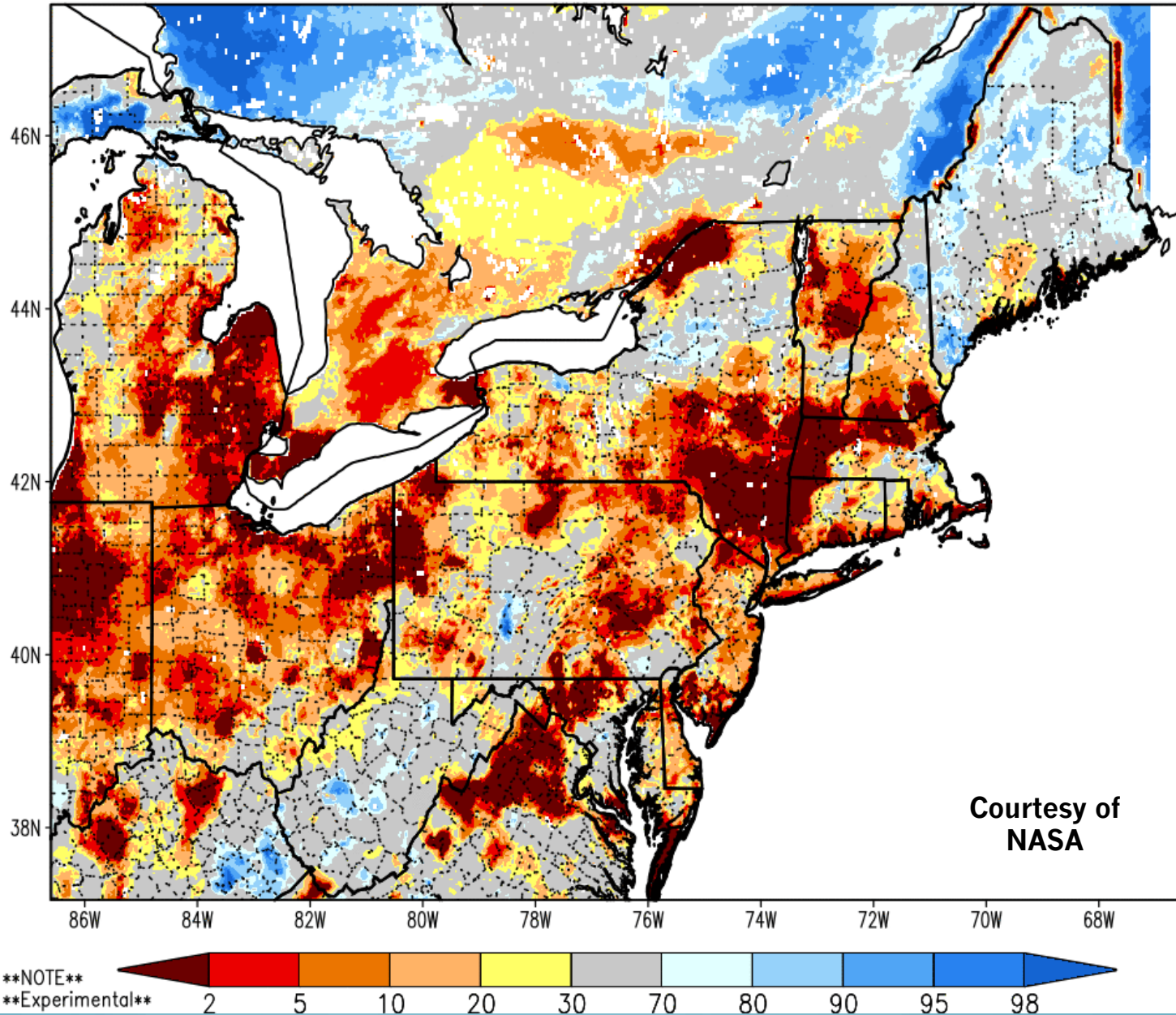


Generated by NOAA/ESRL/Physical Sciences Laboratory



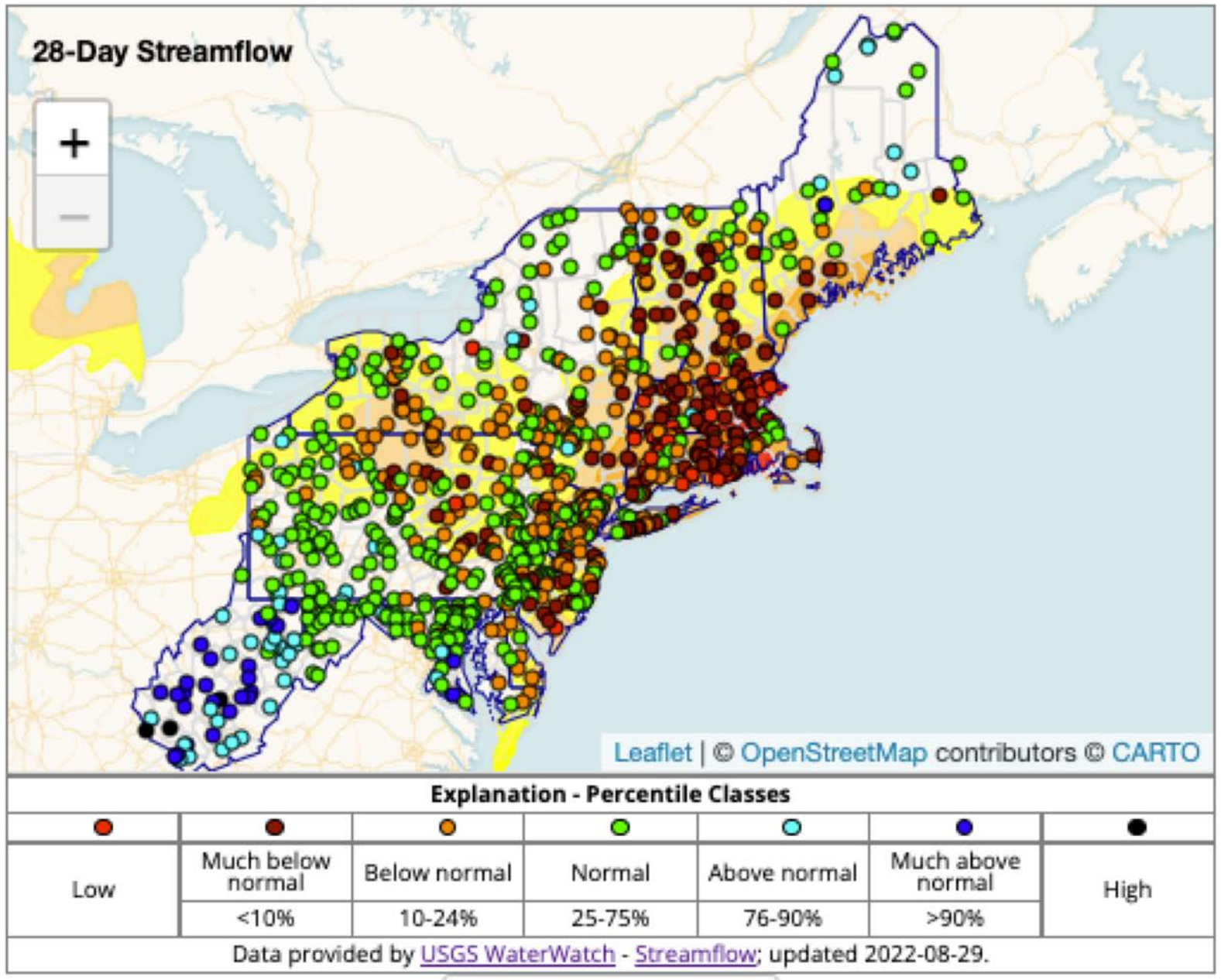
# Soil Moisture

SPoRT-LIS 0-100 cm Soil Moisture percentile valid 29 Aug 2022





# Streamflow





# Drought Impacts



