

U.S. Drought Monitor Maps

Jessica Spaccio, Climatologist



Northeast Regional
Climate Center

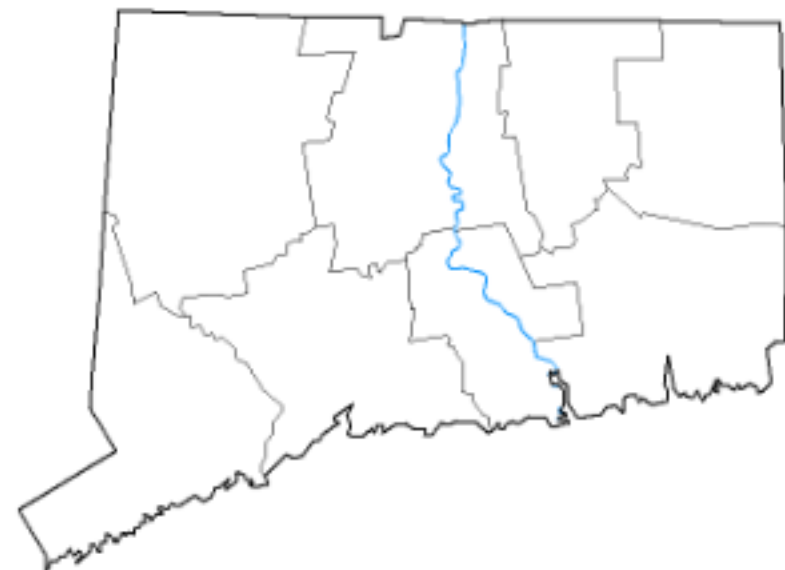


U.S. Drought Monitor Northeast DEWS

September 7, 2021
(Released Thursday, Sep. 9, 2021)
Valid 8 a.m. EDT

U.S. Drought Monitor Connecticut

September 7, 2021
(Released Thursday, Sep. 9, 2021)
Valid 8 a.m. EDT



Intensity:

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

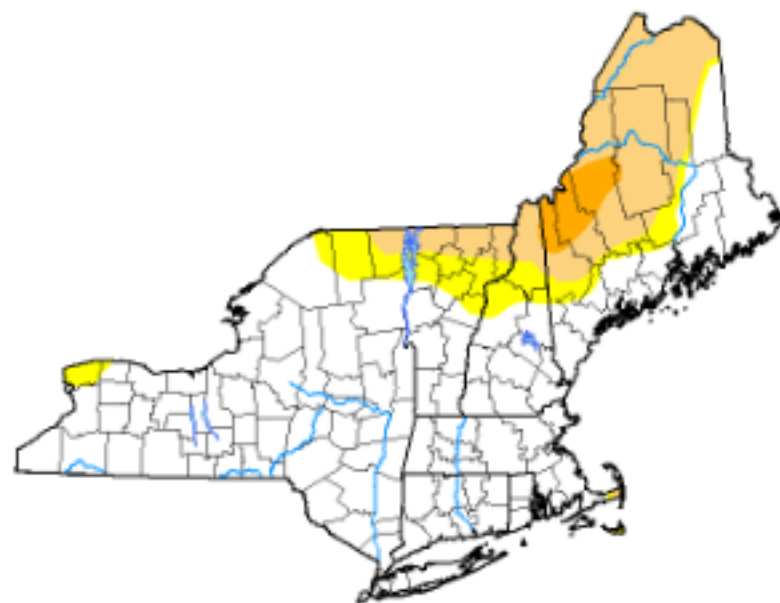
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For information on the Drought Monitor go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

David Simeral
Western Regional Climate Center



droughtmonitor.unl.edu



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Drought Classification

Intensity and Impacts

	None		D3 (Extreme Drought)
	D0 (Abnormally Dry)		D4 (Exceptional Drought)
	D1 (Moderate Drought)		No Data
	D2 (Severe Drought)		

~ - Delineates dominant impacts

S - Short-term impacts, typically less than 6 months (agriculture, grasslands)

L - Long-term impacts, typically greater than 6 months (hydrology, ecology)

SL - Short- and long-term impacts



Drought Classification

Category	Description	Possible Impacts
D0	Abnormally Dry	<p>Going into drought:</p> <ul style="list-style-type: none">• short-term dryness slowing planting, growth of crops or pastures <p>Coming out of drought:</p> <ul style="list-style-type: none">• some lingering water deficits• pastures or crops not fully recovered



Drought Classification

Category	Description	Possible Impacts
D1	Moderate Drought	<ul style="list-style-type: none">• Some damage to crops, pastures• Streams, reservoirs, or wells low, some water shortages developing or imminent• Voluntary water-use restrictions requested



Drought Classification



Category	Description	Possible Impacts
D2	Severe Drought	<ul style="list-style-type: none">• Crop or pasture losses likely• Water shortages common• Water restrictions imposed



Drought Classification

Category	Description	Possible Impacts
D3	Extreme Drought	<ul style="list-style-type: none">• Major crop/pasture losses• Widespread water shortages or restrictions

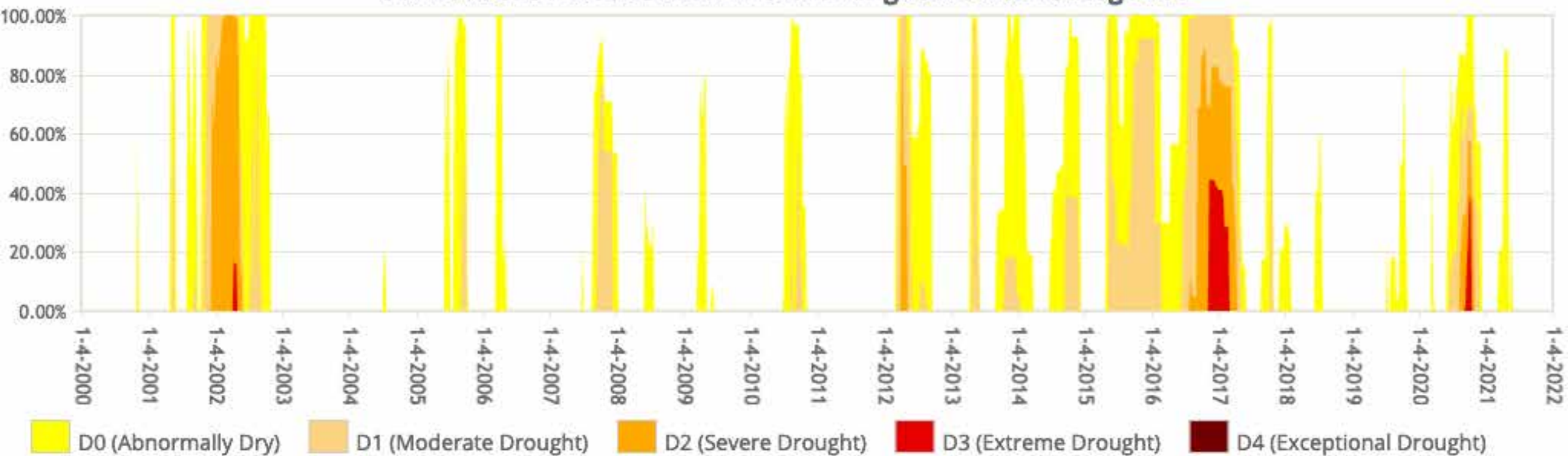


Drought Classification

Category	Description	Possible Impacts
D4	Exceptional Drought	<ul style="list-style-type: none">• Exceptional and widespread crop/pasture losses• Shortages of water in reservoirs, streams, and wells creating water emergencies



