

? <b>NWS Form E-5</b> (04-2006) (PRES. BY NWS Instruction 10-924)	<b>U.S. DEPARTMENT OF COMMERCE</b> <b>NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION</b> <b>NATIONAL WEATHER SERVICE</b>	HYDROLOGIC SERVICE AREA (HSA) <b>Boston/Norton MA</b>	
		REPORT FOR: MONTH                      YEAR <b>May                              2022</b>	
<b>MONTHLY REPORT OF HYDROLOGIC CONDITIONS</b>		SIGNATURE Robert W. Megnia Meteorologist	
TO:                      Hydrologic Information Center, W/OS31 NOAA's National Weather Service 1325 East West Highway Silver Spring, MD 20910-3283		DATE <b>June 3<sup>rd</sup> 2022</b>	

When no flooding occurs, include miscellaneous river conditions below the small box, such as significant rises, record low stages, ice conditions, snow cover, droughts, and hydrologic products issued (NWS Instruction 10-924).

An X inside this box indicates that no flooding occurred within this hydrologic service area.

....Drought conditions declared for portions of southern New England....

May 2022 liquid equivalent precipitation varied across southern New England. Eastern MA, northern RI, and northeast CT received less than 1 inch to 2 inches of precipitation while Cape Cod, western MA/CT, and southern RI received about 2-3 inches of precipitation. This was roughly 2-3 inches and 0-2 inches below normal respectively. Nantucket and Martha's Vineyard received anywhere from 3-5 inches which was the most rainfall observed in May 2022 in southern New England. Martha's Vineyard's rainfall was near normal while Nantucket's observed rainfall was above normal for May. Temperatures ranged anywhere from 1-5 degrees above normal across southern New England with the greatest departures observed over central MA. Hartford, CT and Providence, RI climate sites recorded monthly averages temperatures in the top 10 for each site's period of record with respect to warmest average temperature for the month of May.

No freshwater flooding occurred within NWS Boston/Norton's Hydrologic Service Area. More details for major climate sites in southern New England are included in Table 1. In addition to precipitation details, temperature departure from normal and warmest average temperature ranking for the month of May are provided.

<i>Location</i>	<i>May Precipitation (Inches)</i>	<i>Precipitation Departure from Normal (Inches)</i>	<i>Temperature Departure from Normal (Degrees F)</i>	<i>Warmest May on Record Ranking</i>
<i>Boston</i>	1.32	-1.93	2.1	23rd
<i>Worcester</i>	2.42	-1.14	3.7	15th
<i>Providence</i>	1.50	-1.87	2.5	9th
<i>Hartford</i>	2.88	-.91	3.9	8th

Table 1. May 2022 precipitation and departure from normal, temperature departure from normal, and warmest average temperature on record for May ranking. Details are for major climate sites within southern New England. Information is preliminary.

**Onset of Drought Conditions for Portions of Southern New England**

Below normal precipitation during the months of April and May brought many streams and river across southeastern MA, northern RI, and northeast CT down to below normal or much below normal streamflow levels for this time of year. Additionally, the lack of precipitation led to ground water deficits and a reduction in

surface soil moisture in these regions. This resulted in D0, abnormally dry conditions, in east/southeastern MA on the US drought monitor on May 10<sup>th</sup>. Continued precipitation deficits and below normal streamflow levels beyond May 10<sup>th</sup> resulted in D0, abnormally dry conditions, across most of southern New England east of the CT River Valley, while portions of eastern MA and northern RI rose to D1, moderate drought conditions, in the latest update to the U.S. Drought Monitor (May 31<sup>st</sup>). Maps 2 and 3 provide the USDM maps for the Northeast US on May 10<sup>th</sup> and May 31<sup>st</sup>.

