



Southern



New England

August 2019

Heroes report their zeros. Your reporting in July was truly heroic in our network. In May, we saw rainy days and not much sunshine. You made over 7000 reports of precipitation. In July, we saw the sunshine and the heat. You made over 7000 reports of zero. To go between two completely different types of climate and report over 10,000+ Daily Reports both months is truly remarkable.

Submit a Significant Weather Report and what happens at the receiving end? We have print screens from both the sending and receiving ends. It only takes a minute for the Report to get to its final destinations.

This summer, we are especially proud of the number and equally proud of the diligence of our Evapotranspiration (ET) observers. Water Resource Monitoring done by our observers, showing how dry July was.

We start off with the Grand List, go into some Observer Tips, and show the latest map of your Condition Monitoring Reports.

A long list of over 250 stations awaits.

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-18 Waquoit 0.6 SSW

1000 Daily Reports

CT-NL-24 Stonington 1.4 NNW
RI-WS-14 Kingston 5.5 W
CT-FR-42 Monroe 0.1 SE
RI-PR-51 North Smithfield 0.6 S
MA-MD-62 Chelmsford 1.2 E
RI-WS-26 Charlestown 1.1 ENE
RI-WS-36 Charlestown 3.0 WSW

Observer Tips

Significant Weather Reports Summer downpours are not over yet. We would like to see more Significant Weather Reports whenever you have 1” in an hour or 2”, or more, **for the day**. Please submit a Significant Weather Report for that real time alert, then submit your Daily Report at your regular time.

Comments, Observation Notes. With those summer downpours comes an increased amount of curiosity about your reported amount. A text narrative with your report, describing the rain event, clarifying and verifying your reported total, does give greater meaning and understanding to your reported value. Please type something to tell all of us that the amount is not submitted in error.

Water Year Summaries September 30th marks the end of the Water Year. At certain intervals in October and early November, Water Year Summaries are generated and updated by CoCoRaHS HQ, found on this link off the [website](#).

Starting in August and continue through September and October, please look over your reports since October 1 2018 and fill in missing reports where you can accurately do so.

The Road to 15,000 Daily Reports Nolan’s recent message mentions a challenge coming up in September, to have the entire network submit 15,000 Daily Reports in one day. Whenever that week occurs, please be the heroes that you are, and report your zeros, and your precip amounts when they occur, as enthusiastically and as you usually do throughout the month.

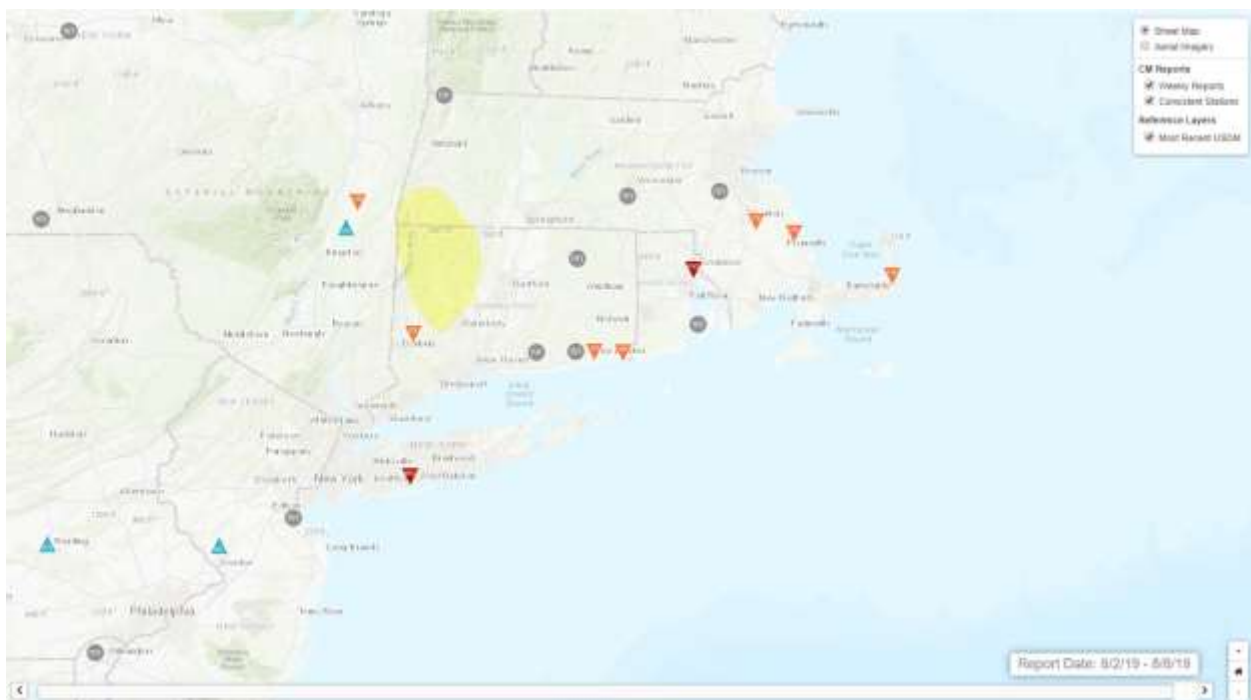
Our network’s previous single day record is a little bit over 14,000 Daily Reports, set last May. To break 15,000 Daily Reports in September, we are going to need a coast-to-coast rainy day over the continent or lots of zeros from all of you heroes.

When you hear of the week that this challenge will occur, just crack a smile, say “I got this”, and lead the way with your reporting. Over 330 zeros a day from our group would make a fine showing on a fine dry day.

Condition Monitoring Reports: The zeros piled up in July, and there are more orange triangles on the map, meaning drying conditions reported by several of you. The blue triangles, meaning wet conditions, were a thing of the Spring.

Keep up the reporting of Conditions in the months to come. 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.

Our current map of Condition Monitoring Reports



Significant Weather Reports

Time to show you what a Significant Weather Report looks like when it arrives at a National Weather Service Forecast Office,... and how quick it takes to get there. Latitude and Longitude redacted by the Editor.

Sent on July 22nd. Submitted at 8:02pm.

Significant Weather Report	
Station Number:	RI-WS-47
Station Name:	Westerly 0.8 WNW
Date:	7/22/2019 8:00 PM
Submitted	7/22/2019 8:02 PM
Notes:	Heavy thunderstorm. Last 15 minutes, .5 inches of rain, continuous lightning and thunder for the last 15 minutes.
Taken at Registered Location:	True
Precip Duration Minutes:	15
New Precip Amount:	0.54 in.
Total Precip Amount:	NA
New Snow Depth:	NA
Total Snow Depth:	NA
Flooding:	Minor

Arrived at 8:03:14pm EDT, (add 2 hours from MDT)

NZUS45 KBOU 230003

CCRAHS

intense rain report from CoCoRAHS spotter:

07/22/2019 08:00 PM local time

County: Washington RI

Westerly 0.8 WNW (number RI-WS-47)

Latitude: [REDACTED]

Longitude: [REDACTED]

NA inches so far, with 0.54 inches in the past 15 mins

Flooding: Minor

Comments: Heavy thunderstorm. Last 15 minutes, .5 inches of rain, continuous lightning and thunder for the last 15 minutes

Received NWS Boulder Mon Jul 22 18:03:14 2019 MDT

Sent to WFOs: BOX,OKX

Sent on July 22nd. Submitted at 8:10pm.

Significant Weather Report	
Station Number:	CT-NL-37
Station Name:	Mystic 1.6 W
Date:	7/22/2019 8:05 PM
Submitted	7/22/2019 8:10 PM
Notes:	Still raining fairly heavily
Taken at Registered Location: True	
Precip Duration Minutes:	30
New Precip Amount:	1.10 in.
Total Precip Amount:	1.10 in.
New Snow Depth:	NA
Total Snow Depth:	NA
Flooding:	No

Arrived at 8:11:45pm EDT, (add 2 hours from MDT.)

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NZUS45 KBOU 230011
CCRAHS

intense rain report from CoCoRAHS spotter:

07/22/2019 08:05 PM local time
County: New London CT
Mystic 1.6 W (number CT-NL-37)
Latitude: [REDACTED]
Longitude: [REDACTED]
1.10 inches so far, with 1.10 inches in the past 30 mins
Flooding: No
Comments: Still raining fairly heavily

Received NWS Boulder Mon Jul 22 18:11:45 2019 MDT
Sent to WFOs: OKX,BOX
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Sent on July 22nd. Submitted at 8:57PM.

