

NWS Form E-5 <small>(04-2006)</small> <small>(PRES. BY NWS Instruction 10-924)</small>	U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE	HYDROLOGIC SERVICE AREA (HSA) Boston/Norton MA	
		MONTHLY REPORT OF HYDROLOGIC CONDITIONS	REPORT FOR: MONTH YEAR June 2023
TO: Hydrologic Information Center, W/OS31 NOAA's National Weather Service 1325 East West Highway Silver Spring, MD 20910-3283		SIGNATURE Robert W. Megnia Meteorologist	
		DATE July 5th 2023	

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 declaration made for portions of MA...

A dry spell for a few locations in southern New England continued during the month of June. On June 13th 2023, MA Energy and Environmental Affairs Secretary Rebecca Tepper declared a Level 1-Mild Drought for the Western and Cape Cod Regions of Massachusetts. Furthermore, western MA, Cape Cod, The Islands, and most of CT remain at D1: Abnormally Dry on the US Drought Monitor. See Map 5 for a depiction of the USDM for The Northeast effective June 27th 2023. More details on the drought declaration for MA can be found below.

June Precipitation

Precipitation during June 2023 varied greatly across southern New England with the region receiving anywhere from 25 to 150 percent of normal precipitation. The greatest deficits were observed across the state of CT where only 2 to 3 inches of rain fell across most of the state. A few locations in CT received 4+ inches, but for the most part CT was only in the 25 to 75 percent of normal range. The state of RI was in the near to slightly below normal range with most of the state measuring 3 to 5 inches of precipitation. There was some variability across the state of MA as well, but most of the state was either near or above normal. The highest observed totals were observed north of I-90 along the norther tier of MA where 5 to 7 inches of rain fell. East and southeastern MA also experienced positive precipitation departures with 4 to 6 inches of rainfall. A few locations in western and central MA were in the below normal range with only 2 to 4 inches of rainfall. More details can be found in maps 2 and 3 below.

<i>Location</i>	<i>May Precipitation (Inches)</i>	<i>Precipitation Departure from Normal (Inches)</i>	<i>Temperature Departure from Normal (Degrees F)</i>
<i>Boston</i>	3.44	-0.45	-2.1
<i>Worcester</i>	4.73	+0.51	-0.3
<i>Providence</i>	3.54	-0.27	-4.7
<i>Hartford</i>	1.27	-3.01	-0.9

Table 1. June 2023 precipitation, precipitation departure from normal, and temperature departure from normal. Details are for major climate sites in southern New England. All June information is preliminary.

Streamflow and Groundwater

As of July 5th 2023, real time, 7 day, and 14 day streamflow values at gages across southern New England ranged from normal to much above normal. 28 day streamflow values were mostly in the normal range with a handful of gages in northeastern MA in the above normal range and a handful of gages in south/southwest CT in the below to much below normal range. Groundwater wells in southern New England were also mostly ranging from near normal to much above normal. A handful of groundwater wells on Cape Cod, The Islands Region, and south/southwest CT were in the below to much below normal range.