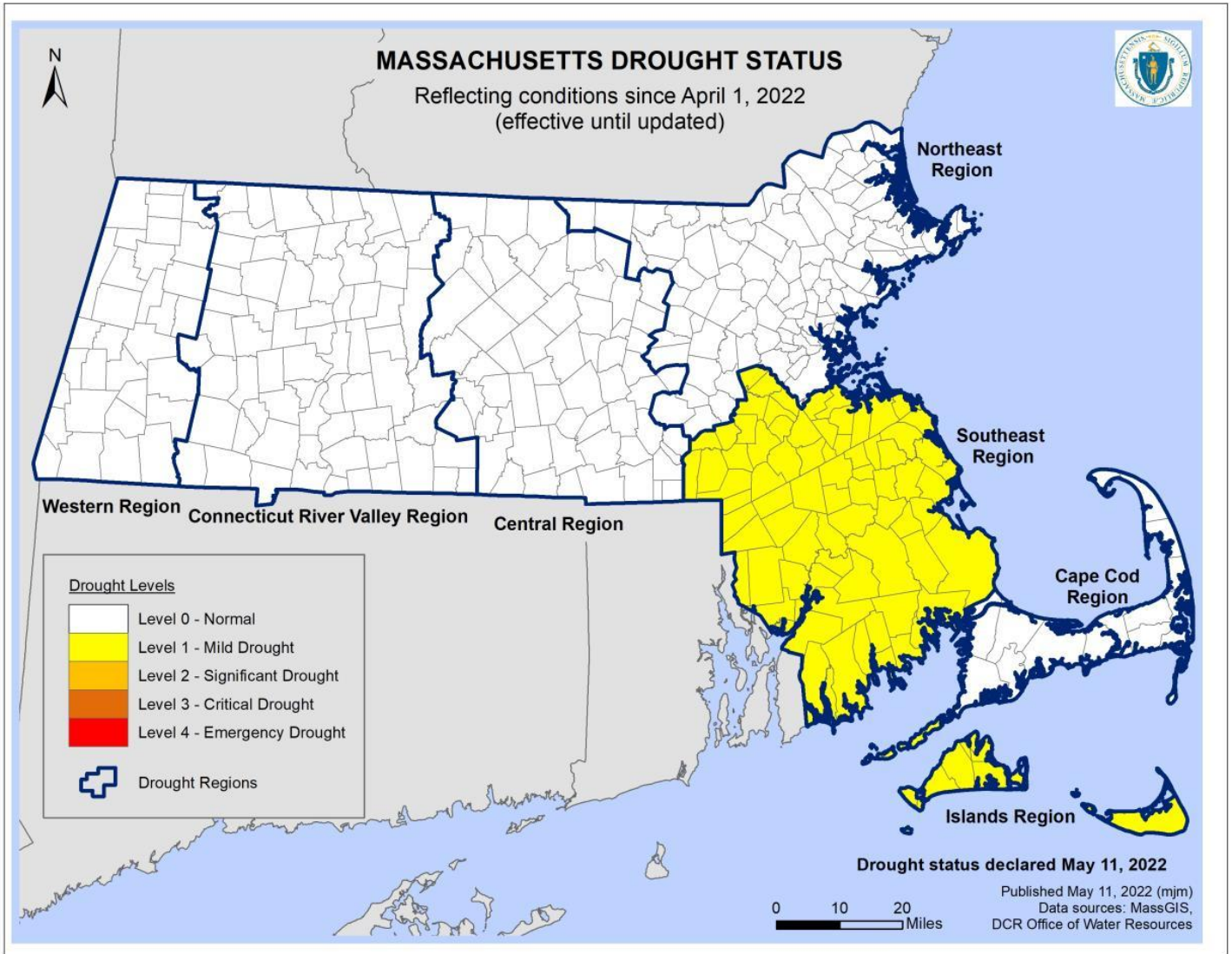
## **State Drought Declarations**

MA:

