#### Community Collaborative Rain, Hail & Snow Network



#### October 2018

Rhode Island's State Tree is the Red Maple, one of the first trees to show its red buds in the spring, and to show its brilliant red colors in the fall.

Happy New Water Year. Welcome to all our new observers this month, as we continue to grow, and catch Nolan's attention along the way.

With more rain gauges than ever before, single month reporting records continue to fall. It only took another month, and only a 30-day month, to break our total daily reports record from last month, assisted by a single month reporting record from Massachusetts.

Within this month's Newsletter: We lead off with The Grand List Observers. Our "Observer of the Month" takes us to the highlands of western Hampshire County, Plainfield MA. If you want to participate in this "Observer of the Month" segment, please let us know. Take a look at two different gauges, time to start preparing and relearning about Snow Measuring and Reporting, Accuracy Matters, Multi-Day Reports, Water Year Summaries, and mobile device users are encouraged to use the app, mPING.

Let's get into it.

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### The "Grand" List

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

#### 2000 Daily Reports

CT-LT-9	New Hartford Center 3.2 SW
MA-BA-10	East Sandwich 2.3 SE
MA-DK-2	Vineyard Haven 0.8 WSW
MA-PL-2	Sagamore Beach 1.0 NW

#### **1000 Daily Reports**

- MA-BR-23 Attleboro 0.9 ENE
- MA-MD-53 Acton 4.0 ENE
- MA-PL-17 Plympton 0.9 NNE
- MA-PL-19 Rochester 1.2 NNW
- RI-NW-11 Tiverton 0.8 SSW

### **Observer of the Month – MA-HS-14**

Summer 2018 in Plainfield MA: I'm drowning!

I reported 28 inches of rain, exactly, for the summer of 2018. In case you're wondrin' how that stacks up to normal, I will ask you what is normal? In any case, consider that I reported 10.7" last summer, and 9.87" the year before. The year before that, I had not even heard of CoCoRaHS, this month marking my third anniversary.

Consider this, also. On July 15<sup>th</sup>, I wrote: "It rained! This summer, that's close to a miracle. 0.4 inches of heavenly liquid. And now it's damp and cool heading towards steamy."

In the first month of summer, we received a mere 2.49 inches. Little did I know that a summer that started out concerningly dry would be marked by never-ending humidity: cool and humid, warm and humid, hot and humid. And rain, rain, rain. A summer of furniture molding at the base no matter what you did. A summer in which the streams got fuller and the grass greener as time went on rather than the other way around.



And it hasn't stopped yet. Since the summer passed, a mere ten days ago as of writing, I've reported another 3.01 inches. The basement is wet. We're drowning, it seems.

I am part of the CoCoRaHS network because I am a junkie for data, but also because it forces me to take the time to observe closely how much water is and is not coming to us. And water is everything.

The water cycle is a closed system. It rains, the water goes into the ground to feed the aquifer I use to wash my clothes and dog with - not to mention the beer that is made with it - but much of it runs off into the wetland

behind my house, where beavers work hard to make sure their dam contains it.

Much to their dismay, however, it doesn't and from there a stream turns into the north branch of the Swift River, which flows into the Westfield,



which in turn flows into the Connecticut, which in turn feeds Long Island Sound, which in turn... you get the picture.

And all along the way water evaporates. In winter, some of it sublimates directly from snow and ice into the air. Eventually a cloud appears overhead and it rains. Or hails. It's as inevitable as death and taxes – until one day it isn't.



And that's why a bog-obsessed intrepid dame of a certain age traipses out to the gauge on the fence every morning through rain and snow and sleet. The post office creed could be readily adapted to CoCoRaHS observers: "Neither snow nor rain nor heat nor gloom of night stays these climate warriors from the swift completion of their appointed rounds!"

If you are interested in what I write about the water that flows on our hillside, check out some of my blog posts, <u>On the Value of Floating Garbage</u>, <u>Where</u>

Does the White Go When the Snow Melts?, or Sudden Onset Winter. Or some earlier ones, such as On Ice Dams and Frost Heaves, and Velcro ball bearings.

Keep on keeping on!

Respectfully submitted, Pleun Bouricius aka "AgathaO" Station MA-HS-14, Plainfield 2.4 ESE

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# <u>One Gauge Measures "Up"</u> <u>One Gauge Measures "Down"</u>







AFTER THE RAINS FROM FLORENCE

Questions? Please ask a Coordinator.

MA-BR-23 (Attleboro MA) sent us pictures of both gauges that are measured and reported. The gauge to the left measures the "up" side of the water cycle, evapotranspiration, the potential loss of water, during the above freezing months. The gauge on the left we all know and love.

By making two measurements and two reports from these two gauges, we are able to determine water balance.

Consider how much water loss do we get during the warm weather months?

## Snow Measuring and Reporting

A new snow reporting season is upon us. After looking over your Water Year Summaries, it was impressive to see stations at our higher elevations reporting for the season over 90" of snow and over 100 days with snow on the ground. It is that added dimension that your reporting can have.

New observers can look at this and say "Huh? I'm still learning how to get a handle on measuring and reporting rain." Maintaining a complete and accurate precipitation record is the most valuable element through the winter.

For those of you that have been participating for more than a year, pause and think, and consider adding snow fall reporting and snow depth reporting to all of your daily reports, for as many days as you safely and as accurately can.

Mobile app users: Time is now to get into the habit of pressing that "Click to specify snow & flooding info" link on the 1<sup>st</sup> screen of the reporting app.

Think about the tools that you need and the tools that you would like. More snow measuring boards? Tired of that tape measure? That plastic ruler doesn't go through ice? Want a 2<sup>nd</sup> outer cylinder? A weigh scale instead of using hot water to melt the snow? A PVC tube to cut snow cores? An inner tube stand for when you have more than 1" of liquid? You're under no obligation to spend more money. There are tools to buy and there are tools that can be made. Ask your Coordinator if you want more information.

There is a <u>snow guide</u> on our state pages. Please familiarize yourself with that document.

The most common occurrence in these next few months will probably be snow flurries. Snow flurries are reported as a "T", a trace for precipitation, the 1<sup>st</sup> value reported. And another "T", a trace for new snow, the 2<sup>nd</sup> value reported. **Two "T"'s** for snow flurries, a few flakes of snow, anything that does not accumulate to 0.1" of snow, which is a light dusting of snow.

## Accuracy Matters

As the snow flurries fly, and turn to snow showers, and turn to snow storms, reporting mistakes multiply. Mistakes happen with reporting, not with measuring. Many others look at your reports. Quality checks, and your Coordinators may notify you when there is a question about your reported values.

As you enter your values, remember this: Accuracy Matters.

Look twice. Press Submit once. Look again to make sure the reported are accurate.

Reporting either with the website or the mobile app, you do have the ability to view AND change reported values.



Website: Click on the pencil icon  $\checkmark$ , found either in this list of reports, after you submit your Daily Report. Or found, with "List/Edit My Reports" on the left side of website.

Mobile app. Pop up menu. History function.

st canno	CoCoRaHS Observer Version: 2.2.5 (build 22005)		Touch History Record to	o Edit		Edit History	
9			DATE	TIME	PRECIP	Edit this entry?	
			10/05/2018	07:00	0.02"		
lew R	eports		10/04/2018	07:00	0.00"	YES	NO
~		ε	10/03/2018	07:00	1.40"	10/01/2010 0/10	0 0.00
Ø	Daily Precipitation	0-05	10/02/2018	07:00	0.06"	09/30/2018 07:0	
bo	Multi-Day Precipitation	0-03	10/01/2018	07:00	0.00"	09/29/2018 07:0	
		0	09/30/2018	07:00	0.00"	09/28/2018 07:0	
	Significant Weather Report		09/29/2018	07:00	0.05"	09/27/2018 07:0	
Other /	Actions History						
D	Multi-Day History						
Ð	Web Links						
D	About		Please be	acc	urate w	ith <b>all</b> of your	renorte

### <u> Multi-Day Reports</u>

When you need to take days off or are just unable to measure and report, Multi-Day Reports are a helpful feature to have. Different than the day to day use of Daily Reports, there are few points to keep in mind.

