

| | | | |
|---|---|--|--|
| NWS Form E-5 (04-2006) (PRES. BY NWS Instruction 10-924) | 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 April 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 May 4th 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.

Flooding During April– April 23-25 2023

On April 23 2023, a slow moving cold front brought rounds of moderate to heavy rainfall to southern New England. Widespread 1 to 2 inches of rain fell across the region. As a result, runoff from rainfall and tidal influences allowed The Connecticut River at Middle Haddam to briefly reach flood stage on the evening of April 25th. There were no significant impacts from this minor flood event. Additional details on this flood event are provided in table 1.

| Location | | | | Observed Data | | | | |
|----------|-------------------|----------------|-----------------------|------------------------------|----------------|----------------|---------------|----------------|
| | | | | Observed time FS was reached | | Observed Crest | | |
| NWSLI | River | Forecast Point | Flood Stage (FS) (ft) | Date mm/dd/yy | Time (Z) hh:mm | Obs Crest (ft) | Date mm/dd/yy | Time (Z) hh:mm |
| MHDC3 | Connecticut River | Middle Haddam | 7.0 | 04/25/23 | 22:10 | 7 | 04/25/23 | 22:10 |

Table 1. Observed river flooding data from 03/14-03/15 heavy snow/rainfall event.

...Southern New England Back on the US Drought Monitor...

After a mostly wet winter, southern New England ended winter with a drying trend which has continued into the spring months. Since February 1st, southern New England has been well below the climatological normal with respect to precipitation with most of the region in the 60 to 80 percent of normal range. This dryness resulted in streamflow levels falling into the below to much below normal range across the region. Groundwater levels also fell during the first half of the month. After collaboration among members of the Northeast Drought Early Warning System team, portions of southern New England were added to the US drought monitor. As of May 2nd, southern CT, eastern MA, and northern RI were all in the D0 category: Abnormally Dry, on the US drought monitor. Southern RI was in the D1, moderate drought category. The latest rendition of the USDM can be found below (Map 4).

April Precipitation

Liquid precipitation was generally below to much below normal across southern New England during the month of April. The exception to this was across portions of central CT where a heavy precipitation event late in the month brought some areas above the normal mark. As a whole, the region received between 1.5 and 4 inches of precipitation with the highest amounts across CT and western MA. Most of eastern MA and RI were 1.5 inches or more below normal. Temperatures during the month of April were generally above normal across southern New England, with The Cape and Islands experiencing temperature departures of +7 degrees or higher (Map 3). More details for major climate sites in southern New England are included in Table 2.

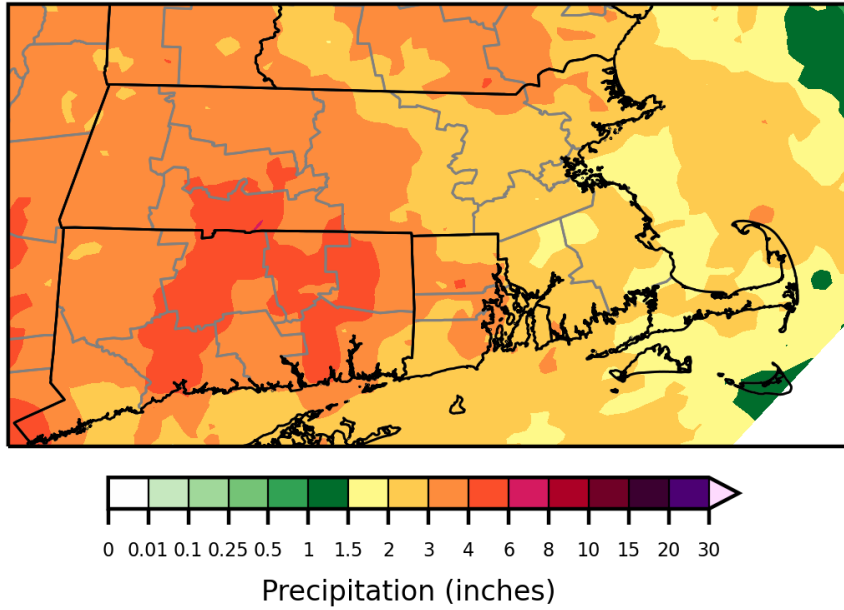
| <i>Location</i> | <i>April Precipitation (Inches)</i> | <i>Precipitation Departure from Normal (Inches)</i> | <i>Temperature Departure from Normal (Degrees F)</i> |
|-------------------|---|---|--|
| <i>Boston</i> | 3.1 | -0.53 | +2.2 |
| <i>Worcester</i> | 4.79 | +0.71 | +4.7 |
| <i>Providence</i> | 5.18 | +0.89 | +2.1 |
| <i>Hartford</i> | 6.00 | +2.12 | +4.2 |