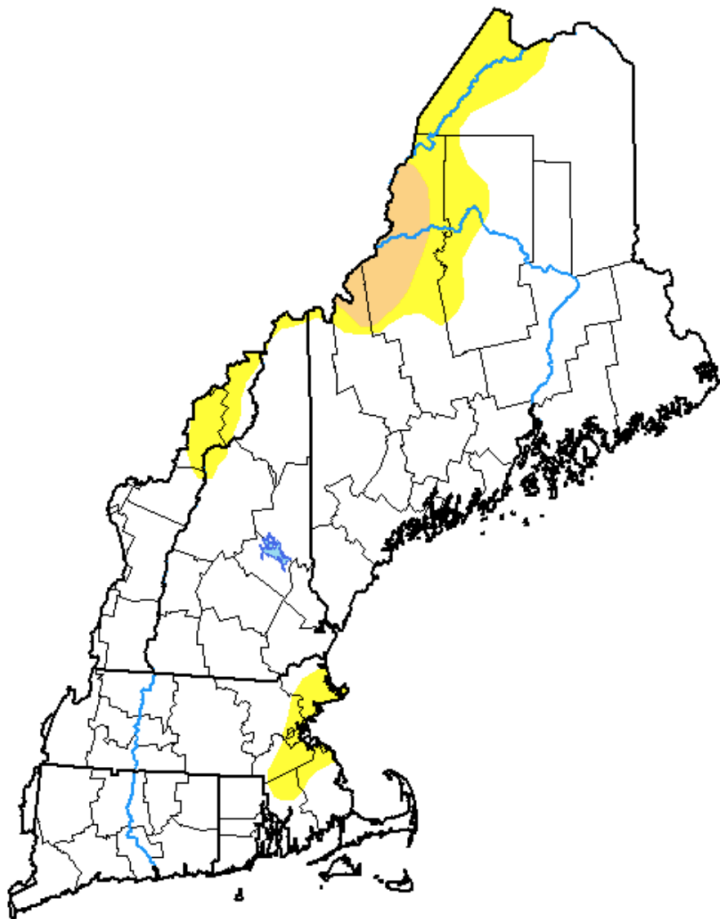
On May 6<sup>th</sup> 2022, the MA Drought Management Task Force convened to provide drought declaration recommendations to The MA Secretary of Energy and Environmental Affairs (EEA). On May 10<sup>th</sup> 2022, the MA Secretary of EEA declared a Level 1-Mild Drought in the Southeast and Islands Regions of the Commonwealth. The May 2022 Hydrologic Conditions Report for MA can be accessed via this link: <https://www.mass.gov/doc/2022-may-hydrologic-conditions/download>. Map 1 further depicts the Drought Regions in MA and with the associated Drought Level. According to EEA and the Massachusetts Drought Management Plan, a Level 1-Mild Drought places emphasis on water conservation through education, communication, and planning. Details from MA Drought Management Task Force meetings are available at this link: <https://www.mass.gov/service-details/drought-management-task-force-meetings>

## **Streamflow and Groundwater**

Most USGS stream gages in southern New England were running below to much below normal for this time of year. Only about 25% of stream gages were running near normal. Vast majority of gages running below normal were focused across the eastern half of southern New England while the gages running near normal were focused across the western half of southern New England and northeastern MA. Ground water was running near normal in MA while RI and CT had levels ranging from normal to much below normal.



Map 1: Massachusetts Drought Status for May 2022, retroactive to April 1st. Map from the MA Department of Conservation and Recreation, Office of Water Resources.



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	86.21	13.79	2.87	0.00	0.00	0.00
<b>Last Week</b> 05-03-2022	86.50	13.50	3.21	0.00	0.00	0.00
<b>3 Months Ago</b> 02-08-2022	67.77	32.23	6.91	2.88	0.00	0.00
<b>Start of Calendar Year</b> 01-04-2022	81.86	18.14	6.91	2.88	0.00	0.00
<b>Start of Water Year</b> 09-28-2021	76.65	23.35	8.91	2.70	0.00	0.00
<b>One Year Ago</b> 05-11-2021	63.13	36.87	4.09	0.00	0.00	0.00

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 more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>*

Author:

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Western Regional Climate Center

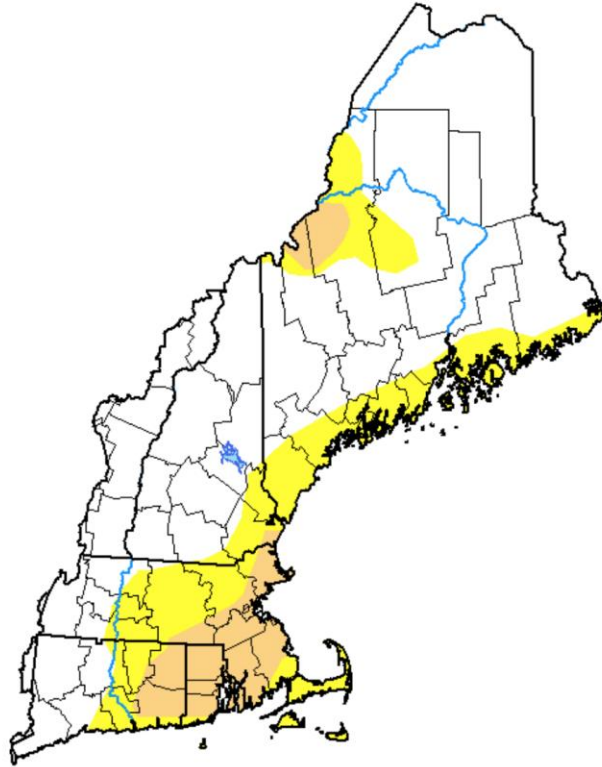


[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)