## Connecticut River Valley region Nashawannuck Brook, Northampton

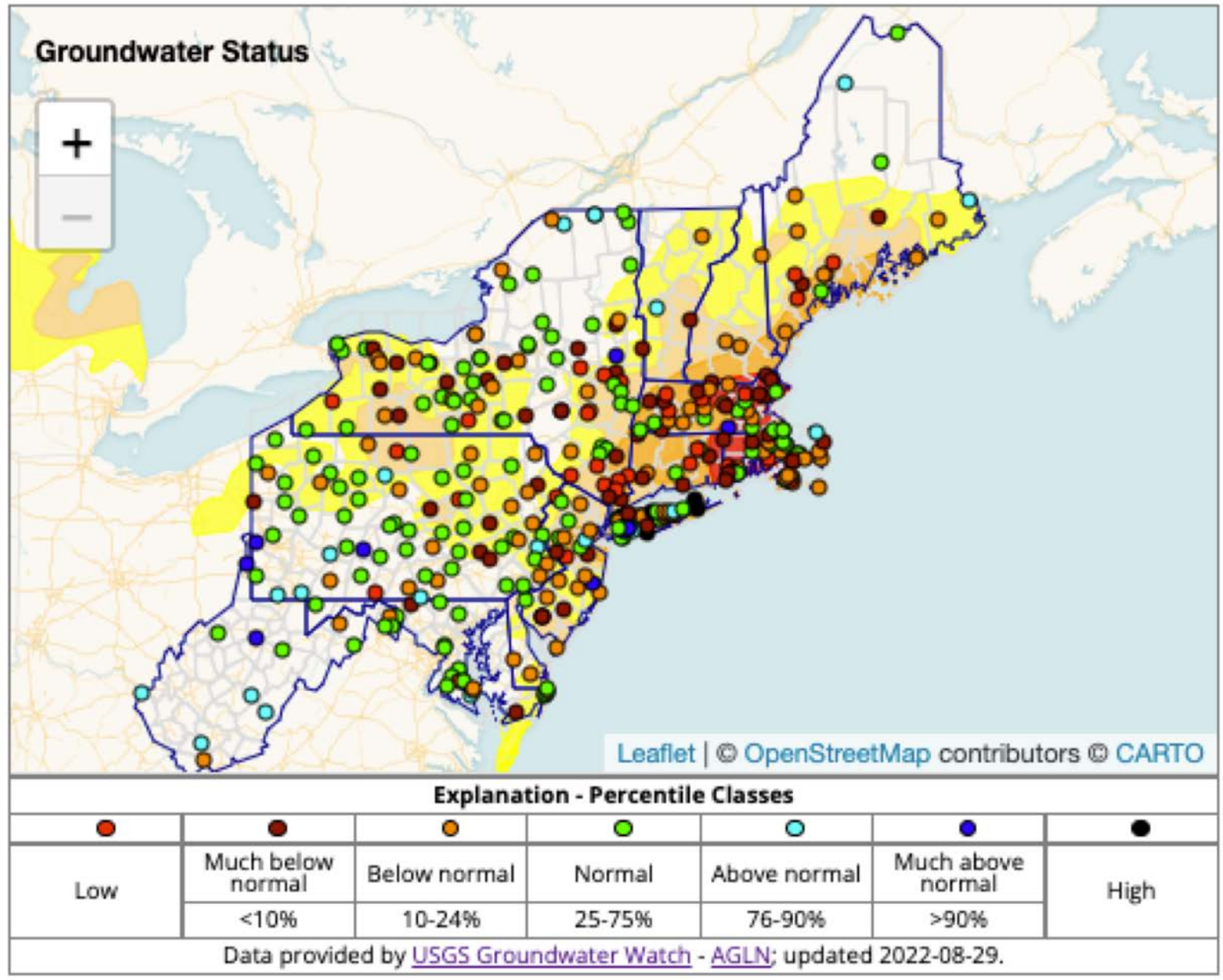


Courtesy of Maine Forest Rangers



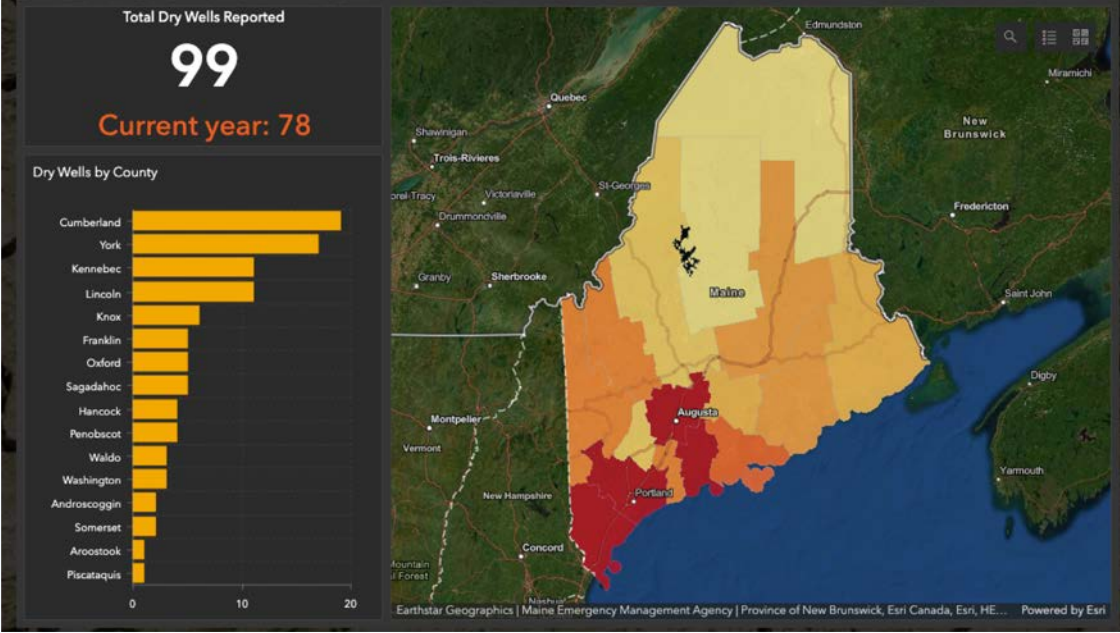
Courtesy of Kate Bentsen – MA  
DER, MA DFG, and MA Drought  
Management Task Force