- ✓ Do NOT use a Daily Report for a Multi-Day accumulation. If you make this mistake...
  - Change the Daily Report to "NA"
  - Submit the Multi-Day Report
  - Notify your Coordinator, so that the Daily Report of "NA" can be deleted from the database.
- $\checkmark\,$  Enter the start and end dates correctly, leaving no gap in days.
- ✓ Check your reports with <u>Station Precip Summary</u>

The focus of Daily Reporting and Multi-Day Reporting should be having a complete record of reports for all days in a month, and longer.

### Water Year Summaries

From the recent "Messages of the Day" a new Water Year begins, and summaries of the Water Year that has finished are available

Like a "Thank You" card from CoCoRaHS, do take the time to study your <u>Water Year Summary</u> and <u>others</u>. Read your Comments. Look at your totals. Study your bar charts and line charts. Count the days where you reported more than 0.5", 1", and more. See all of the other totals, like the count of "Trace", days of snow, days of snow cover.

What will you do the same or differently with your reporting going forward?

### <u>mPING – Real-Time Reporting with an app</u>

GPS-enabled, mobile device users are encouraged to download the mPING app from the App store or Google Play. mPING – Meteorological Phenomena Identification Near the Ground. A real-time way to submit rain, snow, drizzle, dense fog in real time.

The National Severe Storms Laboratory (NSSL) along with the University of Oklahoma, are crowdsourcing reports of precipitation and other weather information to make weather radars and weather forecasts more accurate.

Citizen science does go beyond our fine network. There is an app that will become useful during the winter months. We live on the battle front of the rain-snow line. Your participation in real time about what type of precipitation is falling out of the sky, is welcome and is valuable.

The "Submit Report" button will become greyed out for a period of 30 seconds before any additional reports can be submitted. A loop of reports can be displayed with this <u>link</u>.

mPING	:	Test	- ✓ Test
Meteorological Phenomena Identific Near the Ground	cation	None	V None
Report Type	Definitions		<ul> <li>Rain/Snow</li> </ul>
Select Report Type	Ĩ	Rain/Snow	Rain
Current Location		Hail	Freezing Rain
	~	Wind Damage	Drizzle
			Freezing Drizzle
	~	Tornado	Ice Pellets/Sleet
		Flood	Snow and/or Graupel
		noou	Mixed Rain and Snow
Submit Report	~	Mudslide	Mixed Ice Pellets and Snow
			Mixed Freezing Rain and Ice Pellets
	View Reports	Reduced Visibility	Mixed Rain and Ice Pellets

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### **Detail and Summary for September 2018**

From the National Weather Service (NWS) Climate sites for Sep 2018.

Location	Station ID	Sep 2018 Precip	Sep departure from normal	Jul-Aug- Sep Precip	3 month departure from normal	Apr-Sep Precip	6 month departure from normal	Oct-Sep Precip	12 mon departu from norma
Pittsfield MA	PSF	6.77"	2.81"	17.85"	5.55"	27.46"	2.69"	46.63"	1.2
Bridgeport C T	BDR	8.59"	5.11"	15.62"	4.72"	27.26"	4.63"	51.10"	8.1
Hartford CT	BDL	6.33"	2.45"	21.82"	9.83"	33.88"	9.47"	57.74"	11.8
Worcester MA	ORH	7.25"	3.32"	18.31"	6.44"	30.24"	5.88"	57.10"	9.0
Providence RI	PVD	7.81"	3.89"	14.43"	3.62"	25.31"	2.95"	53.05"	5.8
Boston MA	BOS	5.12"	1.68"	14.32"	<mark>4.10</mark> "	23.80"	2.67"	45.99''	2.2
October 2018 Outlook September Highlights									ahts

Station totals > 10.00" = 37 Station totals < 4.00" = 15

The start of September remained clear and warmest on Labor Day. First rain of the month reported on the 7<sup>th</sup>. Widespread 1" & 2" rains on the 10<sup>th</sup> for western and northern areas. 2" & 3" rains from the remnants of Hurricane Florence for the  $18^{th} - 19^{th}$ , with 5" amounts reported from Townsend MA. Flooding rains reported on the 26<sup>th</sup>, noted on the map on the next page, with the highest amount, 6.70" reported from Madison CT.

Significant Weather Reports, and one Hail Report, are noted and appreciated.

Take in the next section with appreciation of your efforts.

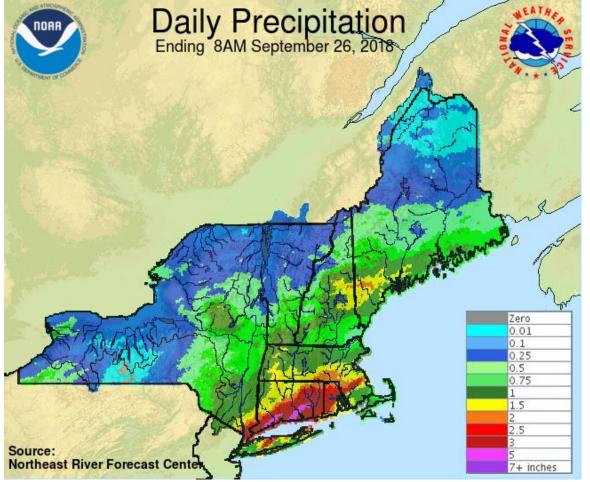
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A = Above normal, B = Below normal, EC = Equal chances of above/below normal

#### From your reports for September 2018

- Observers reporting 383
- Reported all 30 days 190
- Completed by Multi-Day Reports 55
  - Missing 1 or 2 reports 43
    - Daily Reports 9201
    - Zero Reports 4605
    - Non-Zero Reports 4596
    - Daily Comments 1715
    - Multi-Day Reports 205
  - Condition Monitoring Reports 56
  - Significant Weather Reports 53
    - Hail Reports 1
    - Snowfall Reports 4587
    - Snow Depth Reports 2244

Highest Daily Report 6.70" from Madison CT (CT-NH-50) reported on 9/26



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We ended the Water Year with another long list. Thank you! 245 stations that covered all days in the month of September. Dozens of stations with more than 10" for the month. Take in the variablity.

For a viewing explanation on Watersheds, the CoCoRaHS animated video is on <u>YouTube</u>.

		Station		
Watershed	Watershed Name	Number	Station Name	Precip
01070004	Nashua			
0107000401	North Nashua River	MA-WR-44	Westminster 0.6 WSW	8.25"
0107000401	North Nashua River	MA-WR-8	Fitchburg 1.6 SSW	8.40''
0107000401	North Nashua River	MA-WR-52	Fitchburg 2.3 N	7.40''
0107000401	North Nashua River	MA-WR-22	Fitchburg 2.0 NNE	9.79"
0107000402	Headwaters Nashua River	MA-WR-64	Sterling 3.7 WNW	7.99''
0107000402	Headwaters Nashua River	MA-WR-56	Sterling 4.3 NW	9.42"
0107000402	Headwaters Nashua River	MA-MD-25	Ayer 0.1 SW	6.99''
0107000403	Squannacook River	MA-MD-47	West Townsend 0.5 W	10.44''
01070005	Concord			
0107000501	Sudbury River	MA-MD-89	Sudbury 3.6 W	8.03"
0107000501	Sudbury River	MA-MD-88	Wayland 2.1 SSE	7.50''
0107000502	Concord River	MA-WR-30	Shrewsbury 1.6 NNE	7.42"
0107000502	Concord River	MA-WR-28	Berlin 1.3 WSW	7.74''
0107000502	Concord River	MA-WR-18	Northborough 0.6 SSE	7.19"
0107000502	Concord River	MA-WR-42	Northborough 2.3 N	7.33"
0107000502	Concord River	MA-MD-115	Hudson 1.4 NW	7.25"
0107000502	Concord River	MA-WR-55	Harvard 2.1 S	6.55"
0107000502	Concord River	MA-MD-83	Boxborough 1.4 SSE	7.68''
0107000502	Concord River	MA-MD-12	Acton 1.3 SW	7.88''
0107000502	Concord River	MA-MD-51	Maynard 0.7 ESE	6.43''
0107000502	Concord River	MA-MD-91	Westford 2.8 SSE	6.96''
0107000502	Concord River	MA-MD-62	Chelmsford 1.2 E	6.50''
01070006	Merrimack River			
0107000611	Spicket River	MA-ES-38	Methuen 1.6 NNE	6.23"
0107000612	Stony Brook - Merrimack River	MA-MD-104	Littleton 2.8 NNW	7.28''
0107000612	Stony Brook - Merrimack River	MA-MD-93	Westford 1.5 SSW	6.61''
0107000613	Shawsheen River	MA-MD-52	Lexington 0.6 SW	6.54''
0107000613	Shawsheen River	MA-MD-96	Lexington 0.3 NE	5.95"
0107000613	Shawsheen River	MA-ES-48	Andover 0.6 E	6.52''
0107000614	Powwow River - Merrimack River	MA-ES-20	Haverhill 0.7 N	6.59''
01080201	Middle Connecticut			