Connecticut Percent Area in U.S. Drought Monitor Categories



U.S. Drought Monitor Connecticut

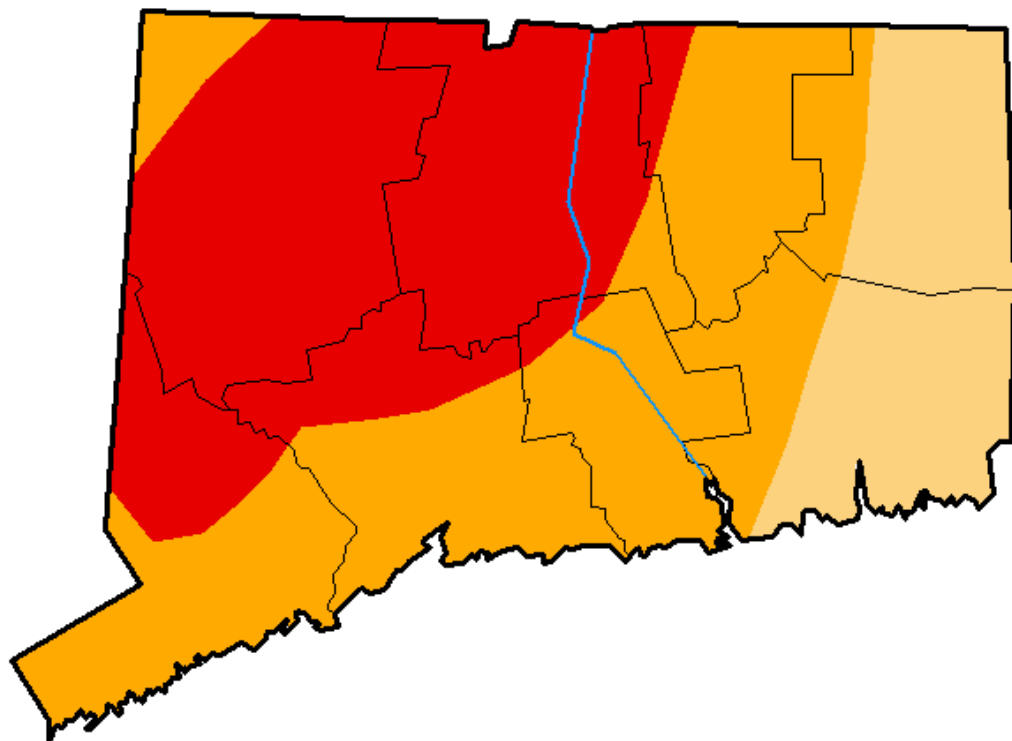
January 3, 2017

(Released Thursday, Jan. 5, 2017)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	100.00	82.57	40.97	0.00
Last Week <i>12-27-2016</i>	0.00	100.00	100.00	82.57	42.33	0.00
3 Months Ago <i>10-04-2016</i>	0.00	100.00	100.00	86.25	0.00	0.00
Start of Calendar Year <i>01-03-2017</i>	0.00	100.00	100.00	82.57	40.97	0.00
Start of Water Year <i>09-27-2016</i>	0.00	100.00	100.00	88.74	0.00	0.00
One Year Ago <i>01-05-2016</i>	0.00	100.00	92.26	0.00	0.00	0.00



Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:

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<http://droughtmonitor.unl.edu/>



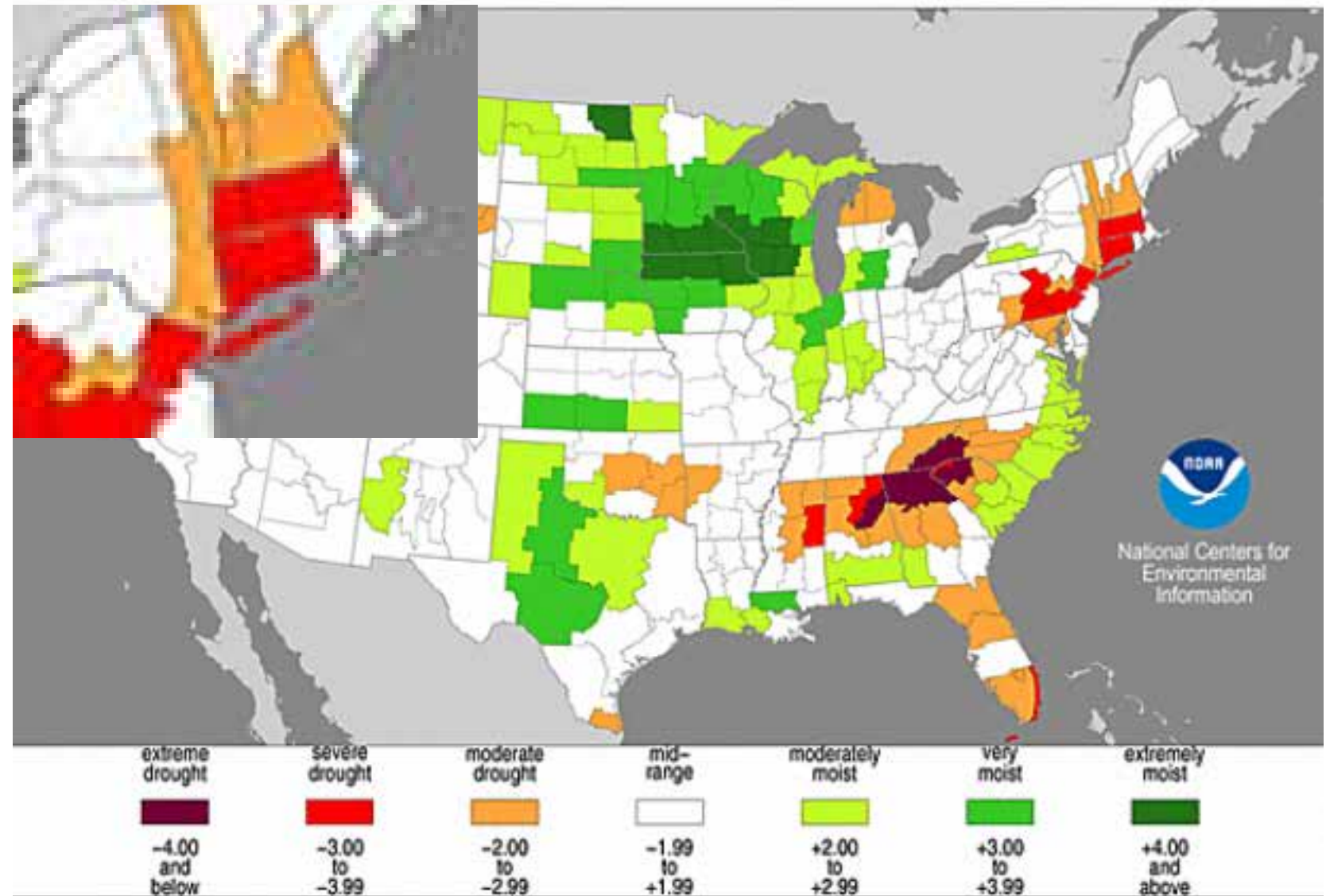
Drought Classification

Category	Description	Possible Impacts	Ranges				
			Palmer Drought Severity Index (PDSI)	CPC Soil Moisture Model (Percentiles)	USGS Weekly Streamflow (Percentiles)	Standardized Precipitation Index (SPI)	Objective Drought Indicator Blends (Percentiles)
D0	Abnormally Dry	<p>Going into drought:</p> <ul style="list-style-type: none"> • short-term dryness slowing planting, growth of crops or pastures <p>Coming out of drought:</p> <ul style="list-style-type: none"> • some lingering water deficits • pastures or crops not fully recovered 	-1.0 to -1.9	21 to 30	21 to 30	-0.5 to -0.7	21 to 30
D1	Moderate Drought	<ul style="list-style-type: none"> • Some damage to crops, pastures • Streams, reservoirs, or wells low, some water shortages developing or imminent • Voluntary water-use restrictions requested 	-2.0 to -2.9	11 to 20	11 to 20	-0.8 to -1.2	11 to 20
D2	Severe Drought	<ul style="list-style-type: none"> • Crop or pasture losses likely • Water shortages common • Water restrictions imposed 	-3.0 to -3.9	6 to 10	6 to 10	-1.3 to -1.5	6 to 10
D3	Extreme Drought	<ul style="list-style-type: none"> • Major crop/pasture losses • Widespread water shortages or restrictions 	-4.0 to -4.9	3 to 5	3 to 5	-1.6 to -1.9	3 to 5
D4	Exceptional Drought	<ul style="list-style-type: none"> • Exceptional and widespread crop/pasture losses • Shortages of water in reservoirs, streams, and wells creating water emergencies 	-5.0 or less	0 to 2	0 to 2	-2.0 or less	0 to 2



