



# Southern



# New England

**November 2015**

Our season's first frost, first freeze, first snowflakes, first brush with an Atlantic Hurricane named Joaquin occurred in October. You all came through by answering the call for reports with the rain events at the beginning of the month, 112 reports of zero on the unusually dry day across the nation that occurred on the 14<sup>th</sup> reported on the 15<sup>th</sup>, and toward the end of the month with 148 rain reports with mostly overflowing inner cylinders of 1"-3" rain with the remnants of the Pacific's Hurricane Patricia.

The Water Year Summaries for Water Year 2015 are available. After taking the Summaries for our three states for 2015 back to 2012 and comparing them within Excel, the results are truly humbling. More observers and more that Strive for 365. More than 21,000 zeroes. 10 observers with more than 40 snowfall reports. 12 observers reporting over 100" of snowfall! 33 observers reporting more than 48" of precipitation! Please take the time and look over the great work that you have done. Share them with family and friends. You should be proud of your efforts.

## **Comments on Comments**

We can all agree that the most valuable element of your Daily Report is the number, the value, the precipitation amount. Some of us got into CoCoRaHS, and have stayed active in CoCoRaHS, because we like numbers. We can add numbers, compare numbers like you can with the Station Precip Summary feature from last month's newsletter, we love the

quantitative analysis with many numbers, seeing numbers and their colors on the maps, the different ways our numbers are used.

After the number, what’s the next best thing? The Comment! The explanation. The narrative. The opportunity for you to type something, brief or lengthy, about what you experienced.

Something like

- “brief rainshower overnight”
- “a light trace – a few flakes of snow”
- “Shower yesterday afternoon”
- “1.15” fell before 6PM, another 0.30” fell overnight ”

Here is a recent sampling of our observers’ comments.

10/18/2015	MA-SF-2	Winthrop 0.2 N	T	This is for a TRACE of snow at 420p did not last long but snow none the less
10/17/2015	MA-BA-47	Mashpee 2.4 WSW	0.09	Rain fell yesterday (10/16/2015) between 9:30 am and 10:15 am. Mostly light, but moderately heavy at intervals.
10/14/2015	MA-DK-2	Vineyard Haven 0.8 WSW	2.38	Most of the rain fell in early morning, it rained for about hour and half
10/1/2015	MA-WR-13	Leominster 1.5 S	1.75	2.66" total rainfall for this storm including 0.91" reported on 9/30.
10/13/2015	CT-FR-23	Shelton 1.3 W	0.02	Light Rain showers about 7:30 am
10/3/2015	RI-WS-1	Hope Valley 3.7 S	1.24	steady, very light to moderate rain for all daylight hours

Why bother with comments? Part of the reason is because of the localized nature of precipitation, sometimes something out of the ordinary occurs at *your* station. All of those people that love numbers, compare numbers, love the quantitative analysis, see numbers on maps, and so on, can look at your report and think, and sometimes they say this out loud, “Are you sure?” “Did you make a mistake with the decimal point?” “Did you type in the date or time instead of the precip value?” “It must have been dew” “There’s no way that could have happened...” and so on.

Here’s how easy someone can look at your Comment, especially if you report a usually high precipitation value. Taking that wrap-around rain event reported on October 3 from our Rhode Island observers.

**Search Daily Precipitation Reports**

Station Fields:   Station Number  Station Name

Location: USA  Rhode Island  ALL COUNTIES

Date Range:

Start Date: 10/3/2015  End Date: 10/3/2015

Precip Value: All Precip Values  Operator

Searched: Stations in Rhode Island. Report date on 10/3/2015.

Anyone of these columns can be clicked upon to change the sort sequence.

Showing 14 Records.

