

**MONTHLY REPORT OF HYDROLOGIC CONDITIONS**

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  
February 1st 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.

Liquid precipitation across southern New England was substantially above normal during the month of January. Southern New England received anywhere from 4 to 10 inches of liquid precipitation during the month. The highest accumulations were observed over southeastern MA, RI, and Cape Cod where 6 to 10 inches of liquid precipitation fell. This was 2 to 6 inches above normal. Elsewhere, southern New England generally received 4 to 6 inches of liquid precipitation which was generally 1 to 3 inches above normal. All four southern New England climate sites had a top 10 warmest January, with Worcester setting a record. Departures ranged from 8 to 10 degrees above normal across the region. As a result of the mild temperatures, below normal snow fall was observed across the region. More details for major climate sites in southern New England are included in Table 1.

<i>Location</i>	<i>January Precipitation (Inches)</i>	<i>Precipitation Departure from Normal (Inches)</i>	<i>Snowfall (Inches)</i>	<i>Temperature Departure from Normal (Degrees F)</i>	<i>Warmest January on Record Ranking</i>
<i>Boston</i>	5.23	1.84	6.9	+7.9	5
<i>Worcester</i>	6.13	+2.61	12.2	+10.0	1
<i>Providence</i>	6.76	+2.8	1.5	+7.4	4
<i>Hartford</i>	5.81	+2.53	2.3	+9.5	3

Table 1. Jan 2023 precipitation, precipitation departure from normal, snowfall in inches, temperature departure from normal, and warmest January ranking for the respective climate site. Details are for major climate sites in southern New England. All January information is preliminary.

**Flooding During January – January 25<sup>th</sup> /January 26<sup>th</sup>, 2023**

On the evening of January 25<sup>th</sup>, a strong low-pressure system moved over the Northeast and brought substantial rainfall to southern New England. Antecedent conditions were favorable for areal flooding given recent above normal precipitation, saturated soils, and a fresh snowpack. Precipitation during this event was expected to begin with a “front end thump” of snowfall along the associated surface warm front, but snowfall amounts were limited to only a couple of inches mainly across the high terrain of The Berkshires and Worcester Hills. The vast majority of southern New England received substantial rainfall with widespread accumulations of 1 to 2 inches across the northern tier of southern New England and 1.5 to 3 inches across Rhode Island and southeastern MA/Cape Cod. The heavy rainfall over southeastern MA and Rhode Island resulted in four NWS Boston/Norton

river forecast gages reaching flood stage. Each of the four gages only reached minor flood stage level, and thus impacts were very limited with no reports of flood damage. Crest and timing information associated with each of the gages that went into flood are listed below in table 2.

NWS Location Identifier	River	Location	Flood Stage	Time/date above FS (EDT)	Crest	Crest Date/Time (EDT)	Below FS (EDT)
CRAR1	Pawtuxet	Cranston	9.0	01/26/2023 06:30 AM	9.83 ft	01/26/2023 05:15 PM	01/28/2023 02:45 AM
WSTR1	Pawcatuck	Westerly	7.0	01/26/2023 09:30 AM	7.55ft	01/26/2023 07:30 PM	1/29/2023 4:15 AM
HOPR1	Wood	Hope Valley	5.0	01/26/2023 09:30 AM	5.98 ft	01/26/2023 11:45 PM	1/27/2023 7:30 PM
BDGM3	Taunton	Bridgewater	8.0	02/27/2023 02:45 AM	8.27 ft	1/27/2023 09:30 PM	1/29/2023 12:230 AM

Table 2. River Forecast Points in NWS Boston/Norton’s Hydrologic Service Area that went above Flood Stage due to January 25<sup>th</sup>/26<sup>th</sup> rainfall. Provisional data courtesy of USGS.

### Drought conditions diminish across southern New England

A second consecutive month of positive precipitation departures during the month of January resulted in drought conditions diminishing across northwestern MA, northeastern MA, and The Cape/Islands region. These areas which were previously at D0: Abnormally Dry on the US Drought Monitor, were upgraded to normal conditions. The entire southern New England region is now considered to be under “normal” conditions on the US drought monitor (map 2).