Category	Description	Palmer Drought Severity Index (PDSI)
D0	Abnormally Dry	-1.0 to -1.9
D1	Moderate Drought	-2.0 to -2.9
D2	Severe Drought	-3.0 to -3.9
D3	Extreme Drought	-4.0 to -4.9
D4	Exceptional Drought	-5.0 or less

Palmer Drought Severity Index January, 2017



National Centers for
Environmental
Information



Category	Description	CPC Soil Moisture Model (Percentiles)
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D0	Abnormally Dry	21 to 30
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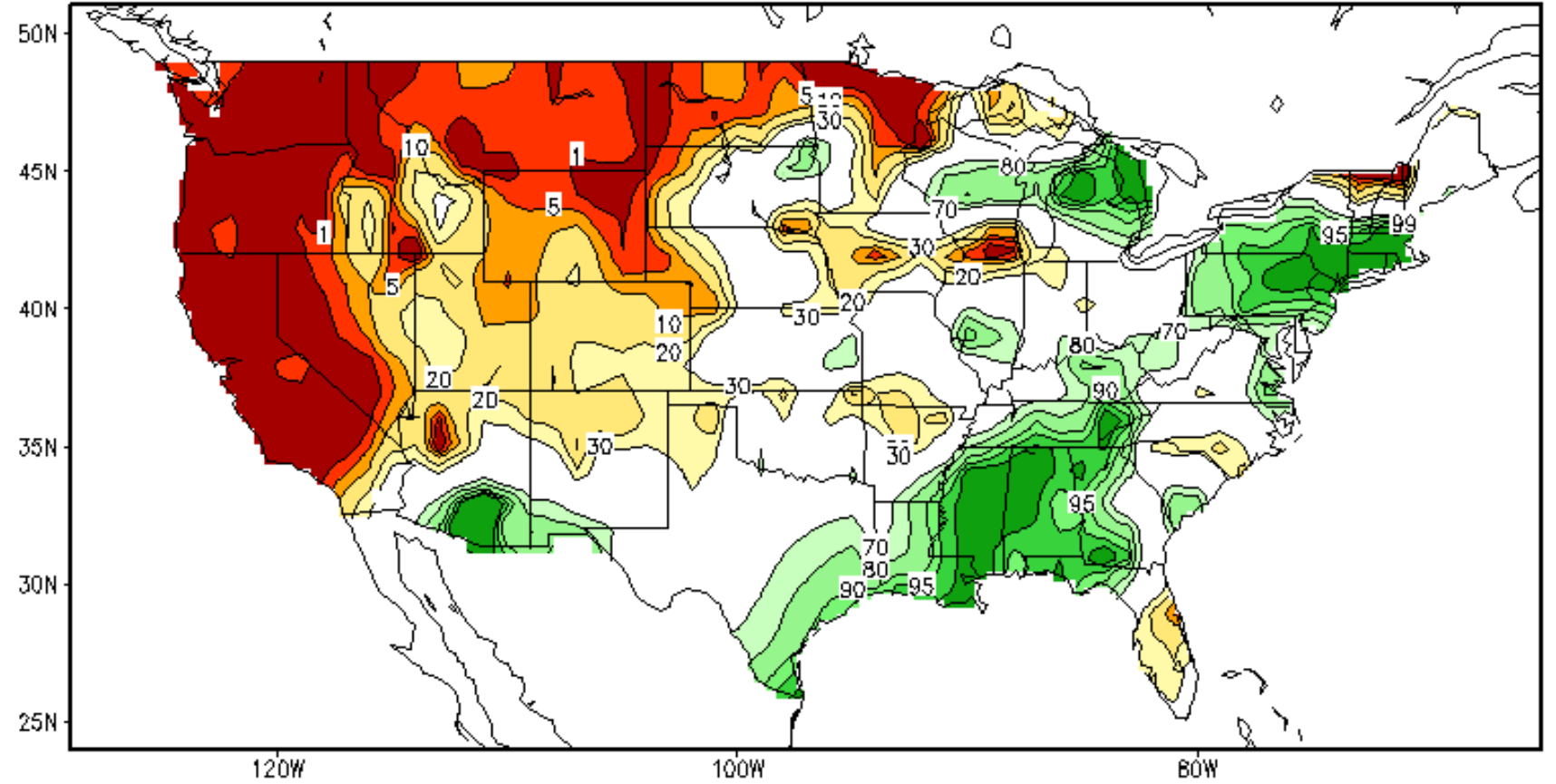
D1	Moderate Drought	11 to 20
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D2	Severe Drought	6 to 10
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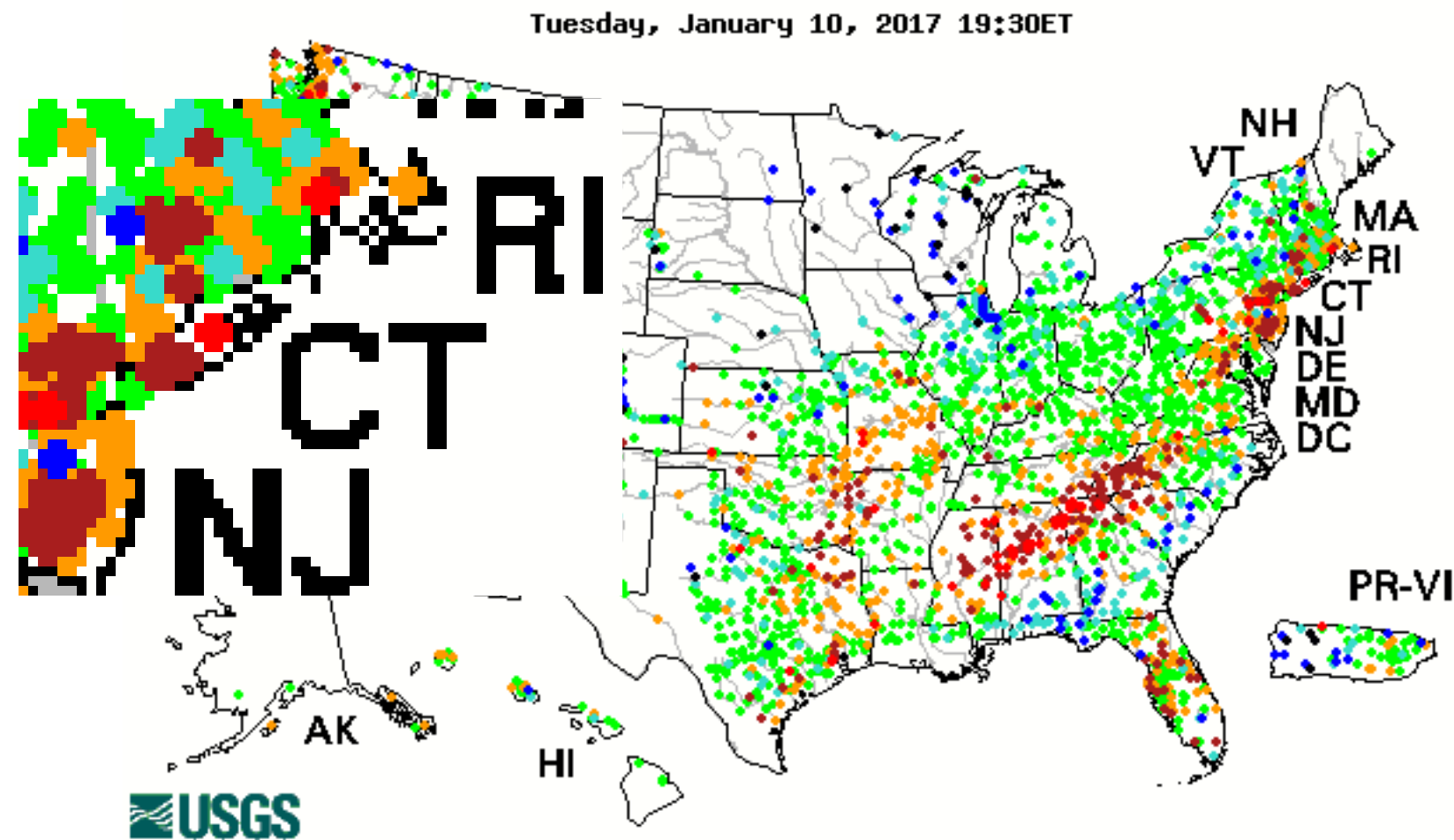
D3	Extreme Drought	3 to 5
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D4	Exceptional Drought	0 to 2
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Calculated Soil Moisture Ranking Percentile SEP 14, 2021



