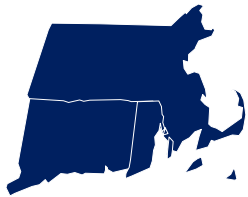




Southern



New England

April 2019

Sunshine, daffodils, warmer temperatures, and hopefully, no more snow. April starts our growing season, and we started off the year by having another 50 observers join our network. If you are new to our network, welcome, we look forward to you measuring and reporting with us.

March was an unusually precip free month, with a record number of zeros being reported by all of you. March also saw our largest snow event of the season. Cold and snowy in the first half of March, then the snow cover melted, the warm air returned, the spring snows returned, and the month ended quietly.

We start off with the Grand List. More observer tips to new and seasoned observers alike. Plenty about your reports. If what we do as a network had to be summarized into one page, do read the last page of this month's Newsletter.

April is the 11th anniversary of Rhode Island coming into the network, so we celebrate with Rhode Island, from those who joined in the first year through all of those that joined this year.

Let's get into it.

The “Grand” List

Congratulations to all of these observers from our three states who have recently passed a milestone of 1000 Daily Reports.

3000 Daily Reports

MA-BR-9 Taunton 2.6 NW

2000 Daily Reports

MA-FR-10 Conway 0.9 SW

1000 Daily Reports

MA-WR-44 Westminster 0.6 WSW

MA-ES-24 Newburyport 0.8 SW

RI-WS-31 Kingston 7.5 NNE

MA-PL-23 Pembroke 2.8 SW

RI-PR-28 North Smithfield 0.7 SE

Observer Tips

New Observers: Our network believes in the use of the 4” diameter rain gauges. Why? They are most accurate all year round with whatever intensity of rain or snow Mother Nature throws at us. They are very close in accuracy to the much larger and more expensive 8” diameter gauge that the NWS CoOp program uses.

On the new observer registration form, we see the section for “Have Gauge” and we often see “Yes” and then wonder which gauge you have. The use of the 4” diameter rain gauge is requested for all observers.

Reading the bottom of the meniscus of the inner cylinder is just the beginning to this skill of being an observer. New observers can learn more by looking at the [training slides](#), [training videos](#) on YouTube, [Hilberg’s tips](#) when they appear on the Message of Day after submitting a report, [Nolan’s Newsletters](#), and look at our [old Newsletters](#) where we attempt to compress years of experiences within paragraphs of words.

Dew: For those that are new to the crew, make sure you know what to do about dew. For our coastal observers, fog throws us a curve ball too. Fog and Dew are NOT precipitation. When making your morning observation, and you see some moisture in your inner cylinder, do not assume it came from the sky, and report it as precipitation. Look for confirming cues of wet pavement, larger drops on the funnel, or puddles of water.

Whenever you are not certain if the moisture came from the sky or from dew or fog, make note of it within a Comment along with your report.

Our 4” diameter gauge is a great dew collector. Know what to do about dew.

Fire Weather: After the above normal precipitation that prevailed from this past July to this January, brush fires may seem a distant possibility. April and October are prime months for brush fires because of the strong sunshine, winds, low humidity or low dew points, and no leaf cover.

As observers, zeros are important. Be a hero and report your zeros. A map full of zeros, does make a statement. If you find dew on the gauge,

making a Comment about “dew on the gauge” is also valuable. Dew on the gauge, and many other surfaces, can reduce the brush fire risk.

Hail Week: Shortly, our network’s Hail Week will be upon us. Our locale is fortunate that hail is not that frequent and not that damaging. Nonetheless, if you observe hail, please report so as soon as safely possible. Hail hurts when exposed to without cover. Wait until it ends. Make a note of the start and stop times. Have a ruler handy to measure the size of the hail stones. Like the Significant Weather Report, the Hail Report is a real time report from the website and will also alert a forecaster’s screen within a minute’s time.

Strive for 365: Part of the reason for this Monthly Newsletter is not to discourage you, but rather to encourage you. Encourage you to report all days, not to miss any days, and to see the variation of precipitation that can occur by not missing reports, but by the natural variation of precipitation. Encourage you to see it all in a list of stations, a colored map of dots from the Climate Center, or by looking at a table of reported totals from nearby airports.

Multi-Day Reports exist for those taking a vacation, the weekend off, hazardous conditions, or many other of life’s happenings. You need not be chained to your residence all year round.

It takes a while to form the habit, to form the morning routine of measuring and reporting. But once you get the habit, strive to report, to account for, all 365 days in the year. See your results one month at a time, within here.

Autofill on a web browser: Last month, we mentioned the subtleties with reporting on the mobile app. This month, a mention about the subtleties of using the web browser. Autofill. As you’re filling out any report using the website, the browser will prompt you to use a previously entered value. There’s a source to enter in the wrong value. The browser made you do it.

Different browsers, Safari, Chrome, Firefox, Explorer, Edge, may have settings to control Autofill. If you need help turning off Autofill, let us know which browser you are using, and we can give you instructions how to turn off Autofill from steering you to a wrong value to enter.

Wrap Up

This segment is appearing out of its normal sequence because April is not a normal month with the annual Patriots Day closing. What else is in store for us in the weeks to come?

Hurricane Awareness Tour: The annual tour in the first week of May comes to our locale this year. Monday May 6th at the Quonset State Airport in North Kingston, Rhode Island. Aircrews, aircraft, Hurricane Center staff, and more are expected to be there. Our own National Coordinator, Henry Reges, should be there as well. Details are on a link from the [BOX website](#).

Editorial: If you have the chance, have never seen what goes into our study of tropical systems, if you spend a good bit of August, September and October studying and sweating the timing, track and intensities of tropical systems, it's worth your time to see for yourself when they come to Quonset. The entire experience is humbling.

Most of the aviation community flies away from tropical systems. See for yourself the aircraft and aircrews that do the complete opposite. They fly into tropical systems and do so on 8-12-hour long missions, sometimes deployed in locations closer to where the storm is tracking.

Return home, look at your 4" diameter gauge and think that at sometime, with some tropical system, someone is really going to want to know how much rain fell in that gauge.

Have more questions, just ask. Read more with this [old newsletter](#)

SkyWarn Classes: Springtime SkyWarn Classes are beginning. All 3 of our offices have their websites updated, which you can view by clicking on the "SkyWarn" icon on the office website.

Editorial: If you have the time, if there is a class nearby, it is worth becoming a SkyWarn spotter. Learn more about this craft of being an observer. With a rain gauge and a ruler, and knowing how to use them, you'll have a step up on the others in the audience. But there is always more to learn, particularly about winds and flooding.

Happy Anniversary, Rhode Island!



April 1, 2008. Rhode Island is admitted to CoCoRaHS, the 30th state to join our network, and the first of the 6 New England states to join the network.

A happy 11th Anniversary to Rhode Island.

Rhode Island CoCoRaHS

Comments by Joe DelliCarpini – Science & Operations Officer, NWS Norton MA

Back in 2007, Henry Reges, National Coordinator of CoCoRaHS (who himself has roots in southern New England) approached me about having Connecticut, Massachusetts, and Rhode Island join the expanding CoCoRaHS network, which was then rather sparse in the eastern third of the country. We decided to focus on Rhode Island first, since as a relatively small state that is covered by our NWS Office in Boston, it would be a good “test case” for the rest of the region. The proposed startup date would be April 1, 2008.