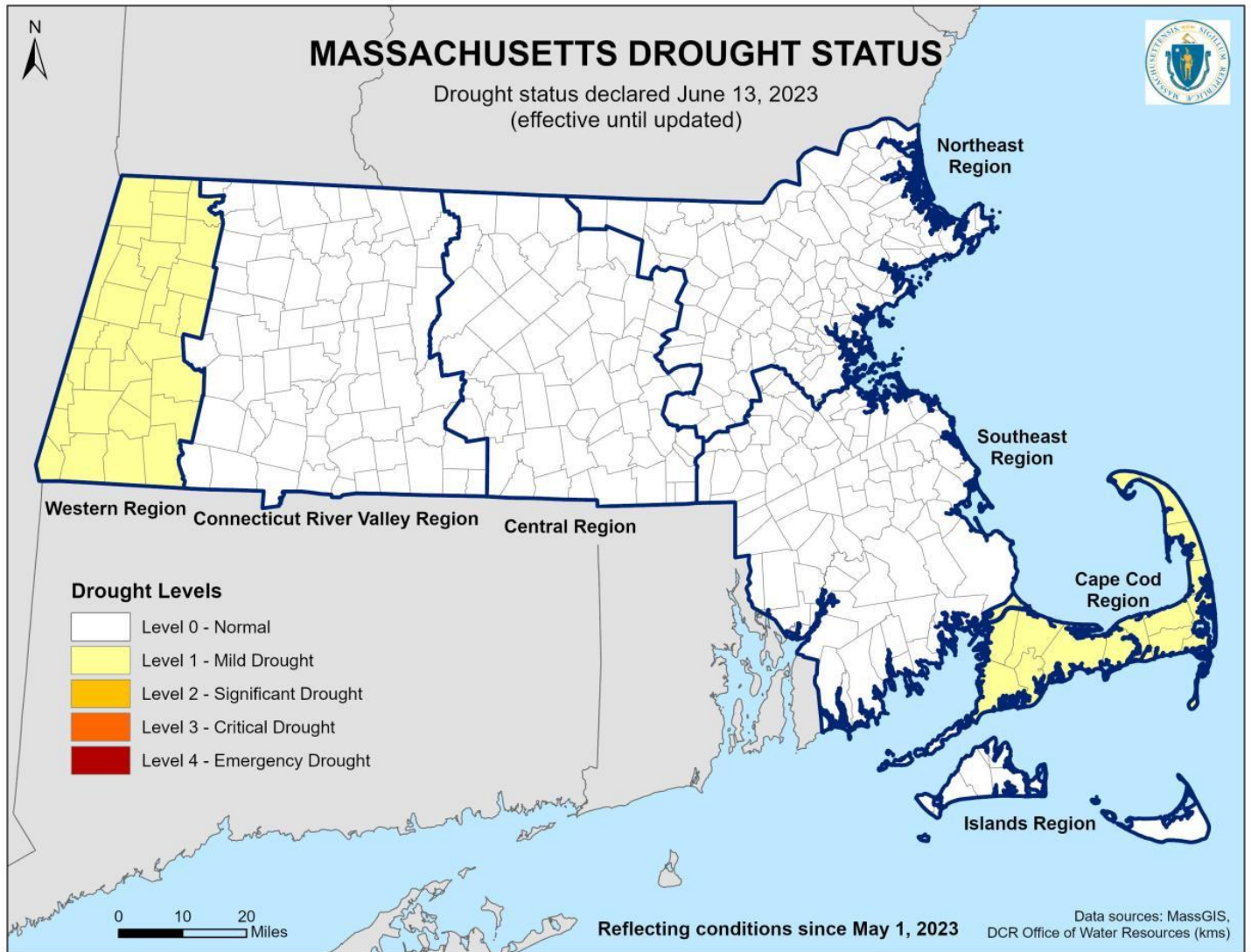
Drought Declarations

Massachusetts

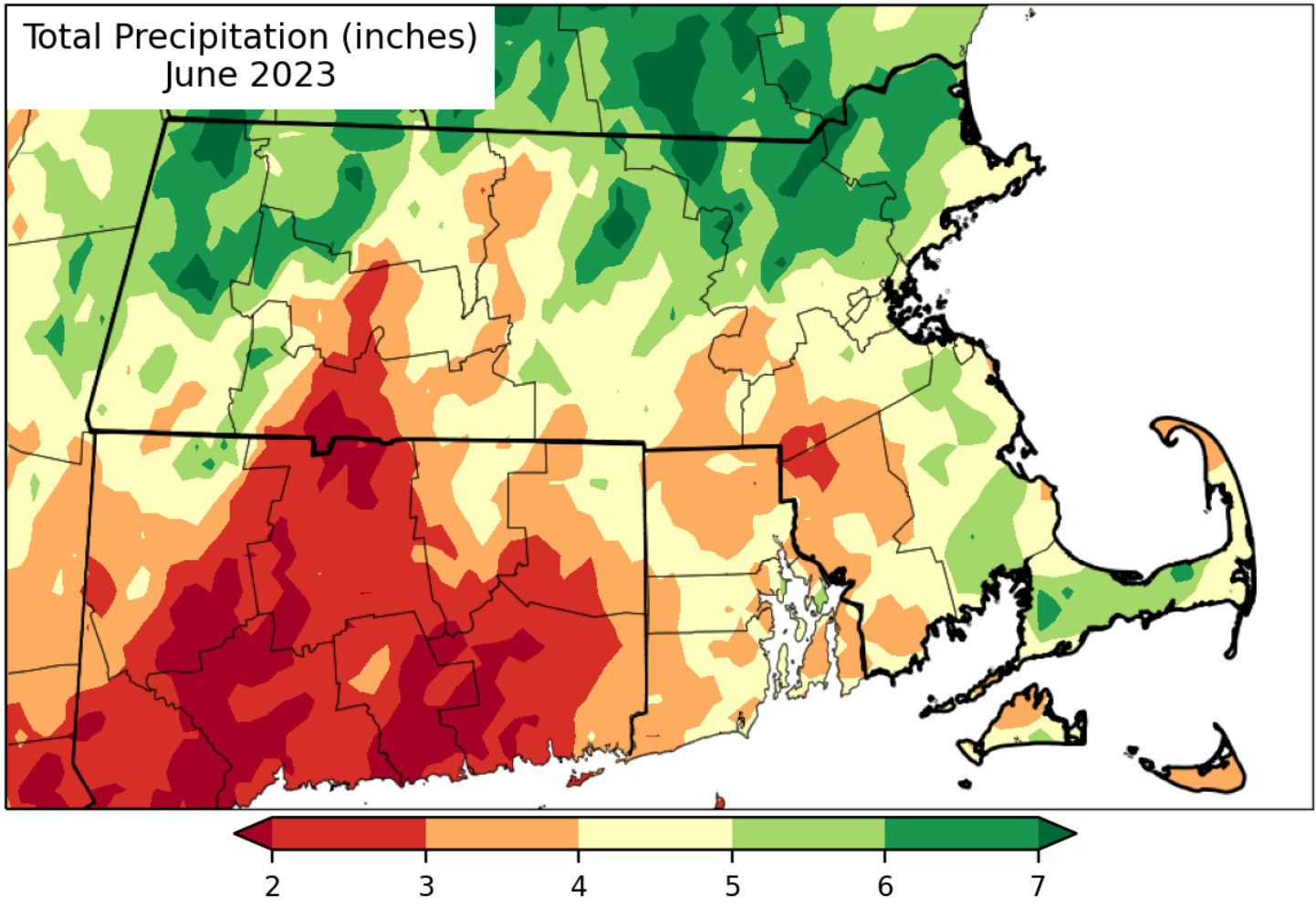
June 13, 2023 – From mass.gov

Energy and Environmental Affairs Secretary Rebecca Tepper declared today a Level 1-Mild Drought in the Western and Cape Cod Regions of Massachusetts following more than two months of below-normal rainfall and above-normal temperatures. All other regions of the state – Connecticut River Valley, Central, Northeast, Southeast, and Islands regions – remain in Level 0-Normal conditions. To learn which drought region your city or town falls into, go to <https://www.mass.gov/service-details/drought-regions>.