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0108020106	Manhan River - Connecticut River	MA-HS-2	Westhampton 1.8 SW	11.59"
0108020106	Manhan River - Connecticut River	MA-HS-8	Williamsburg 1.2 WSW	10.35"
0108020106	Manhan River - Connecticut River	MA-HS-26	Easthampton 0.5 SW	10.34"
0108020106	Manhan River - Connecticut River	MA-FR-12	Sunderland 1.3 SE	9.01"
				8.94"
0108020107	Batchelor Brook - Connecticut River	MA-HD-22	Holyoke 1.0 ENE	
0108020107	Batchelor Brook - Connecticut River	MA-HD-13	Springfield 4.1 W	9.93"
0108020107	Batchelor Brook - Connecticut River	MA-HD-23	Springfield 2.5 WNW	9.28''
01080202	Miller		Division 2.2 555	7 7211
0108020201	Upper Millers River	NH-CH-20	Rindge 3.2 ESE	7.73"
0108020202	Lower Millers River	MA-WR-40	Gardner 1.4 SSW	9.78''
01080203	Deerfield			7.0.61
0108020305	Lower Deerfield River	MA-FR-17	Buckland 1.8 ESE	7.86"
0108020305	Lower Deerfield River	MA-FR-13	Conway 2.9 NW	8.97"
0108020305	Lower Deerfield River	MA-FR-25	Conway 2.7 NW	9.12"
0108020305	Lower Deerfield River	MA-FR-10	Conway 0.9 SW	9.09"
01080204	Chicopee			
0108020401	Swift River	MA-FR-8	New Salem 3.1 S	9.36"
0108020402	Ware River	MA-WR-54	Barre 1.4 NNE	8.08"
0108020403	Quaboag River	MA-HD-26	Brimfield 3.6 NW	7.53"
0108020404	Chicopee River	MA-HD-25	Ludlow 2.3 SW	9.08"
01080205	Lower Connecticut			
0108020501	Mill River-Connecticut River	CT-HR-57	Suffield Depot 3.3 NNE	8.15"
0108020502	Scantic River	CT-TL-26	Broad Brook 2.6 ESE	7.12"
0108020502	Scantic River	MA-HD-20	Wilbraham 3.7 SSW	8.09''
0108020502	Scantic River	CT-TL-15	Central Somers 0.3 N	6.08"
0108020503	Park River	CT-HR-39	Farmington 1.6 SW	7.53"
0108020503	Park River	CT-HR-49	West Hartford 1.1 W	5.88"
0108020503	Park River	CT-HR-63	West Hartford 1.1 NNE	9.39"
0108020503	Park River	CT-HR-11	West Hartford 2.7 SSE	7.16"
0108020504	Hockanum River	CT-HR-52	Central Manchester 0.8 N	7.34"
0108020505	Roaring Brook - Connecticut River	CT-HR-6	Wethersfield 1.2 WSW	8.33"
0108020505	Roaring Brook - Connecticut River	CT-HR-68	Rocky Hill 1.3 E	7.65"
0108020505	Roaring Brook - Connecticut River	CT-HR-22	East Hartford 1.3 E	8.24"
0108020505	Roaring Brook - Connecticut River	CT-HR-7	Central Manchester 2.7 SW	8.52"
0108020506	Mattabesset River	CT-HR-15	Southington 3.0 E	7.67"
0108020506	Mattabesset River	CT-HR-80	Kensington 0.7 WSW	6.92''
0108020506	Mattabesset River	CT-HR-65	Newington 1.9 SSW	6.91"
0108020506	Mattabesset River	CT-MD-25	Middlefield 0.6 SE	8.42''
0108020507	Higganum Creek - Connecticut River	CT-MD-23	Higganum 0.7 N	11.59"
0108020508	Salmon River	CT-MD-22	East Hampton 2.1 N	7.90''
0108020509	Eightmile River - Connecticut River	CT-MD-19	Ivoryton 0.9 WSW	10.05"