Map 2: US Drought Monitor New England from May 10<sup>th</sup>

# U.S. Drought Monitor New England Watershed

**May 31, 2022**  
(Released Thursday, Jun. 2, 2022)  
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	69.87	30.13	9.15	0.00	0.00	0.00
<b>Last Week</b> 05-24-2022	66.83	33.17	6.65	0.00	0.00	0.00
<b>3 Months Ago</b> 03-01-2022	68.36	31.64	6.91	2.88	0.00	0.00
<b>Start of Calendar Year</b> 01-04-2022	81.86	18.14	6.91	2.88	0.00	0.00
<b>Start of Water Year</b> 09-28-2021	76.65	23.35	8.91	2.70	0.00	0.00
<b>One Year Ago</b> 06-01-2021	44.54	55.46	4.39	0.00	0.00	0.00

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 more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>*

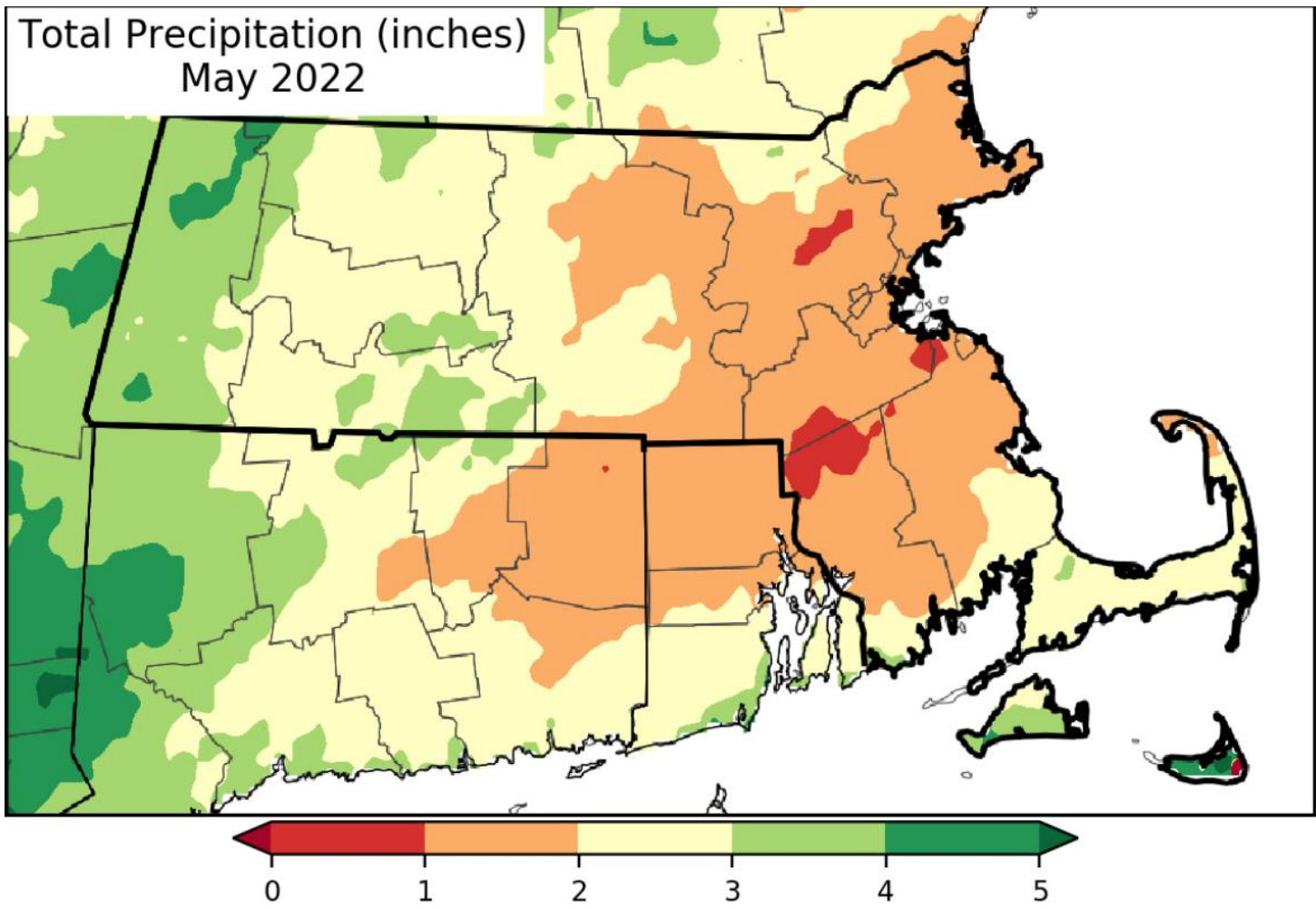
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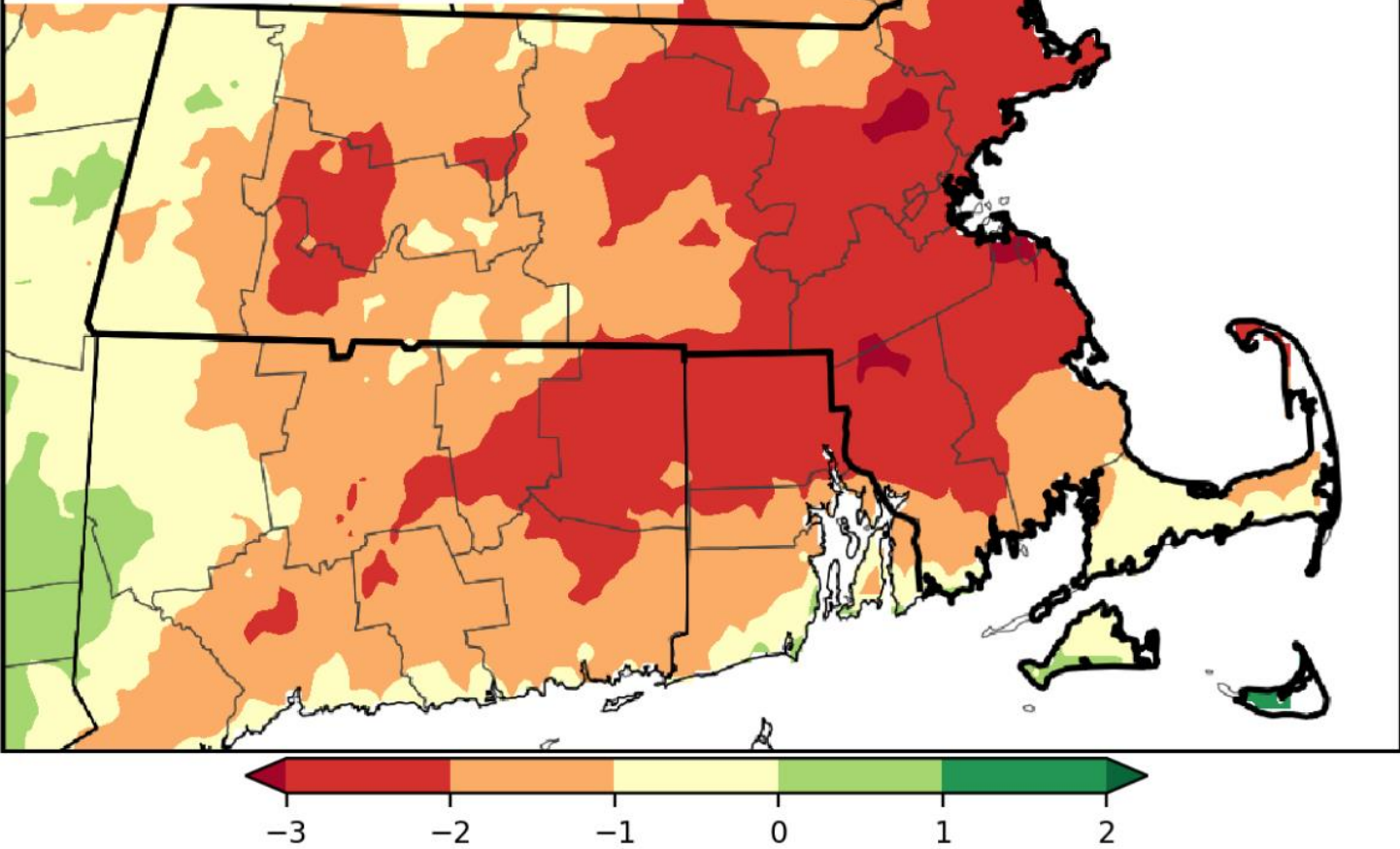
[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)