Significant Weather Report	
Station Number:	CT-NL-22
Station Name:	Central Waterford 2.7 SSW
Date:	7/22/2019 8:46 PM
Submitted	7/22/2019 8:57 PM
Notes:	
Taken at Registered Location:	True
Precip Duration Minutes:	90
New Precip Amount:	2.43 in.
Total Precip Amount:	2.43 in.
New Snow Depth:	NA
Total Snow Depth:	NA
Flooding:	

Arrived at 8:58:09PM EDT, (add 2 hours from MDT.)

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NZUS45 KBOU 230058
CCRAHS

intense rain report from CoCoRAHS spotter:

07/22/2019 08:46 PM local time
County: New London CT
Central Waterford 2.7 SSW (number CT-NL-22)
Latitude: [REDACTED]
Longitude [REDACTED]
NA inches so far, with 2.43 inches in the past 90 mins
Flooding: Minor
Comments:

Received NWS Boulder Mon Jul 22 18:58:09 2019 MDT
Sent to WFOs: OKX,BOX
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Significant Weather Reports remain an **important** and **valued** dimension of our network. With its roots traced back to the Spring Creek Flood in Fort Collins, observers have the unique capability within the website to have a real-time observation **alert** the local National Weather Service Forecast Office **within a minute's time. It only takes a minute from the time you, the observer, presses submit, to the time that same report appears at the other end.**

Significant Weather Reports are supplemental, real-time, and helpful in understanding what is occurring in real-time. Please make your 24-hour Daily Report at your normal time.

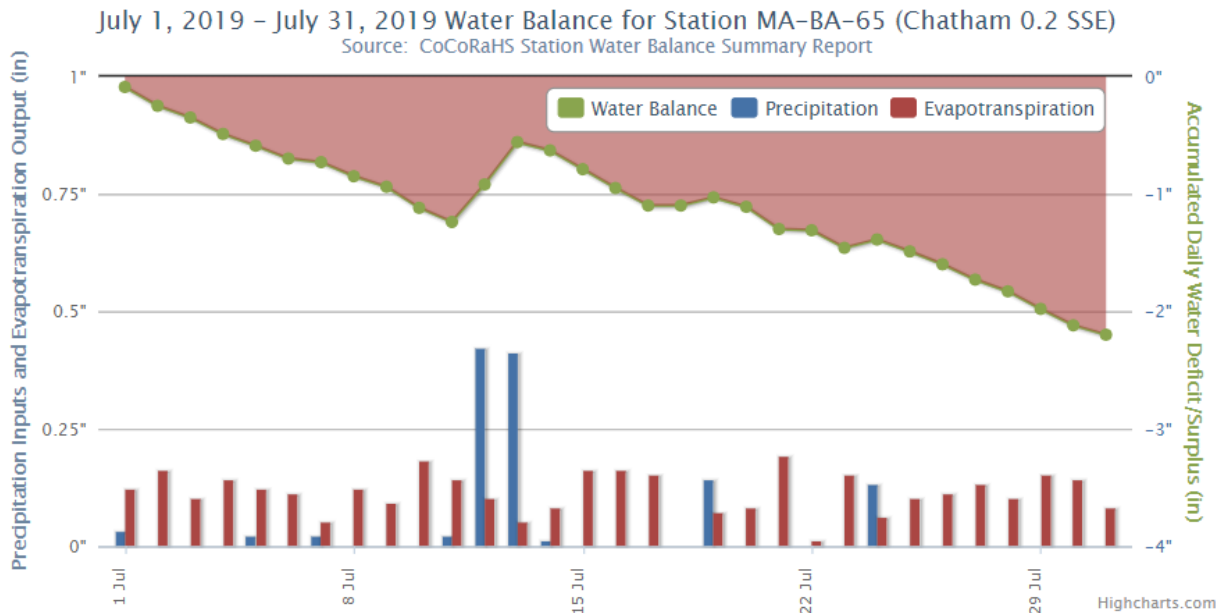
A quick review of reporting criteria.

- Safety first – none of this is worth getting hurt for.
- Rule of Thumb – 1” of rain or snow, in 1 hour or less.
- Flooding
- 2” rain in a single day.

When the trees lose their leaves and winter's darkness settles in, we will fine tune the criteria for winter precip Significant Weather Reports (precip type changeover, storm total snowfall, and more.) For now, it's summer downpour season.

Evapotranspiration (ET₀)

Daily and diligent reporting continues from our ET observers.

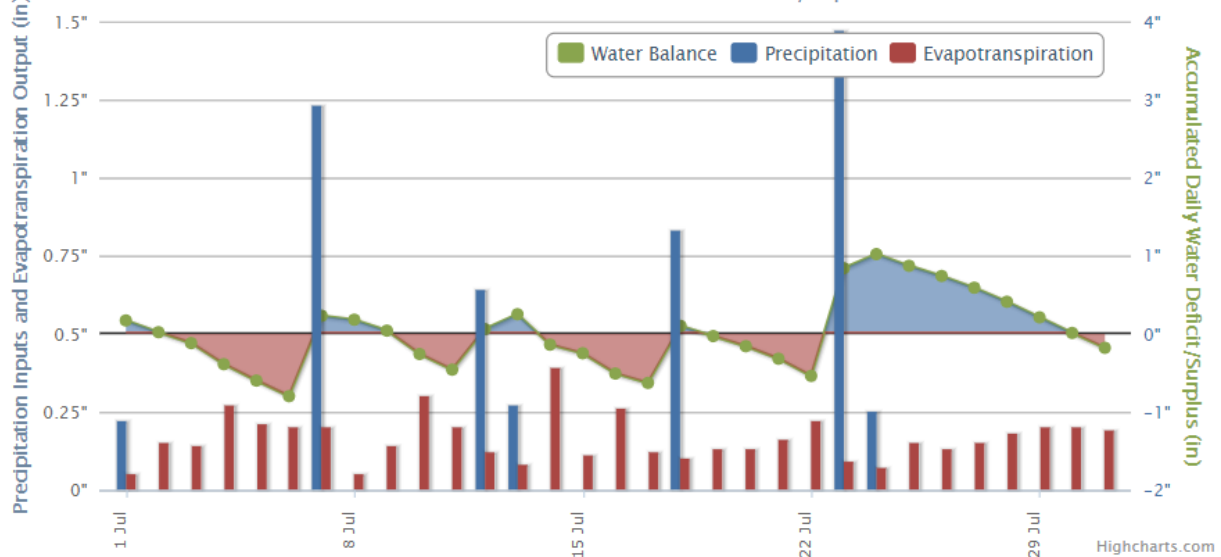


Red bars are for Evapotranspiration. Blue bars are for precipitation.

Commentary: No Daily Report of 1” rainfall being reported here. Over 2” deficit for the month of July.

July 1, 2019 – July 31, 2019 Water Balance for Station MA-MD-119 (Watertown 1.1 W)

Source: CoCoRaHS Station Water Balance Summary Report




Red bars are for Evapotranspiration. Blue bars are for precipitation.

Commentary: 2 Daily Reports of 1” rainfall being reported here, to keep the water in balance. Always look for a Daily Precip amount of 1” or more, each month throughout the year.


Detail and Summary for July 2019

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



July 2019

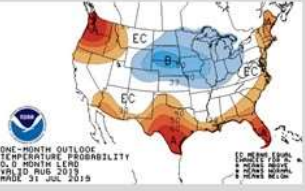
Regional Precipitation Summary




Location	Station ID	June 2019 Precip	June departure from normal	Apr-May-June Precip	3 month departure from normal	Jan-June Precip	6 month departure from normal	July-June Precip	12 month departure from normal
Pittsfield MA	PSF	4.87"	0.47"	13.87"	1.40"	22.59"	1.15"	53.15"	7.77"
Bridgeport CT	BDR	3.36"	-0.25"	14.24"	2.70"	25.79"	3.77"	60.99"	17.71"
Hartford CT	BDL	2.24"	-2.11"	14.92"	2.50"	27.04"	4.88"	66.09"	20.24"
Worcester MA	ORH	3.38"	-0.81"	14.78"	2.29"	26.63"	3.21"	64.04"	15.97"
Providence RI	PVD	4.71"	1.07"	14.71"	3.16"	28.51"	4.80"	64.33"	17.15"
Boston MA	BOS	5.15"	1.47"	15.02"	4.11"	25.04"	3.20"	55.12"	11.35"

August 2019 Outlook

Air Temperature



Precipitation



A = Above normal, B = Below normal,
EC = Equal chances of above/below normal

July Highlights

July 23: 3 tornadoes on Cape Cod.