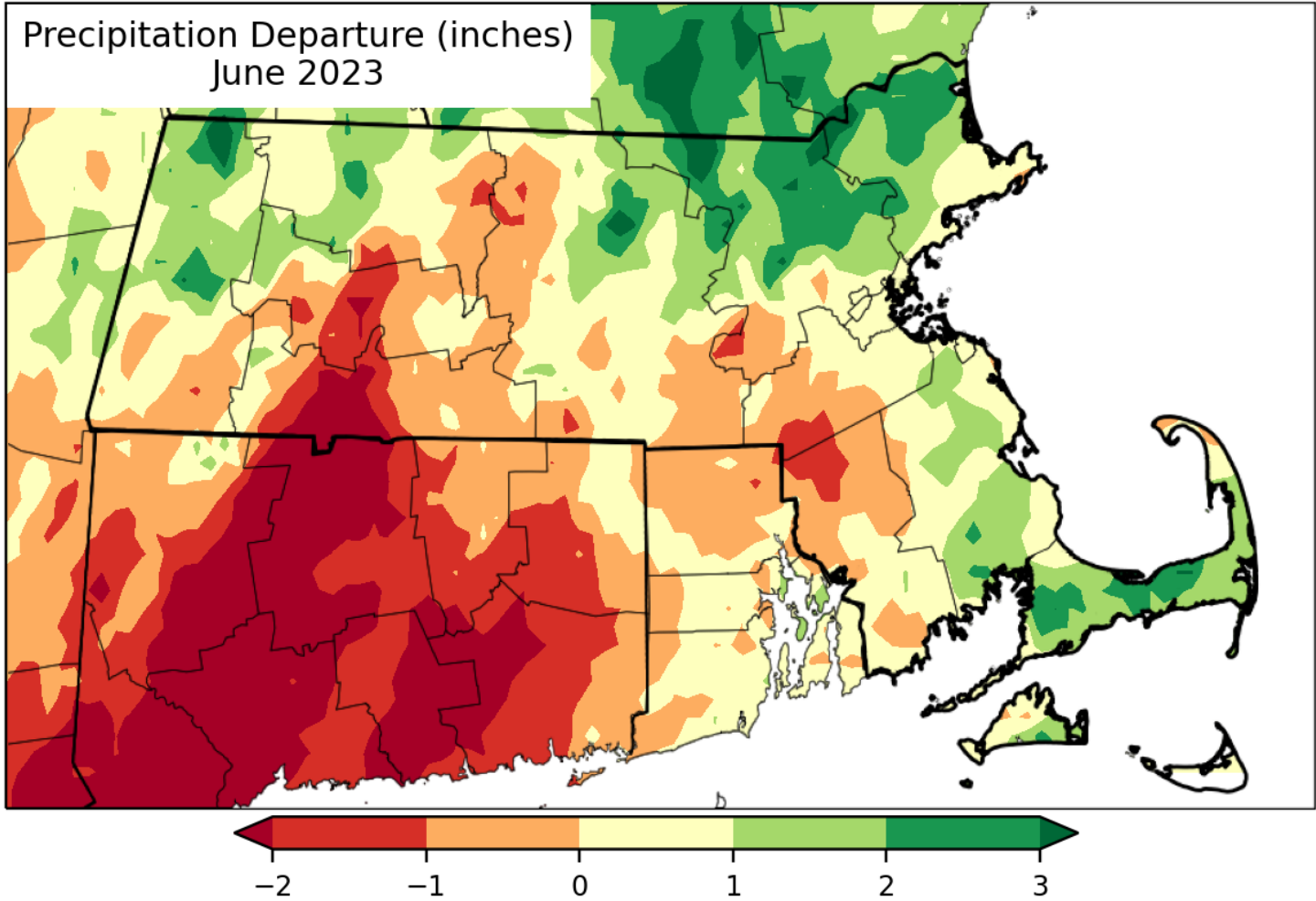
A Level 1-Mild Drought, as outlined in the Massachusetts Drought Management Plan, warrants detailed monitoring of drought conditions, close coordination among state and federal agencies, and technical outreach and assistance to the affected municipalities. The declarations were the result of recommendations made by the state’s Drought Management