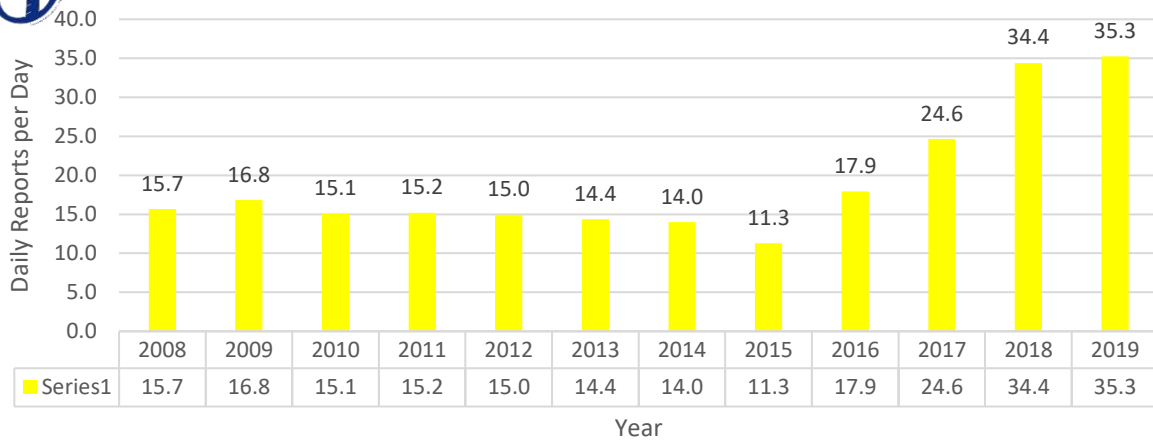
Fortunately we had a long-standing partnership with the Rhode Island Water Resources Board and state Emergency Management Office, so they were a natural fit as partners with our office for CoCoRaHS. We were able to spread the word around the state that we were looking for volunteers to join CoCoRaHS and had over two dozen observers sign up in the first couple of months. Out of the original group of observers, four are still active today (RI-WS-1, RI-KN-2, RI-NW-4, RI-NW-5).

The rise in Rhode Island continues. Over 40 reporting observers have boosted reporting totals to over 1,000 reports in a month, and over 12,500 reports for the calendar year of 2018.

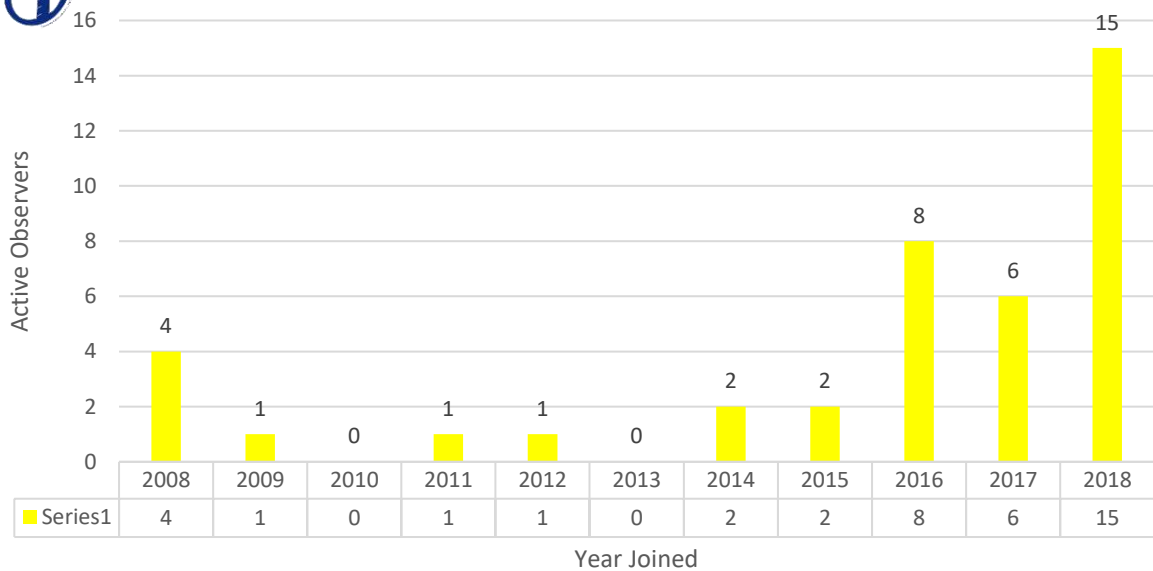
Anniversaries are always a good time to pause and give thanks. I want to take this opportunity to thank everyone in our three states for your active participation in CoCoRaHS. Whether you report every day, every other day, once a week, or once in a while please know that your reports are valuable and used by the National Weather Service, by the media, and by water resource officials!



Rhode Island CoCoRaHS - Daily Reports per Day



Rhode Island CoCoRaHS Observers





Rhode Island is divided in these 7 regions.

Rhode Island Precipitation
National Weather Service Boston/Norton, MA
 Preliminary Precipitation Data (inches) by Drought Region
 Past 12 to 36 months ending February 2019
Includes CoCoRaHS Data

RI 1 month February 2019	Rainfall	Departure	Percent	Normal
Northwest	3.29	-0.67	83	3.96
Northeast	3.47	-0.08	98	3.55
Central West	3.79	0.19	105	3.60
Central East	3.69	0.40	112	3.29
Eastern	3.87	0.10	103	3.77
Southern	3.82	0.13	104	3.69
New Shoreham	4.00	0.31	108	3.69

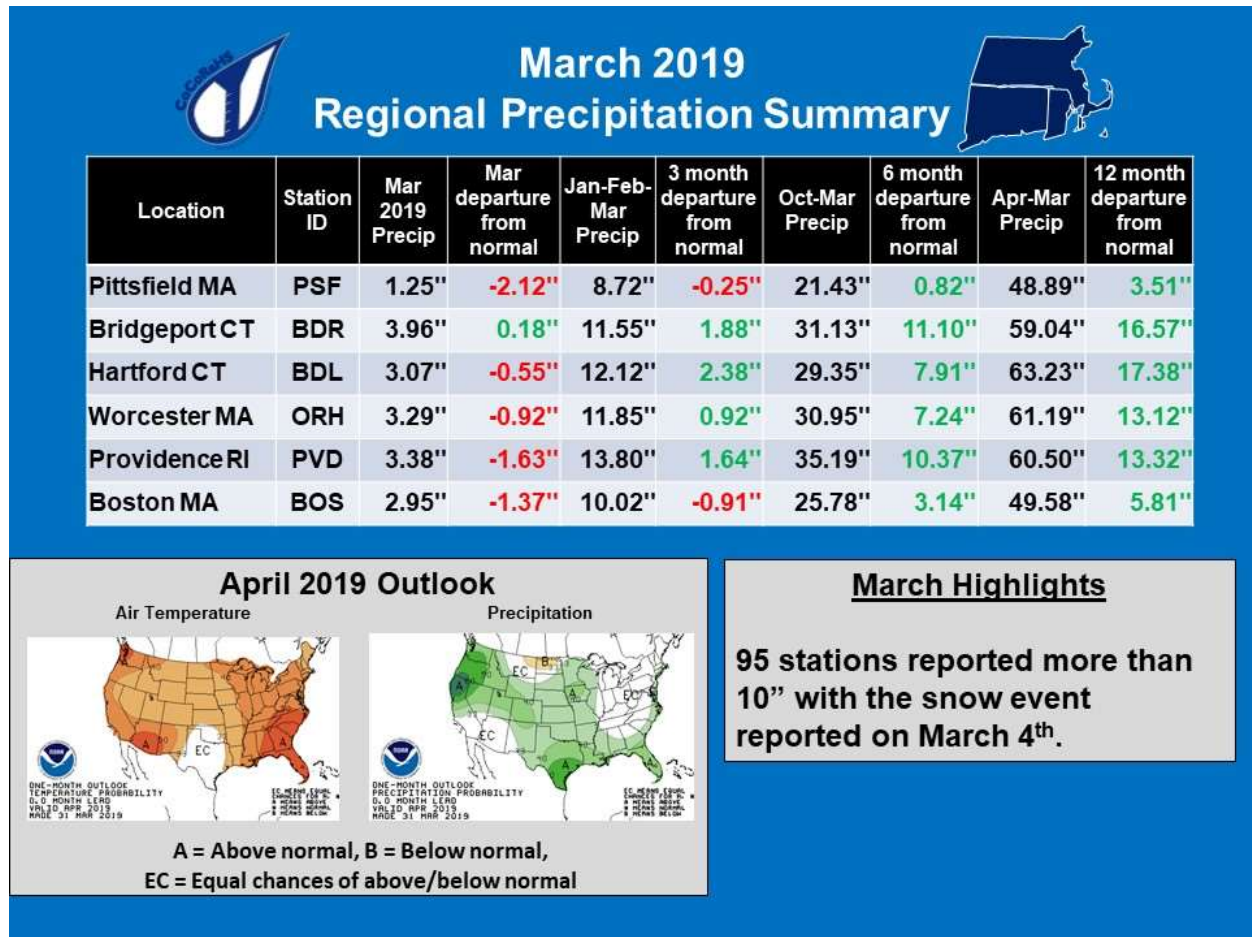
RI 2 month Jan-Feb 19	Rainfall	Departure	Percent	Normal
Northwest	10.19	1.95	124	8.24
Northeast	10.43	2.81	137	7.62
Central West	10.92	3.25	142	7.67
Central East	10.28	3.13	144	7.15
Eastern	10.07	2.45	132	7.62
Southern	10.70	2.90	137	7.80
New Shoreham	11.50	3.70	147	7.80

Every month, your CoCoRaHS reports are looked at. Measure and report every day, use a 4" diameter gauge, don't miss many or any days, and your precipitation total for the month is averaged into this report given to the State of Rhode Island.