July 22-23: 25 Significant Weather Reports, and 1 Hail Report, submitted.

Over 7000 reports of Zero submitted. A new record!

July started off with 1"+ in the Falmouth area of the Cape on the 1st. 4th of July came through without rain. Widespread rain reported on the 7th, heaviest around the Connecticut River. Another round for the 12th and the 13th, heaviest in the southeast.

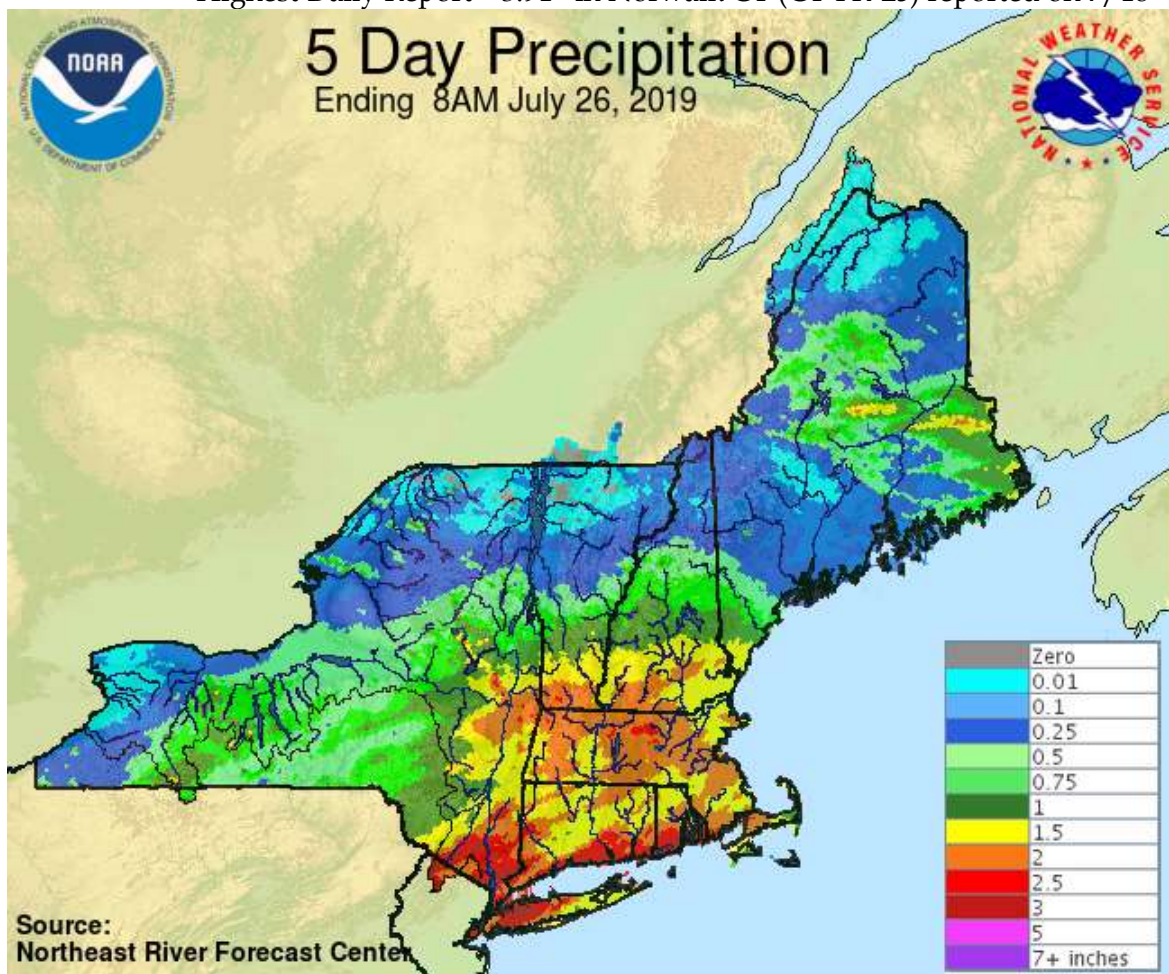
The rainy week starts, reported on the 18th, 19th. Significant Weather Reports for rain reported on the 23rd and 24th. Tornadoes on Cape Cod on the 23rd

Isolated heavy rain reported in Hartford County on the 28th.

Take in the next section with appreciation of your efforts.

From your reports for July 2019

Observers reporting	398
Reported all 31 days	200
Completed by Multi-Day Reports	54
Missing 1 or 2 reports	49
Daily Reports	10018
Zero Reports	7083
Non-Zero Reports	2935
Daily Comments	1665
Multi-Day Reports	196
Condition Monitoring Reports	47
Significant Weather Reports	39
Hail Reports	2
Snowfall Reports	5906
Snow Depth Reports	2651
Highest Daily Report	3.91" in Norwalk CT (CT-FR-25) reported on 7/18



An impressive list of over 250 stations, a little shy of our record of 260 stations set in April 2019. 7 pages long.

This list is designed to encourage you, not discourage you, to report every day, to not miss any days. Once you are in the habit, measuring and reporting becomes easier.

Thanks to those that filled in missing reports over the past week, breaking through 10,000 Daily Reports for the month, along with over 7,000 zeros. An unusual high ratio of 22 zeros to 9 non-zeros reported by you.

Take in the variability that summer downpours bring.

Watershed	Watershed Name	Station Number	Station Name	Precip
01070004	Nashua			
0107000401	North Nashua River	MA-WR-44	Westminster 0.6 WSW	5.19"
0107000401	North Nashua River	MA-WR-8	Fitchburg 1.6 SSW	4.16"
0107000402	Headwaters Nashua River	MA-WR-56	Sterling 4.3 NW	5.07"
0107000402	Headwaters Nashua River	MA-WR-58	Lunenburg 0.6 NE	3.51"
0107000402	Headwaters Nashua River	MA-MD-25	Ayer 0.1 SW	5.82"
0107000403	Squannacook River	MA-MD-47	West Townsend 0.5 W	4.94"
0107000403	Squannacook River	MA-MD-36	Townsend 2.6 S	5.32"
01070005	Concord			
0107000501	Sudbury River	MA-MD-156	Marlborough 2.8 ENE	5.79"
0107000502	Concord River	MA-WR-28	Berlin 1.3 WSW	5.17"
0107000502	Concord River	MA-MD-115	Hudson 1.4 NW	5.57"
0107000502	Concord River	MA-MD-12	Acton 1.3 SW	4.90"
0107000502	Concord River	MA-MD-51	Maynard 0.7 ESE	4.95"
0107000502	Concord River	MA-MD-62	Chelmsford 1.2 E	3.95"
01070006	Merrimack River			
0107000611	Spicket River	MA-ES-38	Methuen 1.6 NNE	5.21"
0107000612	Stony Brook - Merrimack River	MA-MD-104	Littleton 2.8 NNW	4.24"
0107000612	Stony Brook - Merrimack River	MA-MD-105	Littleton 0.9 WSW	4.26"
0107000613	Shawsheen River	MA-MD-96	Lexington 0.3 NE	4.56"
0107000613	Shawsheen River	MA-ES-48	Andover 0.6 E	3.88"
0107000614	Powwow River - Merrimack River	MA-ES-20	Haverhill 0.7 N	4.93"
0107000614	Powwow River - Merrimack River	MA-ES-4	Groveland 0.5 WSW	3.75"
0107000614	Powwow River - Merrimack River	MA-ES-55	Groveland 0.8 S	3.89"
0107000614	Powwow River - Merrimack River	MA-ES-59	Amesbury 1.2 N	3.71"