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01080206         Westfield         MA-HS-7         Plainfield 2.2 SW         8.99"           0108020601         Headwaters Westfield River         MA-HS-14         Plainfield 2.2 SW         8.99"           010802007         farmington         CT-LT-15         Colebrook 1.0 NE         9.23"           0108020701         Still River         CT-LT-15         Colebrook 1.0 NE         9.23"           0108020704         Headwaters Farmington River         CT-LT-28         North Carton 0.8 SSW         9.03"           0108020704         Headwaters Farmington River         CT-HR-28         North Carton 0.8 SSW         8.33"           0108020705         Salmon Brook         CT-HR-60         North Granby 0.7 N         8.35"           0108020705         Salmon Brook         CT-HR-80         North Granby 1.3 ENE         8.89"           0109000102         Ipswich River         MA-MD-45         Wilmington 1.5 NE         6.66"           0109000102         Ipswich River         MA-45-23         Boxford 2.4 S         6.14"           0109000103         Essex River - Frontal Broad Sound         MA-45-34         Darvers 0.8 Ess         6.03"           0109000104         Saugus River - Frontal Broad Sound         MA-45-45         Nahat 0.4 N         5.35"           0109000105	0108020509	Eightmile River-Connecticut River	CT-MD-18	Essex Village 0.9 S	8.43"
0108020601         Headwaters Westfield River         MA-HS-7         Plainfield 2.2 SW         8.99"           01080207         Farmington               9.00"           0108020701         Still River         CT-LT-15         Colebrook 1.0 NE         9.23"          9.03"           0108020702         West Branch Farmington River         CT-LT-15         Colebrook 1.0 NE         9.73"           0108020704         Headwaters Farmington River         CT-LT-9         New Hartford Center 3.2 SW         9.09"           0108020705         Salmon Brook         CT-HR-28         North Granby 0.7 N         8.75"           0108020705         Salmon Brook         CT-HR-80         North Granby 0.7 N         8.75"           0108000102         Ipswich River         MA-MD-85         Wilmington 1.5 NE         6.68"           0109000102         Ipswich River         MA-HS-12         Boxford 2.4 S         6.14"           0109000102         Ipswich River         Frontal Broad Sound         MA-HS-41         Danvers 0.8 ESE         6.03"           0109000103         Saugus River - Frontal Boxton Harbor         MA-MD-41         Warefield 0.5 NNW         6.35"           0109000105         Mystic River - Frontal Boxton H		+			0.45
0108020601         Headwaters Westfield River         MA-HS-14         Plainfield 2.4 ESE         9.50"           010802070         Farmington			MA_HS_7	Plainfield 2.2 SW	8 99"
01080207         Farmington         CT-LT-15         Colebrook 1.0 NE         9.23"           0108020702         West Branch Farmington River         MA-BE-4         Becket 5.6 SSW         9.73"           0108020704         Headwaters Farmington River         CT-LT-9         New Hartford Center 3.2 SW         9.09"           0108020704         Headwaters Farmington River         CT-HR-8         North Granto 0.8 SSW         8.33"           0108020705         Salmon Brook         CT-HR-80         North Granby 0.7 N         8.75"           0108020705         Salmon Brook         CT-HR-80         North Granby 0.7 N         8.75"           0109000102         Ipswich River         MA-MD-455         Willmington 1.5 NE         6.66"           0109000102         Ipswich River         MA-ES-12         Boxford 2.4 S         6.14"           0109000103         Essex River - Frontal Atlantic Ocean         MA-ES-12         Boxford 2.4 S         6.31"           0109000104         Saugus River - Frontal Broad Sound         MA-ES-41         Danvers 0.8 ESE         6.03"           0109000105         Mystic River - Frontal Boston Harbor         MA-MD-67         Winchester 0.7 SE         6.04"           0109000105         Mystic River - Frontal Boston Harbor         MA-MD-11         Medford 1.2 W					
0108020701         Still River         CT-LT-15         Colebrook 1.0 NE         9.23"           0108020702         West Branch Farmington River         MA-BE-4         Becket 5.6 SW         9.73"           0108020704         Headwaters Farmington River         CT-LT-9         New Hartford Center 3.2 SW         9.09"           0108020705         Salmon Brook         CT-HR-80         North Granby 0.7 N         8.33"           0108020705         Salmon Brook         CT-HR-80         North Granby 1.3 ENE         8.89"           0109000102         Ipswich River         MA-MD-85         Wilmington 2.2 WNW         6.66"           0109000102         Ipswich River         MA-MD-45         Wilmington 1.5 NE         6.68"           0109000102         Ipswich River         MA-KES-12         Boxford 2.4 S         6.14"           0109000103         Ipswich River         MA-ES-41         Danvers 0.8 ESE         6.03"           0109000104         Saugus River - Frontal Atlantic Ocean         MA-ES-41         Nahant 0.4 N         5.35"           0109000105         Mystic River - Frontal Boston Harbor         MA-MD-44         Nahant 0.4 N         5.35"           0109000105         Mystic River - Frontal Boston Harbor         MA-MD-41         Medford 1.2 W         6.63"					5.50
0108020702West Branch Farmington RiverMA-BE-4Becket 5.6 SSW9.73"0108020704Headwaters Farmington RiverCT-LT-9New Hartford Center 3.2 SW9.09"0108020705Salmon BrookCT-HR-28North Granby 0.7 N8.33"0108020705Salmon BrookCT-HR-80North Granby 0.7 N8.75"0108020705Salmon BrookCT-HR-80North Granby 0.7 N8.75"0108020705Salmon BrookCT-HR-80North Granby 0.7 N8.75"010900010CharlesCT-HR-80North Granby 0.7 N8.75"0109000102Ipswich RiverMA-MD-85Wilmington 1.5 NE6.68"0109000102Ipswich RiverMA-MD-54Wilmington 1.5 NE6.68"0109000103Essex River - Frontal Atlantic OceanMA-E5-2Beverly 2.8 NW6.31"0109000104Saugus River - Frontal Broad SoundMA-E5-41Danvers 0.8 ESE6.03"0109000105Mystic River - Frontal Broad SoundMA-MD-71Wakefield 0.5 NWW6.53"0109000105Mystic River - Frontal Boston HarborMA-MD-71Winchester 0.7 SE6.04"0109000105Mystic River - Frontal Boston HarborMA-MD-11Cambridg 0.9 NNW6.83"0109000105Mystic River - Frontal Boston HarborMA-MD-11Cambridg 0.9 NNW6.83"0109000105Mystic River - Frontal Boston HarborMA-MD-14Melford 1.2 W6.13"0109000105Mystic River - Frontal Boston HarborMA-MD-14Melford 1.2 W6.59"0109000105U			CT-1T-15	Colebrook 1 0 NF	9.23"
0108020704         Headwaters Farmington River         CT-LT-9         New Hartford Center 3.2 SW         9.09"           0108020705         Salmon Brook         CT-HR-82         North Granby 0.7 N         8.33"           0108020705         Salmon Brook         CT-HR-80         North Granby 0.7 N         8.75"           01090001         Charles         CT-HR-80         North Granby 1.3 ENE         8.89"           0109000102         Ipswich River         MA-MD-85         Wilmington 1.5 NE         6.66"           0109000102         Ipswich River         MA-ES-12         Boxford 2.4 S         6.14"           0109000102         Ipswich River         MA-ES-12         Boxford 2.4 S         6.14"           0109000103         Essex River - Frontal Atlantic Ocean         MA-ES-12         Boxford 2.4 S         6.03"           0109000104         Saugus River - Frontal Broad Sound         MA-ES-45         Nahant 0.4 N         5.35"           0109000105         Mystic River - Frontal Boston Harbor         MA-MD-67         Lexington 2.3 SE         6.04"           0109000105         Mystic River - Frontal Boston Harbor         MA-MD-111         Medford 1.2 W         6.13"           0109000105         Mystic River - Frontal Boston Harbor         MA-MD-111         Medford 1.2 SW         5.65"					
0108020704         Headwaters Farmington River         CT-HR-28         North Canton 0.8 SSW         8.33"           0108020705         Salmon Brook         CT-HR-60         North Granby 0.7 N         8.75"           0108020705         Salmon Brook         CT-HR-80         North Granby 0.7 N         8.75"           0109000102         Ipswich River         MA-MD-85         Wilmington 1.2 NE         6.66"           0109000102         Ipswich River         MA-MD-85         Wilmington 1.5 NE         6.66"           0109000102         Ipswich River         MA-ES-12         Boxford 2.4 S         6.14"           0109000102         Ipswich River         MA-ES-12         Beverly 2.8 NW         6.31"           0109000104         Saugus River - Frontal Broad Sound         MA-ES-41         Danvers 0.8 ESE         6.03"           0109000105         Mystic River - Frontal Broad Sound         MA-MD-81         Wakefield 0.5 NNW         6.33"           0109000105         Mystic River - Frontal Boston Harbor         MA-MD-74         Winchester 0.7 SE         6.04"           0109000105         Mystic River - Frontal Boston Harbor         MA-MD-44         Medford 1.2 SW         5.65"           0109000105         Mystic River - Frontal Boston Harbor         MA-MD-111         Cambridge 0.9 NNW         6.68					
0108020705         Salmon Brook         CT-HR-60         North Granby 0.7 N         8.75"           0108020705         Salmon Brook         CT-HR-8         North Granby 1.3 ENE         8.89"           0109000102         Ipswich River         MA-MD-85         Wilmington 2.2 WNW         6.66"           0109000102         Ipswich River         MA-MD-45         Wilmington 1.5 NE         6.68"           0109000102         Ipswich River         MA-ES-12         Boxford 2.4 S         6.31"           0109000103         Essex River - Frontal Atlantic Ocean         MA-ES-41         Darvers 0.8 ESE         6.03"           0109000104         Saugus River - Frontal Broad Sound         MA-ES-45         Nahant 0.4 N         5.35"           0109000105         Mystic River - Frontal Boston Harbor         MA-MD-67         Lexington 2.3 SE         6.04"           0109000105         Mystic River - Frontal Boston Harbor         MA-MD-74         Medford 1.2 W         6.13"           0109000105         Mystic River - Frontal Boston Harbor         MA-MD-14         Medford 1.2 SW         6.68"           0109000105         Mystic River - Frontal Boston Harbor         MA-MD-141         Medford 1.2 SW         6.38"           0109000105         Mystic River - Frontal Boston Harbor         MA-MD-141         Medford 1.2 SW<		-			
0108020705         Salmon Brook         CT-HR-8         North Granby 1.3 ENE         8.89"           010900010         Ipswich River         MA-MD-85         Wilmington 2.2 WNW         6.66"           0109000102         Ipswich River         MA-MD-45         Wilmington 1.5 NE         6.68"           0109000102         Ipswich River         MA-K5-2         Boxford 2.4 S         6.14"           0109000103         Ipswich River         MA-K5-2         Beverly 2.8 NW         6.31"           0109000104         Saugus River - Frontal Atlantic Ocean         MA-K5-41         Darvers 0.8 ESE         6.03"           0109000104         Saugus River - Frontal Broad Sound         MA-MD-67         Lexington 2.3 SE         6.00"           0109000105         Mystic River - Frontal Boston Harbor         MA-MD-7         Winchester 0.7 SE         6.04"           0109000105         Mystic River - Frontal Boston Harbor         MA-MD-111         Medford 1.2 W         6.13"           0109000105         Mystic River - Frontal Boston Harbor         MA-MD-111         Cambridge 0.9 NNW         6.08"           0109000105         Mystic River - Frontal Boston Harbor         MA-MD-111         Cambridge 0.9 NNW         8.17"           0109000106         Upper Charles River         MA-MD-55         Holliston 0.4 S					
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0109000109         Whitmans Pond - Frontal Boston Harbor         MA-NF-32         Quincy 1.8 WSW         7.62"           0109000109         Whitmans Pond - Frontal Boston Harbor         MA-NF-36         Weymouth 2.7 NNW         7.03"           0109000109         Whitmans Pond - Frontal Boston Harbor         MA-NF-36         Weymouth 0.5 NW         9.24"           0109000109         Whitmans Pond - Frontal Boston Harbor         MA-NF-5         Weymouth 0.5 NW         9.24"           0109000109         Whitmans Pond - Frontal Boston Harbor         MA-PL-36         Hingham 0.8 ESE         7.83"           01090002         Cape Cod         Image: Cod         Image: Cod         Image: Cod         Image: Cod					
0109000109         Whitmans Pond - Frontal Boston Harbor         MA-NF-36         Weymouth 2.7 NNW         7.03"           0109000109         Whitmans Pond - Frontal Boston Harbor         MA-NF-5         Weymouth 0.5 NW         9.24"           0109000109         Whitmans Pond - Frontal Boston Harbor         MA-NF-5         Weymouth 0.5 NW         9.24"           0109000109         Whitmans Pond - Frontal Boston Harbor         MA-PL-36         Hingham 0.8 ESE         7.83"           01090002         Cape Cod         Image: Cod         Image: Cod         Image: Cod         Image: Cod					
0109000109         Whitmans Pond - Frontal Boston Harbor         MA-NF-5         Weymouth 0.5 NW         9.24"           0109000109         Whitmans Pond - Frontal Boston Harbor         MA-PL-36         Hingham 0.8 ESE         7.83"           01090002         Cape Cod         Image: Cod         Image: Cod         Image: Cod         Image: Cod					
0109000109         Whitmans Pond - Frontal Boston Harbor         MA-PL-36         Hingham 0.8 ESE         7.83"           01090002         Cape Cod				· ·	_
01090002 Cape Cod				•	
	0109000201	North River - Frontal Massachusetts Bay	MA-PL-43	Hanson 0.7 NW	9.80''

