

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
December 5th 2022

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 persist across portions of southern New England....

November 2022 liquid precipitation ranged from slightly below normal to well below normal for southern New England. Departures over The Cape Cod and Islands region as well as portions of western MA were 0 to 1 inches below normal. The rest of interior MA, CT, and northern RI were 1 to 2 inches below normal. The greatest precipitation departures were observed along the south coast, southeastern MA, and extreme northeastern MA where precipitation accumulations were 2 to 3 inches below normal. November 2022 was among the top 10 warmest Novembers on record for 3 out of 4 of southern New England's climate sites. On average, southern New England ranged from 3 to 5 degrees above normal during the month of November. 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.

| <i>Location</i> | <i>November Precipitation (Inches)</i> | <i>Precipitation Departure from Normal (Inches)</i> | <i>Temperature Departure from Normal (Degrees F)</i> | <i>Warmest November on Record Ranking</i> |
|-------------------|--|---|--|---|
| <i>Boston</i> | 2.69 | -0.99 | +4.3 | 7 |
| <i>Worcester</i> | 3.84 | -0.16 | +5.3 | 4 |
| <i>Providence</i> | 3.53 | -0.74 | +2.9 | N/A |
| <i>Hartford</i> | 4.39 | +0.88 | +4.2 | 7 |

Table 1. Nov 2022 precipitation, precipitation departure from normal, temperature departure from normal, and ranking for the warmest November on record for each location. Details are for major climate sites in southern New England. All November information is preliminary.

Drought conditions persist across portions of southern New England

November precipitation deficits have resulted in continued drought conditions across portions of southern New England. About half of the region, specifically the central areas are under normal conditions. However, Cape Cod, The Islands, and portions of northern and western MA are at D0: Abnormally Dry conditions on the latest version of the US drought monitor. Most of Franklin County in MA and portions of Middlesex and Essex counties in MA are at D1: Moderate drought conditions on the USDM. The worst drought conditions remain across most of Essex County in northeast MA which is at D2: Severe Drought conditions on the USDM. See the latest version of the USDM in map 2 below for more detail.

State Drought Declarations

MA:

On November 9th, 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 November 10th, MA Energy and Environmental Affairs Secretary Bethany Card announced that thanks to near to above-normal rainfall during the month of October, drought conditions have improved in all regions of the state. She also made the following declarations: the Central and Southeast Regions have upgraded and will join the Western Region at Level 0-Normal Conditions; the Northeast and Cape Cod Regions have been upgraded and will join the Connecticut River Valley Region at Level 1-Mild Drought; and, the Islands Region will remain at Level 2-Significant Drought. It is important to note that while the Northeast Region has been declared a Level 1-Mild Drought at a regional scale, the northern and coastal parts of the region namely Essex County, which includes the Merrimack River, the Parker River, Ipswich River, and North Coastal basins, continues to be more severely impacted by long term drought conditions. This declaration will remain in effect until the next declaration in December.

Outlined in the [Massachusetts Drought Management Plan](#), a Level 2-Significant Drought of 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:

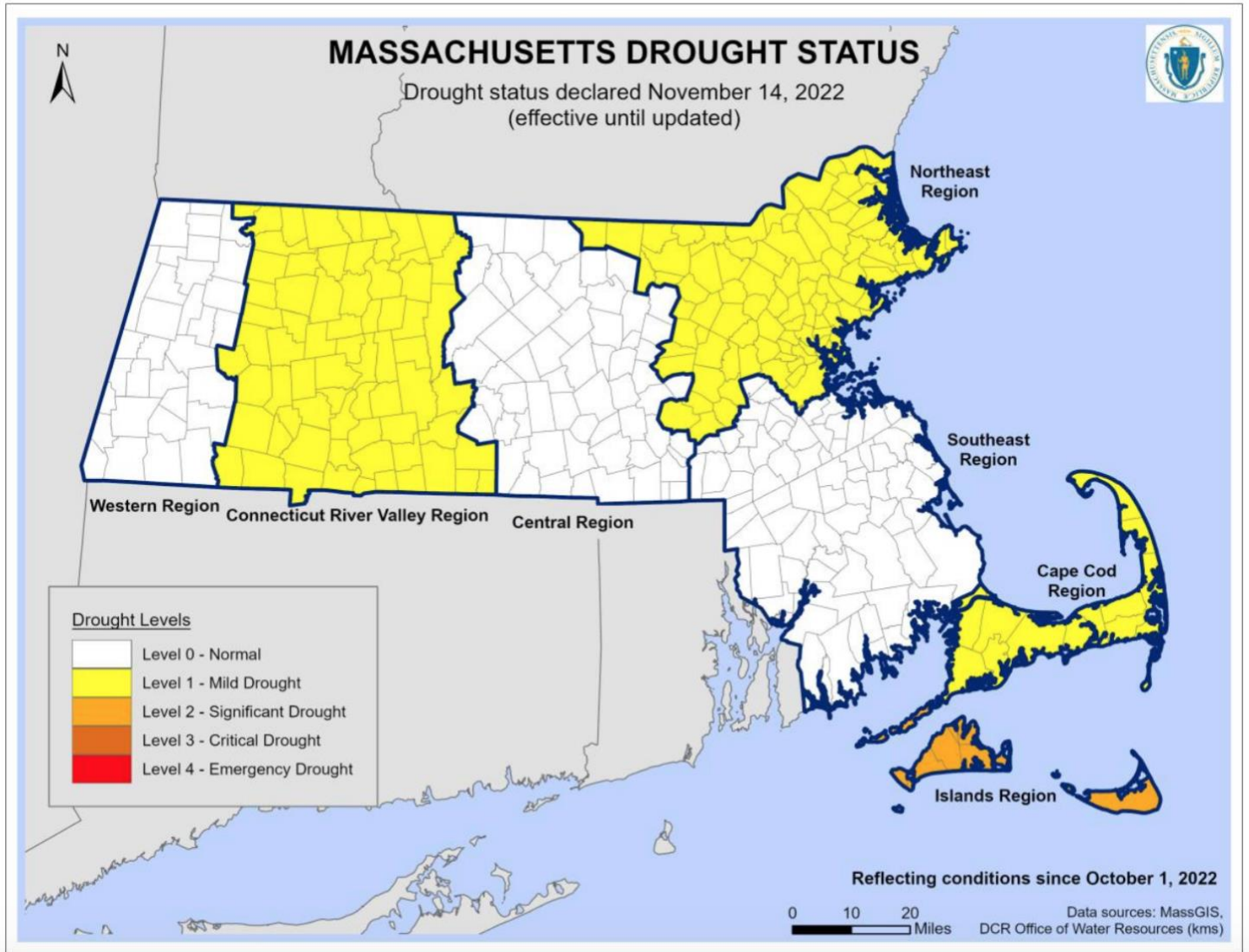
The [Connecticut Interagency Drought Workgroup](#) (IDW) convened on November 7th to assess drought conditions in the State. On November 7th, Governor Ned Lamont approved the IDW's recommendations, reducing the drought advisory that he declared in October for the entire state from a Stage 2 drought level to Stage 1. The Connecticut IDW plans to meet again in December to evaluate conditions. More details can be found at the [Connecticut Drought Information Center](#).

RI:

The RI Water Resources Board held a Drought Steering Committee meeting on October 18th 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 December 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

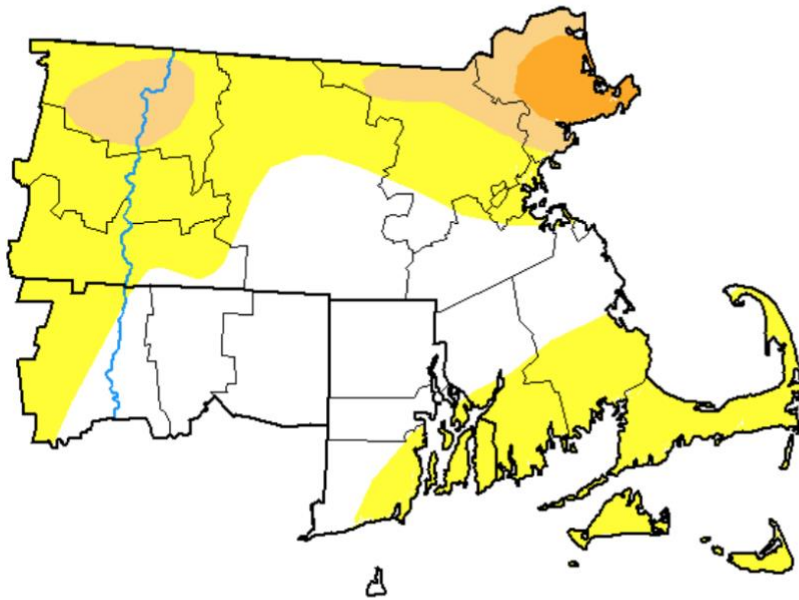
As of the end of November, streamflow across most of southern New England was at or above normal. A couple of streamflow gages in Cape Cod, Franklin County in MA, and Essex County in MA were below to much below normal. Most groundwater wells in southern New England were at or above normal. A handful of wells across portions of Essex and Middlesex counties in MA, Cape Cod, and RI were reporting below-normal levels.