Table 2. April 2023 precipitation, precipitation departure from normal, and temperature departure from normal. Details are for major climate sites in southern New England. All March information is preliminary.

Streamflow and Groundwater

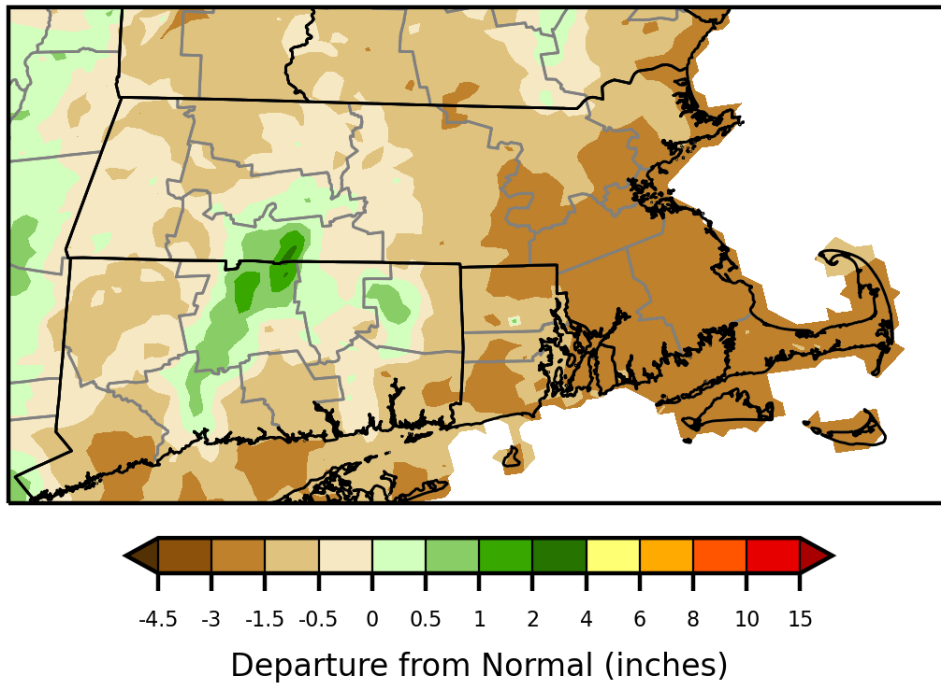
As of the 7 day period between April 28th and May 4th, streamflow across southern New England ranged from normal to much above normal. Only 2 streamflow gauges were in the below normal range. Ground water wells were at levels generally at or much above normal with a few gauges in RI and south coastal MA at below normal levels.

