

<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                              2021</b>	
<b>MONTHLY REPORT OF HYDROLOGIC CONDITIONS</b>		SIGNATURE Nicole M. Belk Senior Service Hydrologist	
TO:                      Hydrologic Information Center, W/OS31 NOAA's National Weather Service 1325 East West Highway Silver Spring, MD 20910-3283		DATE <b>June 8<sup>th</sup> 2021</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.

May 2021 rainfall was normal to above normal across almost all of southern New England. Rainfall totals ranged from 4 to 7 inches, which was near normal to greater than 2 inches above normal. Lower rainfall totals of 3 to 5 inches were reported in northwest MA, far north central and far northeast MA, and the Outer Cape and Islands. These totals ranged from an inch above normal to an inch below normal. Temperatures were mainly within 2 degrees of normal, except along east coastal MA where temperatures averaged 1 to 3 degrees above normal.

There was no freshwater flooding during May 2021 within NWS Boston/Norton's Hydrologic Service Area.

More details for major climate sites in southern New England are included in Table 1. Maps 4 and 5 show rainfall and rainfall departure from normal for May. Map 6 depicts temperature departure from normal.

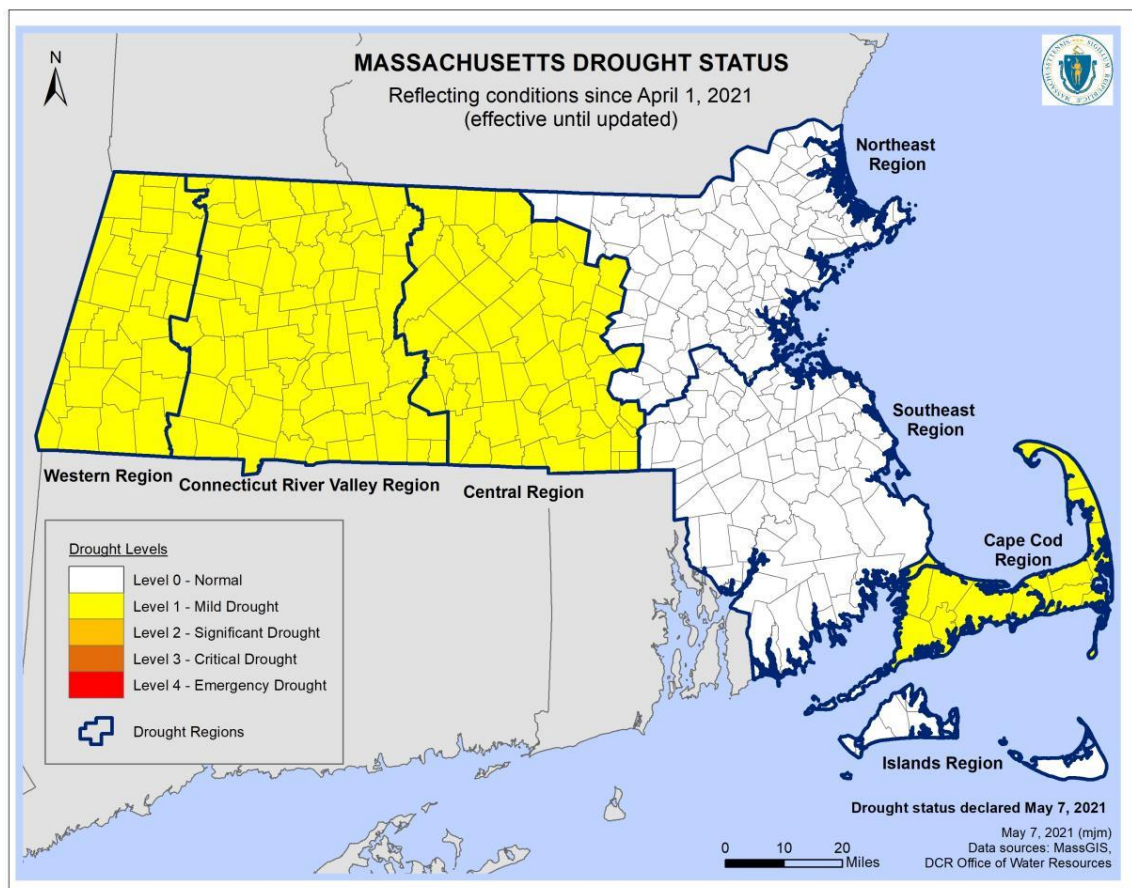
State Drought Declarations were in place in MA. No State Drought Declarations were in place in RI and CT.