# Groundwater





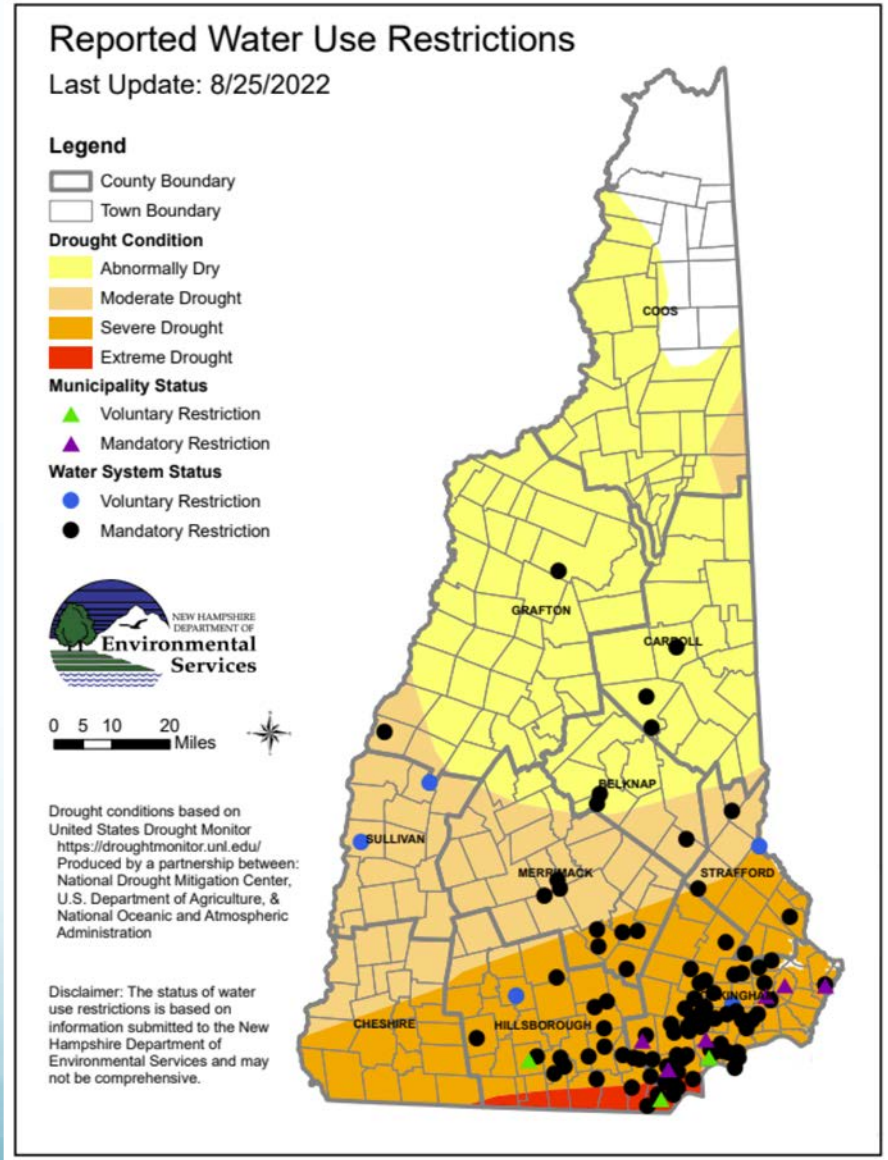
Dry wells reported: 2021-2022



<https://maine-dry-well-survey-maine.hub.arcgis.com/>

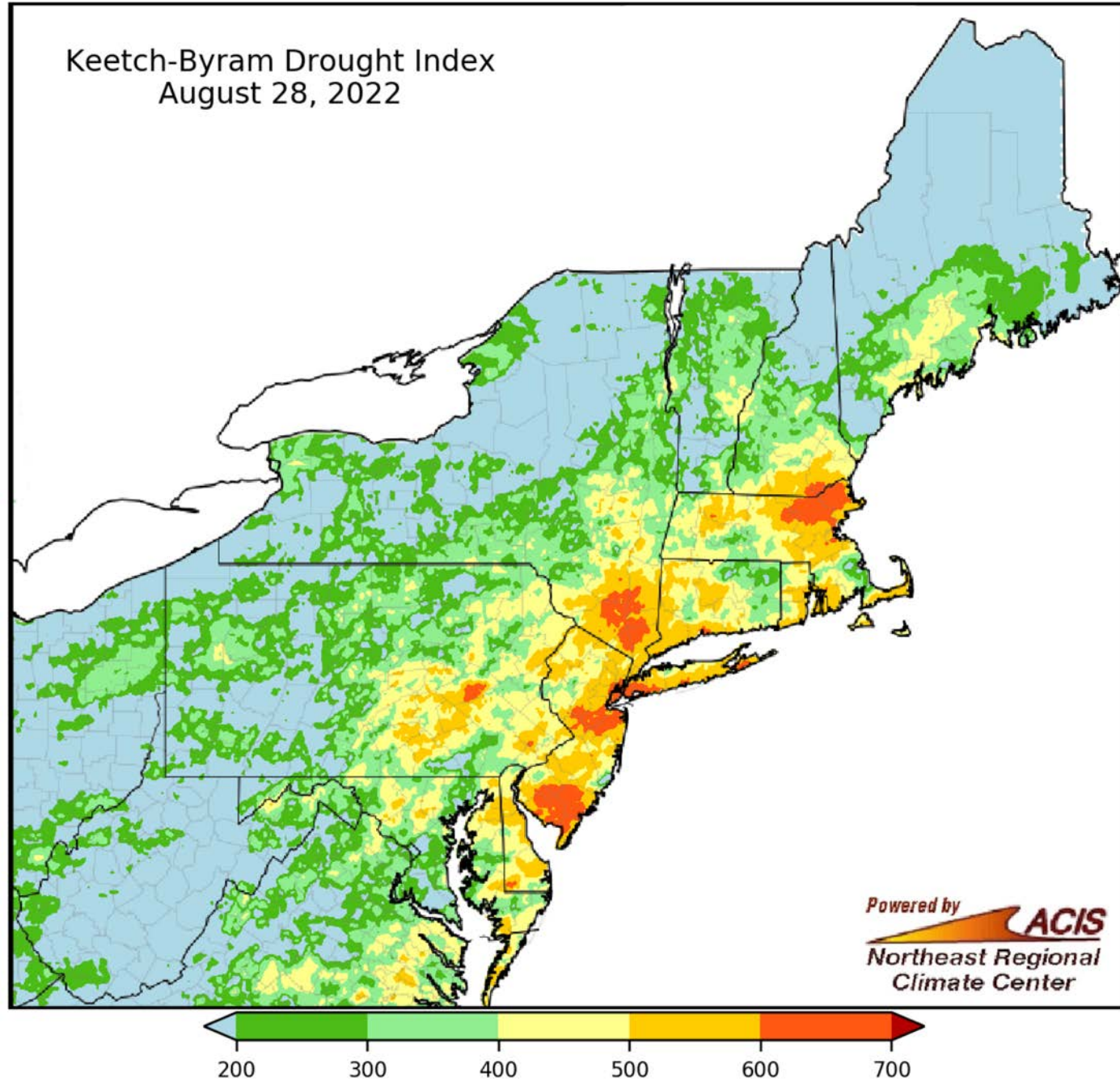


# Drought Impacts

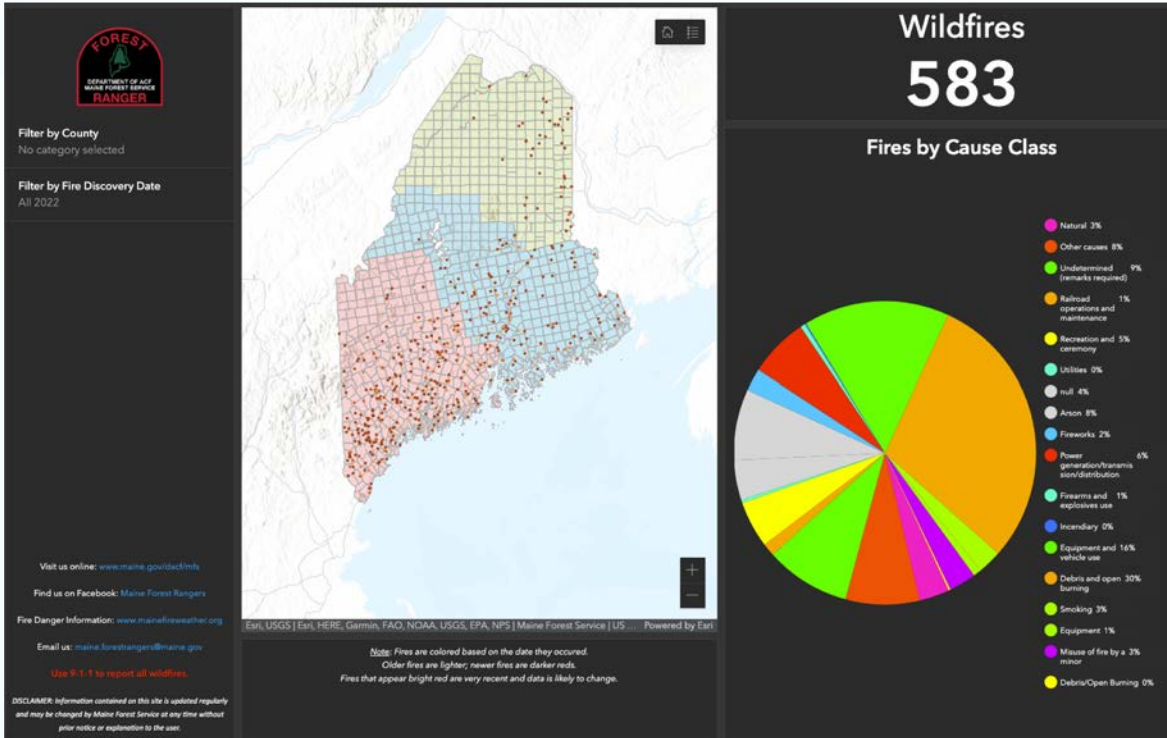




# Wildfire Risk



# Drought Impacts



## MASSACHUSETTS WILDFIRE OCCURRENCE MAP August to Date



Courtesy of Dave Celino – MA  
Chief Forest Fire Warden





# Drought Impacts

LOCAL

## Why apples may be smaller this season: Understanding the root of the problem



**Linda Borg**  
The Providence Journal

