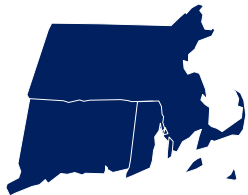




Southern



New England

November 2019

The pendulum of precipitation swung back the other way in October to start the new Water Year. After a dry August and September, the widespread rains returned, giving many of us a day to measure and report more than 1" of precip for a day.

The new Water Year begins with more broken Single Month reporting records. Congratulations to Connecticut and Massachusetts for breaking their Single Month reporting records, as well as our 3 state total now over 10,400 Daily Reports. Rhode Island broke their Single Month reporting record in August, and it took the other two states more time to catch up.

A single day reporting record broken. Our Rulers of the Snow segment has gotten longer, returning back to 57 stations listed. Please continue to make a snow fall and snow depth measurement with each of your Daily Reports.

Within this month's Newsletter: We lead off with The Grand List Observers. More observer tips, as the cold air comes in and snow cannot be that far away. A guide sheet, just released today. A new video to look at. And Joe joins us to tell us with an outlook for this upcoming winter.

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-BA-13 Falmouth 0.6 NNW

1000 Daily Reports

MA-HD-20 Wilbraham 3.7 SSW

MA-WR-54 Barre 1.4 NNE

CT-FR-46 Stratford 0.2 ESE

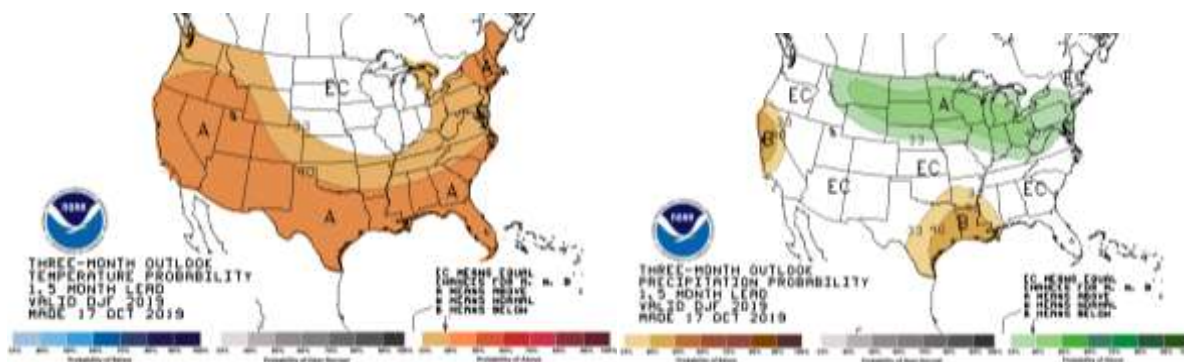
MA-PL-31 Bridgewater 1.8 SE

RI-PR-44 Cranston 4.2 ENE

Winter 2019-2020 Outlook

Courtesy Joe DelliCarpini MA State Coordinator MA-NF-1

I'm sure many of you are familiar with the winter outlook from the Climate Prediction Center (CPC) below. It's calling for above average temperatures and equal chances (maybe slightly above) for above, normal, or below average precipitation. So what does that mean and what do they look at to come up with this outlook?



CPC uses three categories for temperature and precipitation outlooks: Above Average, Equal Chances, and Below Average. What is average? For any particular location and season, these three categories are defined from the 30 observations from 1981 to 2010 (which is our current “climate normal” period). The coldest or driest 1/3 (10 years) define the “Below” category and the warmest or wettest 1/3 (10 years) define the “Above” category. The remaining 10 years in between define the “Normal” category.

Forecasters assign probabilities using [seasonal forecasting tools](#) such as numerical models, global weather patterns such as the El Nino-Southern Oscillation, and soil moisture analogs. When the forecasters decide that one of the extreme categories (“Above” or “Below”), they assign probabilities which exceed 33% to that category, and label the map with an “A” or “B” in the center of the region of enhanced probabilities. In regions where the forecasters have no forecast tools which favor the chance of

either “Above” or “Below”, the chance of these two categories is defined to be 33% each and the region is labeled “EC”, which stands for equal chances. Remember, these outlooks cover a 3-month period (December, January, and February) which define climatological winter and cover a large area. They don’t provide any information on seasonal snowfall, number of below freezing days, or other shorter-term trends.

In the Northeast, our weather patterns are largely driven by features which run in cycles of about 4 to 6 weeks at a time. One of these is the [North American Oscillation \(NAO\)](#). The NAO is a phenomenon in the North Atlantic Ocean which is the difference in pressure between Greenland and the Azores. It controls the strength and direction of the jetstream and ultimately the location of storm tracks across the North Atlantic. When the NAO is negative (higher pressure over the Azores), warmer weather tends to be favored. Conversely, when the NAO is positive (higher pressure over Greenland) colder and sometimes stormy weather is favored. Keep in mind the NAO is only one “piece of the puzzle” and other factors can have more of an effect. Changes in the NAO can usually be predicted up to 10 days ahead, so for the most part changes in our winter weather patterns can usually be seen up to two weeks in advance with any level of confidence. [CPC outlooks](#) for the next 6 to 10 days, 8 to 14 days, and weeks 3 to 4 can be more useful to see trends in our weather pattern, as opposed to the larger-scale seasonal outlooks.

Observer Tips

Focus on the Gauge Catch: The cold air is tightening its grip upon our area. When the snowflakes fly, the chances for reporting mistakes multiply so please be careful with all of your reported values.

Aside from it being dark, cold and windy when making snow measurements, being crunched for time is also a concern.

If you are crunched for time, remember this: **Focus on the Gauge Catch.** Find the **liquid contents** of what fell in your gauge and report that value, and **report that value as the 1st reported value**, as you do with your rainfall measurements throughout the year.

Two ways to find the liquid contents of your gauge.

- **Way #1)** Add in a measured quantity of hot tap water. Let the snow melt completely. Pour out and measure the contents of the water. SUBTRACT the measured quantity of hot tap water. The remaining amount is what you report in the 1st value on the reporting form.

For new snowfall less than 5", about 0.50" of hot tap water works well, and usually keeps the contents under 1.00"

For snow greater than 5", start with 1.00" of hot tap water. Continue to add additional measures of 1.00" until the snow completely melts. Pour. SUBTRACT. Report the remaining amount.

- **Way #2)** A weigh scale. You MUST know the tare weight of your outer cylinder (around 460g-480g), a label with its precise weight on its side or bottom helps. You MUST know the equivalent measure of water. In our 4" diameter gauges, that equivalent is 201g = 1" Got a scale that measures in pounds and ounces? Go for it. Be precise. Subtract the tare weight of the outer cylinder. Do the division of 201g:1". Report the liquid contents of your gauge.

Throughout the winter, keep the **Focus on the Gauge Catch.**

Snow & Sleet Reporting Form: Courtesy Steve Hilberg IL State Coordinator IL-CP-1



Reporting Snow and Sleet

My Data Entry : Daily Precipitation Report Form

Precipitation Report Form		Submit Data	Reset
Station Number : IL-CP-1			
Station Name : Homer 2.0 N			
* Denotes Required Field			
12/1/2015	* Observation Date ?		
7:00 AM	* Observation Time ?		
0.23 in.	* Rain and Melted Snow to the gauge during the past 24 hours		
Observation Notes: (This will be available to the public) ?			
Very little wind - good gauge catch.			
New Snowfall			
2.6 in.	Accumulation of new snow in inches to the nearest tenth ?		
0.25 in.	Melted value from core to the nearest hundredth ?		
Total Snow and Ice on Ground at Observation Time			
2.5 in.	Depth of total snow and ice (new and old) in inches to the nearest half inch ?		
NA in.	Melted value from core to the nearest hundredth ?		
Duration Information			
Precipitation Began			
Precipitation Ended			
Heaviest Precipitation Began			
Heaviest Precipitation Lasted			
These times are: Select Time Accuracy			

The depth of snow and/or sleet that fell in the past 24 hours measured on your snow board or flat, level surface is entered here.

Melt the frozen precip in the gauge and report it here. If you cannot melt or do not have a measurement, change to NA. Do not leave it as zero. Do not enter your snowfall here.

Comments are always helpful.

This is the water measured from a core of snow taken from your snow board. If you do not take a separate core leave this NA. Do not copy your precip into this field.

This the depth of snow and ice on the ground each day, whether or not any snow has fallen.

This is for the SWE of total on the ground, old plus new snow and ice.