<i>Location</i>	<i>May Liquid Equivalent Precipitation (Inches)</i>	<i>Precipitation Departure from Normal (Inches)</i>	<i>Temperature Departure from Normal (Degrees F)</i>
<i>Boston</i>	4.92	+1.67	+3.0
<i>Worcester</i>	5.95	+2.39	+1.4
<i>Providence</i>	4.64	+1.27	+0.8
<i>Hartford</i>	5.83	+2.04	-0.2

Table 1. May 2021 rainfall and departure from normal, as well as temperature departure from normal for major climate sites within southern New England. Information is preliminary.

## MA State Drought Declaration Update

The MA Drought Management Task Force (DMTF) convened on May 6<sup>th</sup> to review conditions. Due to beneficial rainfall that occurred during April into early May, the MA DMTF recommendation improvements in Drought Levels in eastern MA. On May 10<sup>th</sup>, the MA Energy and Environmental Affairs (EEA) Secretary declared improvements in the Northeast and Southeast Drought Regions to a Level 0 – Normal Conditions (Map 1). Level 1 – Mild Drought remained in place across the Western, Connecticut River Valley, Central, and Cape Cod Drought Regions.



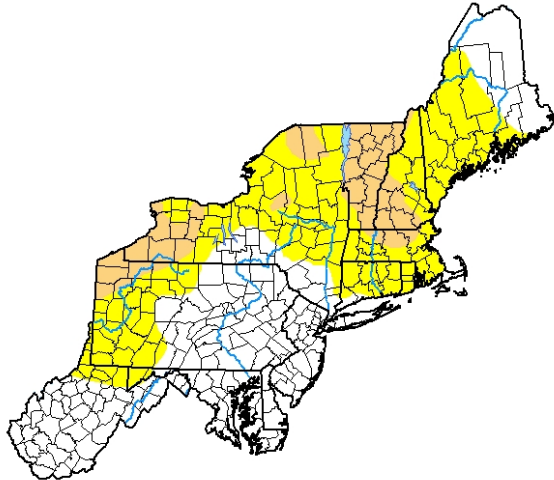
Map 1. MA Drought Declarations from May 10 2021, retroactive to April 1 2021.

## U.S. Drought Monitor

During May, considerable improvements were noted in the US Drought Monitor. The April 27<sup>th</sup> rendition of the USDM (Map 2) placed almost all of southern New England in D0 (Abnormally Dry) or D1 (Moderate Drought) conditions. On the June 1<sup>st</sup> rendition of the US Drought Monitor (Map 3), normal conditions were in place across almost all of southern New England. The exceptions were along Cape Cod and Nantucket, where D0 conditions were in place as of June 1<sup>st</sup>.

## U.S. Drought Monitor Northeast

**April 27, 2021**  
(Released Thursday, Apr. 29, 2021)  
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	45.90	54.10	13.54	0.00	0.00	0.00
<b>Last Week</b> 04-20-2021	51.74	48.26	15.09	0.00	0.00	0.00
<b>3 Months Ago</b> 01-26-2021	79.65	20.35	4.60	0.00	0.00	0.00
<b>Start of Calendar Year</b> 12-29-2020	77.61	22.39	3.63	0.00	0.00	0.00
<b>Start of Water Year</b> 09-29-2020	29.83	70.17	45.34	26.30	3.91	0.00
<b>One Year Ago</b> 04-28-2020	100.00	0.00	0.00	0.00	0.00	0.00

Intensity:



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:

Richard Heim  
NCEI/NOAA

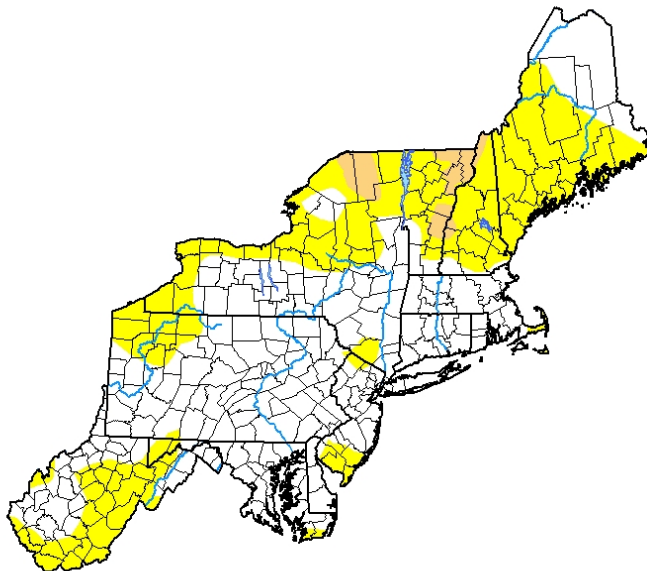


[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)

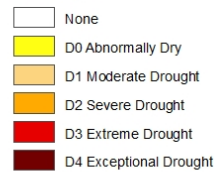
Map 2. U.S. Drought Monitor Map valid April 27<sup>th</sup>, 2021.

## U.S. Drought Monitor Northeast

**June 1, 2021**  
(Released Thursday, Jun. 3, 2021)  
Valid 8 a.m. EDT



Intensity:



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:

Brian Fuchs  
National Drought Mitigation Center



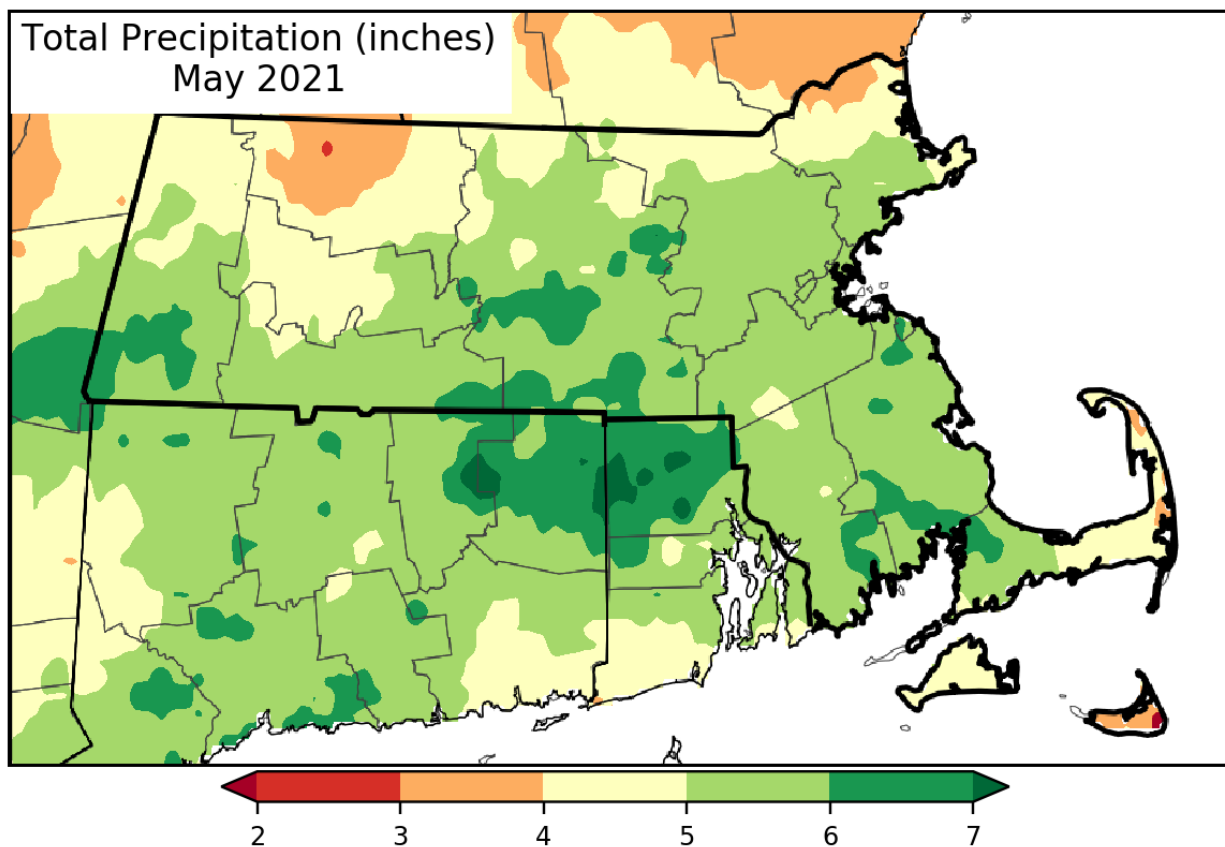
[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)

Map 3. US Drought Monitor Map valid June 1<sup>st</sup>, 2021.