It all right here in this [website](#).

Detail and Summary for March 2019

From the National Weather Service (NWS) Climate sites for Mar 2019.



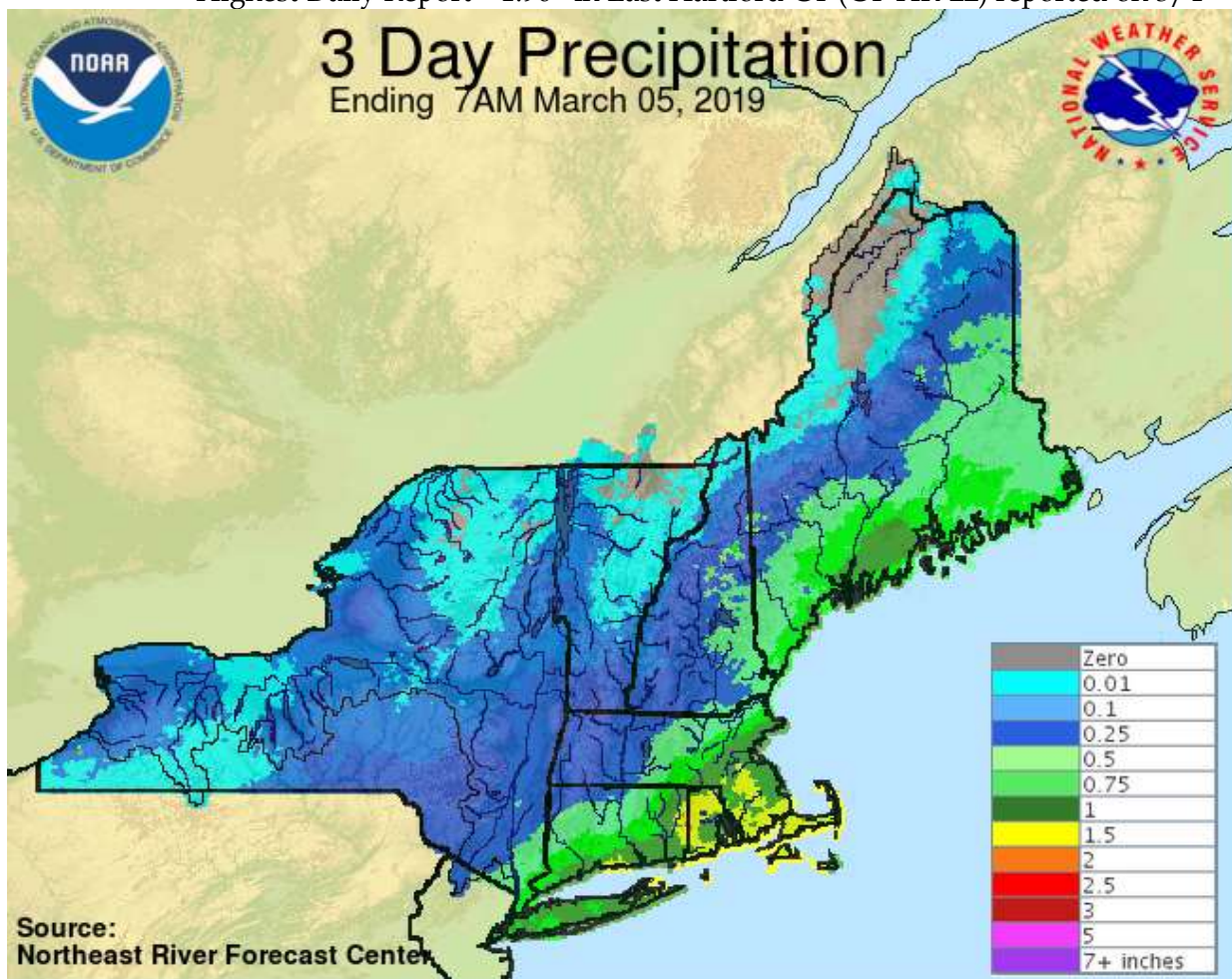
March came in cold and winterlike. Light snow events for the first three days, and the big event of snow for the year, and the big event for the month, Sunday into Monday, March 3-4, noted by the map on the next page. Winter cold kept the snow pack around for the 1st week of March. Snow to rain for the 10th. Thunderstorms for the evening of March 15th.

The next precip event for the month spanned the 22nd into the 23rd, dropping nearly 1" of precip for some, and snow in the hills of Tolland County. Precip free for the rest of the month. March ended with 8.5" of snow depth and 2.29" of total SWE for MA-HS-7, Plainfield MA.

Take in the next section with appreciation of your efforts.

From your reports for March 2019

Observers reporting	351
Reported all 31 days	175
Completed by Multi-Day Reports	37
Missing 1 or 2 reports	40
Daily Reports	8877
Zero Reports	6056
Non-Zero Reports	2821
Daily Comments	1805
Multi-Day Reports	171
Condition Monitoring Reports	18
Significant Weather Reports	15
Snowfall Reports	6383
Snow Depth Reports	3470
SWE Reports	1247
Highest Daily Report	1.90" in East Hartford CT (CT-HR-22) reported on 3/4



A 6 page list of over 200 stations.

6 stations that reported all days were excluded for reporting “NA” precip, primarily around the snow events in the beginning of March.

For a viewing explanation on Watersheds, the CoCoRaHS animated video is on [YouTube](#).

Watershed	Watershed Name	Station Number	Station Name	Precip
01070004	Nashua			
0107000401	North Nashua River	MA-WR-44	Westminster 0.6 WSW	2.37"
0107000401	North Nashua River	MA-WR-8	Fitchburg 1.6 SSW	1.55"
0107000401	North Nashua River	MA-WR-52	Fitchburg 2.3 N	1.57"
0107000401	North Nashua River	MA-WR-22	Fitchburg 2.0 NNE	1.57"
0107000402	Headwaters Nashua River	MA-WR-56	Sterling 4.3 NW	2.91"
0107000402	Headwaters Nashua River	MA-MD-25	Ayer 0.1 SW	1.90"
0107000403	Squannacook River	MA-MD-47	West Townsend 0.5 W	1.67"
01070005	Concord			
0107000501	Sudbury River	MA-MD-100	Sudbury 1.6 N	2.71"
0107000501	Sudbury River	MA-MD-88	Wayland 2.1 SSE	2.55"
0107000502	Concord River	MA-WR-28	Berlin 1.3 WSW	2.58"
0107000502	Concord River	MA-WR-42	Northborough 2.3 N	2.56"
0107000502	Concord River	MA-MD-115	Hudson 1.4 NW	2.02"
0107000502	Concord River	MA-MD-12	Acton 1.3 SW	3.00"
0107000502	Concord River	MA-MD-51	Maynard 0.7 ESE	2.86"
0107000502	Concord River	MA-MD-62	Chelmsford 1.2 E	2.97"
01070006	Merrimack River			
0107000612	Stony Brook - Merrimack River	MA-MD-104	Littleton 2.8 NNW	2.19"
0107000612	Stony Brook - Merrimack River	MA-MD-105	Littleton 0.9 WSW	2.42"
0107000612	Stony Brook - Merrimack River	MA-MD-93	Westford 1.5 SSW	2.31"
0107000613	Shawsheen River	MA-MD-52	Lexington 0.6 SW	2.54"
0107000613	Shawsheen River	MA-ES-48	Andover 0.6 E	3.32"
0107000614	Powwow River - Merrimack River	MA-ES-20	Haverhill 0.7 N	2.38"
0107000614	Powwow River - Merrimack River	MA-ES-4	Groveland 0.5 WSW	2.94"
01080201	Middle Connecticut			
0108020106	Manhan River - Connecticut River	MA-HS-2	Westhampton 1.8 SW	2.21"
0108020106	Manhan River - Connecticut River	MA-HS-8	Williamsburg 1.2 WSW	1.73"
0108020106	Manhan River - Connecticut River	MA-HS-26	Easthampton 0.5 SW	1.83"
0108020106	Manhan River - Connecticut River	MA-HS-12	Northampton 0.4 S	1.40"