Task Force, which is composed of state and federal officials, and other entities. The taskforce will continue to meet until water levels return to normal in the affected regions.



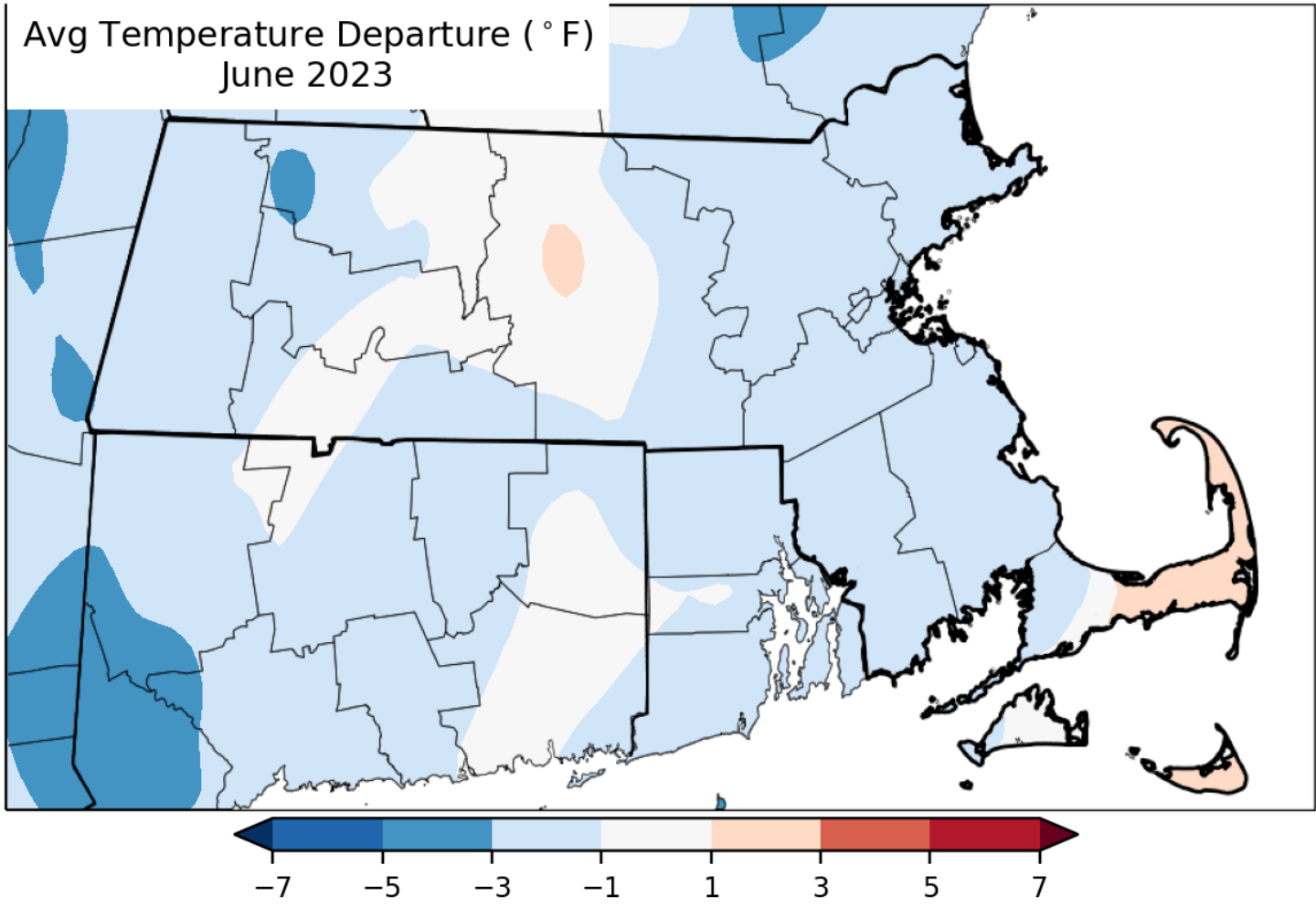
Map 1: Massachusetts Drought Status for June 2022, retroactive to May 1st. Map from the MA Department of Conservation and Recreation, Office of Water Resources.