Published 5:59 p.m. ET Aug. 5, 2022

**news12**  
NEW JERSEY

72°

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## Hudson Valley farmers report crop damage during severe drought conditions

Aug 12, 2022, 5:50pm • Updated on Aug 12, 2022

By: **Blaise Gomez**

## Drought continues to impact N.H. farms, forests and water supply

New Hampshire Public Radio | By **Mara Hoplamazian**

Published August 9, 2022 at 5:04 PM EDT



## Western Massachusetts urban, rural farmers feeling effects of severe drought

Connecticut Public Radio | By **Jill Kaufman**

Published August 25, 2022 at 3:00 PM EDT



## Drought is hitting farmers' pocketbooks, Connecticut agriculture chief says

Connecticut Public Radio | By **Jennifer Ahrens**

Published August 16, 2022 at 2:23 PM EDT



## Northeastern Farmers Face New Challenges With Severe Drought

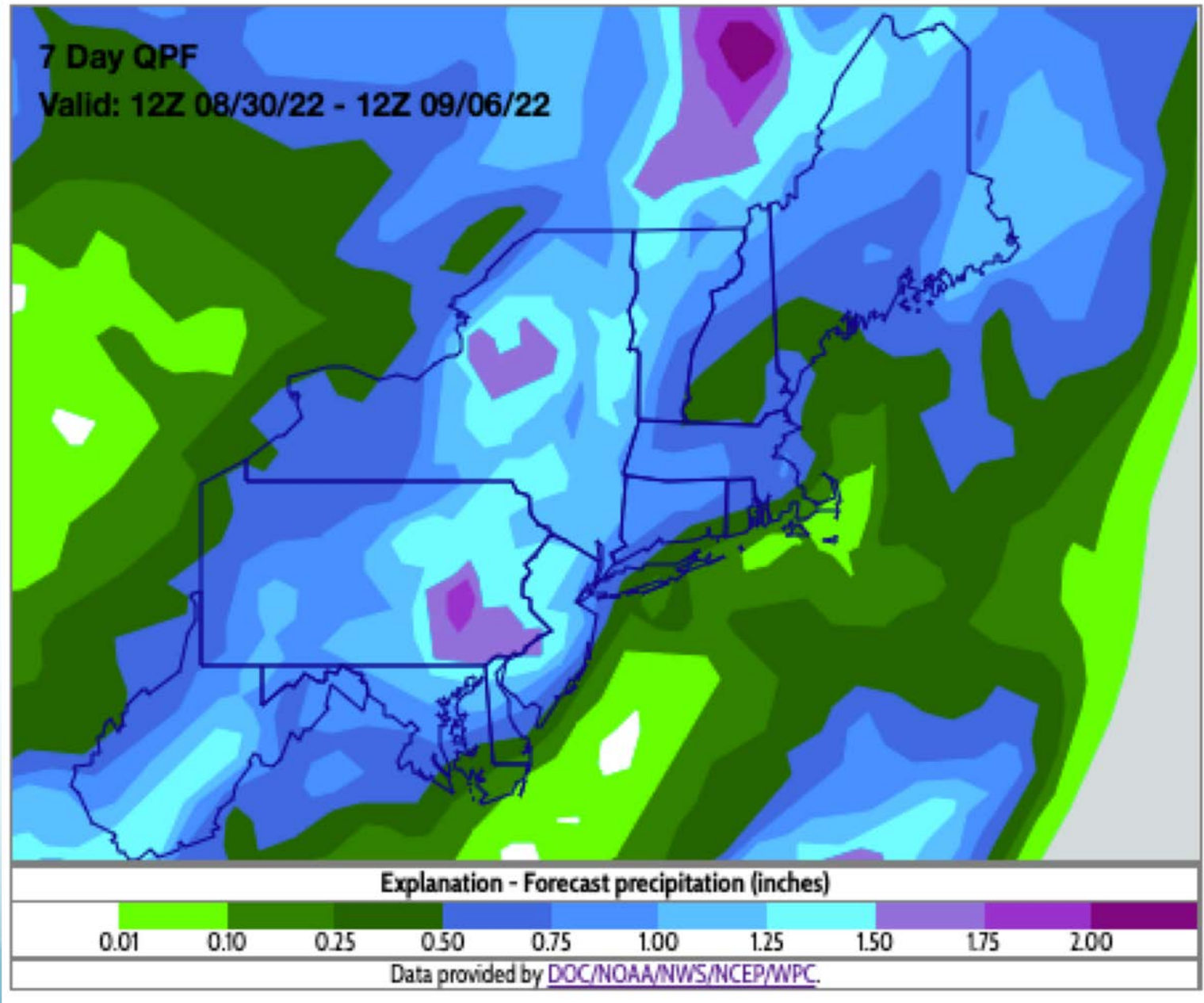
The impacts of climate change have been felt throughout the Northeastern U.S. with rising sea levels, heavy precipitation and storm surges causing flooding and coastal erosion.

By **Associated Press** | Aug. 15, 2022, at 12:15 a.m.