0107000614	Powwow River - Merrimack River	MA-ES-56	Newburyport 1.0 ESE	3.15"
01080201	Middle Connecticut			
0108020106	Manhan River - Connecticut River	MA-HS-8	Williamsburg 1.2 WSW	3.69"
0108020106	Manhan River - Connecticut River	MA-HS-26	Easthampton 0.5 SW	2.56"
0108020106	Manhan River - Connecticut River	MA-HS-12	Northampton 0.4 S	3.54"
0108020106	Manhan River - Connecticut River	MA-FR-12	Sunderland 1.3 SE	3.78"
0108020107	Batchelor Brook - Connecticut River	MA-HD-13	Springfield 4.1 W	3.86"
0108020107	Batchelor Brook - Connecticut River	MA-HS-30	South Hadley 2.1 SSE	2.30"
01080202	Miller			
0108020201	Upper Millers River	NH-CH-20	Rindge 3.2 ESE	4.97"
01080203	Deerfield			
0108020303	North River	MA-FR-31	Colrain 3.7 WNW	3.78"
0108020303	North River	MA-FR-29	Colrain 0.8 WNW	3.50"
0108020305	Lower Deerfield River	MA-FR-22	Ashfield 1.4 NE	3.79"
0108020305	Lower Deerfield River	MA-FR-17	Buckland 1.8 ESE	3.68"
0108020305	Lower Deerfield River	MA-FR-13	Conway 2.9 NW	3.98"
0108020305	Lower Deerfield River	MA-FR-25	Conway 2.7 NW	3.78"
0108020305	Lower Deerfield River	MA-FR-10	Conway 0.9 SW	3.60"
01080204	Chicopee			
0108020402	Ware River	MA-WR-54	Barre 1.4 NNE	5.59"
0108020403	Quaboag River	MA-WR-75	Warren 2.4 WSW	5.09"
0108020403	Quaboag River	MA-WR-63	Rutland 3.1 SW	6.37"
0108020404	Chicopee River	MA-HD-25	Ludlow 2.3 SW	5.95"
01080205	Lower Connecticut			
0108020501	Mill River - Connecticut River	CT-HR-82	Suffield 0.5 NNE	3.41"
0108020501	Mill River - Connecticut River	CT-HR-57	Suffield Depot 3.3 NNE	2.62"
0108020501	Mill River - Connecticut River	CT-HR-5	Enfield 1.5 SE	3.32"
0108020502	Scantic River	MA-HD-20	Wilbraham 3.7 SSW	5.29"
0108020502	Scantic River	CT-TL-15	Central Somers 0.3 N	4.11"
0108020503	Park River	CT-HR-39	Farmington 1.6 SW	3.86"
0108020504	Hockanum River	CT-TL-19	Vernon 2.8 N	5.21"
0108020505	Roaring Brook - Connecticut River	CT-HR-6	Wethersfield 1.2 WSW	5.90"
0108020505	Roaring Brook - Connecticut River	CT-HR-68	Rocky Hill 1.3 E	4.50"
0108020505	Roaring Brook - Connecticut River	CT-HR-84	East Hartford 2.0 SSE	6.99"
0108020505	Roaring Brook - Connecticut River	CT-HR-22	East Hartford 1.3 E	5.92"
0108020506	Mattabesset River	CT-HR-15	Southington 3.0 E	2.47"
0108020506	Mattabesset River	CT-HR-80	Kensington 0.7 WSW	2.56"
0108020506	Mattabesset River	CT-HR-65	Newington 1.9 SSW	3.01"
0108020506	Mattabesset River	CT-MD-25	Middlefield 0.6 SE	3.83"
0108020507	Higganum Creek - Connecticut River	CT-MD-23	Higganum 0.7 N	5.06"
0108020507	Higganum Creek - Connecticut River	CT-MD-26	Higganum 0.8 NE	4.33"

0108020508	Salmon River	CT-TL-29	Hebron 1.6 SW	3.73"
0108020509	Eightmile River - Connecticut River	CT-MD-19	Ivoryton 0.9 WSW	5.23"
0108020509	Eightmile River-Connecticut River	CT-MD-18	Essex Village 0.9 S	5.36"
01080206	Westfield			
0108020601	Headwaters Westfield River	MA-HS-7	Plainfield 2.2 SW	4.30"
0108020601	Headwaters Westfield River	MA-HS-14	Plainfield 2.4 ESE	4.17"
0108020603	Outlet Westfield River	MA-HD-28	Westfield 2.8 SE	3.56"
01080207	Farmington			
0108020701	Still River	CT-LT-15	Colebrook 1.0 NE	2.50"
0108020702	West Branch Farmington River	MA-BE-4	Becket 5.6 SSW	3.53"
0108020702	West Branch Farmington River	CT-LT-18	New Hartford Center 1.5 N	2.75"
0108020704	Headwaters Farmington River	CT-LT-9	New Hartford Center 3.2 SW	2.07"
0108020704	Headwaters Farmington River	CT-HR-70	Canton 1.5 W	2.34"
0108020704	Headwaters Farmington River	CT-HR-71	Bristol 2.7 NNE	4.05"
0108020704	Headwaters Farmington River	CT-HR-28	North Canton 0.8 SSW	2.43"
0108020705	Salmon Brook	CT-HR-8	North Granby 1.3 ENE	3.86"
0108020706	Outlet Farmington River	CT-HR-61	Windsor Locks 2.5 W	2.57"
01090001	Charles			
0109000101	Plum Island Sound - Frontal Atlantic Ocean	MA-ES-46	Georgetown 1.3 ENE	3.92"
0109000101	Plum Island Sound - Frontal Atlantic Ocean	MA-ES-24	Newburyport 0.8 SW	3.00"
0109000102	Ipswich River	MA-MD-85	Wilmington 2.2 WNW	6.01"
0109000102	Ipswich River	MA-MD-125	Tewksbury 3.6 SSE	5.26"
0109000102	Ipswich River	MA-MD-45	Wilmington 1.5 NE	4.99"
0109000102	Ipswich River	MA-ES-58	Middleton 1.4 SSW	4.43"
0109000102	Ipswich River	MA-ES-12	Boxford 2.4 S	4.47"
0109000102	Ipswich River	MA-ES-2	Beverly 2.8 NW	5.02"
0109000103	Essex River - Frontal Atlantic Ocean	MA-ES-41	Danvers 0.8 ESE	4.92"
0109000103	Essex River - Frontal Atlantic Ocean	MA-ES-22	Rockport 1.0 E	4.33"
0109000104	Saugus River - Frontal Broad Sound	MA-MD-81	Wakefield 0.5 NNW	5.07"
0109000104	Saugus River - Frontal Broad Sound	MA-MD-126	Melrose 0.5 NE	4.58"
0109000104	Saugus River - Frontal Broad Sound	MA-ES-45	Nahant 0.4 N	5.59"
0109000104	Saugus River - Frontal Broad Sound	MA-ES-8	Marblehead 0.8 SW	3.90"
0109000105	Mystic River - Frontal Boston Harbor	MA-MD-123	Lexington 1.3 SE	4.04"
0109000105	Mystic River - Frontal Boston Harbor	MA-MD-18	Belmont 0.2 ESE	5.06"
0109000105	Mystic River - Frontal Boston Harbor	MA-MD-7	Winchester 0.7 SE	5.03"
0109000105	Mystic River - Frontal Boston Harbor	MA-MD-44	Medford 1.2 W	4.74"
0109000105	Mystic River - Frontal Boston Harbor	MA-MD-11	Cambridge 0.9 NNW	5.58"
0109000105	Mystic River - Frontal Boston Harbor	MA-SF-10	Chelsea 0.8 N	5.27"
0109000106	Upper Charles River	MA-WR-1	Milford 2.3 NNW	5.96"
0109000106	Upper Charles River	MA-MD-106	Holliston 2.4 W	6.36"
0109000106	Upper Charles River	MA-MD-55	Holliston 0.7 W	6.55"