0108020106	Manhan River - Connecticut River	MA-FR-12	Sunderland 1.3 SE	1.53"
0108020107	Batchelor Brook - Connecticut River	MA-HD-22	Holyoke 1.0 ENE	1.61"
0108020107	Batchelor Brook - Connecticut River	MA-HD-13	Springfield 4.1 W	2.15"
01080202	Miller			
0108020201	Upper Millers River	NH-CH-20	Rindge 3.2 ESE	1.70"
0108020202	Lower Millers River	MA-WR-40	Gardner 1.4 SSW	1.63"
01080203	Deerfield			
0108020305	Lower Deerfield River	MA-FR-17	Buckland 1.8 ESE	1.72"
0108020305	Lower Deerfield River	MA-FR-13	Conway 2.9 NW	1.66"
0108020305	Lower Deerfield River	MA-FR-25	Conway 2.7 NW	1.72"
0108020305	Lower Deerfield River	MA-FR-10	Conway 0.9 SW	1.62"
01080204	Chicopee			
0108020401	Swift River	MA-FR-8	New Salem 3.1 S	1.54"
0108020402	Ware River	MA-WR-54	Barre 1.4 NNE	1.88"
0108020403	Quaboag River	MA-HD-26	Brimfield 3.6 NW	3.60"
0108020404	Chicopee River	MA-HD-25	Ludlow 2.3 SW	2.10"
01080205	Lower Connecticut			
0108020501	Mill River - Connecticut River	CT-HR-57	Suffield Depot 3.3 NNE	2.72"
0108020501	Mill River - Connecticut River	CT-HR-5	Enfield 1.5 SE	2.75"
0108020502	Scantic River	CT-TL-26	Broad Brook 2.6 ESE	2.39"
0108020502	Scantic River	MA-HD-20	Wilbraham 3.7 SSW	2.86"
0108020502	Scantic River	CT-TL-15	Central Somers 0.3 N	3.18"
0108020503	Park River	CT-HR-39	Farmington 1.6 SW	2.50"
0108020504	Hockanum River	CT-HR-52	Central Manchester 0.8 N	2.69"
0108020504	Hockanum River	CT-TL-19	Vernon 2.8 N	3.16"
0108020505	Roaring Brook - Connecticut River	CT-HR-6	Wethersfield 1.2 WSW	2.58"
0108020505	Roaring Brook - Connecticut River	CT-HR-68	Rocky Hill 1.3 E	2.79"
0108020505	Roaring Brook - Connecticut River	CT-HR-22	East Hartford 1.3 E	3.48"
0108020505	Roaring Brook - Connecticut River	CT-HR-7	Central Manchester 2.7 SW	3.12"
0108020506	Mattabesset River	CT-HR-15	Southington 3.0 E	3.06"
0108020506	Mattabesset River	CT-HR-80	Kensington 0.7 WSW	2.94"
0108020506	Mattabesset River	CT-HR-65	Newington 1.9 SSW	2.71"
0108020506	Mattabesset River	CT-MD-25	Middlefield 0.6 SE	2.70"
0108020507	Higganum Creek - Connecticut River	CT-MD-23	Higganum 0.7 N	2.78"
0108020507	Higganum Creek - Connecticut River	CT-MD-26	Higganum 0.8 NE	2.84"
0108020509	Eightmile River-Connecticut River	CT-MD-18	Essex Village 0.9 S	2.54"
01080206	Westfield			
0108020601	Headwaters Westfield River	MA-HS-7	Plainfield 2.2 SW	1.46"
0108020601	Headwaters Westfield River	MA-HS-14	Plainfield 2.4 ESE	1.30"
01080207	Farmington			
0108020701	Still River	CT-LT-15	Colebrook 1.0 NE	1.54"

0108020702	West Branch Farmington River	CT-LT-18	New Hartford Center 1.5 N	2.47"
0108020704	Headwaters Farmington River	CT-LT-9	New Hartford Center 3.2 SW	2.29"
0108020704	Headwaters Farmington River	CT-HR-28	North Canton 0.8 SSW	2.32"
0108020705	Salmon Brook	CT-HR-60	North Granby 0.7 N	1.80"
0108020705	Salmon Brook	CT-HR-8	North Granby 1.3 ENE	1.94"
01090001	Charles			
0109000101	Plum Island Sound - Frontal Atlantic Ocean	MA-ES-46	Georgetown 1.3 ENE	3.16"
0109000101	Plum Island Sound - Frontal Atlantic Ocean	MA-ES-24	Newburyport 0.8 SW	2.75"
0109000102	Ipswich River	MA-MD-85	Wilmington 2.2 WNW	2.64"
0109000102	Ipswich River	MA-MD-125	Tewksbury 3.6 SSE	2.68"
0109000102	Ipswich River	MA-MD-45	Wilmington 1.5 NE	2.56"
0109000102	Ipswich River	MA-ES-12	Boxford 2.4 S	2.84"
0109000102	Ipswich River	MA-ES-2	Beverly 2.8 NW	2.53"
0109000103	Essex River - Frontal Atlantic Ocean	MA-ES-41	Danvers 0.8 ESE	3.06"
0109000104	Saugus River - Frontal Broad Sound	MA-MD-81	Wakefield 0.5 NNW	2.70"
0109000104	Saugus River - Frontal Broad Sound	MA-MD-126	Melrose 0.5 NE	2.83"
0109000104	Saugus River - Frontal Broad Sound	MA-ES-45	Nahant 0.4 N	2.54"
0109000104	Saugus River - Frontal Broad Sound	MA-ES-8	Marblehead 0.8 SW	3.33"
0109000105	Mystic River - Frontal Boston Harbor	MA-MD-123	Lexington 1.3 SE	2.74"
0109000105	Mystic River - Frontal Boston Harbor	MA-MD-7	Winchester 0.7 SE	2.70"
0109000105	Mystic River - Frontal Boston Harbor	MA-MD-44	Medford 1.2 W	2.64"
0109000105	Mystic River - Frontal Boston Harbor	MA-MD-11	Cambridge 0.9 NNW	2.90"
0109000105	Mystic River - Frontal Boston Harbor	MA-SF-10	Chelsea 0.8 N	3.10"
0109000106	Upper Charles River	MA-WR-1	Milford 2.3 NNW	2.90"
0109000106	Upper Charles River	MA-MD-106	Holliston 2.4 W	2.99"
0109000106	Upper Charles River	MA-MD-42	Holliston 0.8 S	2.53"
0109000106	Upper Charles River	MA-NF-11	Millis 2.0 SW	2.36"
0109000107	Lower Charles River - Frontal Boston Harbor	MA-MD-120	Natick 1.9 NNE	2.87"
0109000107	Lower Charles River - Frontal Boston Harbor	MA-MD-80	Lincoln 1.5 SW	3.00"
0109000107	Lower Charles River - Frontal Boston Harbor	MA-MD-71	Newton 2.2 NNW	2.07"
0109000107	Lower Charles River - Frontal Boston Harbor	MA-MD-119	Watertown 1.1 W	3.47"
0109000107	Lower Charles River - Frontal Boston Harbor	MA-MD-134	Somerville 0.5 SSE	2.43"
0109000107	Lower Charles River - Frontal Boston Harbor	MA-SF-1	Boston 0.5 WSW	2.33"
0109000108	Neponset River - Frontal Boston Harbor	MA-NF-1	Norwood 1.3 NW	3.51"
0109000109	Whitmans Pond - Frontal Boston Harbor	MA-NF-32	Quincy 1.8 WSW	3.00"
0109000109	Whitmans Pond - Frontal Boston Harbor	MA-NF-39	Weymouth 2.3 N	3.36"
0109000109	Whitmans Pond - Frontal Boston Harbor	MA-PL-36	Hingham 0.8 ESE	3.77"
01090002	Cape Cod			
0109000201	North River - Frontal Massachusetts Bay	MA-PL-5	Kingston 3.3 WNW	4.55"
0109000202	Cape Cod	MA-BA-2	Falmouth 3.1 NNW	4.09"
0109000202	Cape Cod	MA-BA-57	Falmouth 5.7 N	3.86"