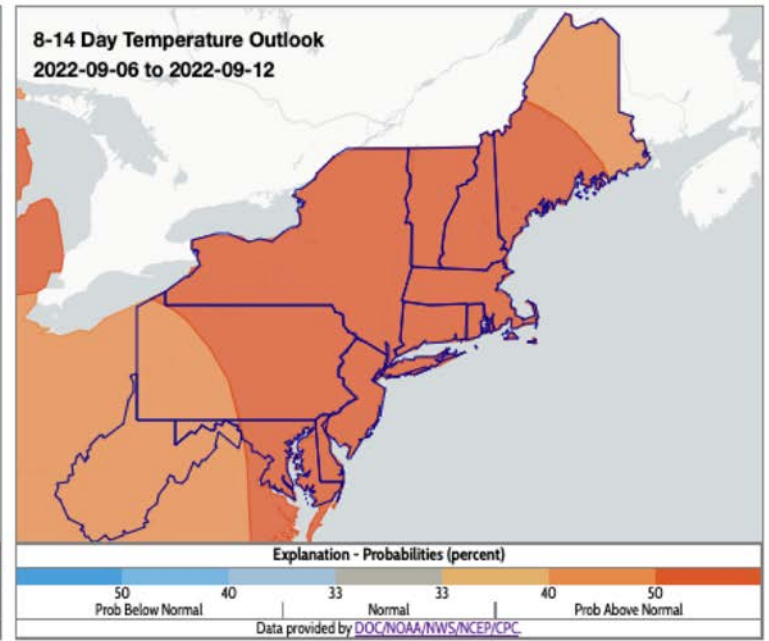
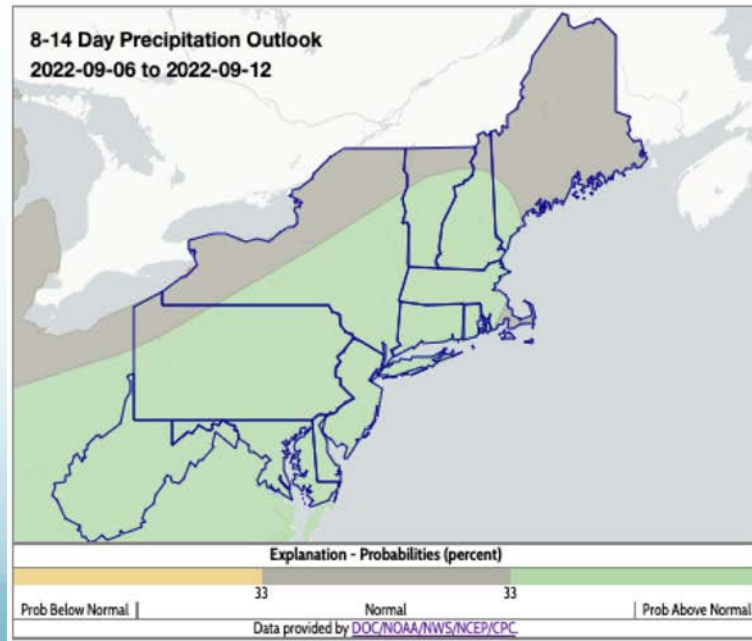
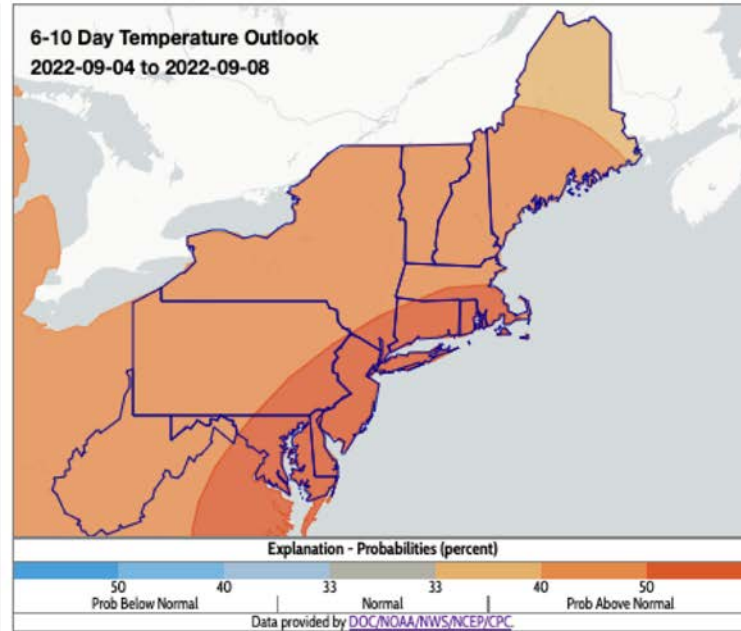
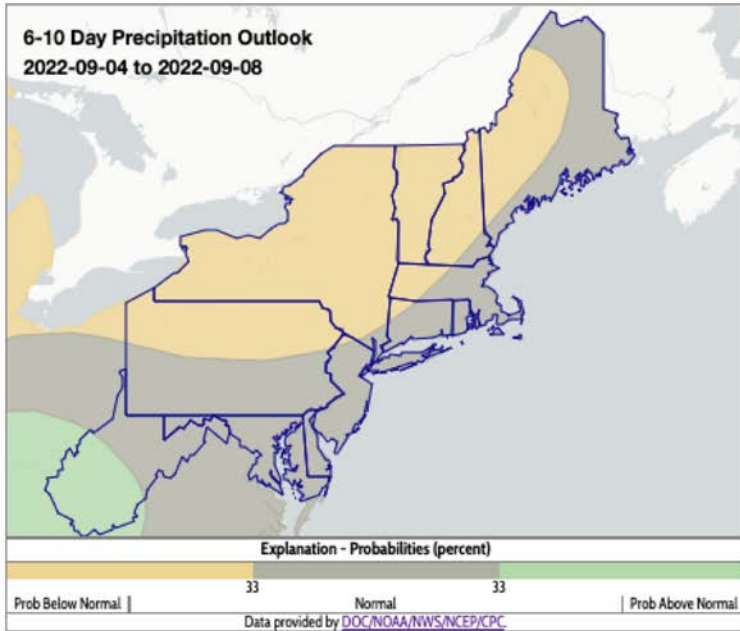