0109000106	Upper Charles River	MA-MD-42	Holliston 0.8 S	6.22"
0109000106	Upper Charles River	MA-NF-11	Millis 2.0 SW	6.10"
0109000106	Upper Charles River	MA-NF-50	Millis 1.4 ENE	6.14"
0109000107	Lower Charles River - Frontal Boston Harbor	MA-MD-120	Natick 1.9 NNE	6.06"
0109000107	Lower Charles River - Frontal Boston Harbor	MA-MD-119	Watertown 1.1 W	4.91"
0109000108	Neponset River - Frontal Boston Harbor	MA-NF-1	Norwood 1.3 NW	5.72"
0109000109	Whitmans Pond - Frontal Boston Harbor	MA-NF-39	Weymouth 2.3 N	6.11"
0109000109	Whitmans Pond - Frontal Boston Harbor	MA-PL-36	Hingham 0.8 ESE	7.50"
01090002	Cape Cod			
0109000201	North River - Frontal Massachusetts Bay	MA-PL-5	Kingston 3.3 WNW	6.70"
0109000201	North River - Frontal Massachusetts Bay	MA-PL-48	Marshfield 1.5 NNW	6.08"
0109000201	North River - Frontal Massachusetts Bay	MA-PL-47	Plymouth 1.1 NNW	6.55"
0109000202	Cape Cod	MA-BA-2	Falmouth 3.1 NNW	5.82"
0109000202	Cape Cod	MA-BA-57	Falmouth 5.7 N	6.32"
0109000202	Cape Cod	MA-BA-50	Falmouth 5.4 NNE	5.71"
0109000202	Cape Cod	MA-BA-17	East Falmouth 1.2 WNW	5.00"
0109000202	Cape Cod	MA-BA-19	East Falmouth 0.7 NW	5.73"
0109000202	Cape Cod	MA-BA-3	Falmouth 3.0 E	4.33"
0109000202	Cape Cod	MA-BA-11	East Falmouth 1.4 ESE	4.65"
0109000202	Cape Cod	MA-BA-18	Waquoit 0.6 SSW	4.01"
0109000202	Cape Cod	MA-BA-45	Sandwich 0.9 NNE	5.87"
0109000202	Cape Cod	MA-BA-79	Mashpee 0.8 SSW	4.50"
0109000202	Cape Cod	MA-BA-78	Mashpee 4.6 S	3.89"
0109000202	Cape Cod	MA-BA-10	East Sandwich 2.3 SE	5.41"
0109000202	Cape Cod	MA-BA-59	Barnstable 3.6 W	4.90"
0109000202	Cape Cod	MA-BA-22	Yarmouth 0.9 NNW	3.70"
0109000202	Cape Cod	MA-BA-77	South Dennis 1.0 NW	3.10"
0109000202	Cape Cod	MA-BA-52	Truro 0.8 E	4.70"
0109000202	Cape Cod	MA-BA-27	Wellfleet 0.7 NW	5.11"
0109000202	Cape Cod	MA-BA-36	Harwich 2.6 ENE	2.92"
0109000202	Cape Cod	MA-BA-37	Orleans 0.8 W	2.70"
0109000202	Cape Cod	MA-BA-42	Orleans 1.8 S	3.17"
0109000202	Cape Cod	MA-BA-51	Orleans 3.0 S	3.08"
0109000202	Cape Cod	MA-BA-12	Orleans 1.1 E	3.08"
0109000202	Cape Cod	MA-BA-30	Eastham 0.6 SW	3.08"
0109000202	Cape Cod	MA-BA-43	Chatham 0.4 WSW	2.29"
0109000203	Mattapoisett River - Frontal Buzzards Bay	MA-PL-19	Rochester 1.2 NNW	6.93"
0109000203	Mattapoisett River - Frontal Buzzards Bay	MA-BA-64	Sandwich 1.5 SSE	6.07"
0109000204	Paskamanset River - Frontal Buzzards Bay	MA-BR-14	Dartmouth 2.5 SSW	6.92"
0109000204	Paskamanset River - Frontal Buzzards Bay	MA-BR-52	New Bedford 4.3 N	7.33"
0109000205	Sakonnet Point - Frontal Rhode Island Sound	RI-NW-5	Little Compton 1.7 NW	6.73"

0109000205	Sakonnet Point - Frontal Rhode Island Sound	RI-NW-17	Tiverton 4.4 SSE	6.66"
0109000205	Sakonnet Point - Frontal Rhode Island Sound	RI-NW-7	Little Compton 0.6 E	6.83"
0109000206	Elizabeth Islands - Marthas Vineyard	MA-DK-5	West Tisbury 2.9 N	3.32"
0109000206	Elizabeth Islands - Marthas Vineyard	MA-DK-2	Vineyard Haven 0.8 WSW	3.39"
01090003	Blackstone			
0109000301	Upper Blackstone River	MA-WR-43	Leicester 2.4 ESE	4.74"
0109000301	Upper Blackstone River	MA-WR-70	Grafton 1.5 W	4.86"
0109000302	Lower Blackstone River	RI-PR-28	North Smithfield 0.7 SE	3.96"
0109000302	Lower Blackstone River	RI-PR-63	Woonsocket 1.5 NW	3.71"
0109000302	Lower Blackstone River	RI-PR-55	Cumberland Hill 3.6 NNE	3.25"
01090004	Narragansett			
0109000401	Upper Taunton River	MA-BR-30	Taunton 3.9 N	4.14"
0109000401	Upper Taunton River	MA-NF-31	Stoughton 1.2 E	4.67"
0109000401	Upper Taunton River	MA-PL-22	East Bridgewater 0.3 WSW	4.74"
0109000401	Upper Taunton River	MA-PL-15	Abington 1.2 NNE	4.77"
0109000401	Upper Taunton River	MA-PL-23	Pembroke 2.8 SW	4.78"
0109000402	Middle Taunton River	MA-PL-31	Bridgewater 1.8 SE	5.90"
0109000402	Middle Taunton River	MA-PL-17	Plympton 0.9 NNE	6.98"
0109000403	Threemile River	MA-NF-19	Foxborough 1.8 SSW	4.13"
0109000403	Threemile River	MA-NF-52	Foxborough 0.5 SE	3.98"
0109000403	Threemile River	MA-BR-55	NWS Boston/Norton 2.5 ESE	3.59"
0109000403	Threemile River	MA-BR-9	Taunton 2.6 NW	4.65"
0109000404	Ten Mile River	MA-BR-23	Attleboro 0.9 ENE	4.52"
0109000405	Woonasquatucket River-Moshassuck River	RI-PR-33	Greenville 0.7 NNW	3.53"
0109000405	Woonasquatucket River-Moshassuck River	RI-PR-51	North Smithfield 0.6 S	3.97"
0109000405	Woonasquatucket River-Moshassuck River	RI-PR-53	Providence 1.7 N	3.82"
0109000406	Pawtuxet River	RI-PR-20	West Glocester 3.4 SE	3.79"
0109000406	Pawtuxet River	RI-KN-21	Coventry 1.9 NE	4.78"
0109000406	Pawtuxet River	RI-PR-57	Cranston 1.2 SSE	4.30"
0109000406	Pawtuxet River	RI-PR-44	Cranston 4.2 ENE	4.68"
0109000407	Palmer River	MA-BR-2	Rehoboth 2.1 N	4.16"
0109000408	Lower Taunton River - Frontal Mount Hope Bay	MA-BR-3	Norton 1.8 NNE	4.86"
0109000408	Lower Taunton River - Frontal Mount Hope Bay	MA-BR-16	Somerset 0.4 SSE	5.82"
0109000408	Lower Taunton River - Frontal Mount Hope Bay	MA-BR-58	Dighton 3.3 NNW	4.73"
0109000408	Lower Taunton River - Frontal Mount Hope Bay	MA-BR-8	Dighton 1.1 WSW	4.05"
0109000409	Narragansett Bay	RI-KN-17	East Greenwich 1.2 NNE	5.22"
0109000409	Narragansett Bay	RI-WS-54	North Kingstown 2.7 WSW	5.65"
0109000409	Narragansett Bay	RI-KN-15	Warwick 4.3 SSW	4.50"
0109000409	Narragansett Bay	RI-KN-2	East Greenwich 2.3 ESE	6.31"
0109000409	Narragansett Bay	RI-PR-67	Providence 1.6 NE	4.25"
0109000409	Narragansett Bay	RI-NW-18	Jamestown 0.3 SSE	5.60"