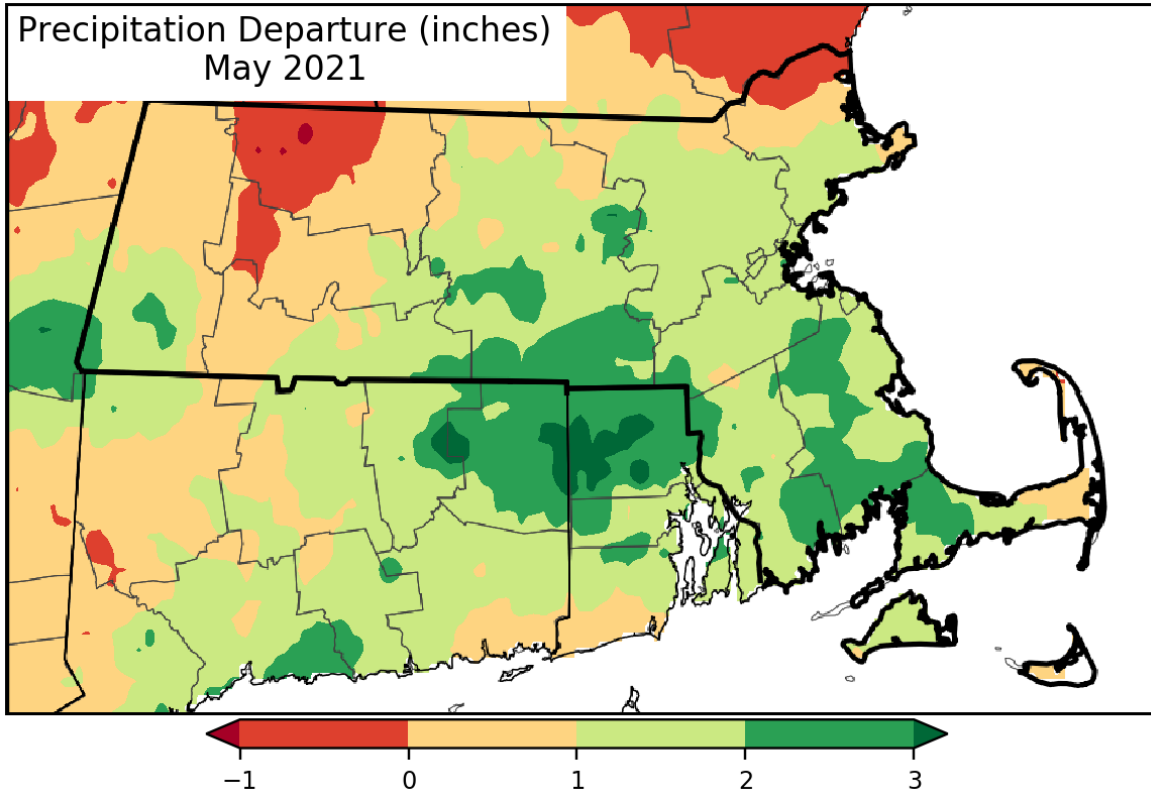
### Streamflow and Groundwater:

Streamflows varied during the month, due to soaking rainfall during the first and last weeks of May, and mainly dry weather in-between. During early May, streamflows ranged between normal and above normal. Then for mid-month, streamflows receded to below or much below normal. During the last several days of the month, periods of rain pushed streamflows back to normal to much above normal levels.