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

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

November 29, 2022
(Released Thursday, Dec. 1, 2022)
Valid 7 a.m. EST



Drought Conditions (Percent Area)

| | None | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4 |
|---|--------|--------|--------|-------|-------|------|
| Current | 42.00 | 58.00 | 10.84 | 2.69 | 0.00 | 0.00 |
| Last Week 11-22-2022 | 56.23 | 43.77 | 9.33 | 2.69 | 0.00 | 0.00 |
| 3 Months Ago 08-30-2022 | 0.00 | 100.00 | 100.00 | 97.70 | 36.97 | 0.00 |
| Start of Calendar Year 01-04-2022 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Start of Water Year 09-27-2022 | 0.00 | 100.00 | 82.14 | 30.35 | 2.81 | 0.00 |
| One Year Ago 11-30-2021 | 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:

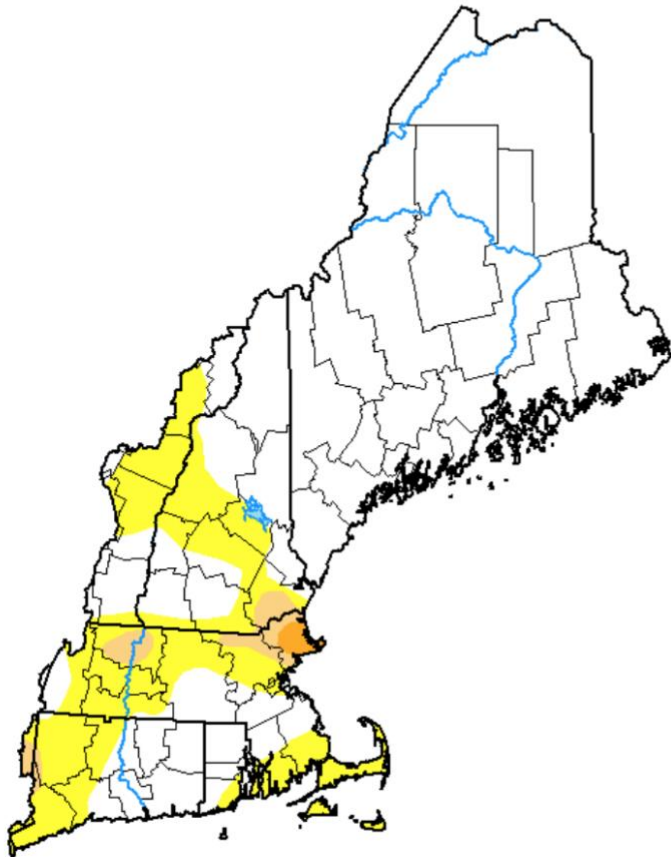
David Simeral
Western Regional Climate Center



droughtmonitor.unl.edu

U.S. Drought Monitor New England Watershed

November 29, 2022
(Released Thursday, Dec. 1, 2022)
Valid 7 a.m. EST



Drought Conditions (Percent Area)

| | None | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4 |
|---|-------|-------|-------|-------|-------|------|
| Current | 77.30 | 22.70 | 2.66 | 0.45 | 0.00 | 0.00 |
| Last Week 11-22-2022 | 79.88 | 20.12 | 2.40 | 0.45 | 0.00 | 0.00 |
| 3 Months Ago 08-30-2022 | 29.11 | 70.89 | 41.94 | 28.82 | 6.72 | 0.00 |
| Start of Calendar Year 01-04-2022 | 81.86 | 18.14 | 6.91 | 2.88 | 0.00 | 0.00 |
| Start of Water Year 09-27-2022 | 57.71 | 42.29 | 25.67 | 7.96 | 0.47 | 0.00 |
| One Year Ago 11-30-2021 | 81.86 | 18.14 | 6.91 | 2.88 | 0.00 | 0.00 |