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0109000201	North River - Frontal Massachusetts Bay	MA-PL-37	Scituate 1.2 NW	7.14"
0109000201	North River - Frontal Massachusetts Bay	MA-PL-30	Duxbury 3.7 W	9.15"
0109000201	North River - Frontal Massachusetts Bay	MA-PL-2	Sagamore Beach 1.0 NW	3.91"
0109000202	Cape Cod	MA-BA-2	Falmouth 3.1 NNW	4.91"
0109000202	Cape Cod	MA-BA-57	Falmouth 5.7 N	5.10"
0109000202	Cape Cod	MA-BA-13	Falmouth 0.6 NNW	4.14"
0109000202	Cape Cod	MA-BA-50	Falmouth 5.4 NNE	4.68''
0109000202	Cape Cod	MA-BA-19	East Falmouth 0.7 NW	4.96"
0109000202	Cape Cod	MA-BA-3	Falmouth 3.0 E	3.84"
0109000202	Cape Cod	MA-BA-11	East Falmouth 1.4 ESE	3.68"
0109000202	Cape Cod	MA-BA-18	Waquoit 0.6 SSW	4.16"
0109000202	Cape Cod	MA-BA-47	Mashpee 2.4 WSW	5.59"
0109000202	Cape Cod	MA-BA-45	Sandwich 0.9 NNE	4.46"
0109000202	Cape Cod	MA-BA-10	East Sandwich 2.3 SE	5.12"
0109000202	Cape Cod	MA-BA-59	Barnstable 3.6 W	4.58''
0109000202	Cape Cod	MA-BA-72	Yarmouth 2.0 S	3.50"
0109000202	Cape Cod	MA-BA-1	Yarmouth 2.3 SSE	3.58"
0109000202	Cape Cod	MA-BA-33	Brewster 1.5 ESE	2.42"
0109000202	Cape Cod	MA-BA-52	Truro 0.8 E	4.68"
0109000202	Cape Cod	MA-BA-27	Wellfleet 0.7 NW	5.61"
0109000202	Cape Cod	MA-BA-36	Harwich 2.6 ENE	3.25"
0109000202	Cape Cod	MA-BA-51	Orleans 3.0 S	3.36"
0109000202	Cape Cod	MA-BA-12	Orleans 1.1 E	2.98"
0109000202	Cape Cod	MA-BA-30	Eastham 0.6 SW	3.42"
0109000202	Cape Cod	MA-BA-65	Chatham 0.2 SSE	2.98"
0109000203	Mattapoisett River - Frontal Buzzards Bay	MA-PL-19	Rochester 1.2 NNW	5.43"
0109000203	Mattapoisett River - Frontal Buzzards Bay	MA-BA-64	Sandwich 1.5 SSE	5.22"
0109000204	Paskamanset River - Frontal Buzzards Bay	MA-BR-14	Dartmouth 2.5 SSW	3.98"
0109000204	Paskamanset River - Frontal Buzzards Bay	MA-BR-52	New Bedford 4.3 N	5.06"
0109000205	Sakonnet Point - Frontal Rhode Island Sound	RI-NW-5	Little Compton 1.7 NW	5.89"
0109000205	Sakonnet Point - Frontal Rhode Island Sound	RI-NW-7	Little Compton 0.6 E	5.03"
0109000205	Sakonnet Point - Frontal Rhode Island Sound	MA-BR-37	Westport 0.9 ESE	6.09"
0109000206	Elizabeth Islands - Marthas Vineyard	MA-DK-5	West Tisbury 2.9 N	4.69"
0109000206	Elizabeth Islands - Marthas Vineyard	MA-DK-9	West Tisbury 0.4 S	3.46"
0109000206	Elizabeth Islands - Marthas Vineyard	MA-DK-2	Vineyard Haven 0.8 WSW	3.91"
0109000207	Nantucket Island	MA-NT-1	Nantucket 3.8 WNW	2.13"
01090003	Blackstone			
0109000301	Upper Blackstone River	MA-WR-41	Auburn 2.6 SW	7.31"
0109000301	Upper Blackstone River	MA-WR-43	Leicester 2.4 ESE	8.06''
0109000301	Upper Blackstone River	MA-WR-69	Northbridge 1.7 WNW	6.68''
	Lower Blackstone River	RI-PR-50	Harrisville 1.2 SSE	10.20"