### State Drought Declarations

MA:

On January 8th, the MA Drought Management Task Force (DMTF), which is composed of state and federal officials, and other entities, convened to discuss drought conditions within the Commonwealth. On January 13th, 2023, Energy and Environmental Affairs (EEA) Secretary Beth Card made the following drought declarations: the Western, Central, and Southeast Regions remain at Level 0-Normal Conditions; the Connecticut River Valley region was downgraded to Level 0- Normal Conditions; the Northeast and Cape Cod Regions were downgraded to Level 1 –Mild Drought; and The Islands Region remained at Level 2-Significant Drought.

Outlined in the [Massachusetts Drought Management Plan](#), a Level 2-Significant Drought or higher warrants the convening of an inter-agency Mission Group to more closely coordinate drought assessments, impacts, and response within the government, in addition to detailed monitoring of drought conditions, and technical outreach and assistance to the affected municipalities. The declarations were the result of recommendations made by the MA DMTF. Details from MA DMTF meetings can be found here: <https://www.mass.gov/service-details/drought-management-task-force-meetings>

CT:

The [Connecticut Interagency Drought Workgroup](#) (IDW) convened on January 5th to assess drought conditions in the State. On January 6<sup>th</sup>, Governor Ned Lamont approved the IDW’s recommendation to lift the Stage 1

drought status for Fairfield, Litchfield, New Haven, and Hartford Counties. The entire state is now free of drought declarations. More details can be found at the [Connecticut Drought Information Center](#).

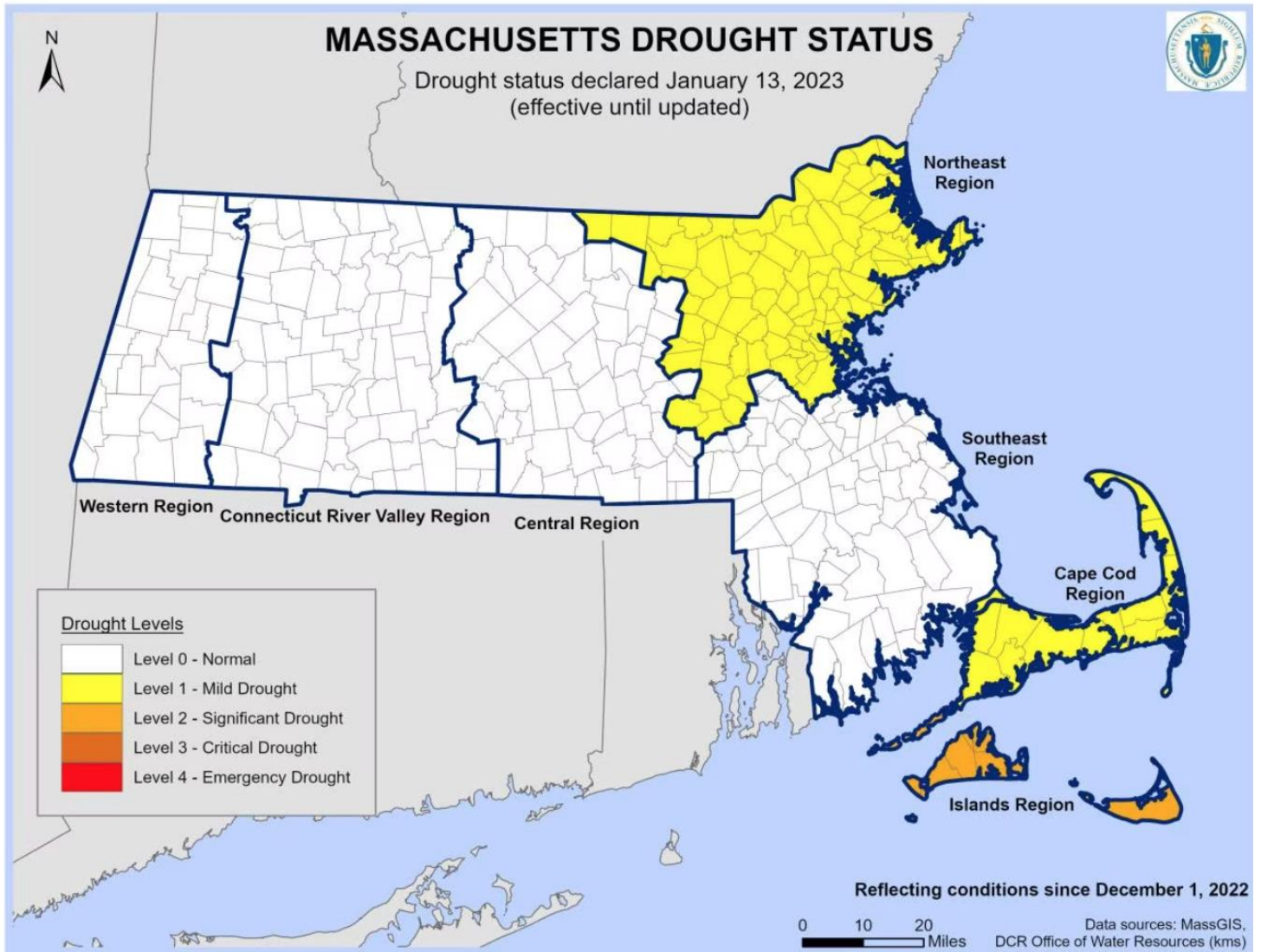
RI:

No Rhode Island Drought Steering Committee meeting was held in January. Therefore, the previous drought declarations from the meeting held on December 13<sup>th</sup> remain in effect. Further details below.

The RI Water Resources Board held a Drought Steering Committee meeting on December 13<sup>th</sup>. Based on recommendations from the DSC, the state-wide [drought advisory issued by Governor Dan McKee on August 9th](#), was continued. The Drought Steering Committee plans to meet again in February to evaluate the latest conditions. The [Rhode Island Drought Monitoring Dashboard](#) contains more information. Monthly conditions reports and updates to Drought Levels are available [here](#).

### **Streamflow and Groundwater**

As of the end of January, nearly all streamflow gages across southern New England were reporting 7-day average streamflow values that were above or much above normal. Groundwater well levels also ranged from above normal to much above normal across the region. Only one groundwater well on Cape Cod was reporting a below normal level.



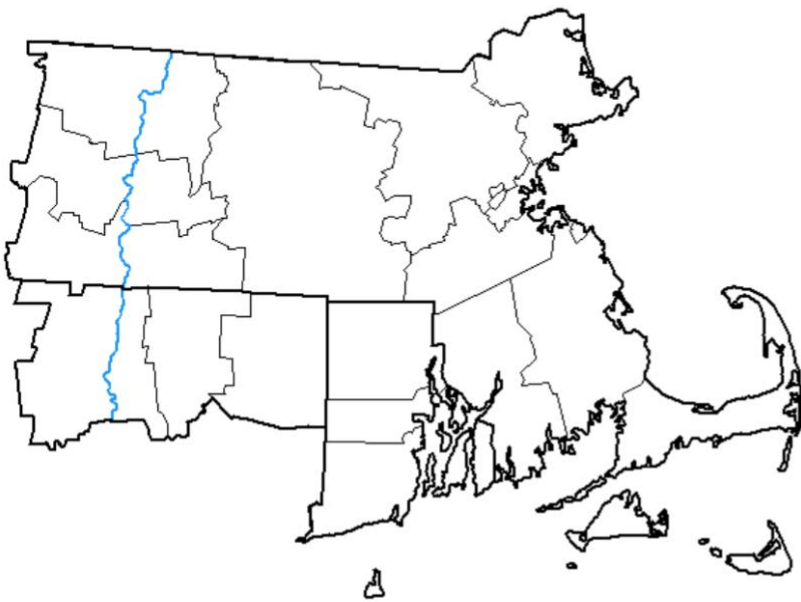
Map 1: Massachusetts Drought Status for January 2023, retroactive to December 1<sup>st</sup> 2022. Map from the MA Department of Conservation and Recreation, Office of Water Resources.