0109000202	Cape Cod	MA-BA-50	Falmouth 5.4 NNE	4.11"
0109000202	Cape Cod	MA-BA-19	East Falmouth 0.7 NW	4.56"
0109000202	Cape Cod	MA-BA-3	Falmouth 3.0 E	4.99"
0109000202	Cape Cod	MA-BA-18	Waquoit 0.6 SSW	4.84"
0109000202	Cape Cod	MA-BA-45	Sandwich 0.9 NNE	3.26"
0109000202	Cape Cod	MA-BA-59	Barnstable 3.6 W	5.46"
0109000202	Cape Cod	MA-BA-76	Barnstable 0.7 NE	5.63"
0109000202	Cape Cod	MA-BA-22	Yarmouth 0.9 NNW	5.34"
0109000202	Cape Cod	MA-BA-72	Yarmouth 2.0 S	4.71"
0109000202	Cape Cod	MA-BA-1	Yarmouth 2.3 SSE	4.88"
0109000202	Cape Cod	MA-BA-52	Truro 0.8 E	4.17"
0109000202	Cape Cod	MA-BA-27	Wellfleet 0.7 NW	4.05"
0109000202	Cape Cod	MA-BA-36	Harwich 2.6 ENE	4.44"
0109000202	Cape Cod	MA-BA-42	Orleans 1.8 S	4.19"
0109000202	Cape Cod	MA-BA-51	Orleans 3.0 S	4.78"
0109000202	Cape Cod	MA-BA-12	Orleans 1.1 E	3.91"
0109000202	Cape Cod	MA-BA-30	Eastham 0.6 SW	4.97"
0109000203	Mattapoisett River - Frontal Buzzards Bay	MA-PL-19	Rochester 1.2 NNW	2.92"
0109000204	Paskamanset River - Frontal Buzzards Bay	MA-BR-14	Dartmouth 2.5 SSW	3.34"
0109000205	Sakonnet Point - Frontal Rhode Island Sound	RI-NW-5	Little Compton 1.7 NW	4.14"
0109000205	Sakonnet Point - Frontal Rhode Island Sound	RI-NW-7	Little Compton 0.6 E	4.14"
0109000205	Sakonnet Point - Frontal Rhode Island Sound	MA-BR-37	Westport 0.9 ESE	3.92"
0109000206	Elizabeth Islands - Marthas Vineyard	MA-DK-2	Vineyard Haven 0.8 WSW	4.00"
01090003	Blackstone			
0109000301	Upper Blackstone River	MA-WR-41	Auburn 2.6 SW	2.85"
0109000301	Upper Blackstone River	MA-WR-43	Leicester 2.4 ESE	2.72"
0109000301	Upper Blackstone River	MA-WR-70	Grafton 1.5 W	1.78"
0109000302	Lower Blackstone River	RI-PR-50	Harrisville 1.2 SSE	3.42"
0109000302	Lower Blackstone River	RI-PR-28	North Smithfield 0.7 SE	3.23"
01090004	Narragansett			
0109000401	Upper Taunton River	MA-BR-30	Taunton 3.9 N	3.43"
0109000401	Upper Taunton River	MA-NF-31	Stoughton 1.2 E	3.30"
0109000401	Upper Taunton River	MA-PL-22	East Bridgewater 0.3 WSW	3.73"
0109000401	Upper Taunton River	MA-PL-15	Abington 1.2 NNE	3.84"
0109000401	Upper Taunton River	MA-PL-23	Pembroke 2.8 SW	4.17"
0109000402	Middle Taunton River	MA-PL-31	Bridgewater 1.8 SE	4.15"
0109000403	Threemile River	MA-NF-19	Foxborough 1.8 SSW	2.99"
0109000403	Threemile River	MA-BR-55	NWS Boston/Norton 2.5 ESE	3.88"
0109000403	Threemile River	MA-BR-9	Taunton 2.6 NW	3.83"
0109000404	Ten Mile River	MA-BR-23	Attleboro 0.9 ENE	4.14"
0109000405	Wonnasquatucket River-Moshassuck River	RI-PR-33	Greenville 0.7 NNW	3.47"

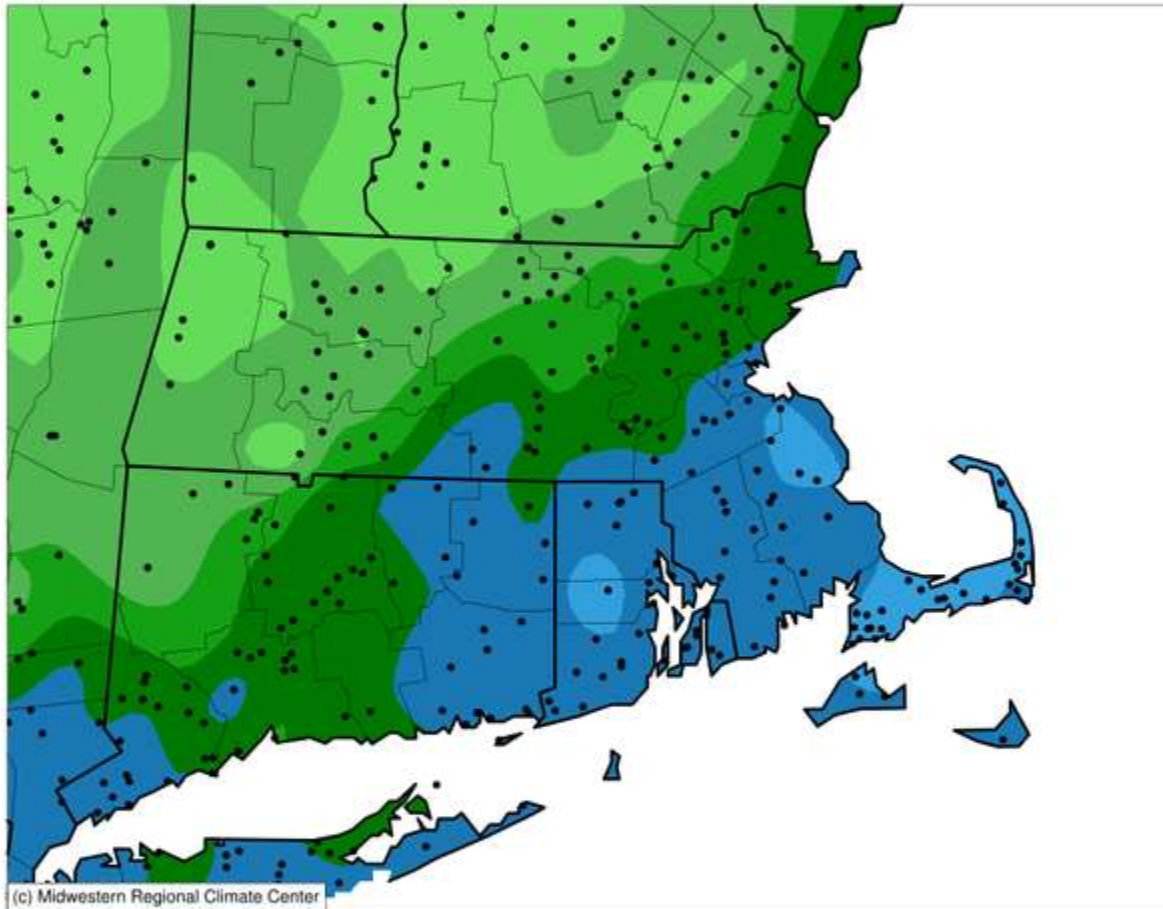
0109000405	Woonasquatucket River-Moshassuck River	RI-PR-51	North Smithfield 0.6 S	3.44"
0109000406	Pawtuxet River	RI-KN-21	Coventry 1.9 NE	3.56"
0109000406	Pawtuxet River	RI-PR-57	Cranston 1.2 SSE	3.62"
0109000407	Palmer River	MA-BR-2	Rehoboth 2.1 N	3.65"
0109000408	Lower Taunton River - Frontal Mount Hope Bay	MA-BR-3	Norton 1.8 NNE	3.79"
0109000408	Lower Taunton River - Frontal Mount Hope Bay	MA-BR-16	Somerset 0.4 SSE	3.09"
0109000408	Lower Taunton River - Frontal Mount Hope Bay	MA-BR-8	Dighton 1.1 WSW	3.53"
0109000409	Narragansett Bay	RI-WS-31	Kingston 7.5 NNE	3.77"
0109000409	Narragansett Bay	RI-KN-2	East Greenwich 2.3 ESE	3.15"
0109000409	Narragansett Bay	RI-NW-18	Jamestown 0.3 SSE	3.63"
0109000409	Narragansett Bay	RI-BR-5	Barrington 1.3 WNW	3.02"
0109000409	Narragansett Bay	RI-NW-4	Middletown 1.1 SW	3.37"
0109000409	Narragansett Bay	RI-NW-16	Portsmouth 1.3 S	4.03"
0109000409	Narragansett Bay	RI-NW-11	Tiverton 0.8 SSW	3.69"
0109000409	Narragansett Bay	RI-NW-20	Tiverton 1.0 SSW	3.41"
01090005	Pawcatuck-Wood			
0109000501	Wood River	RI-WS-1	Hope Valley 3.7 S	3.88"
0109000502	Upper Pawcatuck River	RI-WS-42	Richmond 4.6 NNE	3.75"
0109000503	Lower Pawcatuck River	CT-NL-40	Pawcatuck 1.8 SSE	3.81"
0109000503	Lower Pawcatuck River	RI-WS-47	Westerly 0.8 WNW	4.21"
0109000504	Frontal Block Island Sound	RI-WS-36	Charlestown 3.0 WSW	3.71"
01100001	Quinebaug			
0110000102	French River	MA-WR-68	Oxford 0.9 SSW	2.81"
0110000103	Fivemile River	CT-WN-4	East Killingly 1.3 SW	2.89"
0110000105	Moosup River	CT-WN-8	Moosup 1.7 NE	3.41"
0110000106	Pachaug River	CT-NL-21	Griswold 0.9 N	3.33"
01100002	Shetucket			
0110000201	Willimantic River	CT-TL-28	South Coventry 1.2 NNW	3.68"
0110000201	Willimantic River	CT-TL-2	Staffordville 0.4 NNW	3.39"
0110000202	Natchaug River	CT-TL-27	Willington 2.7 SE	4.25"
0110000202	Natchaug River	CT-TL-30	Mansfield Center 2.7 NE	3.36"
0110000203	Shetucket River	CT-NL-10	Norwich 2.5 NNE	3.55"
01100003	Thames			
0110000302	Thames River-Frontal New London Harbor	CT-NL-6	New London 1.0 NNW	3.55"
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-38	Old Lyme 3.4 ESE	3.39"
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-32	Niantic 1.1 SW	2.74"
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-22	Central Waterford 2.7 SSW	3.49"
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-24	Stonington 1.4 NNW	3.55"
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-18	Stonington 0.5 NNE	3.66"
01100004	Quinnipiac			
0110000401	Quinnipiac River	CT-NH-14	Prospect 1.9 ENE	2.81"