Date	Time	Station Number	Station Name	Total Precip in. ▲	New Snow in.	Total Snow in.	State	County	View
10/3/2015	7:00 AM	RI-WS-20	Wakefield-Peacedale 3.1 SSW	1.52	NA	NA	RI	Washington	
10/3/2015	8:00 AM	RI-NW-7	Little Compton 0.6 E	1.34	NA	NA	RI	Newport	
10/3/2015	7:00 AM	RI-WS-1	Hope Valley 3.7 S	1.24	NA	NA	RI	Washington	
10/3/2015	6:00 AM	RI-NW-5	Little Compton 1.7 NW	1.20	NA	NA	RI	Newport	
10/3/2015	8:00 AM	RI-WS-14	Kingston 5.5 W	1.19	NA	NA	RI	Washington	
10/3/2015	7:00 AM	RI-NW-4	Middletown 1.1 SW	1.10	NA	NA	RI	Newport	
10/3/2015	7:00 AM	RI-WS-25	Rockville 0.4 E	1.09	NA	NA	RI	Washington	
10/3/2015	10:30 AM	RI-BR-4	Warren 0.8 SSE	0.80	NA	NA	RI	Bristol	
10/3/2015	7:00 AM	RI-KN-2	East Greenwich 2.3 ESE	0.72	NA	NA	RI	Kent	
10/3/2015	8:00 AM	RI-PR-17	Cranston 4.1 E	0.55	NA	NA	RI	Providence	
10/3/2015	8:00 AM	RI-PR-32	Providence 2.3 NE	0.38	NA	NA	RI	Providence	
10/3/2015	7:00 AM	RI-PR-33	Greenville 0.7 NNW	0.36	NA	NA	RI	Providence	
10/3/2015	7:00 AM	RI-PR-20	West Glocester 3.4 SE	0.33	NA	NA	RI	Providence	
10/3/2015	10:16 AM	RI-PR-35	Cumberland Hill 3.7 E	0.22	NA	NA	RI	Providence	

View Data : View Daily Precipitation Report

View on Map ( [New](#) | [Classic](#) )

**Daily Precipitation Report**

Station Number: RI-WS-1      Station Name: Hope Valley 3.7 S

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Observation Date 10/3/2015 7:00 AM

Submitted 10/03/2015 7:37 AM

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Total Precip Amount 1.24 in.

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Notes steady, very light to moderate rain for all daylight hours

Taken at registered location Yes

This same inquiry can be done for any county, state, or country. If you search precipitation reports, it is easy to look for a Comment.

Comment, if you can. Comment whenever you have precipitation, to add clarity to your precipitation report. Comments adds a narrative to your report. Comments finds their way on your station's Water Year Summary. Comment for yourself when you look back at your station's data. Comment for the others that look each day. Everyone benefits from Comments.

## **Detail and Summary for October 2015**

The NWS Climate sites reported 3.1" and under. Most of your station totals are 3.1" and higher. This is one of many great aspects of CoCoRaHS: None of you live at the airport!

There was the slow moving cold front that moved through at the beginning of October. Western stations recorded that on the 30<sup>th</sup> of Sep. Eastern stations recorded that on 1<sup>st</sup> of Oct. Although Joaquin did not make landfall within the US, we did experience a wrap-around band of 1"+ rain on the shorelines, less inland on the 2<sup>nd</sup>, reported on the 3<sup>rd</sup>.

The variability of precipitation captured by your reports continues to impress. Heavy rain occurred at Cape Cod and the Islands in the morning of the 14<sup>th</sup>. Yet another two week mostly dry period from the 14<sup>th</sup> – 28<sup>th</sup> For the last week of the month, Hurricane Patricia made landfall on the Pacific coast of Mexico and its remnants streamed north and east to our area, giving us a widespread 1"-3" rainfall, reported on the 29<sup>th</sup>.

From the National Weather Service (NWS) Climate sites for October 2015

<b>Location</b>	<b>Station ID</b>	<b>Oct 2015 Precip</b>	<b>Oct departure from normal</b>	<b>Aug-Sept-Oct Precip</b>	<b>3 month departure from normal</b>
Pittsfield MA	PSF	2.27"	-2.44"	9.81"	-2.85"
Bridgeport CT	BDR	2.59"	-1.05"	7.18"	-3.90"
Hartford CT	BDL	2.59"	-1.79"	9.44"	-2.75"
Worcester MA	ORH	3.06"	-1.62"	10.42"	-1.90"
Providence RI	PVD	2.80"	-1.13"	8.77"	-2.68"
Boston MA	BOS	1.74"	-2.20"	7.86"	-2.87"