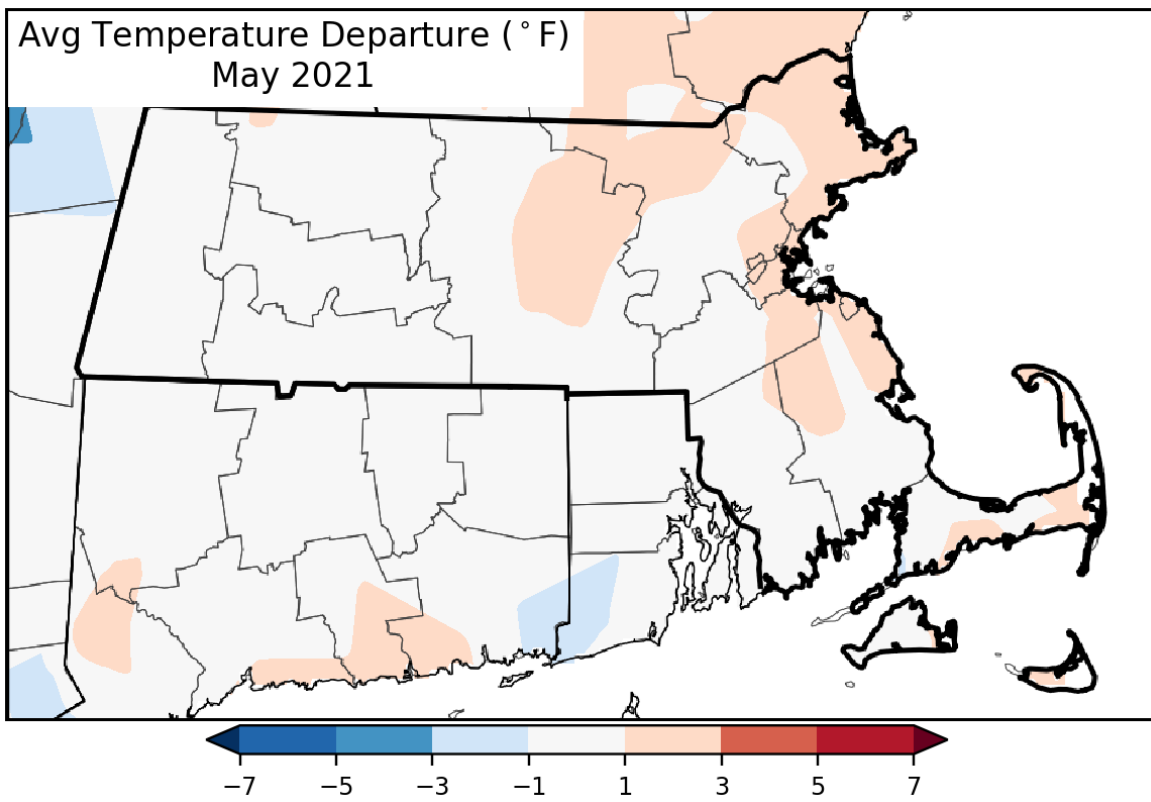
Groundwater conditions varied across southern New England. Groundwater levels were normal to much below normal across Cape Cod and southeast MA. Wells varied from below normal to above normal across the remainder of MA, as well as CT and RI.



Map 4: May 2021 rainfall for southern New England. From the Northeast Regional Climate Center.



Map 5. May 2021 rainfall departure from normal for southern New England. From the Northeast Regional Climate Center.



Map 6. Average temperature departure from normal across southern New England for May 2021. From the Northeast Regional Climate Center.

**Rhode Island Precipitation**  
**National Weather Service Boston/Norton, MA**  
Preliminary Precipitation Data (inches) by Drought Region  
Past 12 to 36 months ending May 2021  
*Includes CoCoRaHS Data*

<b>RI 1 month May 2021</b>	Rainfall	Departure	Percent	Normal
Northwest	6.32	2.40	161	3.92
Northeast	5.81	2.03	154	3.78
Central West	5.39	1.64	144	3.75
Central East	5.15	1.60	145	3.55
Eastern	5.03	1.39	138	3.64
Southern	4.82	0.87	122	3.95
New Shoreham	5.33	1.38	135	3.95

<b>RI 2 month Apr-May 21</b>	Rainfall	Departure	Percent	Normal
Northwest	10.36	1.74	120	8.62
Northeast	10.00	1.49	118	8.51
Central West	9.90	1.55	119	8.35
Central East	9.02	1.11	114	7.91
Eastern	8.65	0.19	102	8.46
Southern	8.53	-0.46	95	8.99
New Shoreham	9.07	0.08	101	8.99