0110000401	Quinnipiac River	CT-HR-55	Southington 1.7 WNW	3.49"
0110000401	Quinnipiac River	CT-HR-23	Southington 0.9 SSE	2.59"
0110000401	Quinnipiac River	CT-HR-76	Southington 1.0 ENE	2.35"
0110000401	Quinnipiac River	CT-NH-44	Wallingford Center 1.9 WNW	2.76"
0110000401	Quinnipiac River	CT-NH-43	Wallingford Center 3.3 NNW	2.74"
0110000401	Quinnipiac River	CT-NH-42	Wallingford Center 1.1 N	2.51"
0110000402	Hammonasset River - Frontal Long Island Sound	CT-NH-50	Madison Center 4.1 N	2.95"
0110000402	Hammonasset River - Frontal Long Island Sound	CT-MD-21	Killingworth 2.6 ESE	2.76"
0110000403	Mill River - Frontal Long Island Sound	CT-NH-16	Milford 1.8 E	2.72"
01100005	Housatonic			
0110000501	Headwaters Housatonic River	MA-BE-11	Great Barrington 3.0 N	1.71"
0110000501	Headwaters Housatonic River	MA-BE-3	Stockbridge .2 NNE	1.53"
0110000501	Headwaters Housatonic River	MA-BE-10	Pittsfield 2.0 NNW	1.51"
0110000504	Macedonia Brook - Housatonic River	CT-LT-20	Warren 2.4 WNW	1.45"
0110000506	Candlewood Lake-Housatonic River	CT-LT-22	New Milford 5.3 SSW	2.82"
0110000508	Still River - Housatonic River	CT-FR-43	Bethel 0.5 E	3.41"
0110000508	Still River - Housatonic River	CT-FR-41	Bethel 3.5 NNE	2.73"
0110000508	Still River - Housatonic River	CT-FR-9	Brookfield 3.3 SSE	2.92"
0110000512	Outlet Naugatuck River	CT-NH-47	Seymour 1.5 NE	3.62"
0110000512	Outlet Naugatuck River	CT-NH-45	Naugatuck 1.7 NNE	2.72"
0110000512	Outlet Naugatuck River	CT-NH-22	Prospect 0.5 SW	2.87"
0110000513	Housatonic River - Frontal Long Island Sound	CT-FR-42	Monroe 0.1 SE	3.72"
0110000513	Housatonic River - Frontal Long Island Sound	CT-FR-23	Shelton 1.3 W	2.98"
0110000513	Housatonic River - Frontal Long Island Sound	CT-FR-46	Stratford 0.2 ESE	2.85"
0110000513	Housatonic River - Frontal Long Island Sound	CT-FR-55	Shelton 2.7 SSE	3.58"
01100006	Saugatuck			
0110000601	Saugatuck River - Frontal Long Island Sound	CT-FR-58	Ridgefield 3.6 N	2.90"
0110000602	Norwalk River - Frontal Norwalk Harbor	CT-FR-29	Ridgefield 1.9 SSE	3.27"
0110000602	Norwalk River - Frontal Norwalk Harbor	CT-FR-3	New Canaan 1.9 ENE	3.54"
0110000602	Norwalk River - Frontal Norwalk Harbor	CT-FR-25	Norwalk 2.9 NNW	3.39"
0110000603	Pequonnock River - Frontal Long Island Sound	CT-FR-20	Westport 2.5 ENE	3.17"
0110000603	Pequonnock River - Frontal Long Island Sound	CT-FR-60	Fairfield 1.5 NE	3.76"
0110000604	Mianus River-Rippowam River	CT-FR-50	Darien 2.8 NW	3.45"
0110000604	Mianus River-Rippowam River	CT-FR-35	Darien 1.8 ENE	3.32"
02020003	Hudson-Hoosic			
0202000306	Upper Hoosic River	MA-BE-18	North Adams 3.0 WNW	1.21"
02020006	Middle Hudson			
0202000603	Wynants Kill - Hudson River	NY-AB-21	NWS Albany	1.10"
02030203	Long Island Sound			
0203020300	Long Island Sound	NY-SF-114	Fishers Island 0.5 NE	3.11"

The opposite of what we encountered during this past summer. More precip in the southeast, least in the northwest.

For most stations, a below normal month of precip, averaging 3" for March.

Accumulated Precipitation (in)
March 01, 2019 to March 31, 2019



0.01 0.1 0.25 0.5 1 1.5 2 2.5 3 4 5 6 8

Stations from the following networks used: COOP, FAA, CoCoRaHS,
Midwestern Regional Climate Center
cli-MATE: MRCC Application Tools Environment
Generated at: 4/3/2019 9:30:57 PM CDT

“We do not live at the airport”

Do compare your monthly total to one of these airports, closest to you.