## From your reports for October 2015

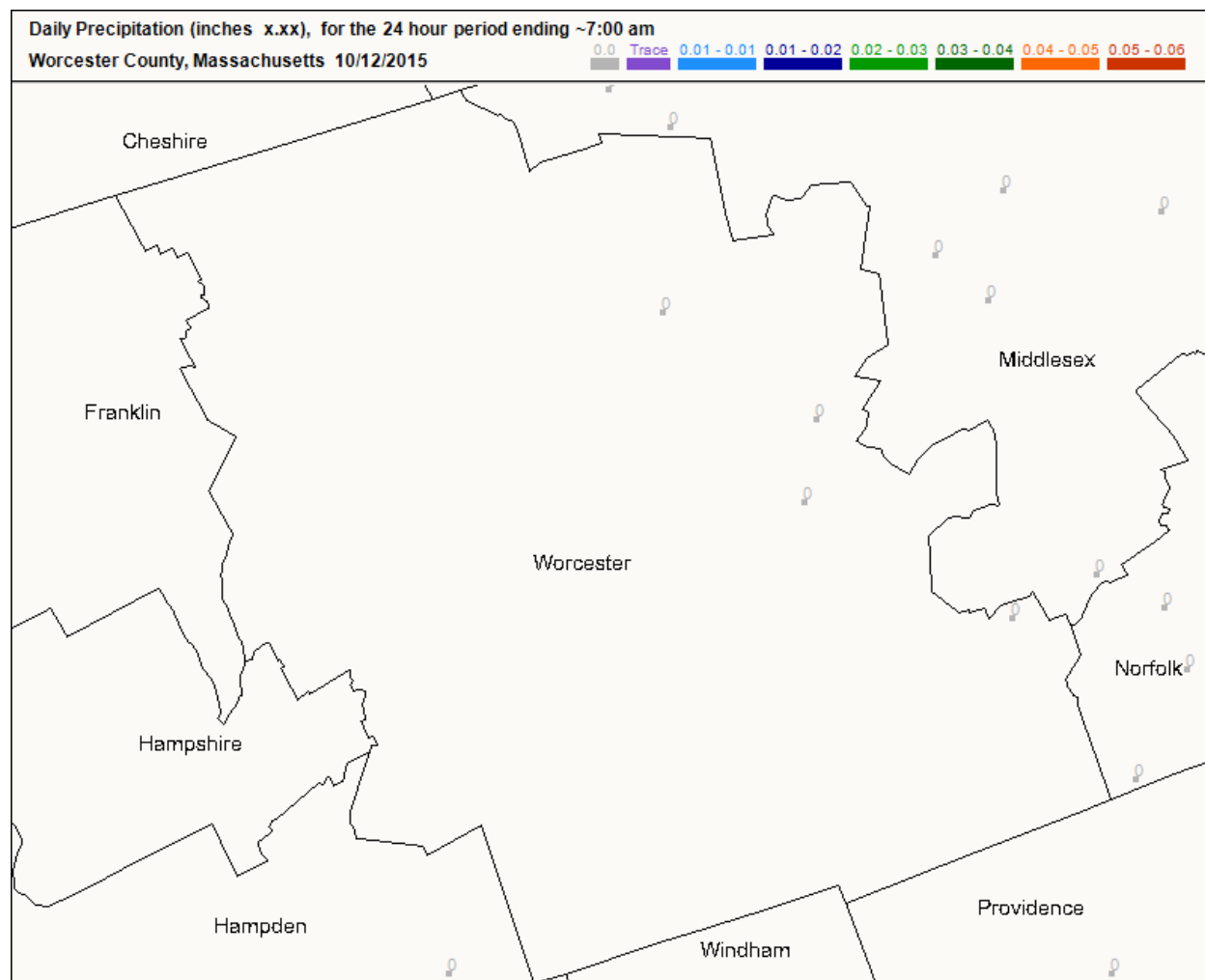
Observers reporting	170
Reported all 31 days	51
Completed by Multi-Day Reports	17
Stations missing 1 or 2 reports	30 **Please look over your station data at the end of each month!!
Daily Reports	3775
Zero Reports	2157
Non-Zero Reports	1618
Comments	524
Multi-Day Reports	76
Highest Daily Report	3.88" from Collinsville CT (CT-HR-24) reported on 10/29