For more instruction and detail on measuring and reporting snowfall, snow depth, and snow water equivalent (SWE) view the short training videos on the CoCoRaHS YouTube channel:

<https://www.youtube.com/user/cocorahs>

Android

Click this link to go to the snow data entry page

Be sure to fill in the fields in the mobile app according to the instructions on the previous page (web site).

iOS

Click "More Details" to go to the snow data entry page

Brush up on some videos: As we prepare to measure and report snow, now is good time to review a collection, a playlist of [videos](#) CoCoRaHS has put together on YouTube.

About 20 minutes to view all 8 videos. New or experienced in the network, it is always good to review videos about snowfall before the questions, mistakes, and doubt occurs with the first few snowfalls.

Have more time or interest? Here's a classic [video](#), featuring 8" diameter gauges and a younger version of Nolan. And two WxTalk Webinars, the very first [WxTalk Webinar](#), one about [NOHRSC](#), and another [webinar](#).

Significant Weather Reports: Our locale continues to lead and impress with these supplementary reports, alerting our area NWS Forecast Offices in real time with what is occurring. Report criteria are

- 1" or more of rain in 1 hour or less. 2" or more of rain.
- First 3" of new snowfall. Final total, if 6" or more of snow.
- Flooding.
- Anything you feel is significant.

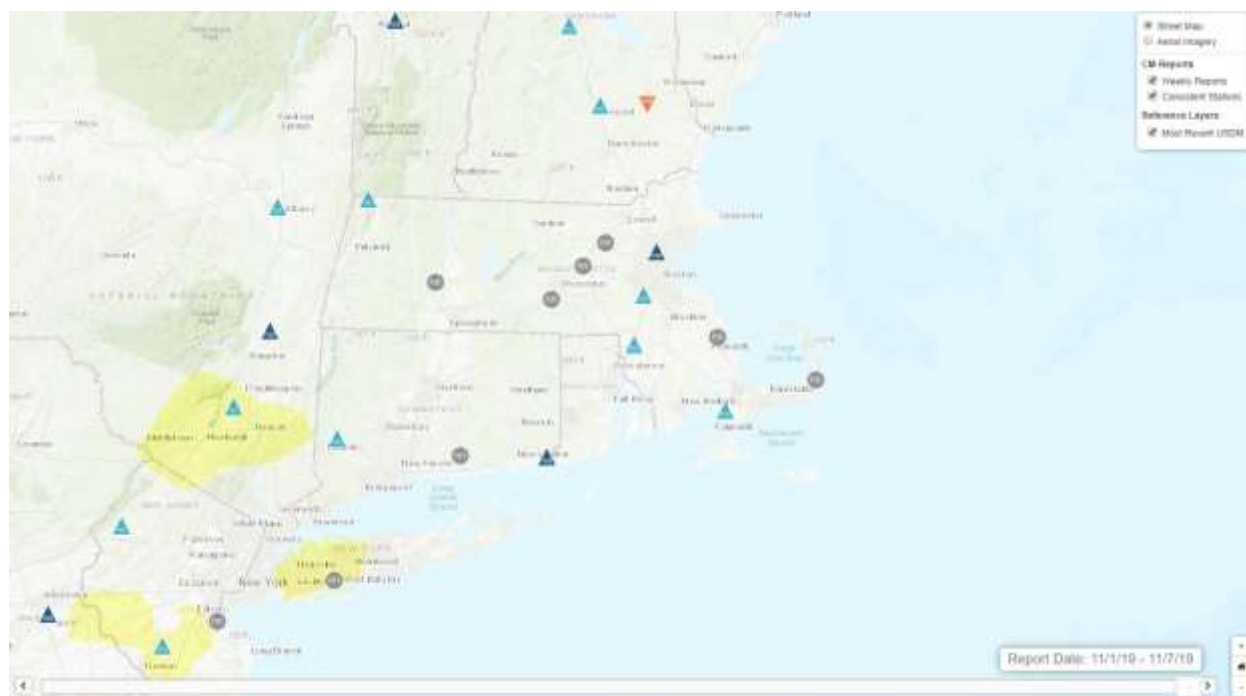
New Animated Video. Summarizing all of the reporting tools, all of the reporting dimensions of our network, comes in our latest 4 minute [video](#), released this week. Some of these dimensions are well known with the rain gauge and the snow ruler. Some of these dimensions are not so well known.

Your eyes and ears play an important role as an observer. Your typewritten words are valuable with the Comments on your precip reports, as well as the Comments on your Condition Monitoring, Hail, and Significant Weather Reports.

Hail pads are mentioned in the video. They are an important part of understanding Hail and are common where Hail is more frequent and more damaging. Hail is not that common here where a Hail pad is needed. Continue to fill out and submit a Hail Report if Hail occurs.

Condition Monitoring Reports: What a difference a month can make.

One report a week is all that we seek. Develop a reputation of being a Consistent Station by submitting over 20 reports in a 52-week timeframe.



nn Killingworth 2.6 ESE

Fri Nov 01 2019

Brooks are flowing and ponds are full once again.

CT-MD-21 -- General Awareness

nn Auburn 2.6 SW

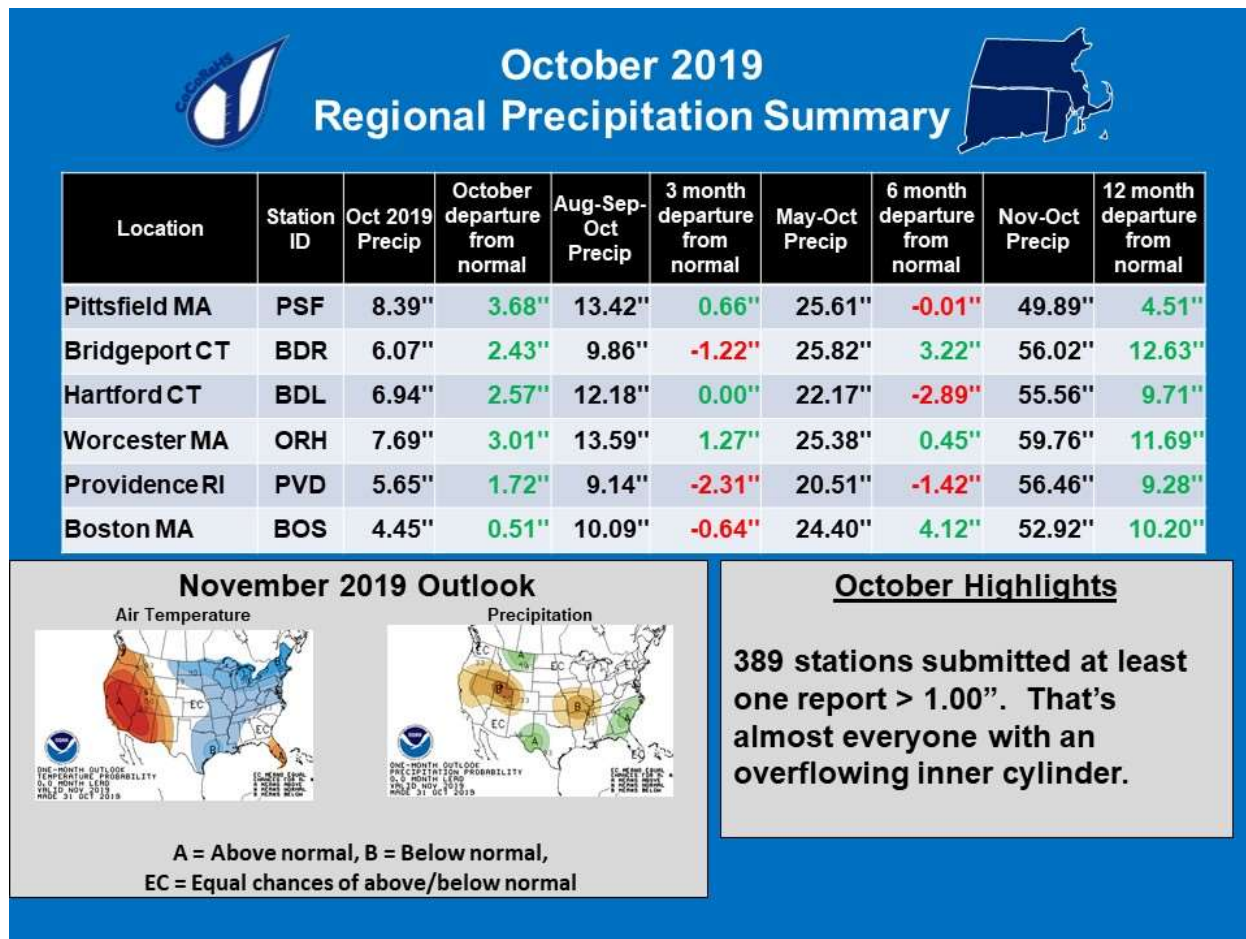
Sat Nov 02 2019

top layer of ground moist, water bodies higher than several weeks ago, grass growing slowly still.