# U.S. Drought Monitor Boston/Norton, MA WFO

**January 31, 2023**  
(Released Thursday, Feb. 2, 2023)  
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	100.00	0.00	0.00	0.00	0.00	0.00
<b>Last Week</b> 01-24-2023	100.00	0.00	0.00	0.00	0.00	0.00
<b>3 Months Ago</b> 11-01-2022	50.51	49.49	11.51	3.90	0.00	0.00
<b>Start of Calendar Year</b> 01-03-2023	59.82	40.18	0.00	0.00	0.00	0.00
<b>Start of Water Year</b> 09-27-2022	0.00	100.00	82.14	30.35	2.81	0.00
<b>One Year Ago</b> 02-01-2022	100.00	0.00	0.00	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:

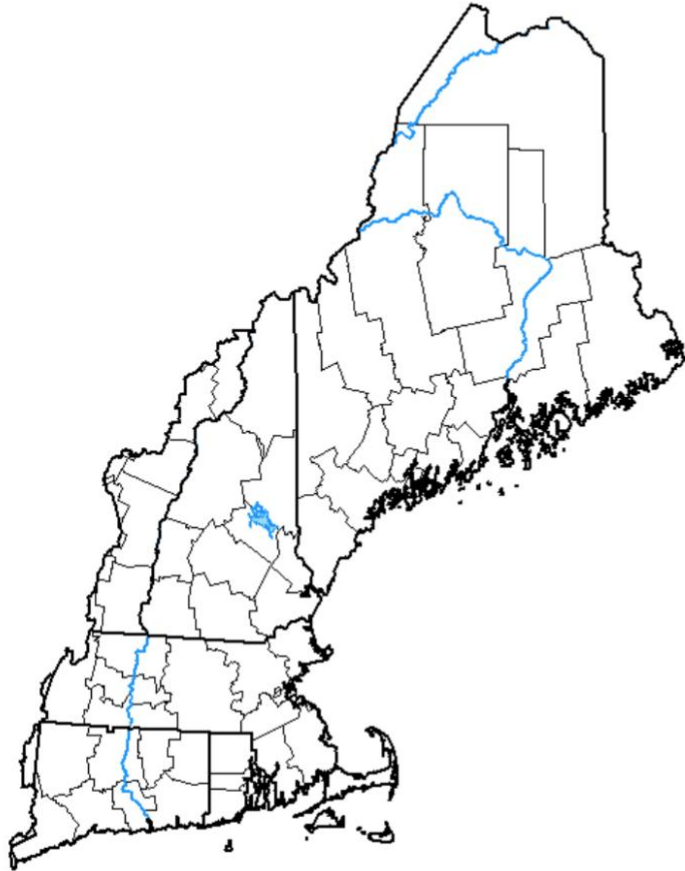
Rocky Bilotta  
NCEI/NOAA



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

# U.S. Drought Monitor New England Watershed

**January 31, 2023**  
(Released Thursday, Feb. 2, 2023)  
Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	100.00	0.00	0.00	0.00	0.00	0.00