Category	Description	USGS Weekly Streamflow (Percentiles)
D0	Abnormally Dry	21 to 30
D1	Moderate Drought	11 to 20
D2	Severe Drought	6 to 10
D3	Extreme Drought	3 to 5
D4	Exceptional Drought	0 to 2

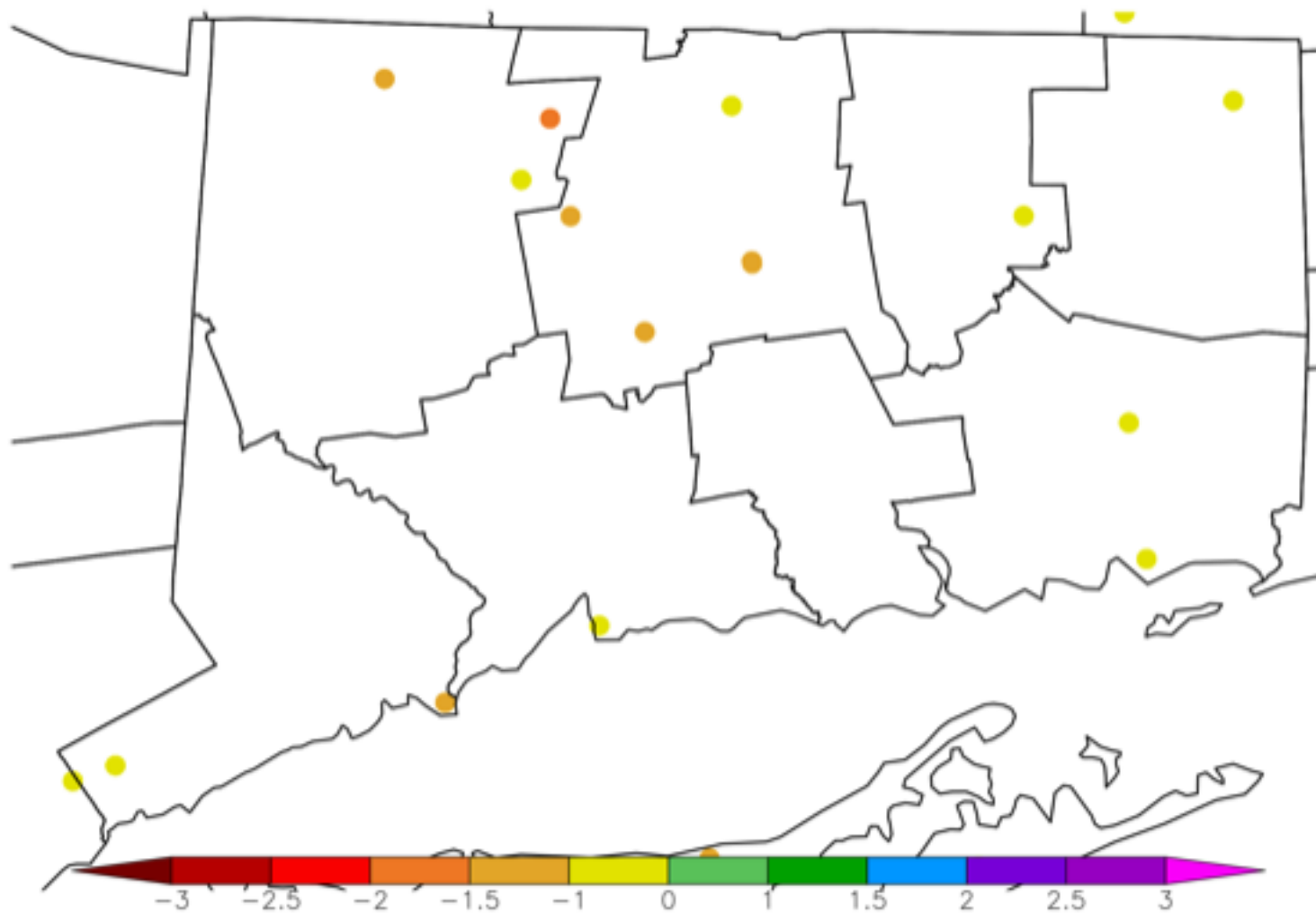


Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	
	Much below normal	Below normal	Normal	Above normal	Much above normal		



Category	Description	Standardized Precipitation Index (SPI)
D0	Abnormally Dry	-0.5 to -0.7
D1	Moderate Drought	-0.8 to -1.2
D2	Severe Drought	-1.3 to -1.5
D3	Extreme Drought	-1.6 to -1.9
D4	Exceptional Drought	-2.0 or less

Monthly SPI 6/1/2021 - 6/30/2021



Generated 7/20/2021 at HPRCC using provisional data.

NOAA Regional Climate Centers



Category	Description	Objective Drought Indicator Blends (Percentiles)
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D0	Abnormally Dry	21 to 30
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D1	Moderate Drought	11 to 20
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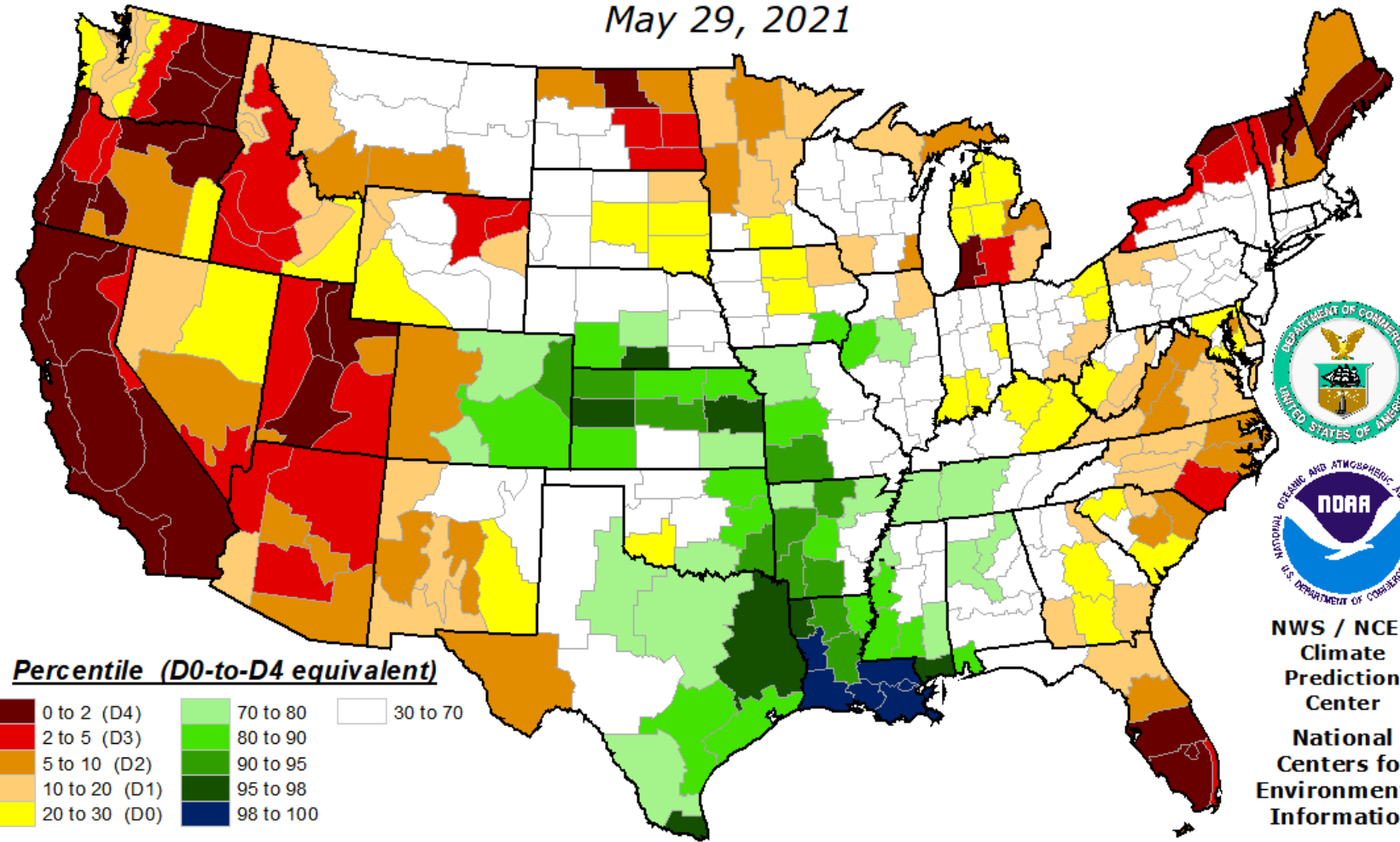
D2	Severe Drought	6 to 10
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D3	Extreme Drought	3 to 5
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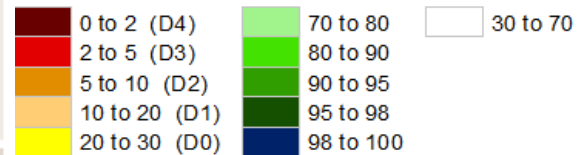
D4	Exceptional Drought	0 to 2
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Objective Short-Term Drought Indicator Blend Percentiles