Station	Location	Precip	County & State
MA-BE-10	Pittsfield 2.0 NNW	4.19"	Berkshire MA
MA-BE-3	Stockbridge .2 NNE	3.33"	Berkshire MA
CT-FR-9	Brookfield 3.3 SSE	4.52"	Fairfield CT
MA-FR-11	Shelburne 2.2 NNE	6.35"	Franklin MA
MA-HS-7	Plainfield 2.2 SW	4.38"	Hampshire MA
MA-HD-13	Springfield 4.1 W	3.10"	Hampden MA
CT-HR-18	Berlin 2.4 SSE	4.60"	Hartford CT
CT-HR-23	Southington 0.9 SSE	3.87"	Hartford CT
CT-TL-2	Staffordville 0.4 NNW	4.74"	Tolland CT
CT-MD-5	Westbrook Center 1.1 N	3.96"	Middlesex CT
CT-WN-4	East Killingly 1.3 SW	4.96"	Windham CT
MA-WR-13	Leominster 1.5 S	3.90"	Worcester MA
RI-PR-33	Greenville 0.7 NNW	5.58"	Providence RI
RI-PR-20	West Glocester 3.4 SE	4.87"	Providence RI
MA-BR-3	Norton 1.8 NNE	3.76"	Bristol MA
MA-BR-23	Attleboro 0.9 ENE	4.23"	Bristol MA
MA-MD-18	Belmont 0.2 ESE	5.59"	Middlesex MA
MA-MD-42	Holliston 0.8 S	5.34"	Middlesex MA
MA-ES-4	Groveland 0.5 WSW	1.75"	Essex MA
MA-NF-1	Norwood 1.3 NW	5.30"	Norfolk MA
MA-NF-11	Millis 2.0 SW	3.11"	Norfolk MA
MA-PL-18	Pembroke 1.7 ENE	5.39"	Plymouth MA
MA-PL-15	Abington 1.2 NNE	2.86"	Plymouth MA
MA-BA-3	Falmouth 3.0 E	7.55"	Barnstable MA
MA-BA-33	Brewster 1.5 ESE	5.32"	Barnstable MA
MA-NT-1	Nantucket 3.8 WNW	6.21"	Nantucket MA
MA-DK-2	Vineyard Haven 0.8 WSW	9.88"	Dukes MA

## **Map of the Month - Worcester County MA**

This map covers this large county and its neighboring counties. To our reporting observers from this important area, thank you for your reports.

At over 1500 sq miles, Worcester County is larger than the land area within the State of Rhode Island. Like the State of Colorado, it has river systems going in 4 different directions, but on a smaller scale.



The Nashua River watershed flows north and east, is part of the larger Merrimack River, and has Wachusett Reservoir holding 65 billion gallons of drinking water. The Chicopee River watershed is the largest watershed in MA, flows west to the larger Connecticut River, and has Quabbin Reservoir within providing drinking water to 2.5 million residents. The Millers River starts in the northwest part of the county and flows west to the Connecticut River. The French River begins in Leicester and the Quinebaug River

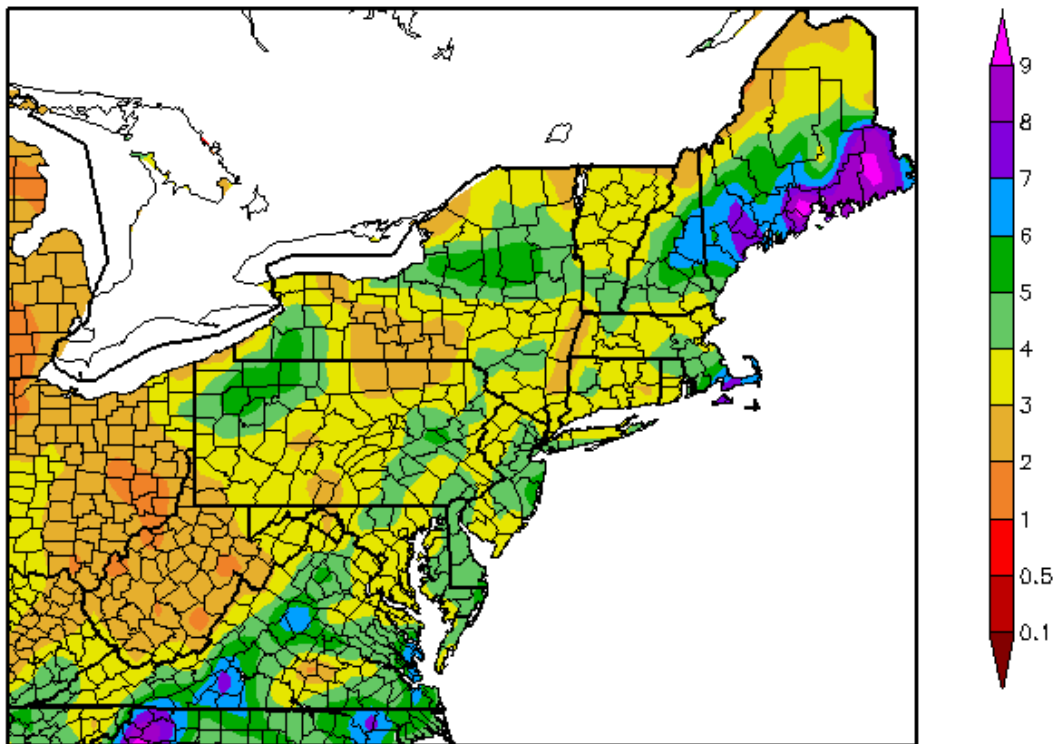
begins at Mashapaug Lake and both merge and end in New London CT. The historic Blackstone River begins near Worcester and heads south and east towards Pawtucket RI.