MA-WR-41 -- General Awareness, Agriculture, Plants And Wildlife, Water Supply And Quality

Detail and Summary for October 2019

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



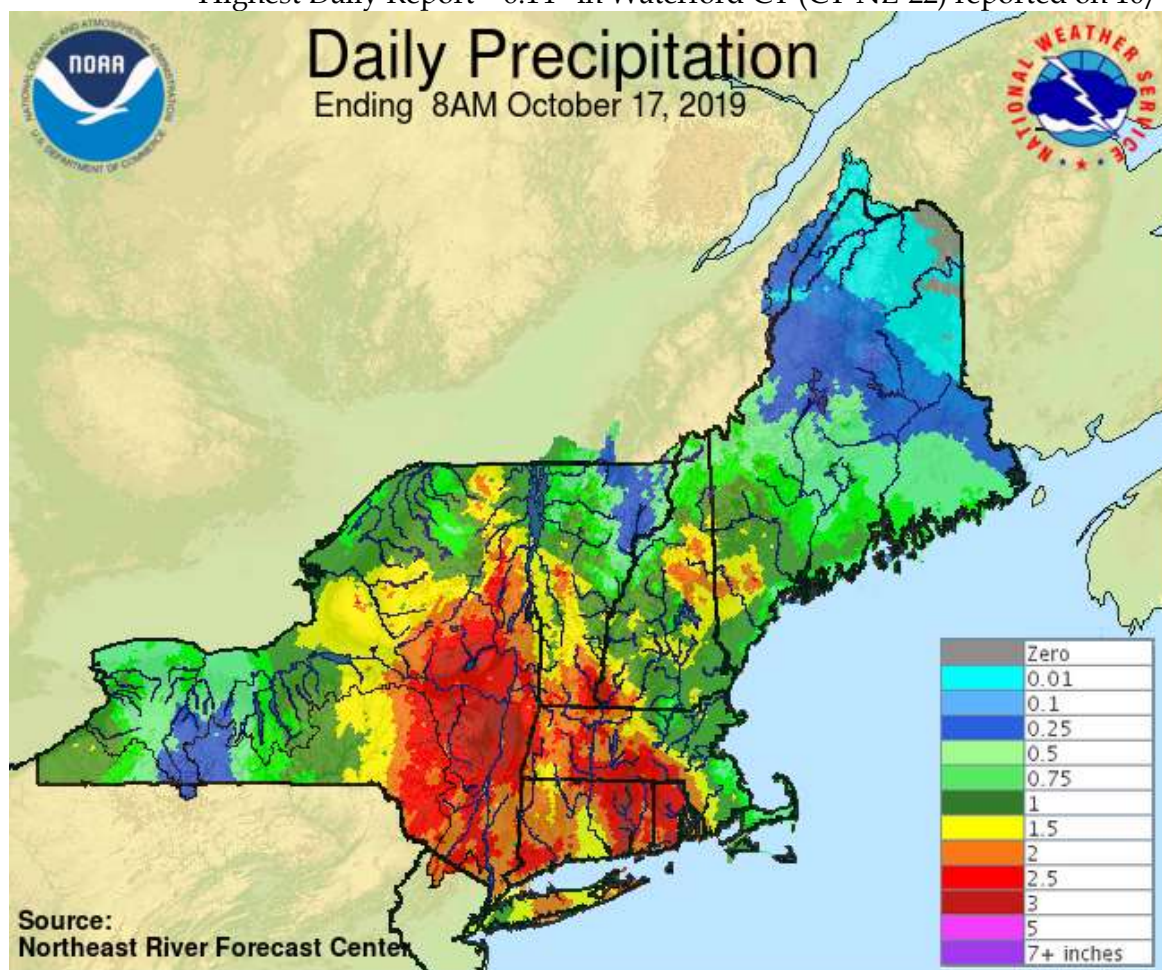
Widespread light rain with amounts less than ½", reported on the 4th. Heavier rains reported on the 8th and along the east end of Cape Cod, southeast CT and RI reported on the 10th. 1" and 2" rains reported in Plymouth County and Cape Cod on the 12th. The main event was on the 16th, noted on the map on the next page, with many stations getting over 1", most over 2", and a narrow band of 3"-6" rains.

Widespread light rain on the 21st. Rains heaviest in Franklin & Essex Counties on the 23rd. More 2" rain reported along the coastline of CT, RI and Martha's Vineyard on the 28th. Light rain to end the month on the 31st.

Take in the next section with appreciation of your efforts.

From your reports for October 2019

Observers reporting	407
Reported all 31 days	206
Completed by Multi-Day Reports	57
Missing 1 or 2 reports	50
Daily Reports	10402 !!!
Zero Reports	3998
Non-Zero Reports	6404
Daily Comments	1956
Multi-Day Reports	257
Condition Monitoring Reports	57
Significant Weather Reports	19
Hail Reports	1
Snowfall Reports	4831
Snow Depth Reports	2966
Highest Daily Report	6.14" in Waterford CT (CT-NL-22) reported on 10/17



Another long list. The generosity with Multi-Day Reports was limited with the rain reported on November 1. The calendar for next month does not look any better with Thanksgiving weekend spanning month-end November.

Measure and report every day, cover all days with a multi-day report, avoiding spanning the beginnings and the ends of the month with a multi-day report, and your station makes this list.

These next few pages take a few hours to put together on the night before the Newsletter is sent to you. When it's done, it does look great. You all should be proud of the efforts you make each month, to make this list look as complete and as representative as it does.

Watershed	Watershed Name	Station Number	Station Name	Precip
01070004	Nashua			
0107000401	North Nashua River	MA-WR-44	Westminster 0.6 WSW	7.25"
0107000401	North Nashua River	MA-WR-8	Fitchburg 1.6 SSW	5.63"
0107000401	North Nashua River	MA-WR-52	Fitchburg 2.3 N	6.47"
0107000401	North Nashua River	MA-WR-22	Fitchburg 2.0 NNE	7.03"
0107000402	Headwaters Nashua River	MA-WR-64	Sterling 3.7 WNW	7.14"
0107000402	Headwaters Nashua River	MA-WR-56	Sterling 4.3 NW	6.96"
0107000402	Headwaters Nashua River	MA-MD-25	Ayer 0.1 SW	5.71"
0107000403	Squannacook River	MA-MD-47	West Townsend 0.5 W	6.65"
0107000403	Squannacook River	MA-MD-36	Townsend 2.6 S	6.83"
01070005	Concord			
0107000501	Sudbury River	MA-MD-156	Marlborough 2.8 ENE	5.24"
0107000501	Sudbury River	MA-MD-89	Sudbury 3.6 W	5.79"
0107000502	Concord River	MA-WR-28	Berlin 1.3 WSW	6.76"
0107000502	Concord River	MA-WR-42	Northborough 2.3 N	6.21"
0107000502	Concord River	MA-MD-115	Hudson 1.4 NW	5.63"
0107000502	Concord River	MA-WR-55	Harvard 2.1 S	5.54"
0107000502	Concord River	MA-MD-12	Acton 1.3 SW	5.73"
0107000502	Concord River	MA-MD-51	Maynard 0.7 ESE	5.86"
0107000502	Concord River	MA-MD-62	Chelmsford 1.2 E	5.82"
0107000502	Concord River	MA-MD-34	Chelmsford 2.0 ENE	6.15"
01070006	Merrimack River			
0107000611	Spicket River	MA-ES-38	Methuen 1.6 NNE	5.86"