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
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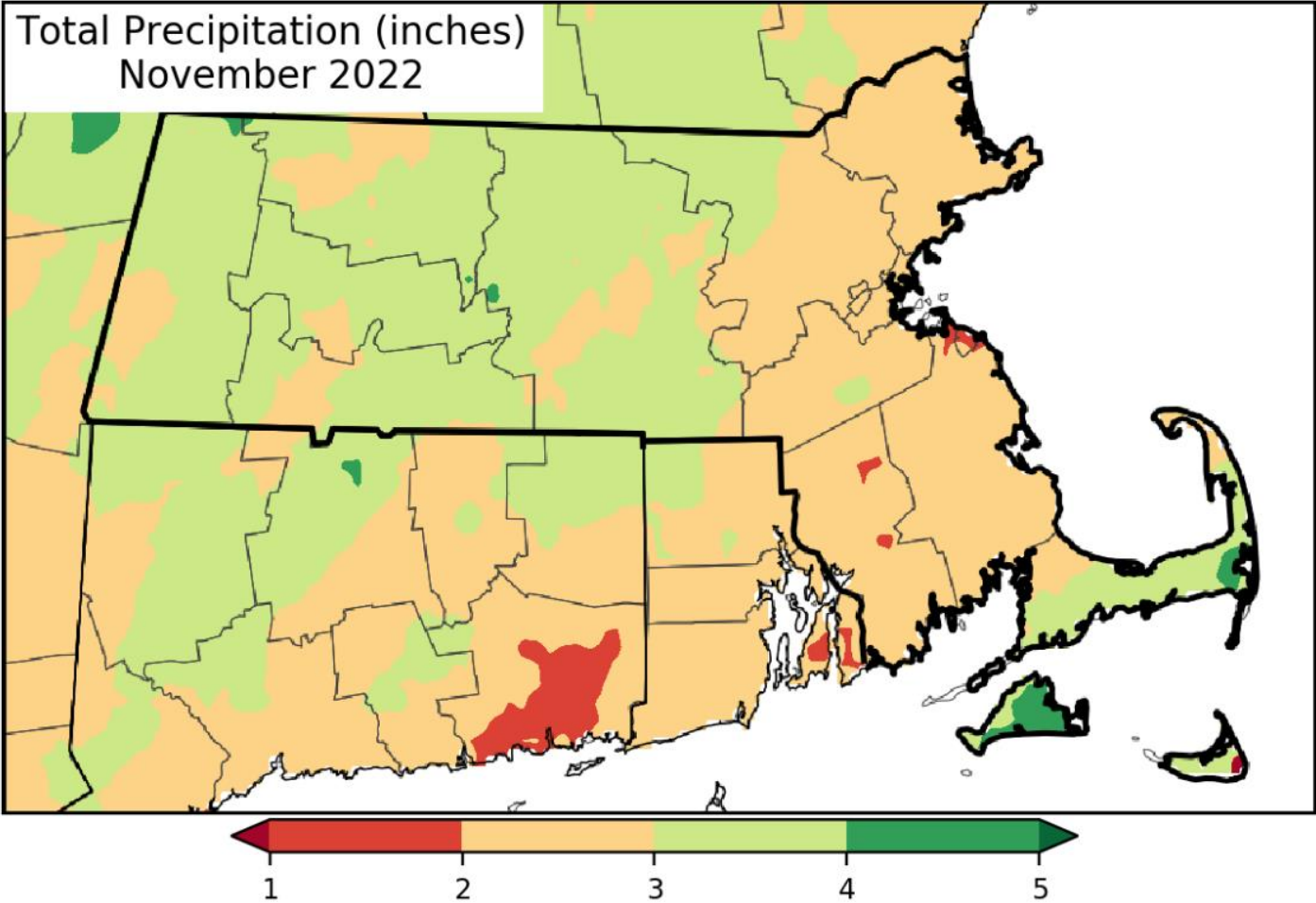
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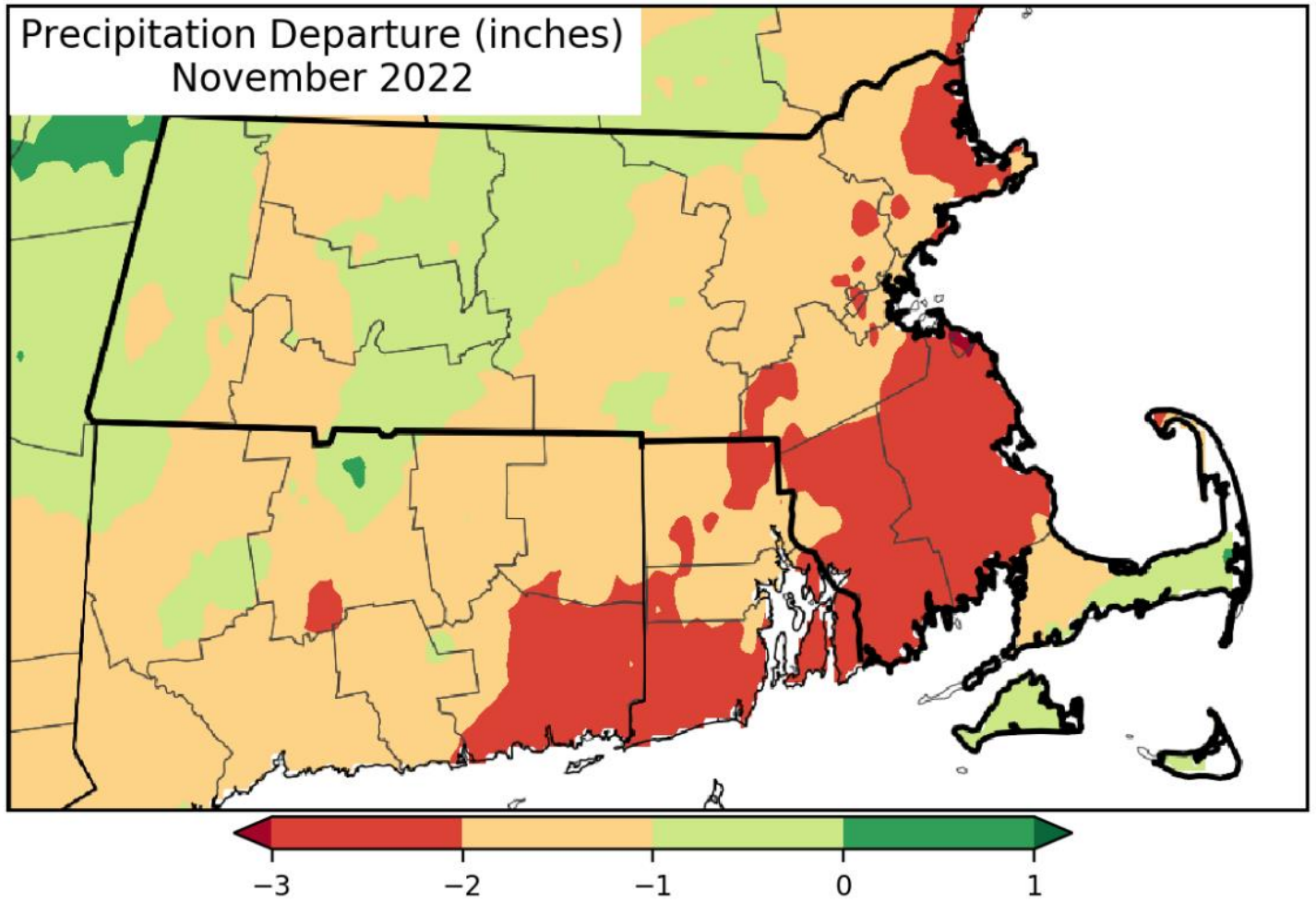