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0109000302Lower Blackstone RiverRI-PR-28North Smithfield 0.7 SE0109000302Lower Blackstone RiverRI-PR-63Woonsocket 1.5 NW0109000302Lower Blackstone RiverMA-NF-26Bellingham 2.4 S01090004Narragansett0109000401Upper Taunton RiverMA-NF-31Stoughton 1.2 E0109000401Upper Taunton RiverMA-PL-22East Bridgewater 0.3 WSW0109000401Upper Taunton RiverMA-PL-15Abington 1.2 NNE0109000401Upper Taunton RiverMA-PL-13Bridgewater 1.8 SE0109000402Middle Taunton RiverMA-PL-31Bridgewater 1.8 SE0109000403Threemile RiverMA-NF-19Foxborough 1.8 SSW0109000403Threemile RiverMA-BR-55NWS Boston/Norton 2.5 ESE	8.60" 10.12" 11.98" 8.85" 10.88" 6.86" 8.97" 9.72" 7.04" 10.79" 11.17" 12.48"
0109000302Lower Blackstone RiverMA-NF-26Bellingham 2.4 S01090004Narragansett0109000401Upper Taunton RiverMA-NF-31Stoughton 1.2 E0109000401Upper Taunton RiverMA-PL-22East Bridgewater 0.3 WSW0109000401Upper Taunton RiverMA-PL-15Abington 1.2 NNE0109000401Upper Taunton RiverMA-PL-15Abington 1.2 NNE0109000401Upper Taunton RiverMA-PL-23Pembroke 2.8 SW0109000402Middle Taunton RiverMA-PL-31Bridgewater 1.8 SE0109000402Middle Taunton RiverMA-PL-17Plympton 0.9 NNE0109000403Threemile RiverMA-NF-19Foxborough 1.8 SSW0109000403Threemile RiverMA-BR-55NWS Boston/Norton 2.5 ESE	11.98" 8.85" 10.88" 6.86" 9.72" 9.72" 10.79" 11.17" 12.48"
01090004NarragansettMA-NF-31Stoughton 1.2 E0109000401Upper Taunton RiverMA-NF-31Stoughton 1.2 E0109000401Upper Taunton RiverMA-PL-22East Bridgewater 0.3 WSW0109000401Upper Taunton RiverMA-PL-15Abington 1.2 NNE0109000401Upper Taunton RiverMA-PL-23Pembroke 2.8 SW0109000402Middle Taunton RiverMA-PL-31Bridgewater 1.8 SE0109000402Middle Taunton RiverMA-PL-17Plympton 0.9 NNE0109000403Threemile RiverMA-NF-19Foxborough 1.8 SSW0109000403Threemile RiverMA-BR-55NWS Boston/Norton 2.5 ESE	8.85" 10.88" 6.86" 9.72" 9.72" 10.79" 11.17" 12.48"
0109000401Upper Taunton RiverMA-NF-31Stoughton 1.2 E0109000401Upper Taunton RiverMA-PL-22East Bridgewater 0.3 WSW0109000401Upper Taunton RiverMA-PL-15Abington 1.2 NNE0109000401Upper Taunton RiverMA-PL-23Pembroke 2.8 SW0109000402Middle Taunton RiverMA-PL-31Bridgewater 1.8 SE0109000402Middle Taunton RiverMA-PL-17Plympton 0.9 NNE0109000403Threemile RiverMA-NF-19Foxborough 1.8 SSW0109000403Threemile RiverMA-BR-55NWS Boston/Norton 2.5 ESE	10.88" 6.86" 8.97" 9.72" 7.04" 10.79" 11.17" 12.48"
0109000401Upper Taunton RiverMA-PL-22East Bridgewater 0.3 WSW0109000401Upper Taunton RiverMA-PL-15Abington 1.2 NNE0109000401Upper Taunton RiverMA-PL-23Pembroke 2.8 SW0109000402Middle Taunton RiverMA-PL-31Bridgewater 1.8 SE0109000402Middle Taunton RiverMA-PL-17Plympton 0.9 NNE0109000403Threemile RiverMA-NF-19Foxborough 1.8 SSW0109000403Threemile RiverMA-BR-55NWS Boston/Norton 2.5 ESE	10.88" 6.86" 8.97" 9.72" 7.04" 10.79" 11.17" 12.48"
0109000401Upper Taunton RiverMA-PL-15Abington 1.2 NNE0109000401Upper Taunton RiverMA-PL-23Pembroke 2.8 SW0109000402Middle Taunton RiverMA-PL-31Bridgewater 1.8 SE0109000402Middle Taunton RiverMA-PL-17Plympton 0.9 NNE0109000403Threemile RiverMA-NF-19Foxborough 1.8 SSW0109000403Threemile RiverMA-BR-55NWS Boston/Norton 2.5 ESE	6.86" 8.97" 9.72" 7.04" 10.79" 11.17" 12.48"
0109000401Upper Taunton RiverMA-PL-23Pembroke 2.8 SW0109000402Middle Taunton RiverMA-PL-31Bridgewater 1.8 SE0109000402Middle Taunton RiverMA-PL-17Plympton 0.9 NNE0109000403Threemile RiverMA-NF-19Foxborough 1.8 SSW0109000403Threemile RiverMA-BR-55NWS Boston/Norton 2.5 ESE	8.97" 9.72" 7.04" 10.79" 11.17" 12.48"
0109000402Middle Taunton RiverMA-PL-31Bridgewater 1.8 SE0109000402Middle Taunton RiverMA-PL-17Plympton 0.9 NNE0109000403Threemile RiverMA-NF-19Foxborough 1.8 SSW0109000403Threemile RiverMA-BR-55NWS Boston/Norton 2.5 ESE	9.72" 7.04" 10.79" 11.17" 12.48"
0109000402Middle Taunton RiverMA-PL-17Plympton 0.9 NNE0109000403Threemile RiverMA-NF-19Foxborough 1.8 SSW0109000403Threemile RiverMA-BR-55NWS Boston/Norton 2.5 ESE	7.04" 10.79" 11.17" 12.48"
0109000403Threemile RiverMA-NF-19Foxborough 1.8 SSW0109000403Threemile RiverMA-BR-55NWS Boston/Norton 2.5 ESE	10.79" 11.17" 12.48"
0109000403 Threemile River MA-BR-55 NWS Boston/Norton 2.5 ESE	11.17" 12.48"
	12.48''
0109000403 Threemile River MA-BR-33 Taunton 2.4 W	
0109000403 Threemile River MA-BR-9 Taunton 2.6 NW	14.37"
0109000404 Ten Mile River MA-BR-23 Attleboro 0.9 ENE	11.54''
0109000405 Wonnasquatucket River-Moshassuck River RI-PR-33 Greenville 0.7 NNW	8.46"
0109000405 Woonasquatucket River-Moshassuck River RI-PR-51 North Smithfield 0.6 S	8.29"
0109000405 Woonasquatucket River-Moshassuck River RI-PR-53 Providence 1.7 N	9.26''
0109000406 Pawtuxet River RI-PR-57 Cranston 1.2 SSE	9.74"
0109000407 Palmer River MA-BR-2 Rehoboth 2.1 N	11.74''
0109000408 Lower Taunton River - Frontal Mount Hope Bay MA-BR-3 Norton 1.8 NNE	10.71"
0109000408 Lower Taunton River - Frontal Mount Hope Bay MA-BR-16 Somerset 0.4 SSE	5.48''
0109000408 Lower Taunton River - Frontal Mount Hope Bay MA-BR-19 Somerset 2.0 NNE	5.85"
0109000408 Lower Taunton River - Frontal Mount Hope Bay MA-BR-8 Dighton 1.1 WSW	6.25''
0109000409 Narragansett Bay RI-KN-17 East Greenwich 1.2 NNE	8.98''
0109000409 Narragansett Bay RI-KN-19 Warwick 2.4 SW	6.95"
0109000409 Narragansett Bay RI-KN-2 East Greenwich 2.3 ESE	7.67"
0109000409 Narragansett Bay RI-PR-32 Providence 2.3 NE	12.21"
0109000409 Narragansett Bay RI-NW-18 Jamestown 0.3 SSE	6.83''
0109000409 Narragansett Bay RI-NW-4 Middletown 1.1 SW	5.43"
0109000409 Narragansett Bay RI-NW-19 Portsmouth 2.3 S	6.54''
0109000409 Narragansett Bay RI-NW-11 Tiverton 0.8 SSW	5.77"
0109000409 Narragansett Bay RI-NW-20 Tiverton 1.0 SSW	5.87"
01090005 Pawcatuck-Wood	
0109000502 Upper Pawcatuck River RI-WS-42 Richmond 4.6 NNE	7.65''
0109000502 Upper Pawcatuck River RI-WS-45 Charlestown 4.7 NNE	6.49''
0109000502 Upper Pawcatuck River RI-WS-32 Kingston 6.9 NNW	8.23''
0109000502 Upper Pawcatuck River RI-WS-37 Kingston 2.4 SW	5.89"
0109000503 Lower Pawcatuck River CT-NL-40 Pawcatuck 1.8 SSE	7.00''
0109000503 Lower Pawcatuck River RI-WS-47 Westerly 0.8 WNW	6.59''
0109000504 Frontal Block Island Sound RI-WS-36 Charlestown 3.0 WSW	5.75"