0107000612	Stony Brook - Merrimack River	MA-MD-104	Littleton 2.8 NNW	5.34"
0107000612	Stony Brook - Merrimack River	MA-MD-93	Westford 1.5 SSW	4.25"
0107000613	Shawsheen River	MA-MD-52	Lexington 0.6 SW	5.71"
0107000613	Shawsheen River	MA-MD-96	Lexington 0.3 NE	6.11"
0107000613	Shawsheen River	MA-ES-48	Andover 0.6 E	6.50"
0107000614	Powwow River - Merrimack River	MA-ES-20	Haverhill 0.7 N	6.21"
0107000614	Powwow River - Merrimack River	MA-ES-4	Groveland 0.5 WSW	6.89"
0107000614	Powwow River - Merrimack River	MA-ES-55	Groveland 0.8 S	6.76"
0107000614	Powwow River - Merrimack River	MA-ES-59	Amesbury 1.2 N	5.60"
0107000614	Powwow River - Merrimack River	MA-ES-56	Newburyport 1.0 ESE	5.66"
01080201	Middle Connecticut			
0108020106	Manhan River - Connecticut River	MA-HS-2	Westhampton 1.8 SW	6.98"
0108020106	Manhan River - Connecticut River	MA-HS-8	Williamsburg 1.2 WSW	5.90"
0108020106	Manhan River - Connecticut River	MA-HS-26	Easthampton 0.5 SW	5.66"
0108020106	Manhan River - Connecticut River	MA-HS-12	Northampton 0.4 S	5.14"
0108020106	Manhan River - Connecticut River	MA-FR-12	Sunderland 1.3 SE	5.12"
0108020107	Batchelor Brook - Connecticut River	MA-HD-13	Springfield 4.1 W	6.80"
0108020107	Batchelor Brook - Connecticut River	MA-HD-23	Springfield 2.5 WNW	5.82"
01080202	Miller			
0108020201	Upper Millers River	NH-CH-20	Rindge 3.2 ESE	6.43"
0108020202	Lower Millers River	MA-WR-40	Gardner 1.4 SSW	6.88"
01080203	Deerfield			
0108020303	North River	MA-FR-31	Colrain 3.7 WNW	6.86"
0108020305	Lower Deerfield River	MA-FR-22	Ashfield 1.4 NE	6.13"
0108020305	Lower Deerfield River	MA-FR-17	Buckland 1.8 ESE	7.22"
0108020305	Lower Deerfield River	MA-FR-13	Conway 2.9 NW	6.88"
0108020305	Lower Deerfield River	MA-FR-25	Conway 2.7 NW	6.77"
0108020305	Lower Deerfield River	MA-FR-10	Conway 0.9 SW	6.71"
01080204	Chicopee			
0108020401	Swift River	MA-FR-8	New Salem 3.1 S	5.38"
0108020402	Ware River	MA-WR-54	Barre 1.4 NNE	6.43"
0108020403	Quaboag River	MA-WR-75	Warren 2.4 WSW	6.91"
0108020403	Quaboag River	MA-WR-63	Rutland 3.1 SW	6.91"
0108020404	Chicopee River	MA-HD-25	Ludlow 2.3 SW	6.12"
01080205	Lower Connecticut			
0108020501	Mill River - Connecticut River	CT-HR-57	Suffield Depot 3.3 NNE	6.81"
0108020501	Mill River - Connecticut River	CT-HR-5	Enfield 1.5 SE	5.94"
0108020502	Scantic River	CT-TL-15	Central Somers 0.3 N	6.09"
0108020503	Park River	CT-HR-39	Farmington 1.6 SW	7.93"
0108020503	Park River	CT-HR-85	West Hartford 2.3 NNE	6.33"
0108020503	Park River	CT-HR-53	Hartford 2.0 SW	6.07"

0108020504	Hockanum River	CT-HR-52	Central Manchester 0.8 N	4.83"
0108020504	Hockanum River	CT-TL-19	Vernon 2.8 N	5.51"
0108020505	Roaring Brook - Connecticut River	CT-HR-6	Wethersfield 1.2 WSW	5.76"
0108020505	Roaring Brook - Connecticut River	CT-HR-68	Rocky Hill 1.3 E	5.63"
0108020505	Roaring Brook - Connecticut River	CT-HR-22	East Hartford 1.3 E	5.56"
0108020505	Roaring Brook - Connecticut River	CT-HR-7	Central Manchester 2.7 SW	5.67"
0108020506	Mattabesset River	CT-HR-15	Southington 3.0 E	7.75"
0108020506	Mattabesset River	CT-HR-80	Kensington 0.7 WSW	7.38"
0108020506	Mattabesset River	CT-HR-65	Newington 1.9 SSW	6.24"
0108020506	Mattabesset River	CT-MD-25	Middlefield 0.6 SE	6.48"
0108020506	Mattabesset River	CT-MD-24	Durham 1.2 W	6.02"
0108020507	Higganum Creek - Connecticut River	CT-MD-23	Higganum 0.7 N	5.82"
0108020507	Higganum Creek - Connecticut River	CT-MD-26	Higganum 0.8 NE	5.44"
0108020508	Salmon River	CT-TL-29	Hebron 1.6 SW	5.21"
0108020509	Eightmile River - Connecticut River	CT-MD-19	Ivoryton 0.9 WSW	7.49"
0108020509	Eightmile River - Connecticut River	CT-NL-44	Old Lyme 0.5 W	6.36"
01080206	Westfield			
0108020601	Headwaters Westfield River	MA-HS-7	Plainfield 2.2 SW	6.77"
0108020603	Outlet Westfield River	MA-HD-28	Westfield 2.8 SE	6.44"
01080207	Farmington			
0108020701	Still River	CT-LT-15	Colebrook 1.0 NE	7.16"
0108020702	West Branch Farmington River	MA-BE-4	Becket 5.6 SSW	8.05"
0108020702	West Branch Farmington River	CT-LT-18	New Hartford Center 1.5 N	6.24"
0108020704	Headwaters Farmington River	CT-LT-9	New Hartford Center 3.2 SW	6.80"
0108020704	Headwaters Farmington River	CT-HR-70	Canton 1.5 W	7.11"
0108020704	Headwaters Farmington River	CT-HR-28	North Canton 0.8 SSW	6.66"
0108020705	Salmon Brook	CT-HR-60	North Granby 0.7 N	6.33"
0108020705	Salmon Brook	CT-HR-8	North Granby 1.3 ENE	6.85"
0108020706	Outlet Farmington River	CT-HR-35	Weatogue 0.7 E	6.68"
01090001	Charles			
0109000101	Plum Island Sound - Frontal Atlantic Ocean	MA-ES-19	West Newbury 1.8 SSE	6.34"
0109000101	Plum Island Sound - Frontal Atlantic Ocean	MA-ES-24	Newburyport 0.8 SW	5.74"
0109000102	Ipswich River	MA-MD-85	Wilmington 2.2 WNW	6.18"
0109000102	Ipswich River	MA-MD-125	Tewksbury 3.6 SSE	5.53"
0109000102	Ipswich River	MA-MD-45	Wilmington 1.5 NE	6.33"
0109000102	Ipswich River	MA-ES-58	Middleton 1.4 SSW	6.67"
0109000102	Ipswich River	MA-ES-12	Boxford 2.4 S	6.26"
0109000102	Ipswich River	MA-ES-2	Beverly 2.8 NW	4.98"
0109000103	Essex River - Frontal Atlantic Ocean	MA-ES-41	Danvers 0.8 ESE	6.26"
0109000104	Saugus River - Frontal Broad Sound	MA-MD-81	Wakefield 0.5 NNW	5.28"
0109000104	Saugus River - Frontal Broad Sound	MA-MD-126	Melrose 0.5 NE	5.55"