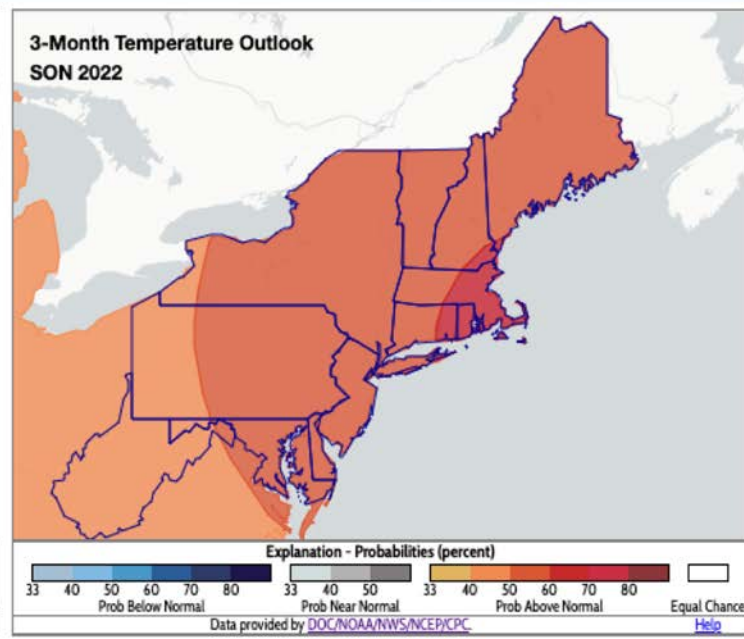
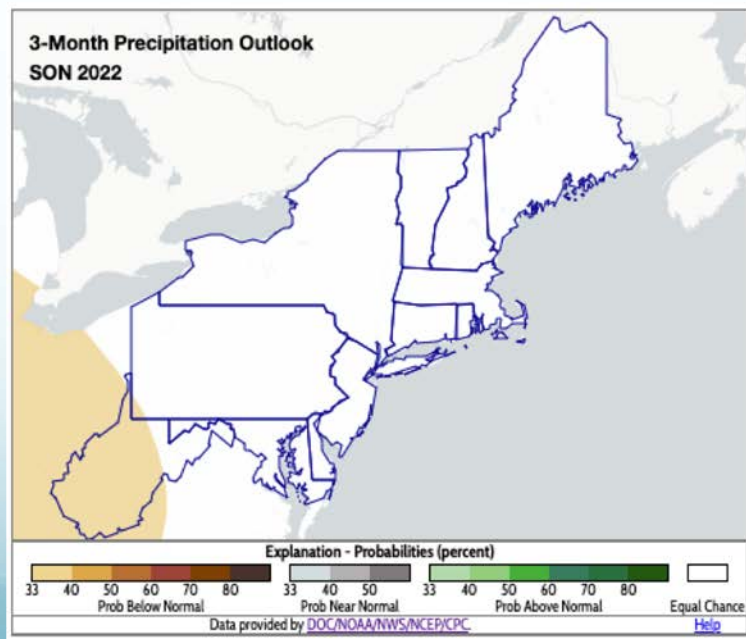
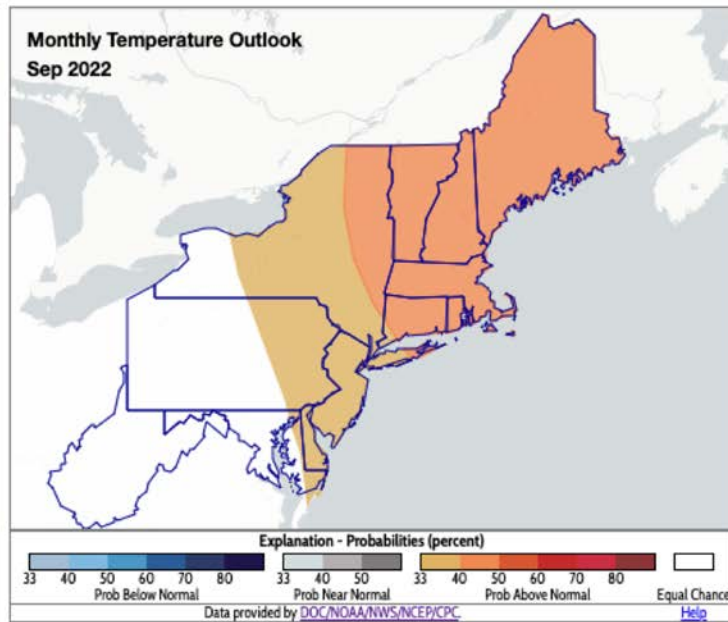
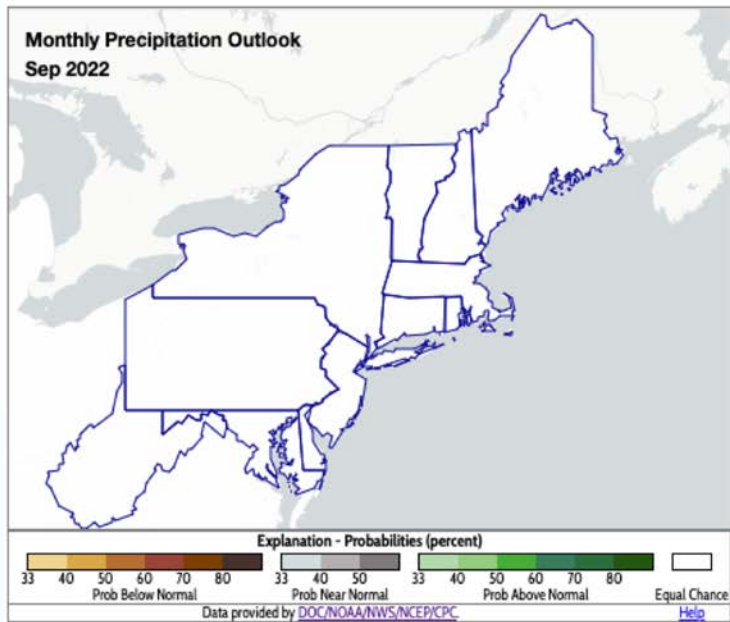
# Precipitation Forecast