May 29, 2021



Percentile (D0-to-D4 equivalent)



Inputs (as percentiles):

- 35% Palmer Z-Index
- 25% 3-Month Precipitation
- 20% 1-Month Precipitation
- 13% CPC Soil Moisture Model
- 7% Palmer Drought Index

This map approximates impacts that respond to precipitation over several days to a few months, such as agriculture, topsoil moisture, unregulated streamflows, and most aspects of wildfire danger. The relationship between indicators and impacts can vary significantly with location and season. Do not interpret this map too literally.

This map is based on preliminary climate division data. Local conditions and/or final data may differ. See the detailed product suite description for more details.



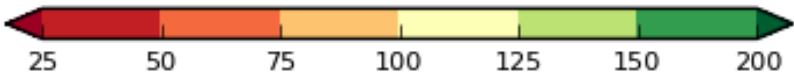
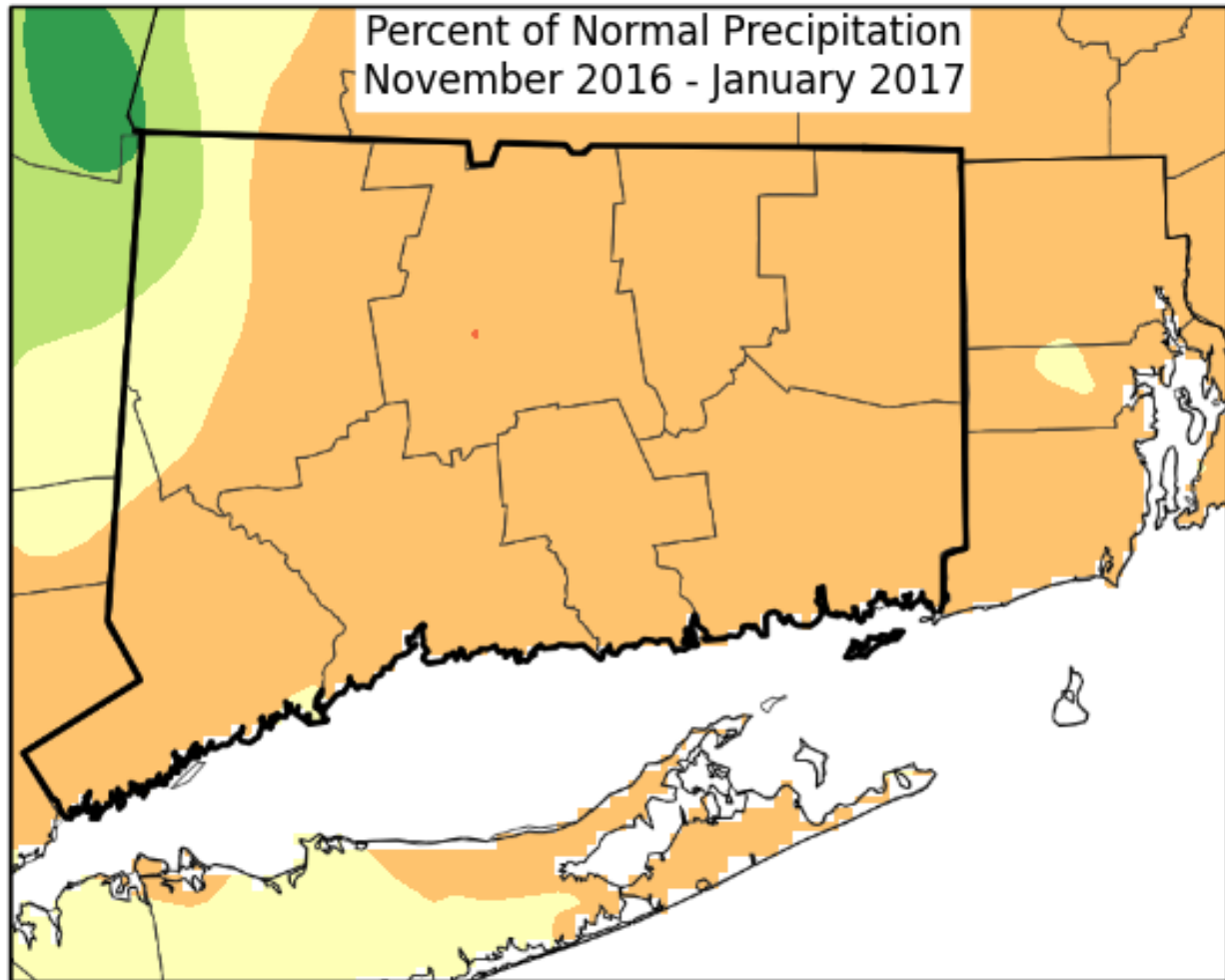
NWS / NCEP
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Prediction
Center