0109000104	Saugus River - Frontal Broad Sound	MA-ES-45	Nahant 0.4 N	4.90"
0109000104	Saugus River - Frontal Broad Sound	MA-ES-8	Marblehead 0.8 SW	5.15"
0109000105	Mystic River - Frontal Boston Harbor	MA-MD-123	Lexington 1.3 SE	5.94"
0109000105	Mystic River - Frontal Boston Harbor	MA-MD-7	Winchester 0.7 SE	6.60"
0109000105	Mystic River - Frontal Boston Harbor	MA-MD-44	Medford 1.2 W	6.16"
0109000105	Mystic River - Frontal Boston Harbor	MA-MD-11	Cambridge 0.9 NNW	6.24"
0109000105	Mystic River - Frontal Boston Harbor	MA-SF-10	Chelsea 0.8 N	6.22"
0109000106	Upper Charles River	MA-WR-1	Milford 2.3 NNW	5.86"
0109000106	Upper Charles River	MA-MD-106	Holliston 2.4 W	6.26"
0109000106	Upper Charles River	MA-MD-55	Holliston 0.7 W	5.76"
0109000106	Upper Charles River	MA-MD-42	Holliston 0.8 S	5.57"
0109000106	Upper Charles River	MA-MD-158	Sherborn 1.1 NW	5.93"
0109000107	Lower Charles River - Frontal Boston Harbor	MA-MD-120	Natick 1.9 NNE	6.11"
0109000107	Lower Charles River - Frontal Boston Harbor	MA-MD-80	Lincoln 1.5 SW	5.24"
0109000107	Lower Charles River - Frontal Boston Harbor	MA-MD-71	Newton 2.2 NNW	3.80"
0109000107	Lower Charles River - Frontal Boston Harbor	MA-MD-119	Watertown 1.1 W	6.25"
0109000107	Lower Charles River - Frontal Boston Harbor	MA-MD-134	Somerville 0.5 SSE	5.72"
0109000107	Lower Charles River - Frontal Boston Harbor	MA-SF-1	Boston 0.5 WSW	4.66"
0109000108	Neponset River - Frontal Boston Harbor	MA-NF-1	Norwood 1.3 NW	5.15"
0109000109	Whitmans Pond - Frontal Boston Harbor	MA-NF-32	Quincy 1.8 WSW	4.75"
0109000109	Whitmans Pond - Frontal Boston Harbor	MA-NF-39	Weymouth 2.3 N	5.75"
0109000109	Whitmans Pond - Frontal Boston Harbor	MA-PL-36	Hingham 0.8 ESE	5.63"
01090002	Cape Cod			
0109000201	North River - Frontal Massachusetts Bay	MA-PL-5	Kingston 3.3 WNW	8.04"
0109000201	North River - Frontal Massachusetts Bay	MA-PL-30	Duxbury 3.7 W	7.73"
0109000201	North River - Frontal Massachusetts Bay	MA-PL-48	Marshfield 1.5 NNW	6.39"
0109000201	North River - Frontal Massachusetts Bay	MA-PL-47	Plymouth 1.1 NNW	7.46"
0109000201	North River - Frontal Massachusetts Bay	MA-PL-2	Sagamore Beach 1.0 NW	7.17"
0109000202	Cape Cod	MA-BA-2	Falmouth 3.1 NNW	7.15"
0109000202	Cape Cod	MA-BA-13	Falmouth 0.6 NNW	7.25"
0109000202	Cape Cod	MA-BA-50	Falmouth 5.4 NNE	6.51"
0109000202	Cape Cod	MA-BA-17	East Falmouth 1.2 WNW	5.48"
0109000202	Cape Cod	MA-BA-19	East Falmouth 0.7 NW	7.32"
0109000202	Cape Cod	MA-BA-3	Falmouth 3.0 E	6.77"
0109000202	Cape Cod	MA-BA-11	East Falmouth 1.4 ESE	6.55"
0109000202	Cape Cod	MA-BA-18	Waquoit 0.6 SSW	7.35"
0109000202	Cape Cod	MA-BA-47	Mashpee 2.4 WSW	8.22"
0109000202	Cape Cod	MA-BA-45	Sandwich 0.9 NNE	5.38"
0109000202	Cape Cod	MA-BA-79	Mashpee 0.8 SSW	7.62"
0109000202	Cape Cod	MA-BA-78	Mashpee 4.6 S	7.32"
0109000202	Cape Cod	MA-BA-10	East Sandwich 2.3 SE	6.84"

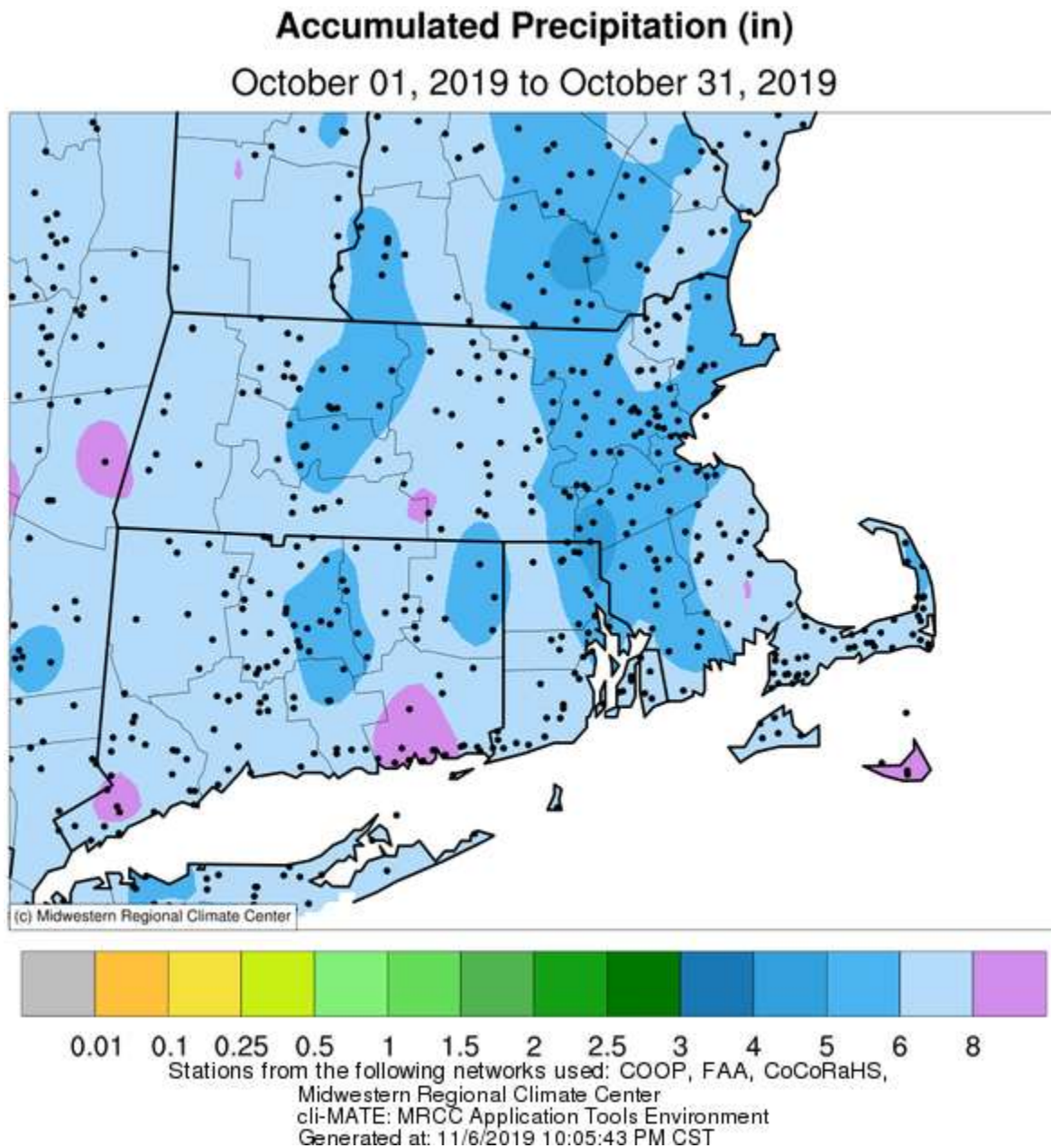
0109000202	Cape Cod	MA-BA-59	Barnstable 3.6 W	7.05"
0109000202	Cape Cod	MA-BA-76	Barnstable 0.7 NE	6.85"
0109000202	Cape Cod	MA-BA-22	Yarmouth 0.9 NNW	7.54"
0109000202	Cape Cod	MA-BA-72	Yarmouth 2.0 S	6.96"
0109000202	Cape Cod	MA-BA-77	South Dennis 1.0 NW	7.56"
0109000202	Cape Cod	MA-BA-80	Brewster 1.4 W	7.50"
0109000202	Cape Cod	MA-BA-52	Truro 0.8 E	6.71"
0109000202	Cape Cod	MA-BA-27	Wellfleet 0.7 NW	5.78"
0109000202	Cape Cod	MA-BA-36	Harwich 2.6 ENE	7.87"
0109000202	Cape Cod	MA-BA-37	Orleans 0.8 W	4.93"
0109000202	Cape Cod	MA-BA-42	Orleans 1.8 S	6.92"
0109000202	Cape Cod	MA-BA-51	Orleans 3.0 S	8.12"
0109000202	Cape Cod	MA-BA-12	Orleans 1.1 E	6.25"
0109000203	Mattapoisett River - Frontal Buzzards Bay	MA-BA-64	Sandwich 1.5 SSE	7.04"
0109000204	Paskamanset River - Frontal Buzzards Bay	MA-BR-14	Dartmouth 2.5 SSW	7.26"
0109000204	Paskamanset River - Frontal Buzzards Bay	MA-BR-52	New Bedford 4.3 N	4.26"
0109000205	Sakonnet Point - Frontal Rhode Island Sound	RI-NW-5	Little Compton 1.7 NW	7.54"
0109000205	Sakonnet Point - Frontal Rhode Island Sound	RI-NW-17	Tiverton 4.4 SSE	6.74"
0109000205	Sakonnet Point - Frontal Rhode Island Sound	RI-NW-7	Little Compton 0.6 E	7.25"
0109000205	Sakonnet Point - Frontal Rhode Island Sound	MA-BR-37	Westport 0.9 ESE	6.07"
0109000206	Elizabeth Islands - Marthas Vineyard	MA-DK-5	West Tisbury 2.9 N	8.26"
0109000206	Elizabeth Islands - Marthas Vineyard	MA-DK-9	West Tisbury 0.4 S	8.01"
0109000206	Elizabeth Islands - Marthas Vineyard	MA-DK-2	Vineyard Haven 0.8 WSW	7.12"
0109000207	Nantucket Island	MA-NT-1	Nantucket 3.8 WNW	8.65"
01090003	Blackstone			
0109000301	Upper Blackstone River	MA-WR-41	Auburn 2.6 SW	7.19"
0109000301	Upper Blackstone River	MA-WR-43	Leicester 2.4 ESE	7.16"
0109000301	Upper Blackstone River	MA-WR-76	Worcester 1.7 N	6.40"
0109000301	Upper Blackstone River	MA-WR-70	Grafton 1.5 W	6.53"
0109000301	Upper Blackstone River	MA-WR-69	Northbridge 1.7 WNW	4.74"
0109000302	Lower Blackstone River	RI-PR-50	Harrisville 1.2 SSE	6.51"
0109000302	Lower Blackstone River	RI-PR-28	North Smithfield 0.7 SE	6.19"
0109000302	Lower Blackstone River	RI-PR-63	Woonsocket 1.5 NW	5.44"
0109000302	Lower Blackstone River	MA-NF-26	Bellingham 2.4 S	5.17"
0109000302	Lower Blackstone River	RI-PR-55	Cumberland Hill 3.6 NNE	4.51"
01090004	Narragansett			
0109000401	Upper Taunton River	MA-BR-30	Taunton 3.9 N	5.29"
0109000401	Upper Taunton River	MA-NF-31	Stoughton 1.2 E	5.58"
0109000401	Upper Taunton River	MA-PL-15	Abington 1.2 NNE	5.68"
0109000401	Upper Taunton River	MA-PL-23	Pembroke 2.8 SW	6.96"
0109000402	Middle Taunton River	MA-PL-31	Bridgewater 1.8 SE	6.14"