Although the population can be sparse, the needs are many. Every drop goes some place in some different direction.

If anyone can recruit someone to join CoCoRaHS in this area, including the areas bordering this county, we need the help in filling in the gaps.

From the Climate Center for October 2015. Take pride in this map. Your complete station data had to have given this more clarity from the 1<sup>st</sup> of Nov to the publication of it on the 2<sup>nd</sup> Nov to this publication on the 5<sup>th</sup> Nov.

Precipitation (in)  
10/1/2015 - 10/31/2015



Generated 11/5/2015 at HPRCC using provisional data.

Regional Climate Centers

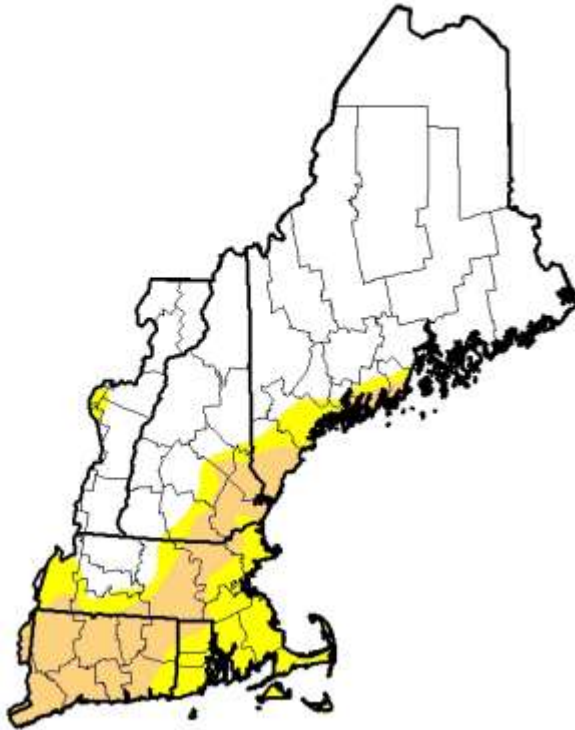
From the Drought Monitor. No change from the remnant rains of Patricia.

## U.S. Drought Monitor New England Watershed

**November 3, 2015**

(Released Thursday, Nov. 5, 2015)

Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	71.81	28.39	15.42	0.00	0.00	0.00
<b>Last Week</b> 10/27/2015	71.81	28.39	15.42	0.00	0.00	0.00
<b>3 Months Ago</b> 08/03/2015	72.89	27.11	5.84	0.00	0.00	0.00
<b>Start of Calendar Year</b> 12/01/2014	100.00	0.00	0.00	0.00	0.00	0.00
<b>Start of Water Year</b> 09/01/2015	49.31	50.69	20.91	0.00	0.00	0.00
<b>One Year Ago</b> 11/03/2014	81.76	18.24	4.62	0.00	0.00	0.00

*Intensity:*

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

**Author:**

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NOAA/NWS/NCEP/CPC



<http://droughtmonitor.unl.edu/>

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



## **There is no reporting like snow reporting**

Snow reporting is one area where your reports are most valuable. These are not just idle words mentioned to motivate you to go out in the dark, cold and windy outdoors to measure and report snow amounts.