National
Centers for
Environmental
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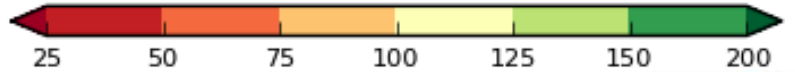
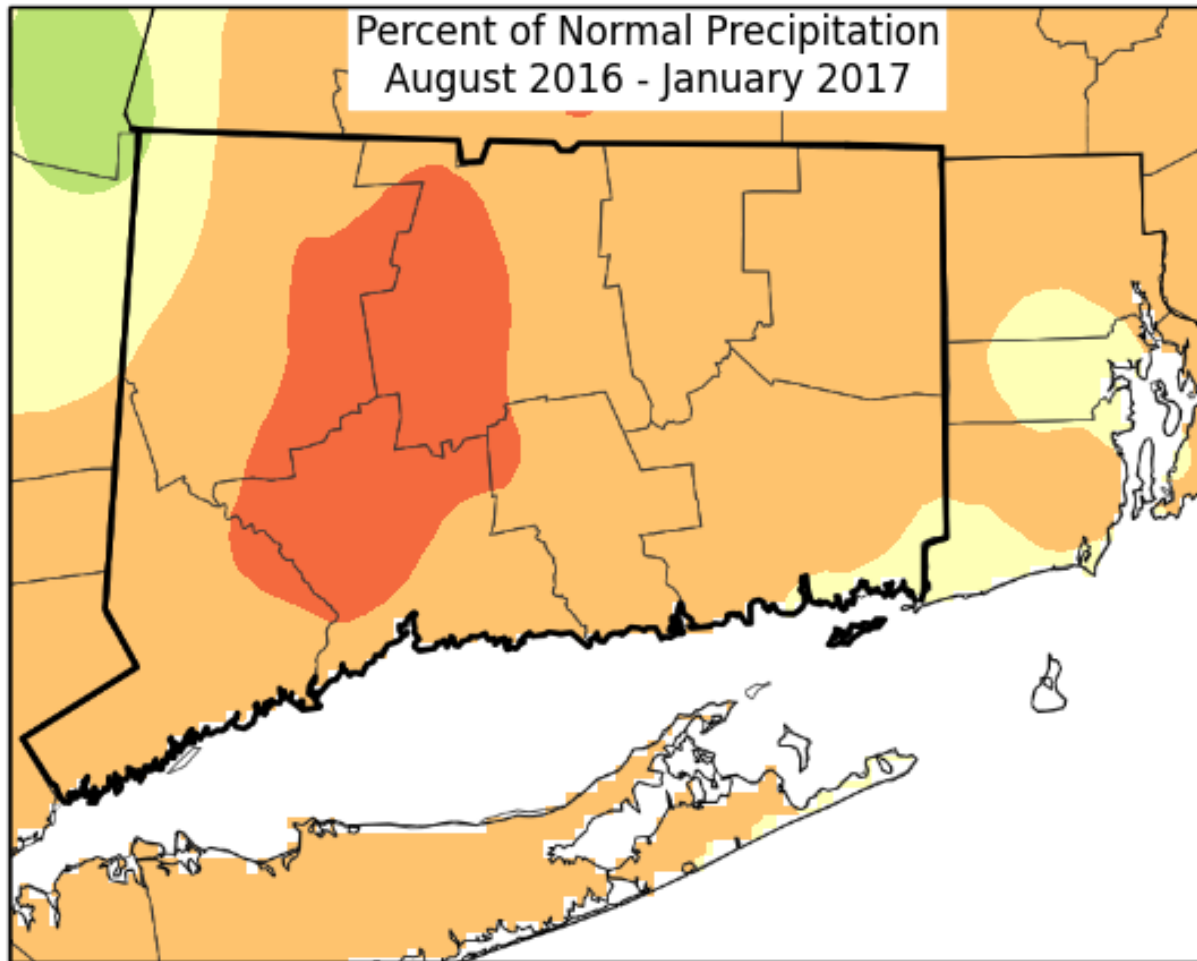


3 & 6 Month Percent of Normal Precipitation

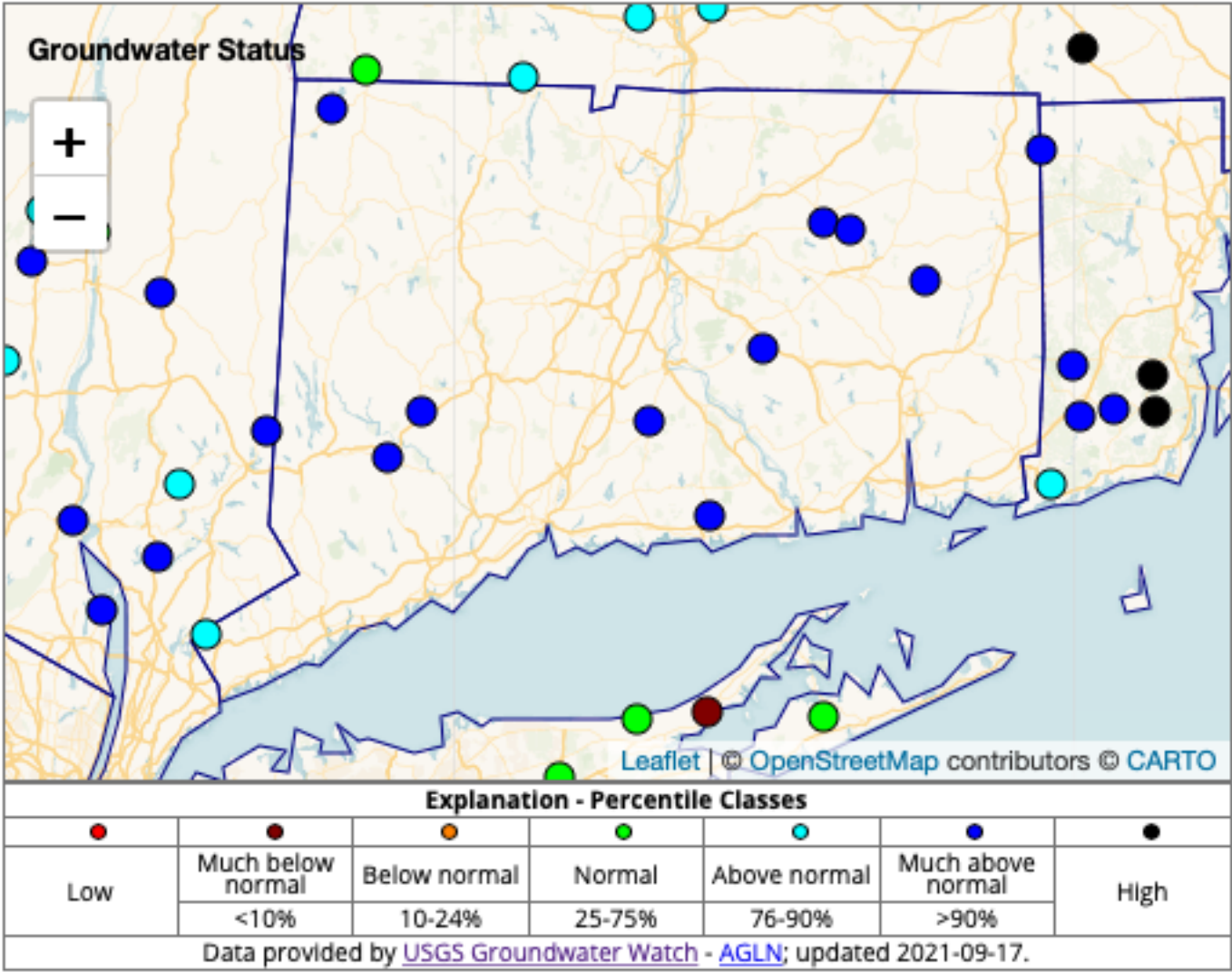
Percent of Normal Precipitation
November 2016 - January 2017