0109000402	Middle Taunton River	MA-PL-17	Plympton 0.9 NNE	5.49"
0109000403	Threemile River	MA-NF-19	Foxborough 1.8 SSW	5.14"
0109000403	Threemile River	MA-BR-55	NWS Boston/Norton 2.5 ESE	4.96"
0109000403	Threemile River	MA-BR-9	Taunton 2.6 NW	5.34"
0109000404	Ten Mile River	MA-BR-23	Attleboro 0.9 ENE	5.01"
0109000405	Wonnasquatucket River-Moshassuck River	RI-PR-33	Greenville 0.7 NNW	6.47"
0109000405	Woonasquatucket River-Moshassuck River	RI-PR-51	North Smithfield 0.6 S	6.28"
0109000405	Woonasquatucket River-Moshassuck River	RI-PR-53	Providence 1.7 N	4.11"
0109000406	Pawtuxet River	RI-KN-25	Coventry 2.7 WSW	6.55"
0109000406	Pawtuxet River	RI-KN-21	Coventry 1.9 NE	6.71"
0109000406	Pawtuxet River	RI-PR-57	Cranston 1.2 SSE	5.84"
0109000406	Pawtuxet River	RI-PR-17	Cranston 4.1 E	5.45"
0109000407	Palmer River	MA-BR-2	Rehoboth 2.1 N	5.76"
0109000408	Lower Taunton River - Frontal Mount Hope Bay	MA-BR-3	Norton 1.8 NNE	5.54"
0109000408	Lower Taunton River - Frontal Mount Hope Bay	MA-BR-16	Somerset 0.4 SSE	6.38"
0109000408	Lower Taunton River - Frontal Mount Hope Bay	MA-BR-58	Dighton 3.3 NNW	5.92"
0109000408	Lower Taunton River - Frontal Mount Hope Bay	MA-BR-8	Dighton 1.1 WSW	6.32"
0109000409	Narragansett Bay	RI-WS-54	North Kingstown 2.7 WSW	7.94"
0109000409	Narragansett Bay	RI-KN-2	East Greenwich 2.3 ESE	5.84"
0109000409	Narragansett Bay	RI-PR-67	Providence 1.6 NE	5.09"
0109000409	Narragansett Bay	RI-NW-18	Jamestown 0.3 SSE	6.56"
0109000409	Narragansett Bay	RI-BR-5	Barrington 1.3 WNW	5.37"
0109000409	Narragansett Bay	RI-NW-4	Middletown 1.1 SW	5.07"
0109000409	Narragansett Bay	RI-NW-16	Portsmouth 1.3 S	5.63"
0109000409	Narragansett Bay	RI-NW-11	Tiverton 0.8 SSW	6.55"
0109000409	Narragansett Bay	RI-NW-20	Tiverton 1.0 SSW	6.43"
01090005	Pawcatuck-Wood			
0109000502	Upper Pawcatuck River	RI-WS-42	Richmond 4.6 NNE	7.07"
0109000502	Upper Pawcatuck River	RI-WS-45	Charlestown 4.7 NNE	7.65"
0109000502	Upper Pawcatuck River	RI-WS-37	Kingston 2.4 SW	6.98"
0109000503	Lower Pawcatuck River	CT-NL-40	Pawcatuck 1.8 SSE	8.14"
0109000503	Lower Pawcatuck River	RI-WS-30	Westerly 2.4 NNW	8.16"
0109000503	Lower Pawcatuck River	RI-WS-47	Westerly 0.8 WNW	8.69"
0109000504	Frontal Block Island Sound	RI-WS-36	Charlestown 3.0 WSW	8.29"
0109000504	Frontal Block Island Sound	RI-WS-53	Charlestown 0.7 SE	5.41"
0109000504	Frontal Block Island Sound	RI-WS-55	Wakefield 0.8 ENE	7.71"
01100001	Quinebaug			
0110000102	French River	MA-WR-68	Oxford 0.9 SSW	5.60"
0110000105	Moosup River	CT-WN-8	Moosup 1.7 NE	5.70"
0110000106	Pachaug River	CT-NL-21	Griswold 0.9 N	5.92"
01100002	Shetucket			