Here's a big reason why. There is a network of Automated Surface Observing Stations (ASOS) located at our area airports. 20 ASOS stations in MA, 5 in RI, 11 in CT. The same stations at the area airports that report all year round temperatures, wind, visibility, air pressure, and feed directly to our Forecast Offices. The same stations that have tipping gauges for rainfall. There is a flaw with tipping gauges in rainfall that was pointed out in last month's newsletter.

Tipping gauges are even more flawed with the winter precipitation that comes our way, especially with snowfall! The gauge won't tip! Your manual measurements, your snowfall and snow depth reports, with the melted precip, matter most. Make them, if you can.

Snow reporting is one major area where *nobody* does it better than you do!

Many tips and pointers to pass on to you about snow measuring and reporting, then some web sites with more information to look at as well.

- We want no one to get hurt, so **safety first**.
- With whatever the winter season brings as you measure and report, remember this: Do the best that you can.
- Before the ground freezes, check the level and plumb on your gauge and, if necessary, adjust its mounting post.
- Remove your funnel and inner cylinder, unless you are completely confident that you will receive all rain for a certain precipitation event.
- Snow measuring boards, with a tall stick nearby to locate them, are helpful. Type "snow boards" in an online search and laugh at what appears. Now, type "snow measuring boards" in an online search and this is what we are talking about. Use the snow measuring boards to measure snow and to obtain a core sample to measure melted precipitation. The wind can affect the catch within your 4" diameter gauge.
- When measuring snow, take multiple measurements away from obstructions and buildings, and average those measurements.

- We work. We sleep. We have chores. Measure, take a core sample, and sweep off your snow measuring board every 6 hours during a snow event, if you can. Measure, and take another core sample, when the snow event ends. Report it all at your normal Daily Observation time. Snow does settle slightly over time.
- In winter weather, the Significant Weather Report guideline is greater than or equal to 1” snow in 1 hour time or less. If you’re experiencing a weather condition that is significant enough to pop up on a Forecaster’s flat screen monitor, send it with a Significant Weather Report.
- Be careful with numbers. Be accurate with what you report. Check your report over ***before*** you hit the submit button. Avoid mix-ups with the values that you are reporting. To help avoid the all-too-common mix-ups on the CoCoRaHS reporting form, match the colors with this helpful [website](#).
- Snow fall is measured and reported to the nearest 0.1”. If you are using a ruler that does not have a 0.1” scale, do your mathematical best to round off to the nearest 0.1”
- As was quickly mentioned in last month’s newsletter, just say “nay” to the “NA”s in the “New Snow” and “Total New Snow & Ice” sections on your Daily Report. There will be some days when you are reporting a non-zero snow depth where you should leave an “NA” on snow water equivalent (SWE). But for most of the days and most of the times, please change the NA’s to a 0 or to the non-zero value you have to report. Why? “NA” indicates a missing report. 0, or any other value, indicates a report. Please continue to do so until April 1.
- One valuable snow measurement and custom that exists across the entire CoCoRaHS network is “SWE Mondays.” Measure and report your Snow Water Equivalent (SWE) (pronounced “swee”) for the Monday morning observation. It’s too much work, and it will cut too many cores in your field of snow, to do so every day, so we have picked Mondays to make and report this measurement. By many of us participating with SWE on Mondays adds value to your report across the network. SWE helps others determine how much liquid exists in the snow pack, not only on our buildings, but what is waiting to melt into our rivers and reservoirs. More details about measuring and reporting SWE within the websites and videos below.

After the snow stops and someone asks “How much snow did we get?” Hopefully, you know! To do just that, below are some website links to pass on to you to help you measure and report snow as best as you can.