Percent of Normal Precipitation
August 2016 - January 2017

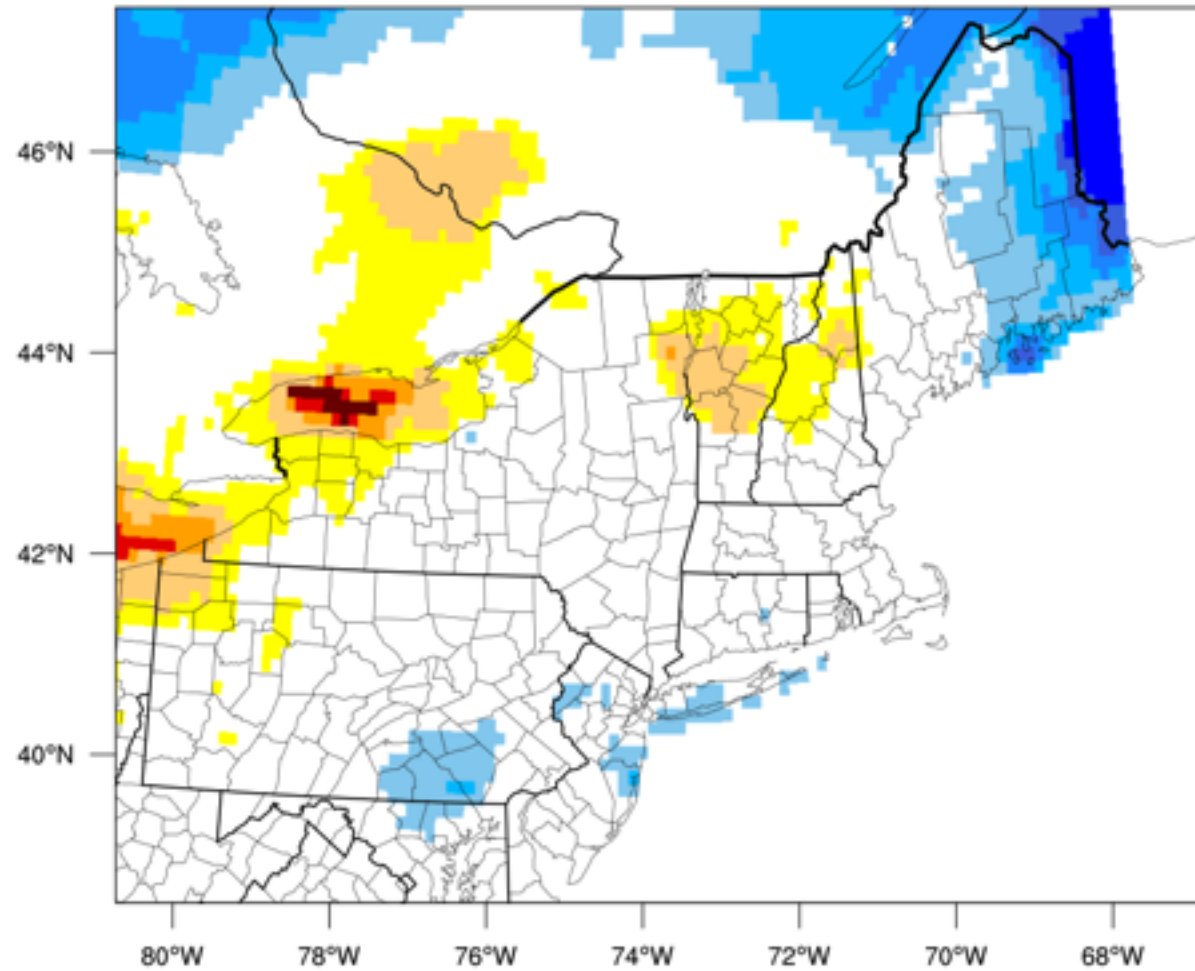


Groundwater



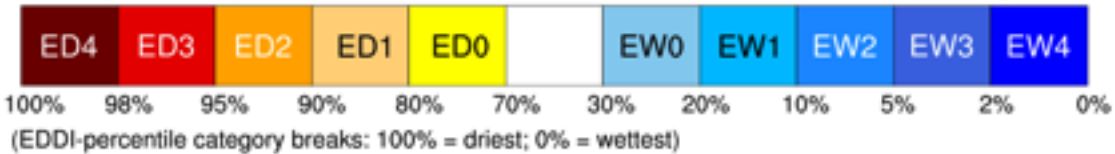
EDDI – Evaporative Demand Drought Index

1-week EDDI categories for September 10, 2021



Drought categories

Wetness categories



Generated by NOAA/ESRL/Physical Sciences Laboratory



Local Impacts

Northeast DEWS Google Group

- Place to compile local impacts and have internal discussion. Recommendations are given to the DM author.

From NY: In northern, central, and western New York, some crops continued to experience moisture stress, with slow growth of corn, soybean, and hay. In a few locations, corn is curling and turning blue.

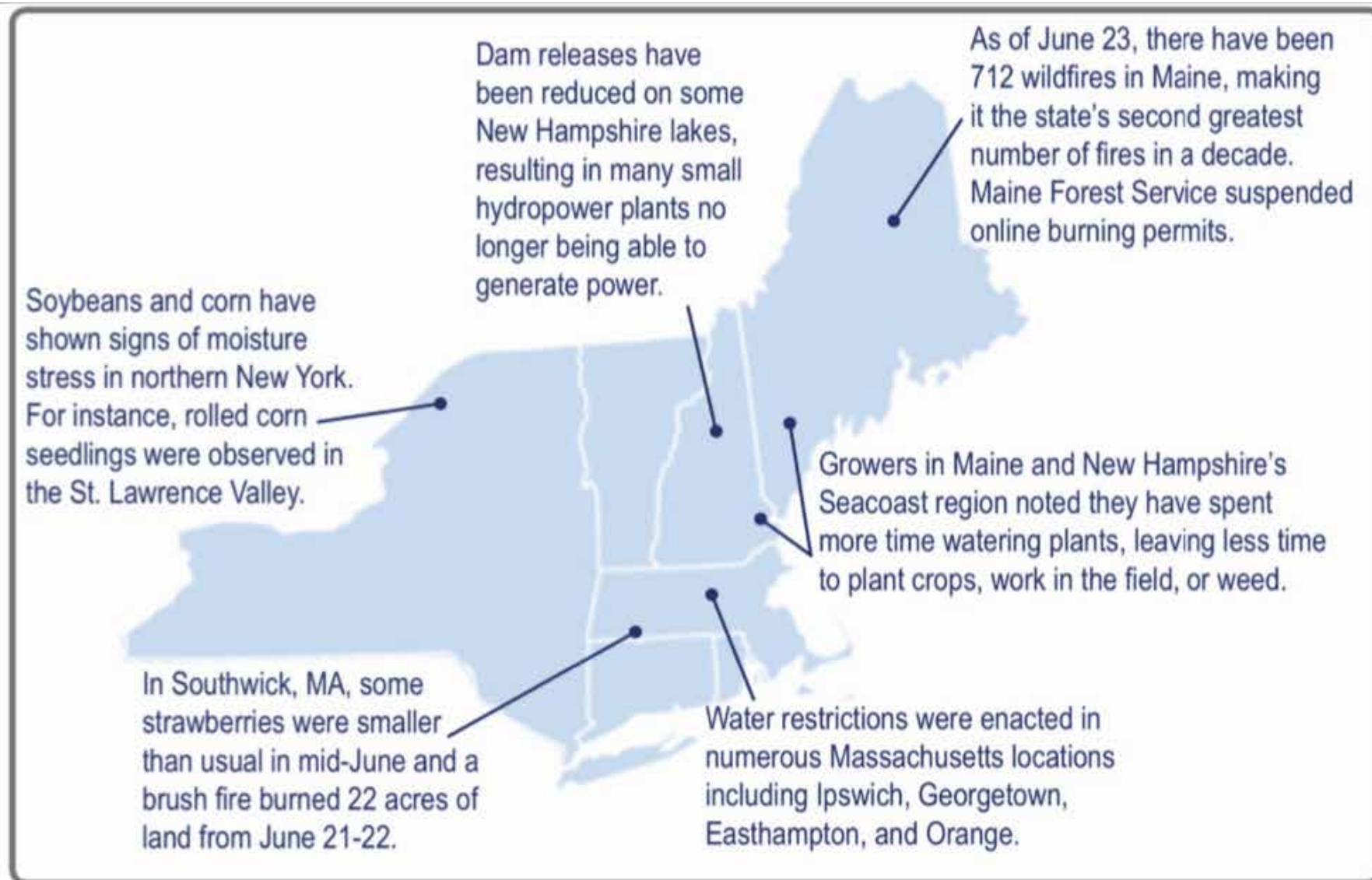
From MA: "We also put more emphasis on groundwater on the Cape given that it is driven by groundwater. So we see the great bumps in streamflow but also see the recession because gw hasn't recovered. "

From NH: "in Shelburne, the water levels are among the lowest recorded for this time of year, with levels having dropped since July."

from Maine Emergency Management Agency noted northern Maine had seen "impacts to crops, including hay, potatoes, wheat and barley as well as an increase in invasive species due to the lack of rain..."