# Short-term Outlooks



# Monthly & 3-Month Outlooks

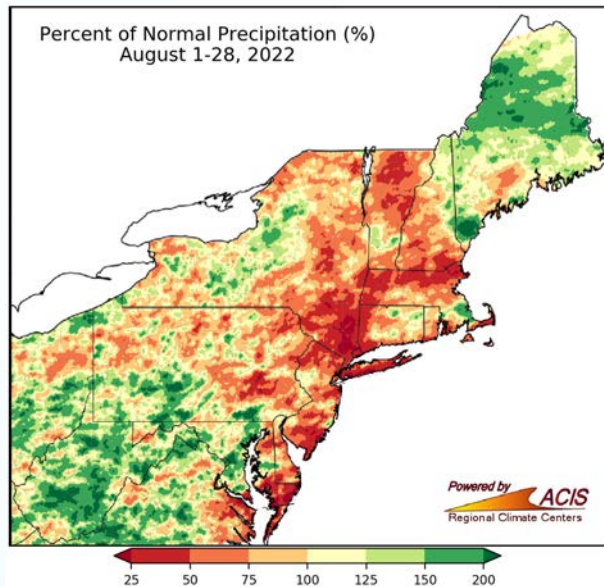




# Summary

## August-to-date conditions:

- Above-normal temperatures
- Highly variable precipitation – drought in New England; flash flooding in WV



## Drought:

- Drought/dryness expanded and intensified in New England, NY, and NJ due to factors such as below-normal rainfall, record low streamflow, low soil moisture, and water and ag impacts

## Outlooks:

- Short-term outlooks: below- or near-normal precipitation and above-normal temperatures; drought likely to persist and possibly intensify?
- September and September-November: equal chances of below-, near-, or above-normal precipitation for all except WV which could be drier for fall; generally above-normal temperatures are favored particularly for eastern half of region



# Drought Resources

## Northeast Drought Early Warning Update



August 26, 2022

### Drought Early Warning Update for the Northeast

### Drought Impacts Continue To Expand and Intensify

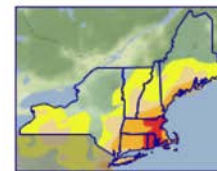
#### Key Points

- Extreme Drought (D3) expanded to cover most of Rhode Island and eastern Connecticut, and expanded in Massachusetts.
- Extreme Drought (D3) also pushed into a small portion of southern New Hampshire.
- Severe Drought (D2) expanded across most of Connecticut and Massachusetts and into New Hampshire and southern Vermont, as well as southern Long Island.
- Moderate Drought (D1) expanded in eastern New York, Long Island, and Vermont.
- Some areas of Maine saw rain and conditions improved, while other areas missed out and Moderate Drought (D1) expanded.

Accumulated Precipitation Departure from Normal



## Northeast DEWS Dashboard

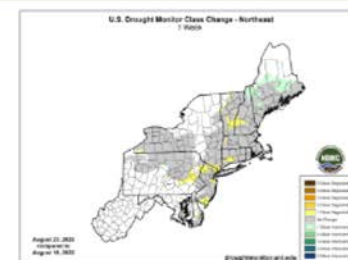
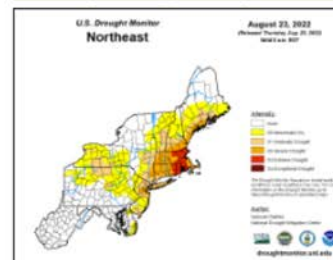


Click a state to zoom maps below  
Return to Northeast

#### Drought Status Update

August 25, 2022 - Drought and dry conditions persisted in much of the Northeast this week. Conditions deteriorated in Vermont and Connecticut, where rainfall deficits have dried out soils and lowered streamflows. Conditions improved in northern Maine and northern New Hampshire from recent rains. The U.S. Drought Monitor released on August 25 showed 4% of the Northeast DEWS in extreme drought, 13% in severe drought, 17% in moderate drought, and 30% as abnormally dry compared to 4%, 12%, 17%, and 33%, respectively, last week.  
[Browse Early Warning Update](#)

#### US Drought Monitor (updated weekly)

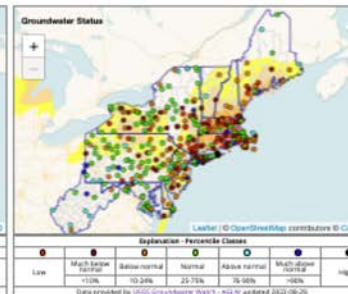
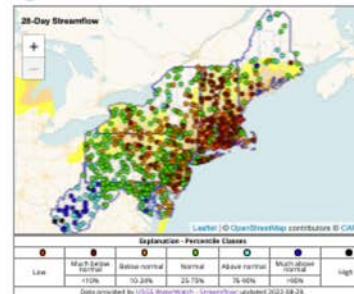


#### Last USDM Week (ending 2022-8-23) ACIS Precipitation Maps

#### Current ACIS Precipitation Maps

#### USGS Streamflow and Groundwater

Show USDM



#### NRCC SPI Maps

#### Current ACIS Maps - SPI

#### Current ACIS Maps - SPEI

#### NRCC Gridded KBDI



<https://nedews.nrc.cornell.edu/>

# Contact Information

- [nrcc@cornell.edu](mailto:nrcc@cornell.edu)

## Upcoming Webinars

- Thursday, September 29 at 9:30am EDT
  - Seasonal Bird Migration
- Thursday, October 27 at 9:30am EDT
  - TBD
- Tuesday, November 29 at 9:30am EST
  - ENSO Update and Winter Outlook



[www.nrcc.cornell.edu](http://www.nrcc.cornell.edu)