0109000409	Narragansett Bay	RI-BR-5	Barrington 1.3 WNW	4.56"
0109000409	Narragansett Bay	RI-NW-4	Middletown 1.1 SW	4.73"
0109000409	Narragansett Bay	RI-NW-19	Portsmouth 2.3 S	6.85"
0109000409	Narragansett Bay	RI-NW-11	Tiverton 0.8 SSW	5.96"
0109000409	Narragansett Bay	RI-NW-20	Tiverton 1.0 SSW	5.46"
01090005	Pawcatuck-Wood			
0109000501	Wood River	RI-WS-1	Hope Valley 3.7 S	4.77"
0109000502	Upper Pawcatuck River	RI-WS-46	Westerly 3.4 E	6.08"
0109000502	Upper Pawcatuck River	RI-WS-51	Richmond 2.4 SSE	5.81"
0109000502	Upper Pawcatuck River	RI-WS-42	Richmond 4.6 NNE	6.29"
0109000503	Lower Pawcatuck River	CT-NL-40	Pawcatuck 1.8 SSE	5.38"
0109000503	Lower Pawcatuck River	RI-WS-30	Westerly 2.4 NNW	6.38"
0109000503	Lower Pawcatuck River	RI-WS-47	Westerly 0.8 WNW	5.55"
0109000504	Frontal Block Island Sound	RI-WS-36	Charlestown 3.0 WSW	8.11"
0109000504	Frontal Block Island Sound	RI-WS-26	Charlestown 1.1 ENE	6.29"
01100001	Quinebaug			
0110000102	French River	MA-WR-68	Oxford 0.9 SSW	5.45"
0110000103	Fivemile River	CT-WN-4	East Killingly 1.3 SW	4.05"
0110000105	Moosup River	CT-WN-8	Moosup 1.7 NE	4.09"
0110000106	Pachaug River	CT-NL-21	Griswold 0.9 N	5.05"
01100002	Shetucket			
0110000201	Willimantic River	CT-TL-18	Hebron 5.3 NW	3.98"
0110000201	Willimantic River	CT-TL-28	South Coventry 1.2 NNW	4.53"
0110000201	Willimantic River	CT-TL-2	Staffordville 0.4 NNW	6.89"
0110000202	Natchaug River	CT-TL-27	Willington 2.7 SE	3.91"
0110000202	Natchaug River	CT-TL-30	Mansfield Center 2.7 NE	3.49"
0110000202	Natchaug River	CT-WN-12	Eastford 2.0 W	3.27"
0110000203	Shetucket River	CT-NL-10	Norwich 2.5 NNE	4.37"
01100003	Thames			
0110000302	Thames River-Frontal New London Harbor	CT-NL-5	Oakdale 2.6 WNW	4.76"
0110000302	Thames River-Frontal New London Harbor	CT-NL-6	New London 1.0 NNW	6.69"
0110000302	Thames River-Frontal New London Harbor	CT-NL-8	Uncasville-Oxoboxo Valley 1.6 ENE	4.83"
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-38	Old Lyme 3.4 ESE	6.20"
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-29	East Lyme 0.5 SW	5.04"
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-22	Central Waterford 2.7 SSW	6.38"
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-37	Mystic 1.6 W	5.96"
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-24	Stonington 1.4 NNW	5.91"
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-18	Stonington 0.5 NNE	5.45"
01100004	Quinnipiac			
0110000401	Quinnipiac River	CT-NH-14	Prospect 1.9 ENE	4.25"
0110000401	Quinnipiac River	CT-HR-55	Southington 1.7 WNW	2.12"

0110000401	Quinnipiac River	CT-HR-83	Plainville 1.7 SW	2.80"
0110000401	Quinnipiac River	CT-HR-23	Southington 0.9 SSE	2.55"
0110000401	Quinnipiac River	CT-HR-76	Southington 1.0 ENE	2.05"
0110000401	Quinnipiac River	CT-NH-44	Wallingford Center 1.9 WNW	3.28"
0110000401	Quinnipiac River	CT-NH-43	Wallingford Center 3.3 NNW	3.36"
0110000401	Quinnipiac River	CT-NH-42	Wallingford Center 1.1 N	3.06"
0110000402	Hammonasset River - Frontal Long Island Sound	CT-NH-56	Guilford Center 2.7 WSW	5.44"
0110000402	Hammonasset River - Frontal Long Island Sound	CT-NH-50	Madison Center 4.1 N	7.30"
0110000402	Hammonasset River - Frontal Long Island Sound	CT-MD-21	Killingworth 2.6 ESE	5.80"
0110000402	Hammonasset River - Frontal Long Island Sound	CT-MD-27	Clinton 3.7 N	6.17"
0110000402	Hammonasset River - Frontal Long Island Sound	CT-MD-11	Westbrook Center 1.5 NE	5.59"
0110000403	Mill River - Frontal Long Island Sound	CT-NH-16	Milford 1.8 E	6.91"
0110000403	Mill River - Frontal Long Island Sound	CT-NH-39	West Haven 0.8 W	6.05"
0110000403	Mill River - Frontal Long Island Sound	CT-NH-57	New Haven 2.9 NNW	3.56"
01100005	Housatonic			
0110000501	Headwaters Housatonic River	MA-BE-11	Great Barrington 3.0 N	2.38"
0110000501	Headwaters Housatonic River	MA-BE-5	Tyringham 1.5 WNW	3.00"
0110000503	Konkapot River-Housatonic River	CT-LT-28	Canaan 4.2 ESE	3.70"
0110000504	Macedonia Brook - Housatonic River	CT-LT-20	Warren 2.4 WNW	2.40"
0110000506	Candlewood Lake-Housatonic River	CT-LT-22	New Milford 5.3 SSW	3.45"
0110000508	Still River - Housatonic River	CT-FR-43	Bethel 0.5 E	3.99"
0110000508	Still River - Housatonic River	CT-FR-41	Bethel 3.5 NNE	4.58"
0110000508	Still River - Housatonic River	CT-FR-9	Brookfield 3.3 SSE	4.01"
0110000512	Outlet Naugatuck River	CT-LT-14	Watertown 0.5 S	2.91"
0110000512	Outlet Naugatuck River	CT-NH-47	Seymour 1.5 NE	3.46"
0110000512	Outlet Naugatuck River	CT-NH-45	Naugatuck 1.7 NNE	2.94"
0110000512	Outlet Naugatuck River	CT-NH-22	Prospect 0.5 SW	4.01"
0110000513	Housatonic River - Frontal Long Island Sound	CT-FR-42	Monroe 0.1 SE	5.76"
0110000513	Housatonic River - Frontal Long Island Sound	CT-FR-23	Shelton 1.3 W	5.89"
0110000513	Housatonic River - Frontal Long Island Sound	CT-FR-46	Stratford 0.2 ESE	6.87"
01100006	Saugatuck			
0110000601	Saugatuck River - Frontal Long Island Sound	CT-FR-58	Ridgefield 3.6 N	4.72"
0110000601	Saugatuck River - Frontal Long Island Sound	CT-FR-31	Newtown 4.6 SSW	5.35"
0110000602	Norwalk River - Frontal Norwalk Harbor	CT-FR-59	New Canaan 3.8 N	6.54"
0110000602	Norwalk River - Frontal Norwalk Harbor	CT-FR-29	Ridgefield 1.9 SSE	5.76"
0110000602	Norwalk River - Frontal Norwalk Harbor	CT-FR-63	Wilton 1.9 NW	6.82"
0110000602	Norwalk River - Frontal Norwalk Harbor	CT-FR-3	New Canaan 1.9 ENE	8.45"
0110000602	Norwalk River - Frontal Norwalk Harbor	CT-FR-25	Norwalk 2.9 NNW	9.08"
0110000603	Pequonnock River - Frontal Long Island Sound	CT-FR-20	Westport 2.5 ENE	9.57"
0110000603	Pequonnock River - Frontal Long Island Sound	CT-FR-60	Fairfield 1.5 NE	9.41"
0110000603	Pequonnock River - Frontal Long Island Sound	CT-FR-32	Monroe 0.8 W	6.25"