<b>RI 3 month Mar-May 21</b>	Rainfall	Departure	Percent	Normal
Northwest	12.78	-1.29	91	14.07
Northeast	12.08	-1.45	89	13.53
Central West	13.06	-0.45	97	13.51
Central East	11.97	-0.95	93	12.92
Eastern	11.31	-2.83	80	14.14
Southern	11.76	-2.77	81	14.53
New Shoreham	12.06	-2.47	83	14.53

<b>RI 6 month Dec 20-May 21</b>	Rainfall	Departure	Percent	Normal
Northwest	27.18	0.03	100	27.15
Northeast	28.17	2.28	109	25.89
Central West	30.40	4.62	118	25.78
Central East	27.85	3.56	115	24.29
Eastern	24.27	-1.81	93	26.08
Southern	28.02	0.98	104	27.04
New Shoreham	29.40	2.36	109	27.04

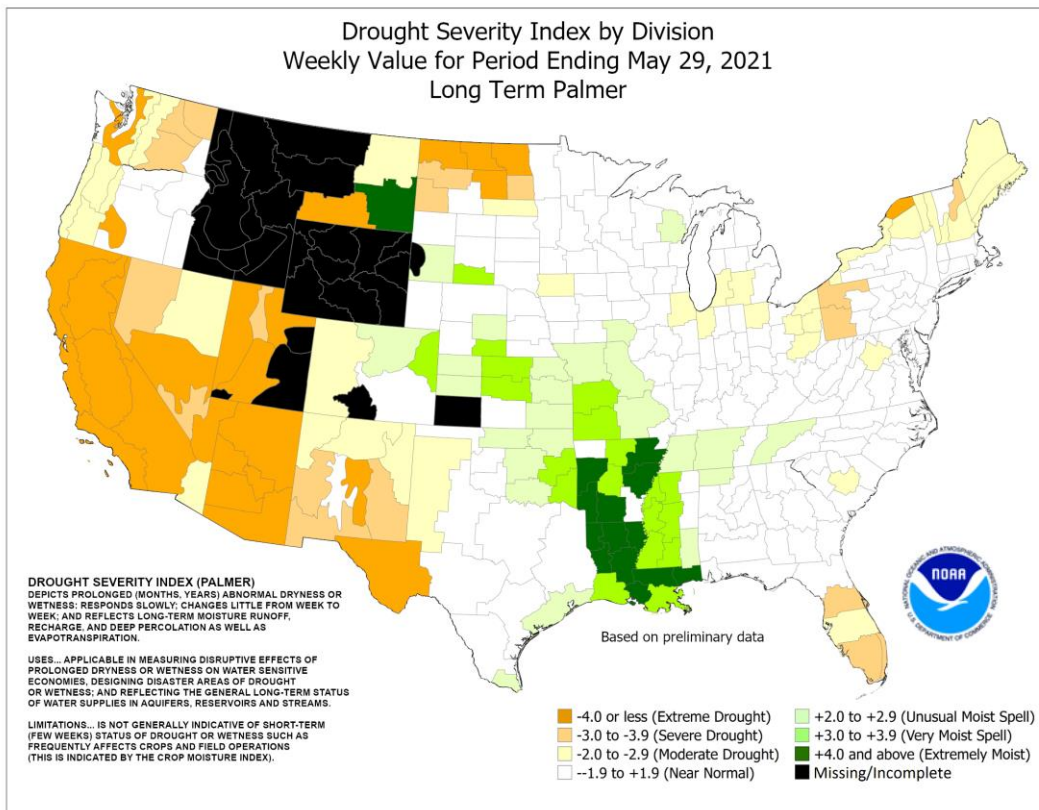
<b>RI 12 month Jun 20-May 21</b>	Rainfall	Departure	Percent	Normal
Northwest	47.29	-6.41	88	53.70
Northeast	47.64	-3.78	93	51.42
Central West	47.42	-3.35	93	50.77
Central East	44.65	-2.53	95	47.18
Eastern	39.94	-8.60	82	48.54
Southern	46.04	-6.83	87	52.87
New Shoreham	49.64	-3.23	94	52.87