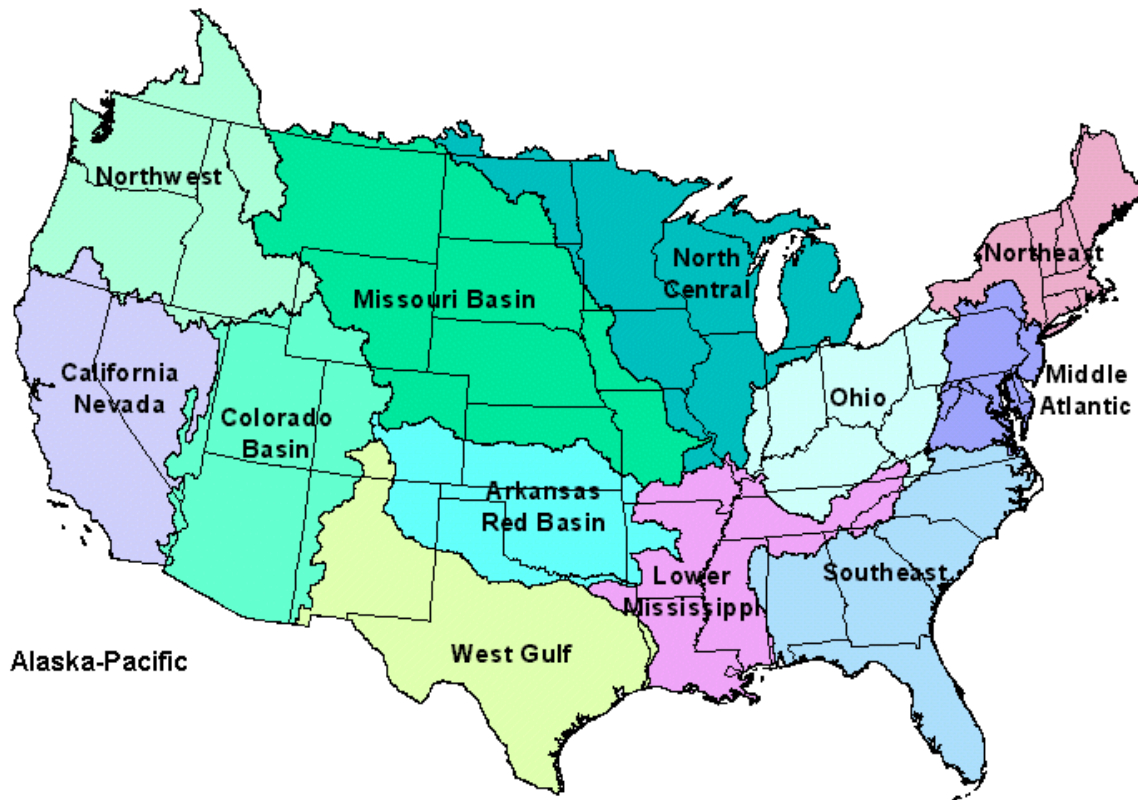
- For reporting: From the NWS Forecast Office in Bismarck ND. Match the colors in the explanation on top part, to the colors on the bottom part where our CoCoRaHS report form appears.  
<http://www.crh.noaa.gov/images/mpx/Coop/SnowMeasuringGuide.pdf>
- For measuring:
  - The NWS Snow Measurement Guidelines. Vintage: 2013. Over 10 pages, outlined how to measure and report snow. The Preface makes a good impression.  
[http://www.nws.noaa.gov/om/coop/reference/Snow\\_Measurement\\_Guidelines.pdf](http://www.nws.noaa.gov/om/coop/reference/Snow_Measurement_Guidelines.pdf)
  - The NWS Snow Measurement Guidelines. Vintage: 2008. This document is shorter and contains pictures.  
<http://www.erh.noaa.gov/akq/winter/Snow%20Measurement%20Guidelines.pdf>
- From our own CoCoRaHS YouTube Channel. This link will start on the 5<sup>th</sup> video in this sequence. Another 8 videos go on from there for a total of 20 minutes of playing time. *All of these videos are worth seeing and serve as a good refresher before going into the winter season.* The power of short animation saves hours of classroom time and slideshows. There is no season like the snow season to appreciate the YouTube videos CoCoRaHS HQ has created.  
<https://www.youtube.com/watch?v=sj37JQnArX4&index=5&list=PL86DC4C330F518387>
- Did someone say slideshows? Here they are! The slideshows on the CoCoRaHS site.  
[http://www.cocorahs.org/Content.aspx?page=training\\_slideshows](http://www.cocorahs.org/Content.aspx?page=training_slideshows)

Plenty to take in, process and understand. Do the best that you can with measuring and reporting. Safety first when you venture outdoors. Your manual measurements matter most. Make them, if you can.