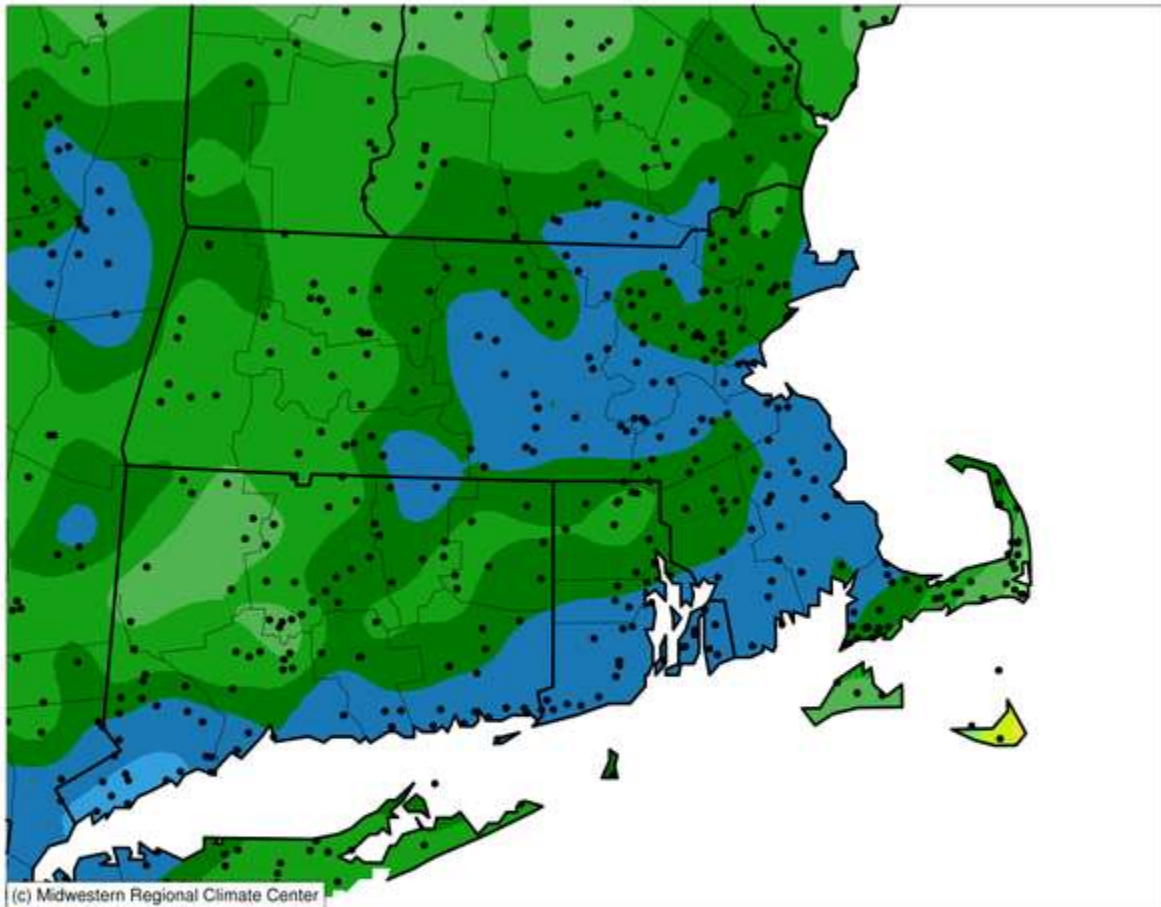
0110000603	Pequonnock River - Frontal Long Island Sound	CT-FR-26	Stratford 0.9 W	6.69"
0110000604	Mianus River-Rippowam River	CT-FR-39	Stamford 4.2 S	9.44"
0110000604	Mianus River-Rippowam River	CT-FR-50	Darien 2.8 NW	8.51"
0110000604	Mianus River-Rippowam River	CT-FR-35	Darien 1.8 ENE	8.62"
02020003	Hudson-Hoosic			
0202000306	Upper Hoosic River	MA-BE-18	North Adams 3.0 WNW	5.00"
02020006	Middle Hudson			
0202000603	Wynants Kill - Hudson River	NY-AB-21	NWS Albany	3.98"
02030203	Long Island Sound			
0203020300	Long Island Sound	NY-SF-114	Fishers Island 0.5 NE	5.29"

Blue colors are over 5", with the highest in southwest Connecticut. On the Connecticut and Rhode Island shoreline this summer, no sign of drought. All of those dots leave no doubt!

Well done, everyone, making their contribution to the color contours of this map.

Accumulated Precipitation (in)

July 01, 2019 to July 31, 2019



0.01 0.1 0.5 1 1.5 2 3 4 5 7.5 10 12.5 15

Stations from the following networks used: COOP, FAA, CoCoRaHS,

Midwestern Regional Climate Center

cli-MATE: MRCC Application Tools Environment

Generated at: 8/7/2019 10:11:16 PM CDT

“We do not live at the airport”

Wild high and wild low variations in precip, this month of July. 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	July 2019 Precip	July departure from normal	May-June-July Precip	3 month departure from normal	Feb-July Precip	6 month departure from normal	Aug-July Precip	12 month departure from normal
White Plains NY	HPN	6.83"	3.12"	16.54"	4.46"	26.67"	2.68"	65.22"	15.87"
Danbury CT	DXR	3.47"	-1.11"	11.71"	-1.79"	22.74"	-1.87"	54.64"	4.77"
New Haven CT	HVN	4.83"	0.82"	14.01"	1.81"	25.51"	1.69"	56.97"	9.86"
Meriden CT	MMK	0.47"	-3.54"	7.04"	-5.16"	20.50"	-3.32"	58.03"	10.92"
Hartford CT	HFD	4.67"	0.67"	11.55"	-0.33"	23.10"	1.12"	55.71"	12.11"
Willimantic CT	IJD	2.89"	-1.20"	9.22"	-2.91"	20.73"	-3.23"	56.06"	7.64"
New London CT	GON	5.53"	1.76"	15.42"	3.69"	27.61"	4.45"	51.65"	5.16"
Westerly RI	WST	5.22"	1.43"	17.19"	5.93"	30.86"	7.13"	65.62"	18.23"
Newport RI	UUU	4.35"	0.90"	14.63"	3.84"	26.53"	3.54"	61.88"	15.55"
New Bedford MA	EWB	6.86"	3.54"	12.06"	1.10"	20.33"	-3.68"	54.20"	5.84"
Hyannis MA	HYA	3.67"	0.43"	13.20"	2.91"	24.52"	1.23"	53.44"	5.75"
Nantucket MA	ACK	0.31"	-2.78"	9.08"	-0.92"	20.60"	-0.11"	44.87"	0.45"
Marthas Vineyard MA	MVY	1.45"	-1.46"	11.08"	1.54"	21.72"	0.58"	50.85"	5.69"
Taunton MA	TAN	4.44"	0.69"	11.82"	0.85"	24.91"	0.66"	61.62"	11.88"
Plymouth MA	PYM	7.88"	4.39"	16.56"	5.43"	28.54"	3.92"	66.33"	17.18"
Norwood MA	OWD	5.53"	1.75"	12.23"	0.82"	23.72"	0.42"	55.54"	8.48"
Bedford MA	BED	4.94"	1.22"	11.13"	-0.36"	23.27"	0.43"	50.40"	4.69"
Beverly MA	BVY	2.25"	-1.61"	10.24"	-1.06"	22.65"	-0.86"	54.83"	8.65"
Lawrence MA	LWM	5.04"	1.37"	12.91"	1.41"	20.03"	-2.20"	44.18"	1.02"
Fitchburg MA	FIT	3.64"	-0.44"	12.32"	-0.07"	23.96"	0.07"	62.34"	15.20"
Orange MA	ORE	5.05"	0.92"	12.05"	-0.35"	23.00"	1.15"	59.70"	17.15"
Westfield MA	BAF	3.52"	-0.57"	9.93"	-2.95"	21.79"	-2.39"	58.16"	9.77"
North Adams MA	AQW	4.31"	-0.24"	13.54"	-0.08"	19.55"	-4.02"	46.89"	0.28"
Pittsfield MA	PSF	3.55"	-0.70"	12.19"	-0.67"	21.45"	-1.32"	53.87"	8.49"

Rulers of the Snow

We are the Rulers of the Snow, even in the hottest month of the year. A record 57 stations for the month of July. Make a snow fall and snow depth measurement, if you can safely do so, ***all year round***, and join this growing list.