0110000201	Willimantic River	CT-TL-18	Hebron 5.3 NW	5.67"
0110000201	Willimantic River	CT-TL-28	South Coventry 1.2 NNW	6.73"
0110000201	Willimantic River	CT-TL-24	Stafford Springs 0.8 NE	4.92"
0110000201	Willimantic River	CT-TL-2	Staffordville 0.4 NNW	6.83"
0110000202	Natchaug River	CT-TL-27	Willington 2.7 SE	6.65"
0110000202	Natchaug River	CT-TL-30	Mansfield Center 2.7 NE	6.11"
0110000202	Natchaug River	CT-WN-12	Eastford 2.0 W	7.08"
0110000203	Shetucket River	CT-NL-10	Norwich 2.5 NNE	8.26"
01100003	Thames			
0110000302	Thames River-Frontal New London Harbor	CT-NL-6	New London 1.0 NNW	9.98"
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-38	Old Lyme 3.4 ESE	9.00"
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-29	East Lyme 0.5 SW	11.17"
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-32	Niantic 1.1 SW	9.40"
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-22	Central Waterford 2.7 SSW	11.78"
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-24	Stonington 1.4 NNW	7.86"
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-18	Stonington 0.5 NNE	7.64"
01100004	Quinnipiac			
0110000401	Quinnipiac River	CT-NH-14	Prospect 1.9 ENE	7.92"
0110000401	Quinnipiac River	CT-HR-55	Southington 1.7 WNW	7.43"
0110000401	Quinnipiac River	CT-HR-83	Plainville 1.7 SW	7.56"
0110000401	Quinnipiac River	CT-HR-23	Southington 0.9 SSE	7.25"
0110000401	Quinnipiac River	CT-HR-76	Southington 1.0 ENE	5.80"
0110000401	Quinnipiac River	CT-NH-44	Wallingford Center 1.9 WNW	7.61"
0110000401	Quinnipiac River	CT-NH-43	Wallingford Center 3.3 NNW	6.93"
0110000401	Quinnipiac River	CT-NH-42	Wallingford Center 1.1 N	6.95"
0110000402	Hammonasset River - Frontal Long Island Sound	CT-NH-50	Madison Center 4.1 N	7.40"
0110000402	Hammonasset River - Frontal Long Island Sound	CT-MD-21	Killingworth 2.6 ESE	7.04"
0110000402	Hammonasset River - Frontal Long Island Sound	CT-MD-27	Clinton 3.7 N	7.59"
0110000403	Mill River - Frontal Long Island Sound	CT-NH-16	Milford 1.8 E	7.86"
0110000403	Mill River - Frontal Long Island Sound	CT-NH-57	New Haven 2.9 NNW	8.49"
01100005	Housatonic			
0110000501	Headwaters Housatonic River	MA-BE-11	Great Barrington 3.0 N	7.60"
0110000501	Headwaters Housatonic River	MA-BE-3	Stockbridge .2 NNE	6.97"
0110000501	Headwaters Housatonic River	MA-BE-10	Pittsfield 2.0 NNW	7.32"
0110000503	Konkapot River-Housatonic River	CT-LT-28	Canaan 4.2 ESE	8.47"
0110000504	Macedonia Brook - Housatonic River	CT-LT-20	Warren 2.4 WNW	7.16"
0110000506	Candlewood Lake-Housatonic River	CT-LT-22	New Milford 5.3 SSW	6.96"
0110000508	Still River - Housatonic River	CT-FR-43	Bethel 0.5 E	7.58"
0110000508	Still River - Housatonic River	CT-FR-9	Brookfield 3.3 SSE	6.69"
0110000511	Headwaters Naugatuck River	CT-LT-7	Litchfield 2.3 NNE	6.70"
0110000512	Outlet Naugatuck River	CT-NH-47	Seymour 1.5 NE	6.95"

0110000512	Outlet Naugatuck River	CT-NH-45	Naugatuck 1.7 NNE	6.71"
0110000512	Outlet Naugatuck River	CT-NH-22	Prospect 0.5 SW	7.15"
0110000513	Housatonic River - Frontal Long Island Sound	CT-FR-42	Monroe 0.1 SE	8.22"
0110000513	Housatonic River - Frontal Long Island Sound	CT-FR-23	Shelton 1.3 W	7.64"
01100006	Saugatuck			
0110000601	Saugatuck River - Frontal Long Island Sound	CT-FR-64	Bethel 4.5 SSE	7.62"
0110000602	Norwalk River - Frontal Norwalk Harbor	CT-FR-59	New Canaan 3.8 N	8.45"
0110000602	Norwalk River - Frontal Norwalk Harbor	CT-FR-29	Ridgefield 1.9 SSE	8.14"
0110000602	Norwalk River - Frontal Norwalk Harbor	CT-FR-3	New Canaan 1.9 ENE	9.58"
0110000602	Norwalk River - Frontal Norwalk Harbor	CT-FR-25	Norwalk 2.9 NNW	9.31"
0110000603	Pequonnock River - Frontal Long Island Sound	CT-FR-20	Westport 2.5 ENE	8.58"
0110000603	Pequonnock River - Frontal Long Island Sound	CT-FR-60	Fairfield 1.5 NE	6.66"
0110000603	Pequonnock River - Frontal Long Island Sound	CT-FR-57	Trumbull 0.9 W	5.05"
0110000603	Pequonnock River - Frontal Long Island Sound	CT-FR-26	Stratford 0.9 W	7.92"
0110000604	Mianus River-Rippowam River	CT-FR-50	Darien 2.8 NW	8.16"
02020003	Hudson-Hoosic			
0202000306	Upper Hoosic River	MA-BE-18	North Adams 3.0 WNW	6.51"
02020006	Middle Hudson			
0202000603	Wynants Kill - Hudson River	NY-AB-21	NWS Albany	7.44"
02030203	Long Island Sound			
0203020300	Long Island Sound	NY-SF-114	Fishers Island 0.5 NE	8.25"

Pink dots for over 8" Darker shades of blue for over 5" which most stations received



“We do not live at the airport”

See for yourself by comparing your station to any one of these.

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

Location	Station ID	Oct 2019 Precip	Oct departure from normal	August-Sep-Oct Precip	3 month departure from normal	May-Oct Precip	6 month departure from normal	Nov-Oct Precip	12 month departure from normal
White Plains NY	HPN	8.28"	3.87"	11.71"	-1.58"	28.25"	2.88"	55.39"	6.04"
Danbury CT	DXR	7.86"	3.15"	10.25"	-3.30"	21.96"	-5.09"	50.43"	0.56"
New Haven CT	HVN	6.55"	2.31"	10.93"	-1.63"	24.94"	0.18"	52.01"	4.90"
Meriden CT	MMK	7.41"	3.17"	13.54"	0.98"	20.58"	-4.18"	53.42"	6.31"
Hartford CT	HFD	5.74"	1.60"	15.26"	3.98"	26.81"	3.65"	54.61"	11.01"
Willimantic CT	IJD	5.79"	1.34"	12.51"	0.08"	21.73"	-2.83"	49.90"	1.48"
New London CT	GON	7.73"	3.87"	12.45"	0.43"	27.87"	4.12"	55.97"	9.48"
Westerly RI	WST	7.49"	3.57"	13.32"	1.33"	30.51"	7.26"	63.34"	15.95"
Newport RI	UUU	6.05"	2.22"	9.85"	-1.61"	24.48"	2.23"	55.15"	8.82"
New Bedford MA	EWB	3.96"	-0.17"	8.82"	-2.98"	20.88"	-1.88"	48.02"	-0.34"
Hyannis MA	HYA	6.52"	2.41"	11.41"	-0.20"	24.61"	2.71"	53.78"	6.09"
Nantucket MA	ACK	8.42"	4.50"	#VALUE!	-1.52"	19.43"	-2.44"	45.71"	1.29"
Marthas Vineyard MA	MVY	6.90"	2.83"	13.38"	1.13"	24.46"	2.67"	53.32"	8.16"
Taunton MA	TAN	5.57"	1.28"	8.79"	-3.90"	20.61"	-3.05"	52.21"	2.47"
Plymouth MA	PYM	9.42"	5.34"	14.57"	2.78"	31.13"	8.21"	62.86"	13.71"
Norwood MA	OWD	5.59"	1.43"	9.11"	-2.65"	21.34"	-1.83"	44.75"	-2.31"
Bedford MA	BED	5.31"	1.09"	10.51"	-0.92"	21.64"	-1.28"	48.37"	2.66"
Beverly MA	BVY	4.87"	0.49"	9.35"	-2.36"	19.59"	-3.42"	48.60"	2.42"
Lawrence MA	LWM	6.18"	2.01"	10.73"	-0.37"	23.64"	1.04"	41.47"	-1.69"
Fitchburg MA	FIT	6.00"	1.72"	10.47"	-1.46"	22.79"	-1.53"	50.49"	3.35"
Orange MA	ORE	5.50"	1.71"	15.60"	4.71"	27.65"	4.36"	53.54"	10.99"
Westfield MA	BAF	6.37"	1.62"	10.96"	-2.44"	20.89"	-5.39"	49.90"	1.51"
North Adams MA	AQW	5.93"	1.19"	10.20"	-2.84"	23.74"	-2.92"	40.96"	-5.65"

Rulers of the Snow

We are the Rulers of the Snow. 57 stations listed.