Our network does not use automated gauges. And we do not live at the airport!

Location	Station ID	March 2019 Precip	Mar departure from normal	Jan-Feb-Mar Precip	3 month departure from normal	Oct-Mar Precip	6 month departure from normal	Apr-Mar Precip	12 month departure from normal
White Plains NY	HPN	2.83"	-1.69"	9.79"	-1.50"	26.88"	2.89"	59.92"	10.57"
Danbury CT	DXR	2.55"	-1.55"	9.26"	-0.97"	26.07"	2.78"	55.47"	5.60"
New Haven CT	HVN	2.22"	-2.07"	8.99"	-1.38"	24.74"	2.59"	51.36"	4.25"
Meriden CT	MMK	2.91"	-1.38"	12.51"	2.14"	29.57"	7.42"	59.60"	12.49"
Hartford CT	HFD	2.11"	-1.46"	10.04"	0.67"	25.66"	4.96"	55.32"	11.72"
Willimantic CT	IJD	2.94"	-1.48"	10.29"	-0.56"	26.10"	2.22"	53.19"	4.77"
New London CT	GON	3.10"	-1.06"	12.01"	1.72"	21.83"	-0.36"	43.83"	-2.66"
Westerly RI	WST	3.49"	-1.34"	12.76"	1.54"	32.19"	8.77"	51.58"	4.19"
Newport RI	UUU	3.38"	-1.14"	12.21"	0.91"	31.63"	8.27"	51.10"	4.77"
New Bedford MA	EWB	3.09"	-1.79"	11.21"	-1.27"	30.20"	4.97"	49.59"	1.23"
Hyannis MA	HYA	4.15"	-0.82"	12.25"	-0.27"	29.70"	4.31"	45.45"	-2.24"
Nantucket MA	ACK	3.69"	-0.56"	10.29"	-0.29"	27.05"	4.32"	39.12"	-5.30"
Marthas Vineyard MA	MVY	3.67"	-0.91"	11.33"	0.19"	30.73"	7.13"	45.99"	0.83"
Taunton MA	TAN	2.88"	-2.23"	10.86"	-1.79"	31.25"	5.49"	55.89"	6.15"
Plymouth MA	PYM	2.97"	-2.28"	12.16"	-0.38"	31.93"	6.26"	56.13"	6.98"
Norwood MA	OWD	2.02"	-2.43"	9.22"	-1.91"	20.99"	-2.87"	49.33"	2.27"
Bedford MA	BED	2.37"	-1.88"	8.43"	-2.30"	24.04"	1.12"	48.04"	2.33"
Beverly MA	BVY	2.99"	-1.57"	9.78"	-1.42"	27.89"	4.71"	52.04"	5.86"
Lawrence MA	LWM	1.75"	-2.37"	5.47"	-4.32"	17.32"	-3.59"	39.43"	-3.73"
Fitchburg MA	FIT	1.94"	-2.44"	8.33"	-2.40"	25.11"	2.13"	58.55"	11.41"
Orange MA	ORE	1.42"	-2.06"	7.95"	-0.90"	22.55"	2.82"	56.02"	13.47"
Westfield MA	BAF	1.84"	-2.26"	8.73"	-1.46"	27.85"	5.36"	60.53"	12.14"
North Adams MA	AQW	1.05"	-2.50"	5.96"	-2.82"	16.71"	-4.15"	43.14"	-3.47"

Rulers of the Snow

A listing of 42 observers that reported precip, snow fall, and snow depth for all 31 daily reports this month. No NA's.

We are the Rulers of the Snow. We define where the snow is and where it is not. You are all encouraged to do the same. Find the 2nd page of the mobile app. Look further on the Daily Report form. Make a snow fall and snow depth measurement, if you can safely do so, ***all year round***.

There are no zeros like Snow Zeros for the next half of this year.

Station	Name	Mar 2019 Snowfall	Station	Name	Mar 2019 Snowfall
CT-TL-27	Willington 2.7 SE	21.4"	MA-MD-125	Tewksbury 3.6 SSE	14.5"
RI-PR-33	Greenville 0.7 NNW	20.1"	CT-MD-25	Middlefield 0.6 SE	13.8"
CT-TL-2	Staffordville 0.4 NNW	19.8"	MA-MD-12	Acton 1.3 SW	13.4"
MA-MD-88	Wayland 2.1 SSE	19.4"	MA-ES-4	Groveland 0.5 WSW	13.1"
MA-MD-7	Winchester 0.7 SE	18.3"	MA-ES-12	Boxford 2.4 S	12.9"
MA-NF-1	Norwood 1.3 NW	18.2"	CT-FR-9	Brookfield 3.3 SSE	12.2"
RI-PR-51	North Smithfield 0.6 S	18.1"	CT-LT-9	New Hartford Center 3.2 SW	11.8"
CT-WN-8	Moosup 1.7 NE	18.0"	CT-HR-8	North Granby 1.3 ENE	9.8"
CT-FR-3	New Canaan 1.9 ENE	17.7"	MA-MD-104	Littleton 2.8 NNW	9.8"
MA-MD-126	Melrose 0.5 NE	17.7"	CT-NL-6	New London 1.0 NNW	9.7"
MA-BR-55	NWS Boston/Norton 2.5 ESE	17.3"	MA-WR-8	Fitchburg 1.6 SSW	9.7"
MA-MD-52	Lexington 0.6 SW	17.2"	MA-FR-13	Conway 2.9 NW	9.6"
CT-FR-23	Shelton 1.3 W	16.4"	MA-FR-17	Buckland 1.8 ESE	9.3"
MA-PL-31	Bridgewater 1.8 SE	16.0"	CT-LT-15	Colebrook 1.0 NE	9.0"
MA-WR-44	Westminster 0.6 WSW	16.0"	CT-NL-22	Central Waterford 2.7 SSW	8.4"
CT-FR-25	Norwalk 2.9 NNW	15.6"	MA-HD-25	Ludlow 2.3 SW	8.0"
CT-MD-23	Higganum 0.7 N	15.6"	MA-FR-10	Conway 0.9 SW	7.5"
MA-MD-51	Maynard 0.7 ESE	15.5"	RI-WS-47	Westerly 0.8 WNW	7.5"
MA-ES-41	Danvers 0.8 ESE	15.4"	MA-FR-12	Sunderland 1.3 SE	7.2"
RI-KN-2	East Greenwich 2.3 ESE	15.1"	MA-BA-50	Falmouth 5.4 NNE	3.2"
CT-NL-10	Norwich 2.5 NNE	14.5"	MA-BA-76	Barnstable 0.7 NE	2.6"

From NWS Eastern Region. This graphic was included with a tweet, posted at the end of March. Top 5 highest snow fall totals by State for this snow season.

Recognize some of our stations in our three states? Sure enough, CoCoRaHS stations are included. Someone else is usually looking at your reports.

We are the Rulers of the Snow.