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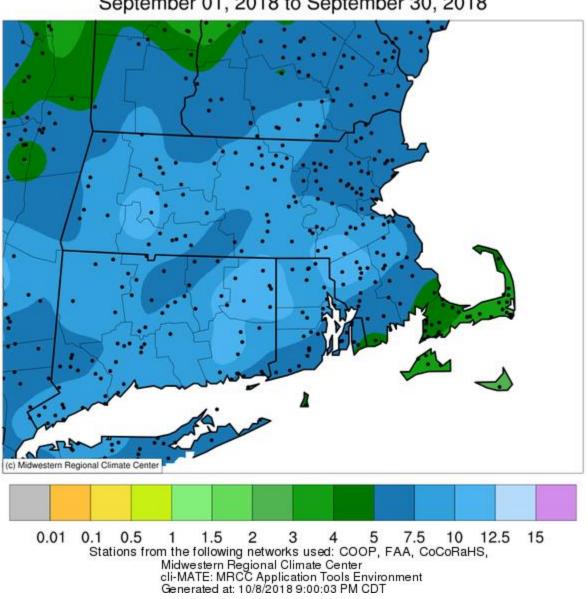
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01100001	Quinebaug			
0110000102	French River	MA-WR-68	Oxford 0.9 SSW	9.36''
0110000103	Fivemile River	CT-WN-6	Dayville 2.0 ENE	9.83"
0110000103	Fivemile River	CT-WN-4	East Killingly 1.3 SW	10.40"
0110000105	Mossup River	CT-WN-8	Moosup 1.7 NE	12.15"
0110000106	Pachaug River	CT-NL-21	Griswold 0.9 N	8.49''
01100002	Shetucket			
0110000201	Willimantic River	CT-TL-18	Hebron 5.3 NW	8.55"
0110000201	Willimantic River	CT-TL-28	South Coventry 1.2 NNW	11.21"
0110000201	Willimantic River	CT-TL-2	Staffordville 0.4 NNW	5.89"
0110000202	Natchaug River	CT-TL-27	Willington 2.7 SE	10.66"
0110000202	Natchaug River	CT-WN-12	Eastford 2.0 W	11.76"
0110000203	Shetucket River	CT-WN-10	South Windham 1.3 NNE	10.01"
0110000203	Shetucket River	CT-NL-10	Norwich 2.5 NNE	10.56"
0110000203	Shetucket River	CT-NL-28	Lisbon 2.0 SW	6.64"
01100003	Thames			
0110000302	Thames River-Frontal New London Harbor	CT-NL-5	Oakdale 2.6 WNW	11.59"
0110000302	Thames River-Frontal New London Harbor	CT-NL-6	New London 1.0 NNW	8.93"
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-38	Old Lyme 3.4 ESE	11.01"
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-29	East Lyme 0.5 SW	10.30"
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-32	Niantic 1.1 SW	9.94''
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-22	Central Waterford 2.7 SSW	6.98''
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-37	Mystic 1.6 W	6.90"
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-19	Mystic 0.9 W	6.25"
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-35	Mystic 5.8 N	7.15"
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-24	Stonington 1.4 NNW	6.80''
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-18	Stonington 0.5 NNE	6.68''
01100004	Quinnipiac			
0110000401	Quinnipiac River	CT-NH-14	Prospect 1.9 ENE	9.94"
0110000401	Quinnipiac River	CT-HR-55	Southington 1.7 WNW	7.73"
0110000401	Quinnipiac River	CT-HR-23	Southington 0.9 SSE	7.25"
0110000401	Quinnipiac River	CT-HR-76	Southington 1.0 ENE	6.18''
0110000401	Quinnipiac River	CT-NH-44	Wallingford Center 1.9 WNW	8.97"
0110000401	Quinnipiac River	CT-NH-43	Wallingford Center 3.3 NNW	9.51"
0110000402	Hammonasset River - Frontal Long Island Sound	CT-NH-21	East Haven 3.5 SSW	10.01"
0110000402	Hammonasset River - Frontal Long Island Sound	CT-NH-41	Madison Center 1.6 W	13.80''
0110000402	Hammonasset River - Frontal Long Island Sound	CT-NH-50	Madison Center 4.1 N	16.12"
0110000402	Hammonasset River - Frontal Long Island Sound	CT-MD-21	Killingworth 2.6 ESE	14.36''
0110000402	Hammonasset River - Frontal Long Island Sound	CT-MD-11	Westbrook Center 1.5 NE	8.09''
0110000403	Mill River - Frontal Long Island Sound	CT-NH-16	Milford 1.8 E	9.43''
0110000403	Mill River - Frontal Long Island Sound	CT-NH-39	West Haven 0.8 W	10.97''

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01100005	Housatonic			
0110000501	Headwaters Housatonic River	MA-BE-11	Great Barrington 3.0 N	6.71"
0110000501	Headwaters Housatonic River	MA-BE-3	Stockbridge .2 NNE	8.06"
0110000501	Headwaters Housatonic River	MA-BE-10	Pittsfield 2.0 NNW	9.16"
0110000501	Headwaters Housatonic River	MA-BE-5	Tyringham 1.5 WNW	8.65"
0110000504	Macedonia Brook - Housatonic River	CT-LT-20	Warren 2.4 WNW	9.23"
0110000506	Candlewood Lake-Housatonic River	CT-LT-22	New Milford 5.3 SSW	7.79"
0110000508	Still River - Housatonic River	CT-FR-43	Bethel 0.5 E	6.28"
0110000508	Still River - Housatonic River	CT-FR-9	Brookfield 3.3 SSE	6.35"
0110000509	Pomperaug River	CT-LT-16	Woodbury Center 1.9 WNW	6.44"
0110000510	Eightmile Brook - Housatonic River	CT-FR-44	Newtown 4.3 E	6.20''
0110000512	Outlet Naugatuck River	CT-LT-14	Watertown 0.5 S	6.59"
0110000512	Outlet Naugatuck River	CT-NH-47	Seymour 1.5 NE	8.61"
0110000512	Outlet Naugatuck River	CT-NH-45	Naugatuck 1.7 NNE	7.46"
0110000512	Outlet Naugatuck River	CT-NH-22	Prospect 0.5 SW	7.51"
0110000513	Housatonic River - Frontal Long Island Sound	CT-FR-23	Shelton 1.3 W	9.86''
0110000513	Housatonic River - Frontal Long Island Sound	CT-FR-46	Stratford 0.2 ESE	8.65"
0110000513	Housatonic River - Frontal Long Island Sound	CT-FR-55	Shelton 2.7 SSE	10.22"
01100006	Saugatuck			
0110000601	Saugatuck River - Frontal Long Island Sound	CT-FR-31	Newtown 4.6 SSW	6.69''
0110000602	Norwalk River - Frontal Norwalk Harbor	CT-FR-59	New Canaan 3.8 N	8.99''
0110000602	Norwalk River - Frontal Norwalk Harbor	CT-FR-29	Ridgefield 1.9 SSE	7.90''
0110000602	Norwalk River - Frontal Norwalk Harbor	CT-FR-3	New Canaan 1.9 ENE	10.58"
0110000602	Norwalk River - Frontal Norwalk Harbor	CT-FR-25	Norwalk 2.9 NNW	11.57"
0110000603	Pequonnock River - Frontal Long Island Sound	CT-FR-20	Westport 2.5 ENE	9.88''
0110000603	Pequonnock River - Frontal Long Island Sound	CT-FR-32	Monroe 0.8 W	7.87"
0110000604	Mianus River-Rippowam River	CT-FR-12	Stamford 3.3 NW	10.35"
0110000604	Mianus River-Rippowam River	CT-FR-39	Stamford 4.2 S	9.68''
0110000604	Mianus River-Rippowam River	CT-FR-50	Darien 2.8 NW	9.78"
02020003	Hudson-Hoosic			
0202000306	Upper Hoosic River	MA-BE-18	North Adams 3.0 WNW	7.24"
02030203	Long Island Sound			
0203020300	Long Island Sound	NY-SF-114	Fishers Island 0.5 NE	5.70"

Another widely variable month. The dark blue color is over 5", the next lighter shade of blue is over 7.5". The green colors of under 5" limited to Cape Cod and the Islands.