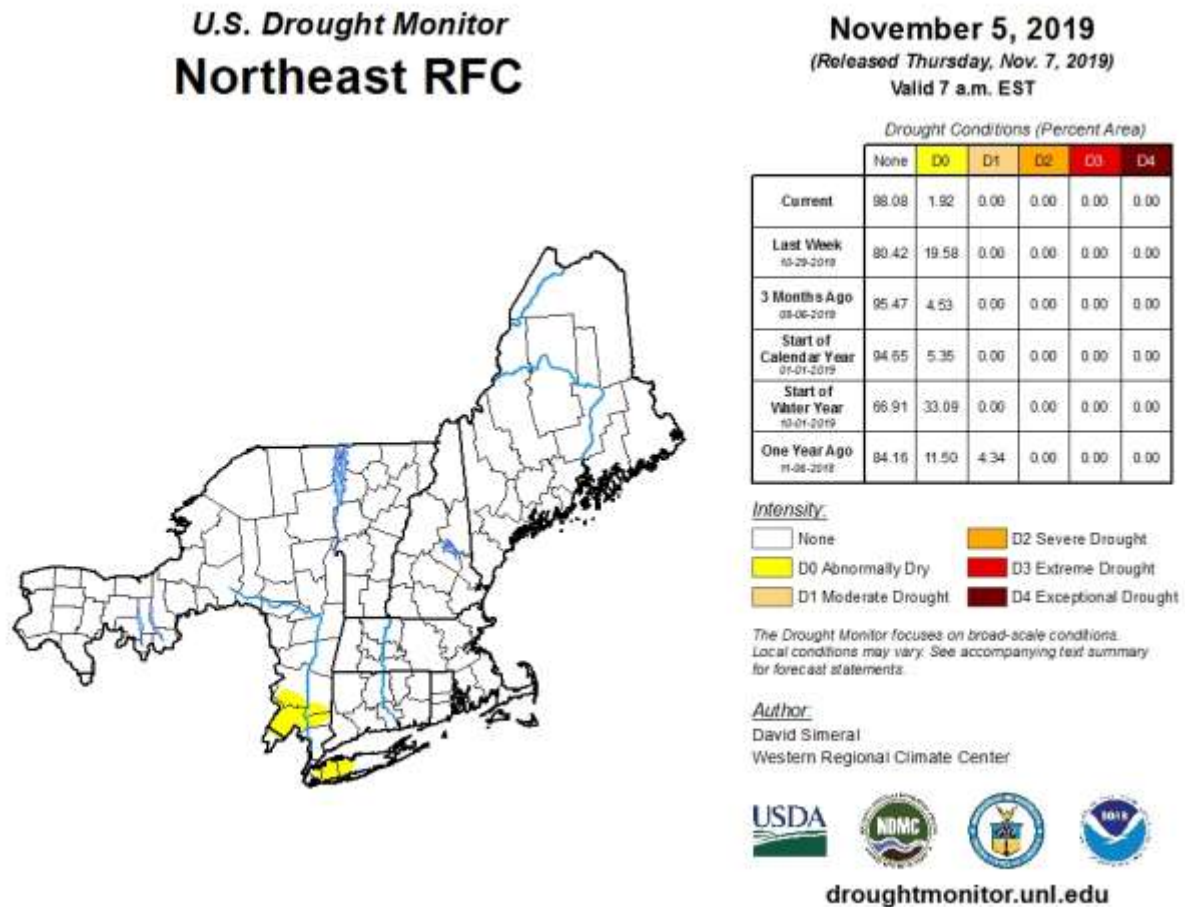
Make a snow fall and snow depth measurement and report, if you can safely do so, ***all year round.***

Station	Name	Oct 2019 Snowfall	Station	Name	Oct 2019 Snowfall
MA-BE-18	North Adams 3.0 WNW	0.0"	RI-PR-28	North Smithfield 0.7 SE	0.0"
MA-BE-4	Becket 5.6 SSW	0.0"	RI-PR-33	Greenville 0.7 NNW	0.0"
CT-LT-15	Colebrook 1.0 NE	0.0"	RI-PR-51	North Smithfield 0.6 S	0.0"
CT-LT-22	New Milford 5.3 SSW	0.0"	RI-PR-55	Cumberland Hill 3.6 NNE	0.0"
CT-LT-9	New Hartford Center 3.2 SW	0.0"	RI-WS-37	Kingston 2.4 SW	0.0"
CT-FR-25	Norwalk 2.9 NNW	0.0"	RI-WS-42	Richmond 4.6 NNE	0.0"
CT-FR-3	New Canaan 1.9 ENE	0.0"	RI-NW-11	Tiverton 0.8 SSW	0.0"
CT-FR-9	Brookfield 3.3 SSE	0.0"	RI-NW-7	Little Compton 0.6 E	0.0"
CT-NH-43	Wallingford Center 3.3 NNW	0.0"	MA-BR-30	Taunton 3.9 N	0.0"
CT-NH-57	New Haven 2.9 NNW	0.0"	MA-BR-55	NWS Boston/Norton 2.5 ESE	0.0"
MA-FR-10	Conway 0.9 SW	0.0"	MA-MD-119	Watertown 1.1 W	0.0"
MA-FR-12	Sunderland 1.3 SE	0.0"	MA-MD-12	Acton 1.3 SW	0.0"
MA-FR-13	Conway 2.9 NW	0.0"	MA-MD-125	Tewksbury 3.6 SSE	0.0"
MA-FR-31	Colrain 3.7 WNW	0.0"	MA-MD-156	Marlborough 2.8 ENE	0.0"
MA-HS-26	Easthampton 0.5 SW	0.0"	MA-MD-51	Maynard 0.7 ESE	0.0"
MA-HD-25	Ludlow 2.3 SW	0.0"	MA-MD-62	Chelmsford 1.2 E	0.0"
CT-HR-57	Suffield Depot 3.3 NNE	0.0"	MA-MD-7	Winchester 0.7 SE	0.0"
CT-HR-8	North Granby 1.3 ENE	0.0"	MA-ES-12	Boxford 2.4 S	0.0"
CT-TL-18	Hebron 5.3 NW	0.0"	MA-ES-4	Groveland 0.5 WSW	0.0"
CT-TL-2	Staffordville 0.4 NNW	0.0"	MA-ES-41	Danvers 0.8 ESE	0.0"
CT-TL-27	Willington 2.7 SE	0.0"	MA-ES-48	Andover 0.6 E	0.0"
CT-MD-21	Killingworth 2.6 ESE	0.0"	MA-NF-1	Norwood 1.3 NW	0.0"
CT-MD-25	Middlefield 0.6 SE	0.0"	MA-BA-12	Orleans 1.1 E	0.0"
MA-WR-44	Westminster 0.6 WSW	0.0"	MA-BA-2	Falmouth 3.1 NNW	0.0"
MA-WR-54	Barre 1.4 NNE	0.0"	MA-BA-3	Falmouth 3.0 E	0.0"
CT-WN-8	Moosup 1.7 NE	0.0"	MA-BA-47	Mashpee 2.4 WSW	0.0"
CT-NL-10	Norwich 2.5 NNE	0.0"	MA-BA-76	Barnstable 0.7 NE	0.0"
CT-NL-29	East Lyme 0.5 SW	0.0"	MA-DK-2	Vineyard Haven 0.8 WSW	0.0"
CT-NL-6	New London 1.0 NNW	0.0"			

October 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. 372 Daily Reports is our single day record, set on October 17th. 336 Reports per Day was our record reporting average for October. Congratulations for another month with more broken records.

October 2019						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1 346	2 339	3 345	4 347	5 318
6 319	7 328	8 354	9 329	10 344	11 337	12 323
13 316	14 318	15 320	16 332	17 372	18 344	19 313
20 319	21 346	22 334	23 351	24 332	25 331	26 326
27 327	28 342	29 343	30 347	31 360		

D0 is just about gone from our area, on the decline from last month.
Every drop counts and zeros do too!



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

Wrap up

Veterans Day is approaching. A hearty thanks to those members of our network who measure and report within our army of volunteer observers with the same commitment, the same duty-bound determination as they had when they were part of our armed forces. Thank you for your service and sacrifice to our nation and to our network.

Thanksgiving is approaching too. A unique holiday in our calendar of holidays. A day in which we pause to give thanks.

Thank you for your volunteer participation in our citizen science network. Behind each number, each dot on the map, is a person with a story. Thank you for telling your story with every report and everything that you type.

Thank you for making our part of the network the success that it is. Many aspects from Daily Reporting, Reporting all days, Significant Weather Reports, Snow Depth, Evapotranspiration, all continues to rise thanks to your efforts.

The staff at Headquarters would like to express their thanks, at this time of the year, to the observers who reported from October 2018 to September 2019. Login in to your account on the website and access [My Account](#) . Towards the upper right, within your 2019 Water Year, click on the link for Certificate. That action will download a pdf file containing your Certificate of Appreciation, where you can view or print it. Please pass on your feedback about this Certificate to the team at Headquarters at info@cocorahs.org

Every one of our monthly newsletters concludes with a word of thanks and this season of Thanksgiving will conclude in the same way. Thank you for all that you do for CoCoRaHS, whether in the past, present and in the days to come.