<b>Last Week</b> 01-24-2023	99.15	0.85	0.00	0.00	0.00	0.00
<b>3 Months Ago</b> 11-01-2022	78.73	21.27	2.78	0.71	0.00	0.00
<b>Start of Calendar Year</b> 01-03-2023	80.50	19.50	0.00	0.00	0.00	0.00
<b>Start of Water Year</b> 09-27-2022	57.71	42.29	25.67	7.96	0.47	0.00
<b>One Year Ago</b> 02-01-2022	67.77	32.23	6.91	2.88	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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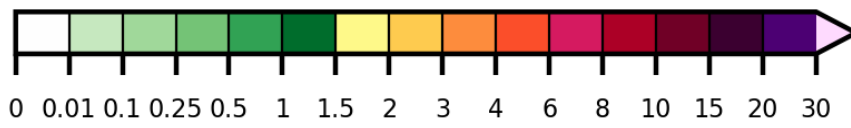
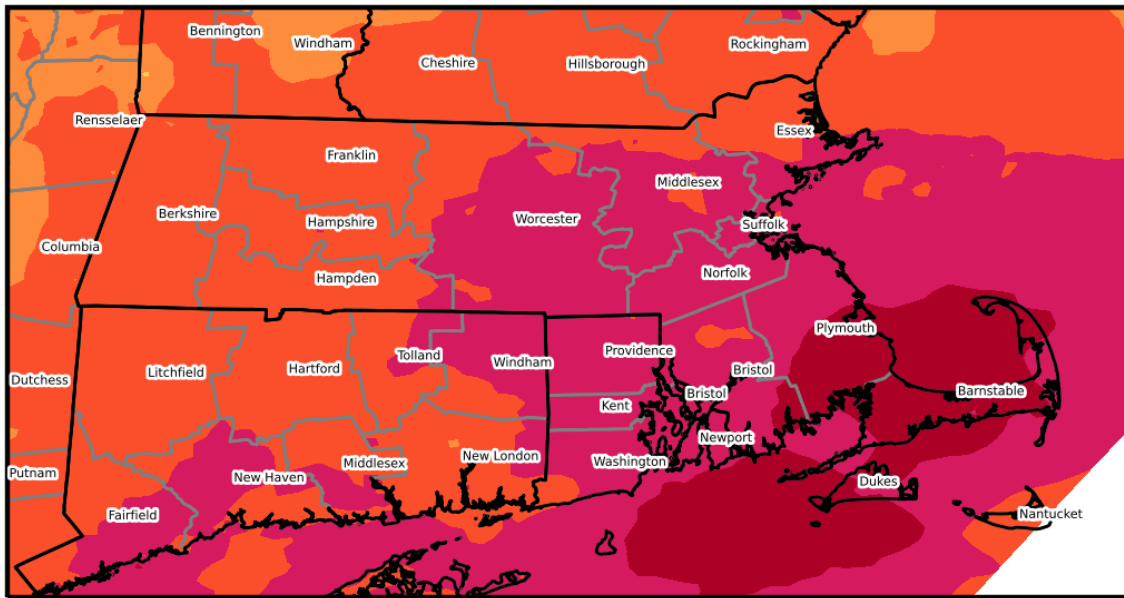
Rocky Bilotta  
NCEI/NOAA



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

Map 2: US Drought Monitor for NWS Boston (top) and New England (bottom), effective January 31<sup>st</sup>, 2023

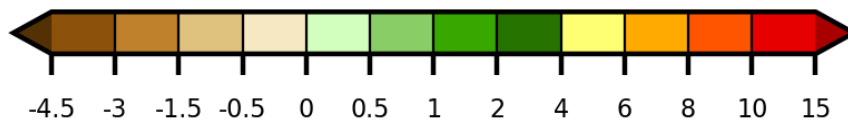
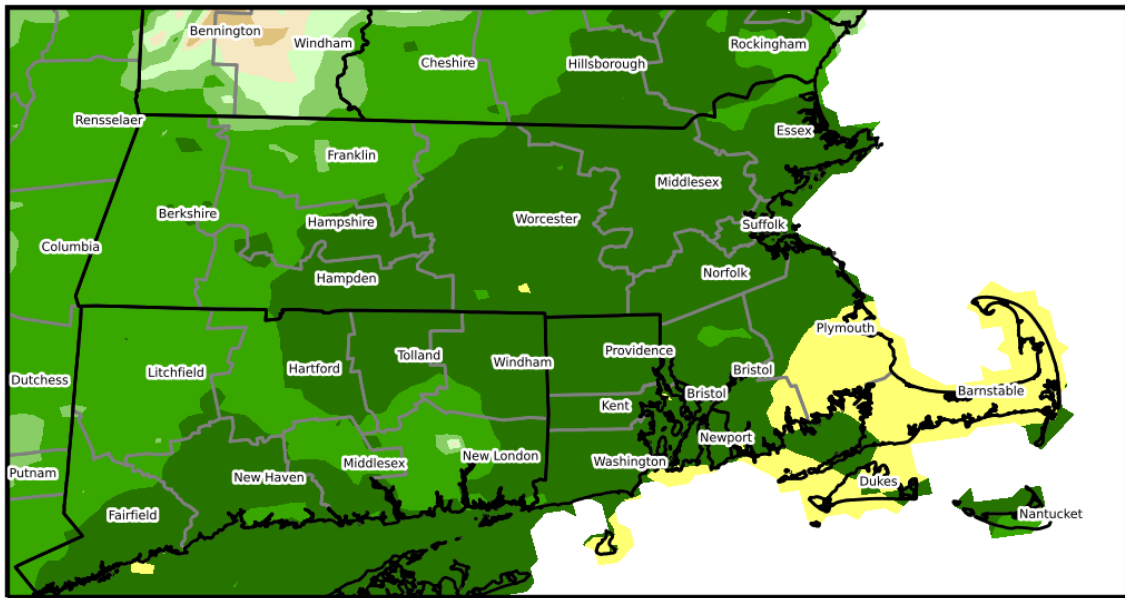
# Accumulated Precipitation (inches) January 01, 2023 to January 31, 2023