 Top 5 Highest 2018-2019 Snowfall Totals By State 							
Eastern US – As of March 28, 2019							
Connecticut		Maryland		New York		Rhode Island	
Norfolk CT	55.7"	Mountain Lake Park MD	75.5"	Redfield NY	236.4"	Harrisville RI	48.3"
Staffordville CT	50.3"	Mc Henry MD	74.0"	Osceola NY	235.2"	Greenville RI	47.5"
Colebrook CT	47.4"	Oakland MD	56.5"	Colden NY	220.7"	North Smithfield RI	43.7"
Bakersville CT	46.4"	Frostburg MD	54.2"	Hooker NY	213.4"	Coventry RI	40.2"
Warren CT	42.0"	Thurmont MD	49.7"	Perrysburg NY	194.7"	Cumberland Hill RI	36.5"
Delaware		Massachusetts		North Carolina		South Carolina	
Newark DE	24.1"	East Hawley MA	86.2"	Mount Mitchell NC	71.5"	Caesars Head SC	14.0"
Wilmington DE	20.5"	Rowe MA	85.3"	Beech Mountain NC	50.6"	Chesnee SC	7.5"
Newport DE	20.3"	Plainfield MA	66.4"	Blowing Rock NC	38.3"	Jocassee SC	7.0"
Hockessin DE	15.5"	Worthington MA	58.0"	Bakersville NC	37.8"	Cleveland SC	6.0"
Clayton DE	14.2"	Sterling MA	58.0"	Bethel NC	34.1"	Travelers Rest SC	5.0"
District of Columbia		New Hampshire		Ohio		Vermont	
Reagan National Airport	16.9"	Mount Washington NH	253.4"	Montville OH	67.6"	Averill VT	220.0"
Dalecarlia Reservoir	15.1"	Randolph NH	203.0"	Chardon OH	63.7"	Morgan VT	219.0"
National Arboretum	15.0"	Pittsburgh NH	188.3"	Madison OH	55.8"	Greensboro VT	204.3"
Georgia		New Jersey		Pennsylvania		Virginia	
Kite GA	9.0"	Highland Lakes NJ	42.8"	Hidden Valley PA	117.7"	Winchester VA	36.7"
Mountain City GA	6.0"	Blairstown NJ	39.1"	Laurel Summit PA	97.3"	Covington VA	35.2"
Germany Valley GA	4.3"	Andover NJ	38.3"	Chandlers Valley PA	89.5"	Elk Creek VA	33.5"
Clayton GA	3.1"	Sussex NJ	38.0"	Erie PA	89.1"	Purcellville VA	29.9"
Hiawassee GA	2.1"	Jefferson Township NJ	37.3"	Somerset PA	82.2"	Lexington VA	29.5"
Maine						West Virginia	
Van Buren ME	161.3"					Davis WV	101.2"
Caribou ME	153.9"					Snowshoe WV	100.2"
Fort Kent ME	148.2"					Canaan Valley WV	89.3"
Presque Isle ME	141.7"					Bayard WV	77.9"
Brassua Dam ME	139.3"					McRoss WV	68.0"

Data from various climate networks
 Including NWS climate stations, Cooperative
 Network Stations, and CoCoRaHS sites.
Data are very preliminary.

The colorized tale of the two halves of March. The cold half with snow.
The warm half with the snow retreating.

March 2019 as a calendar. A count of your Daily Reports by Date.
Magenta colors are for the highest counts. Lime green color for the lowest counts.

Our average was 286 Daily Reports per day.

March 2019

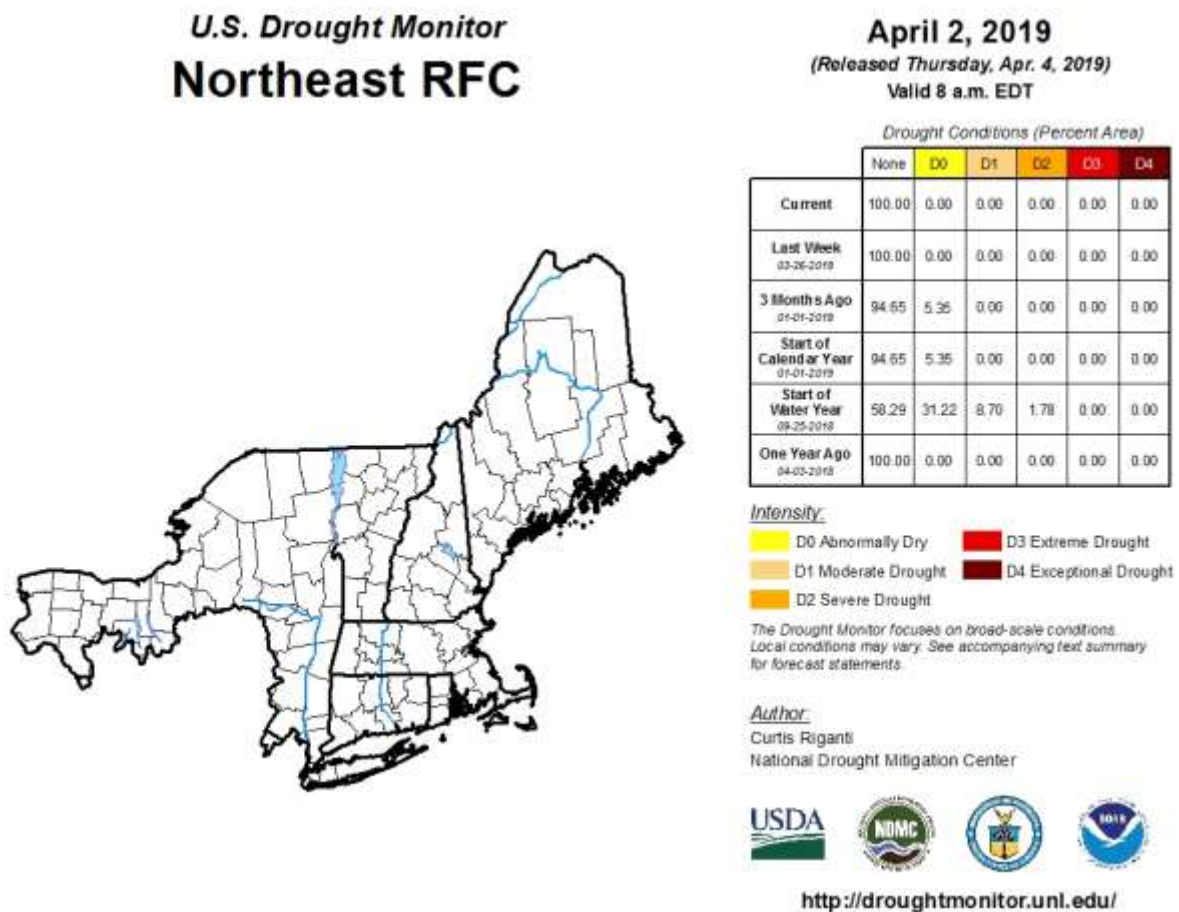
Sun	Mon	Tue	Wed	Thu	Fri	Sat
					284 ¹	270 ²
269 ³	286 ⁴	276 ⁵	285 ⁶	284 ⁷	286 ⁸	275 ⁹
270 ¹⁰	271 ¹¹	281 ¹²	275 ¹³	280 ¹⁴	278 ¹⁵	284 ¹⁶
285 ¹⁷	284 ¹⁸	294 ¹⁹	291 ²⁰	298 ²¹	308 ²²	297 ²³
292 ²⁴	293 ²⁵	300 ²⁶	293 ²⁷	292 ²⁸	297 ²⁹	301 ³⁰
298 ³¹						

From the Drought Monitor.

From here, the sun gets higher in the sky, evaporation becomes higher and this map will start to see different indications of drought.

More to be mentioned about [Condition Monitoring Reports](#) next month. Spring into making a report!

Every drop counts and zeros do too!



For a viewing explanation on the Drought Monitor, the CoCoRaHS animated video is on [YouTube](#).

Patriots Day

The holiday in Massachusetts, commemorating the Battles of Lexington and Concord, occurs this month. Robert Newman lit two lanterns and climbed 154 steps to place them in the belfry of the Old North Church. Paul Revere and William Dawes took separate routes as they rode on horseback to warn of the British advance.

A year later, Thomas Jefferson drafted the Declaration of Independence. John Hancock signed his name to the Declaration so large that King George would have little difficulty seeing it without his spectacles.

Jefferson was a weather buff. He carried a thermometer with him to Philadelphia and recorded the temperature several times a day.

As CoCoRaHS observers, we do not have lanterns, horses, or large signatures. Our records may not be as meticulous as Jefferson's, although Jefferson would be impressed with our Water Year Summaries.

Like the Patriots during our American Revolution, we are all volunteers bounded together by a common cause. We are part of a citizen-science project that warns others in real time with Significant Weather Reports and Hail Reports. No lanterns to light or 154 steps to climb.

We measure and report rain, hail and snow on a daily basis through the internet for so many to see and to make good use of. No need to get on horseback to get the word out or to send two riders to make certain of it.

We can make relevant and insightful comments with any of our reports, and with our Condition Monitoring Reports, so that any King, Drought Monitor, River or Weather Forecaster can see and read easily. Probably without wearing their spectacles!

As a part of Southern New England's CoCoRaHS, with whatever Patriot in mind that best fits your personality, press or click "Submit" on our reports with pride in our area's Patriot past. Thank you for all that you do for CoCoRaHS, whether in the past, present and in the days to come.