Station	Name	July 2019 Snowfall	Station	Name	July 2019 Snowfall
MA-BE-4	Becket 5.6 SSW	0.0"	RI-PR-55	Cumberland Hill 3.6 NNE	0.0"
MA-BE-18	North Adams 3.0 WNW	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-9	New Hartford Center 3.2 SW	0.0"	RI-WS-46	Westerly 3.4 E	0.0"
CT-LT-22	New Milford 5.3 SSW	0.0"	RI-WS-42	Richmond 4.6 NNE	0.0"
CT-FR-9	Brookfield 3.3 SSE	0.0"	RI-WS-47	Westerly 0.8 WNW	0.0"
CT-FR-59	New Canaan 3.8 N	0.0"	RI-NW-7	Little Compton 0.6 E	0.0"
CT-FR-29	Ridgefield 1.9 SSE	0.0"	RI-NW-18	Jamestown 0.3 SSE	0.0"
CT-FR-3	New Canaan 1.9 ENE	0.0"	RI-NW-11	Tiverton 0.8 SSW	0.0"
CT-FR-25	Norwalk 2.9 NNW	0.0"	MA-BR-30	Taunton 3.9 N	0.0"
CT-NH-43	Wallingford Center 3.3 NNW	0.0"	MA-BR-23	Attleboro 0.9 ENE	0.0"
MA-FR-31	Colrain 3.7 WNW	0.0"	MA-MD-156	Marlborough 2.8 ENE	0.0"
MA-FR-17	Buckland 1.8 ESE	0.0"	MA-MD-115	Hudson 1.4 NW	0.0"
MA-FR-13	Conway 2.9 NW	0.0"	MA-MD-12	Acton 1.3 SW	0.0"
MA-FR-10	Conway 0.9 SW	0.0"	MA-MD-51	Maynard 0.7 ESE	0.0"
MA-HD-25	Ludlow 2.3 SW	0.0"	MA-MD-104	Littleton 2.8 NNW	0.0"
CT-HR-8	North Granby 1.3 ENE	0.0"	MA-MD-125	Tewksbury 3.6 SSE	0.0"
CT-HR-61	Windsor Locks 2.5 W	0.0"	MA-MD-126	Melrose 0.5 NE	0.0"
CT-TL-18	Hebron 5.3 NW	0.0"	MA-MD-119	Watertown 1.1 W	0.0"
CT-TL-2	Staffordville 0.4 NNW	0.0"	MA-ES-48	Andover 0.6 E	0.0"
CT-TL-27	Willington 2.7 SE	0.0"	MA-ES-4	Groveland 0.5 WSW	0.0"
CT-MD-23	Higganum 0.7 N	0.0"	MA-ES-12	Boxford 2.4 S	0.0"
MA-WR-8	Fitchburg 1.6 SSW	0.0"	MA-ES-41	Danvers 0.8 ESE	0.0"
CT-WN-8	Moosup 1.7 NE	0.0"	MA-NF-11	Millis 2.0 SW	0.0"
CT-NL-40	Pawcatuck 1.8 SSE	0.0"	MA-NF-1	Norwood 1.3 NW	0.0"
CT-NL-21	Griswold 0.9 N	0.0"	MA-PL-15	Abington 1.2 NNE	0.0"
CT-NL-10	Norwich 2.5 NNE	0.0"	MA-BA-3	Falmouth 3.0 E	0.0"
CT-NL-29	East Lyme 0.5 SW	0.0"	MA-BA-12	Orleans 1.1 E	0.0"
RI-PR-28	North Smithfield 0.7 SE	0.0"			

July 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 continues down further from the wet month of May, and the less rainy month of June. 323 Daily Reports per day.

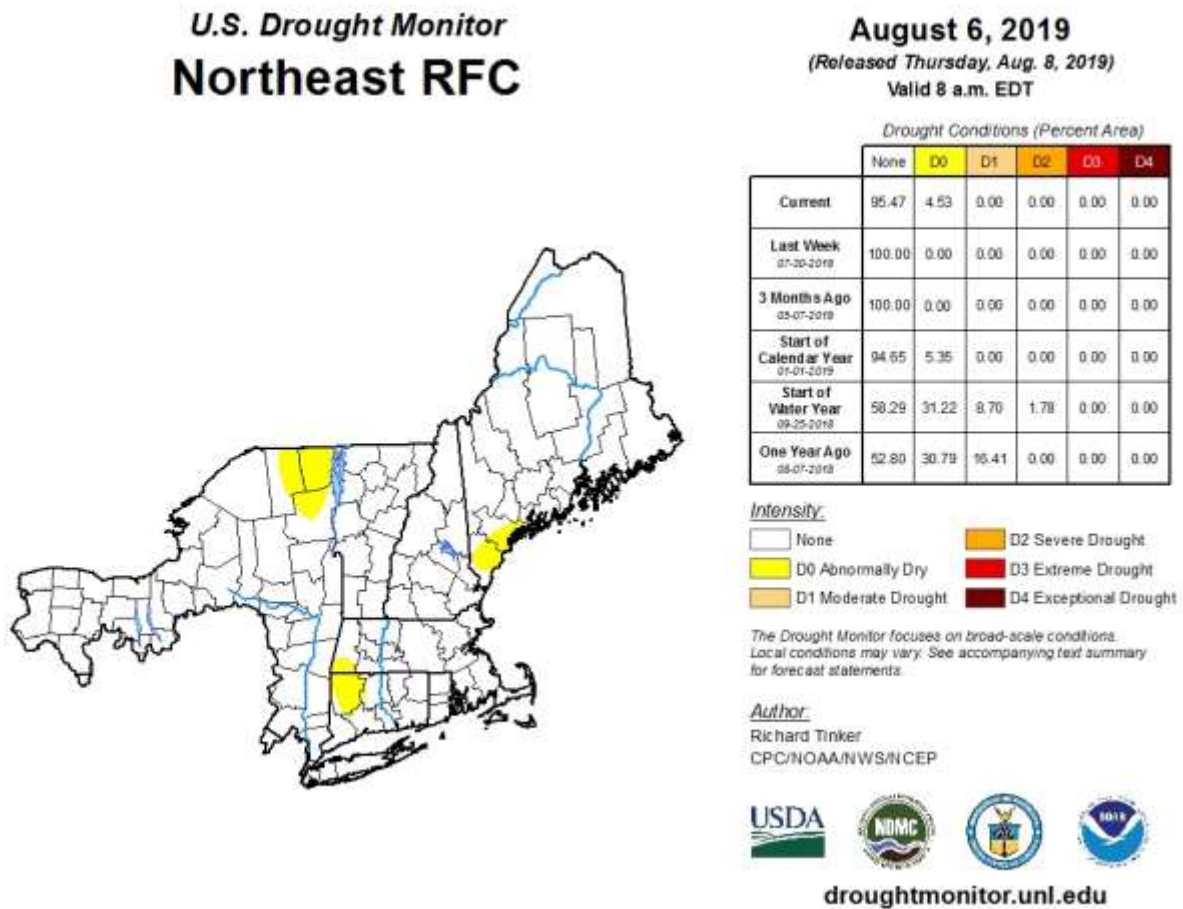
July 2019

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1 312	2 319	3 315	4 310	5 313	6 315
7 333	8 316	9 321	10 318	11 316	12 344	13 318
14 317	15 319	16 327	17 325	18 350	19 332	20 316
21 318	22 322	23 348	24 342	25 324	26 322	27 314
28 326	29 314	30 326	31 326			

From the Drought Monitor is this [tutorial page](#). Not all drought is created equally, or even called the same.

It's back! D0- Abnormally Dry in Western CT & Western MA!

Every drop counts and zeros do too!



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

Wrap up

All of those new to the crew, now know what to do about Dew. Between a message in this newsletter, a Message of the Day, the very few scattered dots of T and 0.01” have been all but gone on our reporting maps. We measure what falls from the sky, not from condensation. Our gauges are great dew collectors. Know what to do about dew.

Early August is a good time to bring up Hurricane Preparedness. Please take this time to prepare for and understand the impacts that tropical systems can have upon your locale. Every locale is different, but not immune from the impacts of wind, rising coastal waters, and flooding inland rains. [Be prepared](#). [Stay informed](#) and on a [mobile device](#). We wrote more in our newsletters of [June 2017](#) and [August 2017](#). If you have questions about Hurricane Preparedness, please ask.

August is a time to get away and to get together. Enjoy your rest of these warm weather and sunlight months.

Thank you for all that you do for CoCoRaHS, whether in the past, present and in the days to come.