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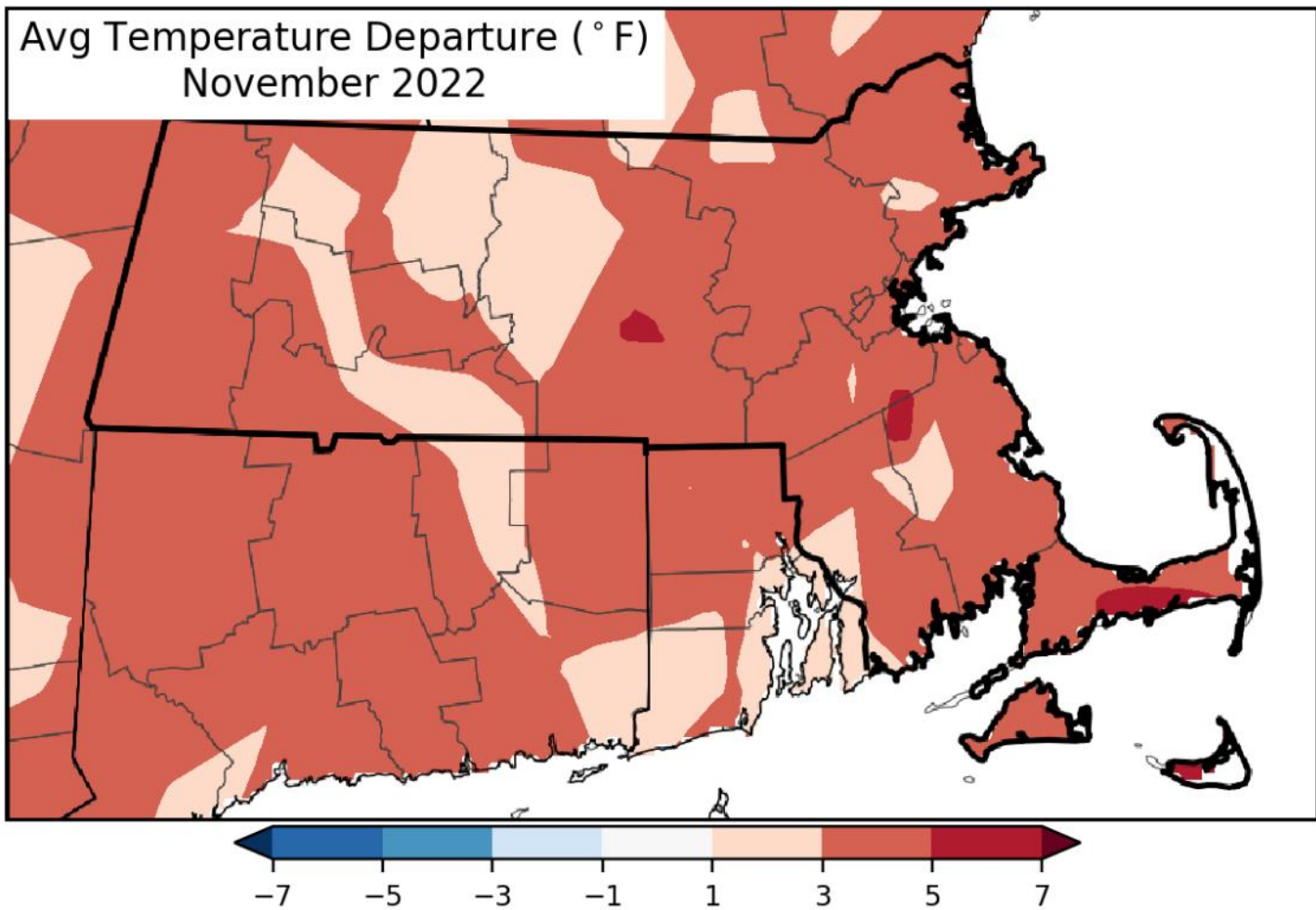
Map 2: US Drought Monitor for NWS Boston (top) and New England (bottom), effective November 29th



Map 3: November 2022 liquid equivalent precipitation for southern New England. From the Northeast Regional Climate Center.



Map 4. November 2022 precipitation departure from normal for southern New England. From the Northeast Regional Climate Center.



Map 5. Average temperature departure from normal across southern New England for November 2022.
From the Northeast Regional Climate Center.