Map 3: US Drought Monitor New England from May 31st



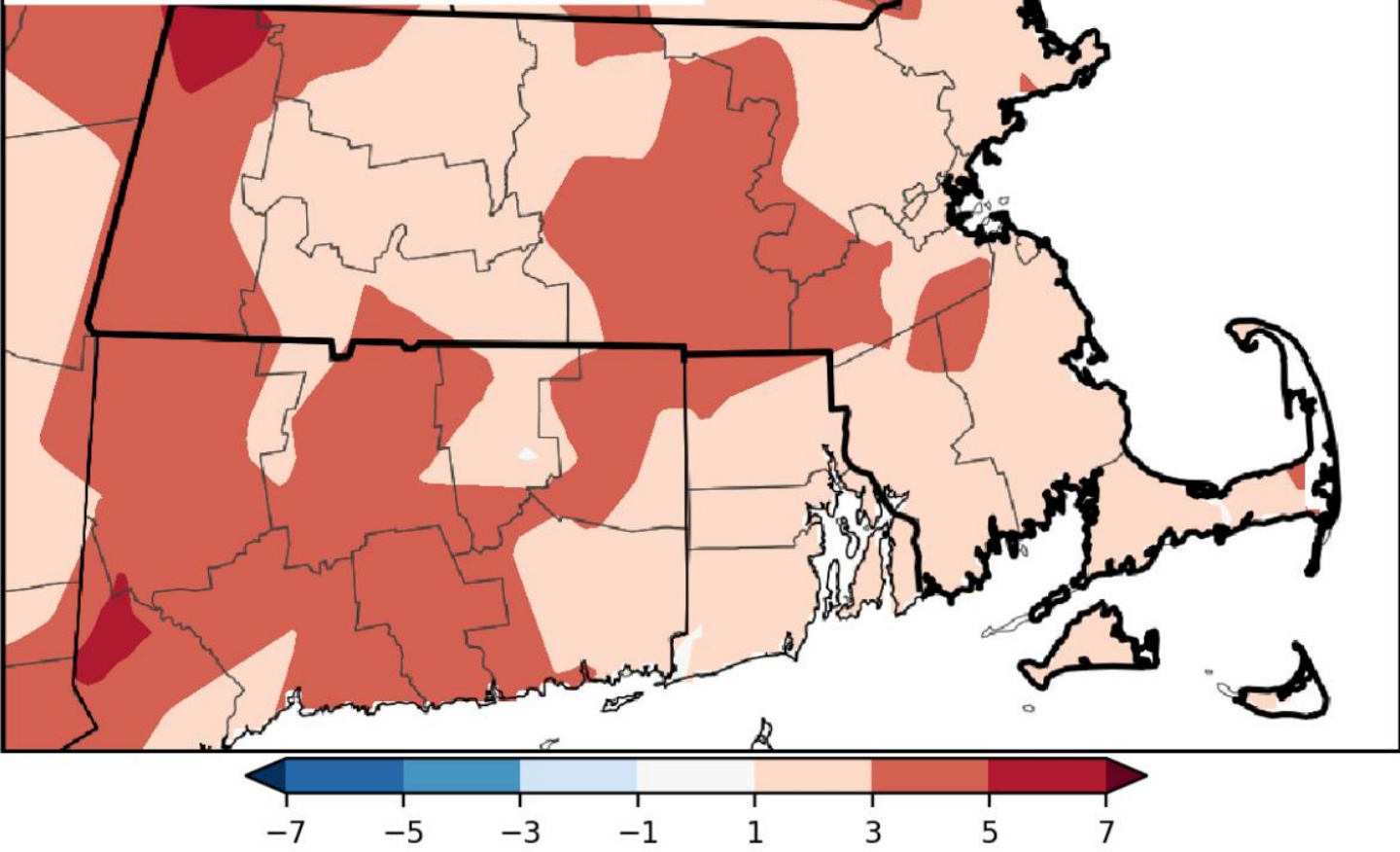
Map 4: May 2022 liquid equivalent precipitation for southern New England. From the Northeast Regional Climate Center.

Precipitation Departure (inches)  
May 2022



Map 5. May 2022 precipitation departure from normal for southern New England. From the Northeast Regional Climate Center.

Avg Temperature Departure ( ° F)  
May 2022



Map 6. Average temperature departure from normal across southern New England for May 2022.  
From the Northeast Regional Climate Center.