Precipitation (inches)

Map 3: January 2023 liquid equivalent precipitation for southern New England. (Stage IV Precipitation Dataset)

# Precipitation Departure from Normal (inches) January 01, 2023 to January 31, 2023

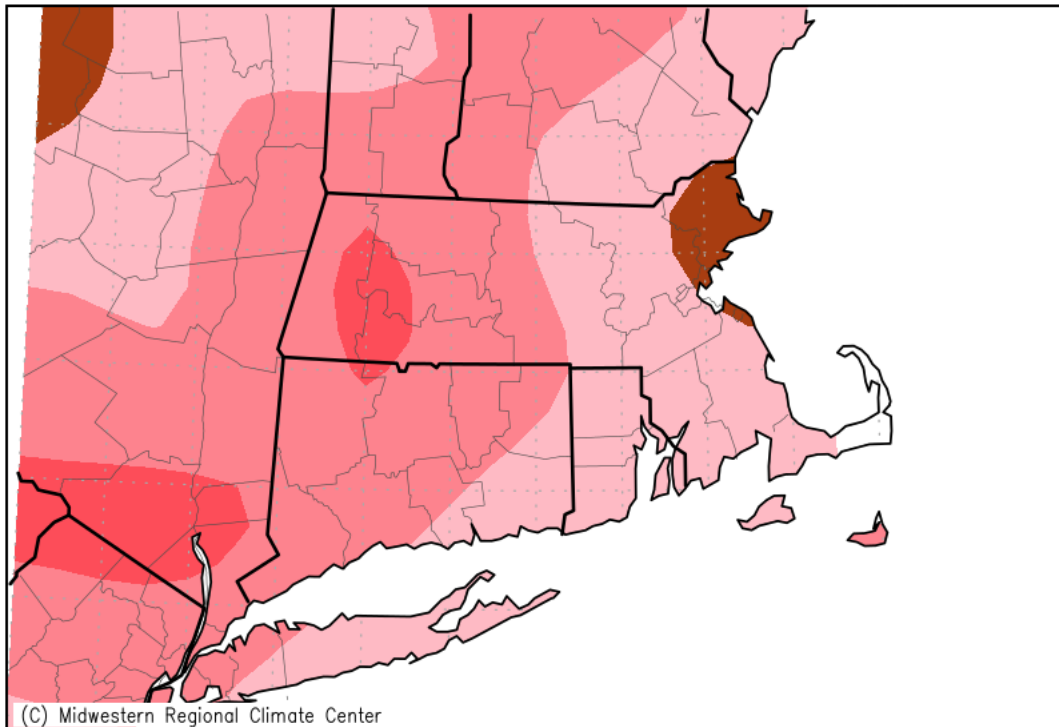


Departure from Normal (inches)

Map 4. January 2023 precipitation departure from normal for southern New England. (Stage IV Precipitation Dataset).



Average Temperature (°F): Departure from Mean  
January 1, 2023 to January 31, 2023



Mean period is 1991–2020.



Map 5. Average temperature departure from normal for southern New England for January 2023.  
From the Midwestern Regional Climate Center.