#### Accumulated Precipitation (in)

September 01, 2018 to September 30, 2018

#### "We do not live at the airport"

Compare your monthly total. Compare your 12 month total, if you have one. See if you notice a difference. But do compare your station's total to a nearby airport.

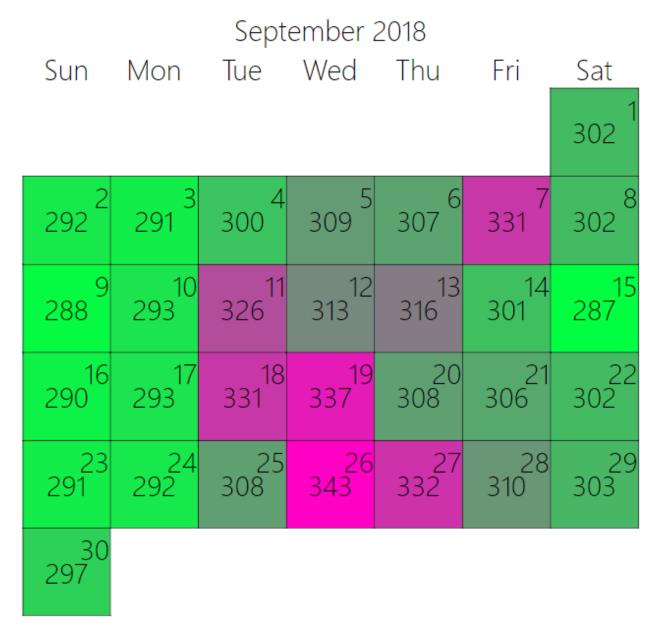
Our network does not use automated gauges. And we do not live at the airport!

Location	Station ID	September 2018 Precip	Sep departure from normal	Jul- Aug- Sep Precip	3 month departure from normal	Apr-Sep Precip	6 month departure from normal	Oct-Sep Precip	12 month departure from normal
White Plains NY	HPN	9.11''	4.39"	21.25"	8.66''	33.04"	7.68"	50.28"	0.93"
Danbury CT	DXR	5.64"	1.34"	17.45''	4.03"	29.40"	2.82"	48.04"	-1.83"
New Haven CT	HVN	8.16"	3.79"	15.89''	3.56"	26.62"	1.66''	45.95"	-1.16"
Meriden CT	MMK	8.79''	4.42"	17.92''	5.59"	30.03"	5.07"	52.95"	5.84"
Hartford CT	HFD	7.23"	3.75"	18.95''	7.81"	29.68"	6.78"	50.82"	7.22"
Willimantic CT	IJD	10.70''	6.75"	17.34''	5.27"	27.09"	2.55"	49.54"	1.12"
New London CT	GON	4.90''	0.90''	12.32"	0.39''	22.00"	-2.30"	36.96"	-9.53"
Westerly RI	WST	6.41''	2.49"	11.21''	-0.65''	19.39''	-4.58''	45.13"	-2.26"
Newport RI	UUU	6.69''	2.76"	11.52"	0.44''	19.47"	-3.50''	46.79"	0.46''
New Bedford MA	EWB	5.70''	2.10"	10.05''	-0.94''	19.39''	-3.74"	47.78"	-0.58''
Hyannis MA	HYA	3.20''	-0.67"	7.24''	-3.50''	15.75"	-6.55''	44.64''	-3.05"
Nantucket MA	ACK	2.34''	-1.70"	3.33"	-7.71"	12.07"	-9.62''	43.41"	-1.01''
Marthas Vineyard MA	MVY	3.17"	-1.03"	6.41''	-4.68''	15.26''	-6.30''	36.86"	-8.30"
Taunton MA	TAN	7.27"	2.95"	13.82"	1.67''	24.64''	0.66''	52.56"	2.82"
Plymouth MA	PYM	6.54''	2.62"	13.05"	1.85''	24.20''	0.72"	51.82"	2.67"
Norwood MA	OWD	9.70''	5.97"	18.74''	7.36''	28.34''	5.14"	52.55"	5.49"
Bedford MA	BED	5.77''	2.21"	12.94''	2.01''	24.00"	1.21"	41.04"	-4.67''
Beverly MA	BVY	5.89''	1.94''	14.15''	2.96''	24.15''	1.15"	42.56"	-3.62"
Lawrence MA	LWM	5.07"	1.56"	13.21''	2.61''	22.11"	-0.14''	35.27"	-7.89"
Fitchburg MA	FIT	7.79''	3.94''	21.69''	9.96''	33.44''	9.28''	55.19"	8.05''
Orange MA	ORE	7.48''	3.93"	23.10"	11.87''	33.47"	10.65"		
Westfield MA	BAF	9.59''	5.10"	20.33''	7.59''	32.68''	6.78''	53.41"	5.02"
North Adams MA	AQW	6.18''	2.07"	18.55"	5.70''	26.43"	0.68''	41.19"	-5.42"

September 2018 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 a record 307 Daily Reports per day. All of our states established single month records for Daily Reports per day.

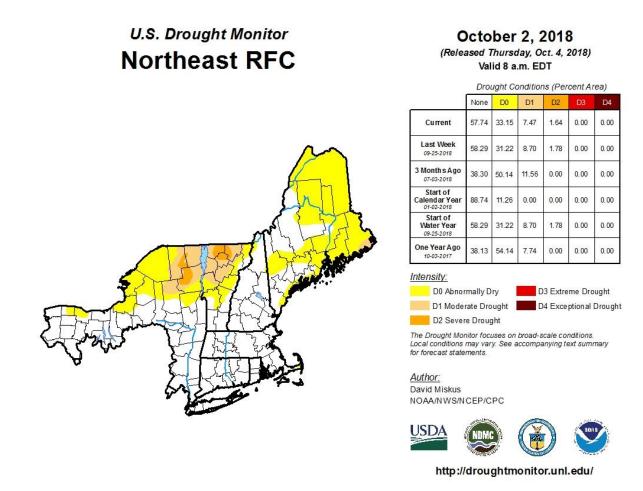
Should it not rain as much or as often, keep the focus on reporting zeros.



From the Drought Monitor.

Just a few areas of D0 on the east end of the Cape and on the Islands. Please continue to make Condition Monitoring Reports.

Every drop counts and zeros do too!



For a viewing explanation on the Drought Monitor, the CoCoRaHS animated video is on <u>YouTube</u>.

### <u>Wrap up</u>

Our first frost normally occurs in October, marking the end of the growing season. Be ready to remove your funnel and inner cylinder should below freezing temperatures occur with liquid in the inner cylinder. Measure, write down and report your measurement at your regular time. When the warmer weather returns, so can your inner cylinder and funnel.

Do take in the changing colors throughout this month of October. Enjoy the beauty that makes New England unique. Take in the harvests of apples, grapes, and cranberries this month.

Daylight Saving time ends on November 4<sup>th</sup>. It will get dark early!

The first pass of our <u>Water Year Summaries</u> have appeared. Look over your reports and fill in any missing reports during this past Water Year.

Our November Newsletter will probably appear on November 8. On that same day is the next WxTalk Webinar titled, "*Building a Weather Ready Nation*", from a staff member at the Boulder CO Forecast Office. If you cannot take in these Webinars live, they are available on <u>YouTube</u> for later viewing.

Snow can occur in October, so that is another reason to be ready to bring in your inner cylinder and funnel. We started the remarks on Snow Measuring & Reporting. We will continue those remarks in the months to come. There are plenty of videos on YouTube about measuring and reporting snow and we encourage you to view them, even as a refresher.

With more rain gauges than ever before, keep measuring and reporting as always before.

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