Accumulated Precipitation (inches)
April 01, 2023 to April 30, 2023

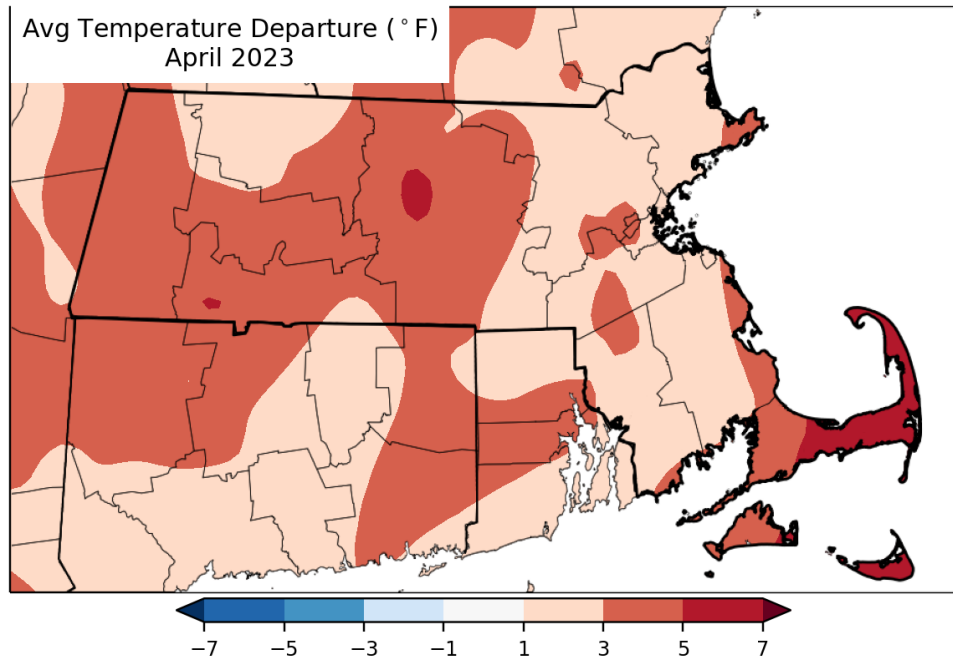


Map 1: March 2023 liquid equivalent precipitation for southern New England. (Stage IV Precipitation Dataset)

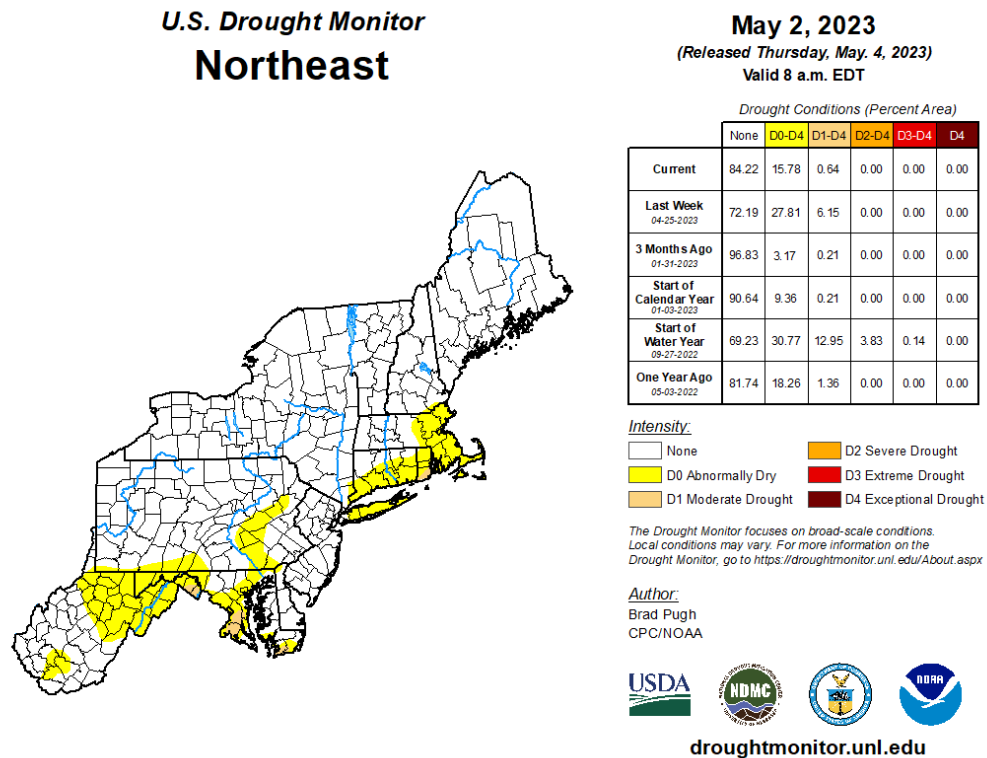
Precipitation Departure from Normal (inches)
April 01, 2023 to April 30, 2023



Map 2. April 2023 precipitation departure from normal for southern New England. (Stage IV Precipitation Dataset).



Map 3. Average temperature departure from normal for southern New England for April 2023. From the Northeast Regional Climate Center.



Map 4. Northeast US Drought Monitor as of May 2nd 2023.