Map 2: June 2023 liquid equivalent precipitation for southern New England. (Northeast Regional Climate Center)



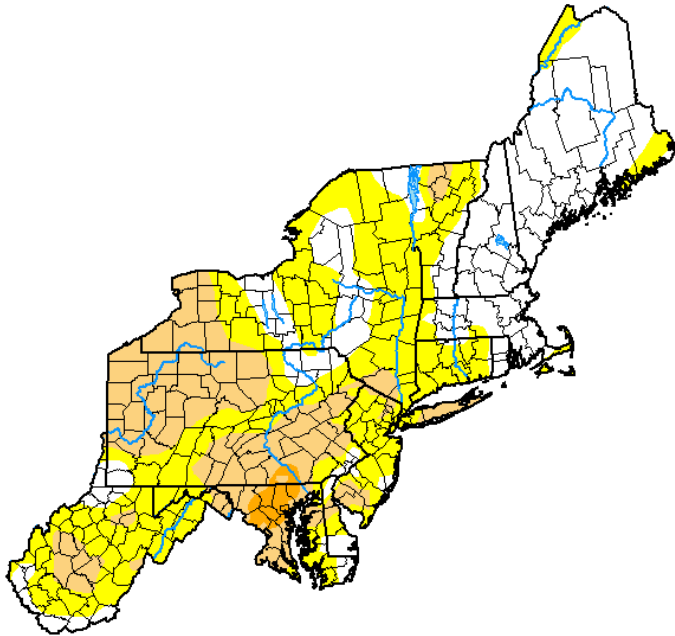
Map 3. June 2023 precipitation departure from normal for southern New England. (Northeast Regional Climate Center).



Map 4. Average temperature departure from normal for southern New England for June 2023.
From the Northeast Regional Climate Center.

U.S. Drought Monitor Northeast

June 27, 2023
(Released Thursday, Jun. 29, 2023)
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	34.94	65.06	25.17	1.37	0.00	0.00
Last Week <i>06-20-2023</i>	28.52	71.48	34.13	1.52	0.00	0.00
3 Months Ago <i>03-28-2023</i>	92.34	7.66	1.30	0.00	0.00	0.00
Start of Calendar Year <i>01-03-2023</i>	90.64	9.36	0.21	0.00	0.00	0.00
Start of Water Year <i>09-27-2022</i>	69.23	30.77	12.95	3.83	0.14	0.00
One Year Ago <i>06-28-2022</i>	70.69	29.31	7.46	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

Map 5. Northeast US Drought Monitor as of June 27th 2023.