<b>RI 24 month Jun 19-May 21</b>	Rainfall	Departure	Percent	Normal
Northwest	102.55	-4.85	95	107.40
Northeast	98.10	-4.74	95	102.84
Central West	102.71	1.17	101	101.54
Central East	93.76	-0.60	99	94.36
Eastern	90.00	-7.08	93	97.08
Southern	102.53	-3.21	97	105.74
New Shoreham	96.87	-8.87	92	105.74

<b>RI 36 month Jun 18-May 21</b>	Rainfall	Departure	Percent	Normal
Northwest	172.60	11.50	107	161.10
Northeast	165.33	11.07	107	154.26
Central West	172.80	20.49	113	152.31
Central East	159.56	18.02	113	141.54
Eastern	145.75	0.13	100	145.62
Southern	165.61	7.00	104	158.61
New Shoreham	153.96	-4.65	97	158.61

<b>RI 4 month Feb-May 21</b>	Rainfall	Departure	Percent	Normal
Northwest	16.21	-1.82	90	18.03
Northeast	15.72	-1.36	92	17.08
Central West	16.81	-0.30	98	17.11
Central East	15.46	-0.75	95	16.21
Eastern	14.97	-2.94	84	17.91
Southern	16.06	-2.16	88	18.22
New Shoreham	18.90	0.68	104	18.22

<b>RI 5 month Jan-May 21</b>	Rainfall	Departure	Percent	Normal
Northwest	19.00	-3.31	85	22.31
Northeast	18.44	-2.71	87	21.15
Central West	19.55	-1.63	92	21.18
Central East	17.66	-2.41	88	20.07
Eastern	16.98	-4.78	78	21.76
Southern	18.45	-3.88	83	22.33
New Shoreham	21.26	-1.07	95	22.33



Map 1. Palmer Drought Index from the Climate Prediction Center, NOAA, dated 5/29/21.  
**RI Palmer is in the Normal range, +0.02.**

**U.S. Drought Monitor  
Rhode Island**

**June 1, 2021**  
(Released Thursday, Jun. 3, 2021)  
Valid 8 a.m. EDT



**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:**

Brian Fuchs  
National Drought Mitigation Center



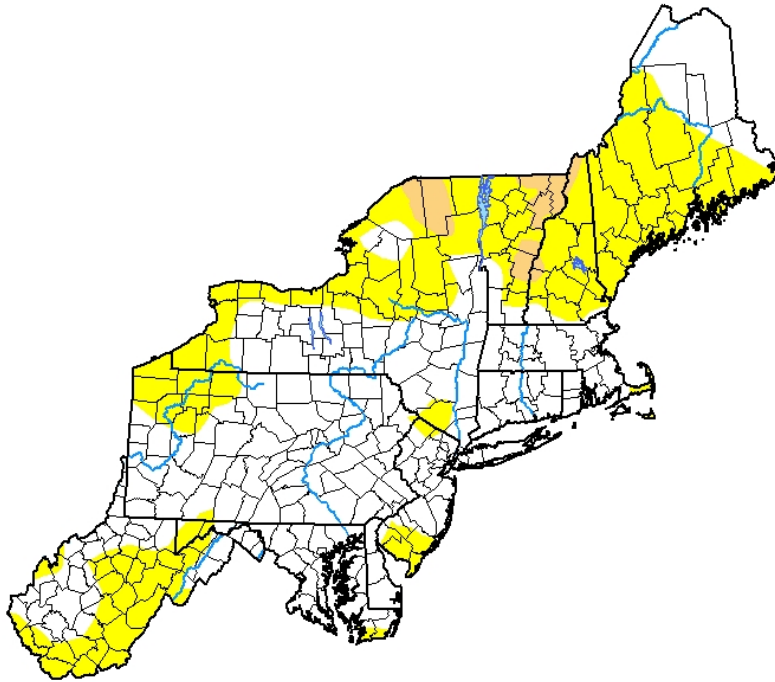
[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)

Map 2. US Drought Monitor for Rhode Island. valid 6/1/2021.



# U.S. Drought Monitor Northeast

**June 1, 2021**  
(Released Thursday, Jun. 3, 2021)  
Valid 8 a.m. EDT



**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:**

Brian Fuchs  
National Drought Mitigation Center



**droughtmonitor.unl.edu**

Map 3. US Drought Monitor for the Northeast US, valid 6/1/2021.