Local Impacts

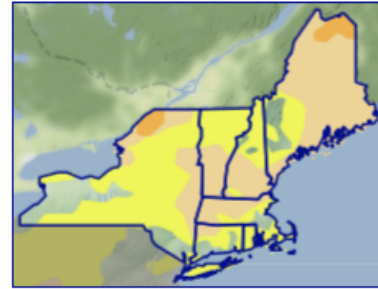


Potential Impacts on Water Utilities

Operational Impacts

- Loss of water pressure and water supply
- Poor water quality from the source that may require additional treatment to meet drinking water standards
- Inability to access alternative and supplementary water sources because of high demand by and competition from other users
- Increased customer demand
- Increased costs and reduced revenues related to responding to drought impacts.



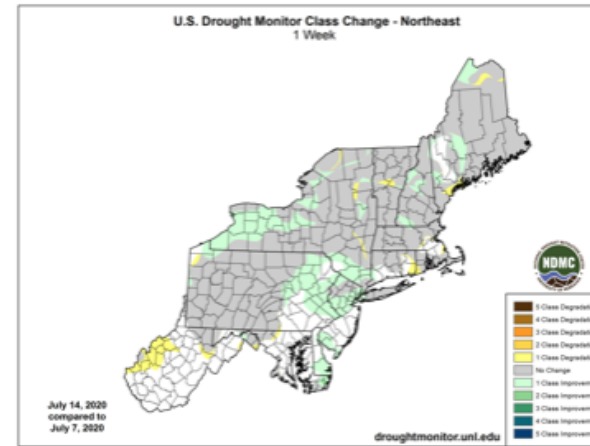
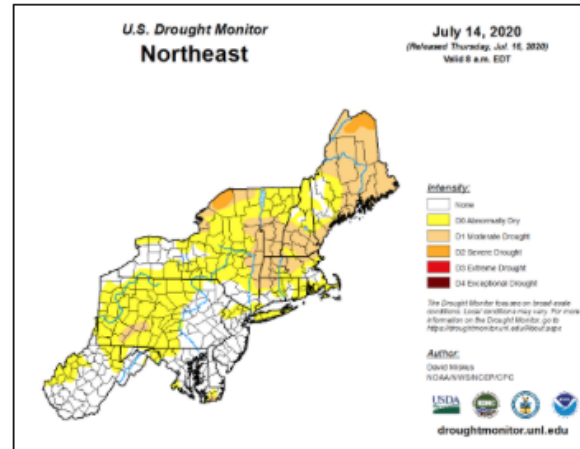


Click a state to zoom maps below

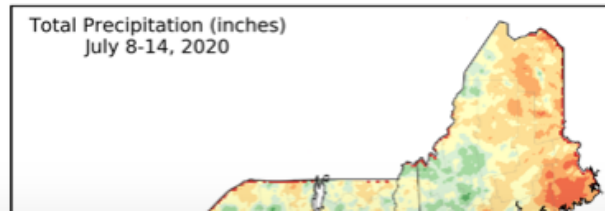
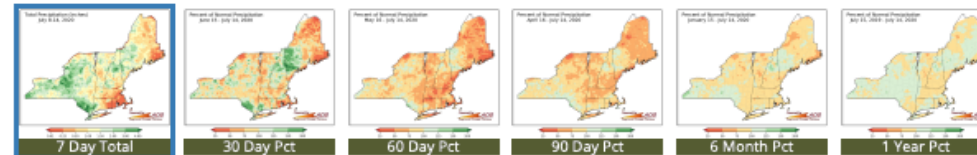
Drought Status Update

July 16, 2020 - Enough precipitation fell during the past week to prevent further deterioration in many areas and improve conditions in some areas. Many locations did not see their drought status change, but there were slight improvements in drought conditions in small portions of northwestern/western Maine, southwestern New Hampshire, and northwestern New York. The most notable change was in abnormal dryness, which is eased in parts of western/southeastern New York, western Connecticut, northern New Hampshire, and western Maine. However, moderate drought expanded in coastal Maine, while abnormal dryness expanded in eastern Connecticut and southern Rhode Island. The U.S. Drought Monitor released on July 16 showed 42% of the Northeast DEWS region in a

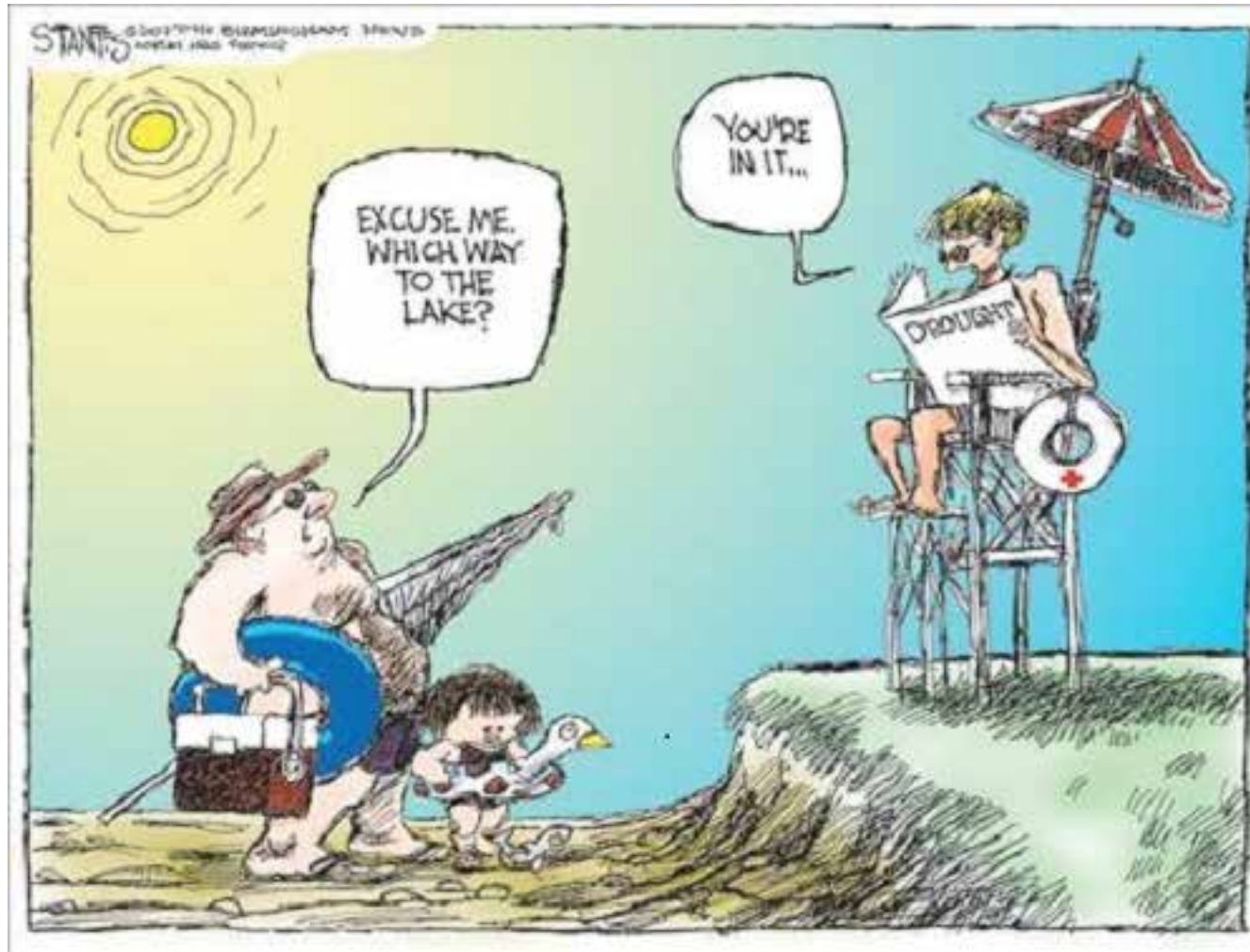
US Drought Monitor (updated weekly)



Last USDM Week (ending 2020-7-14) ACIS Precipitation Maps



<http://nedews.nrcc.cornell.edu>



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