## **Who looks at CoCoRaHS data?** **River Forecast Centers do, too!**

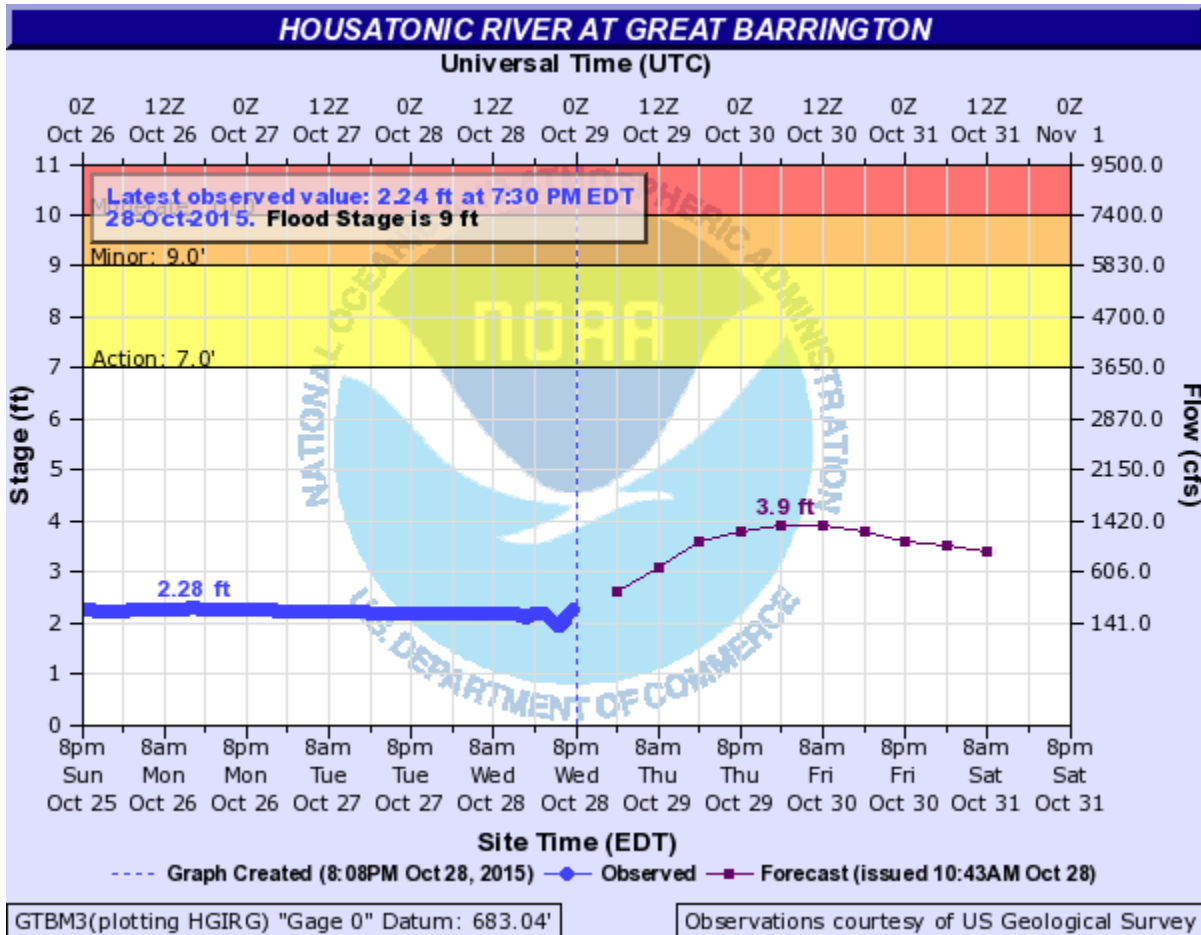
Within the Weather Forecast Office in Taunton MA are forecasters of another kind. A team of about a dozen hydrologists and hydro meteorologists forecast river flows and levels for an area that includes all 6 states within New England and most of New York State.

The Northeast River Forecast Center (NERFC) is one of 12 of River Forecast Centers (RFC) within the continental US, and a 13<sup>th</sup> RFC is in Alaska. RFC's are a part of the National Weather Service (NWS) and are collocated within Weather Forecast Offices.



CONTINENTAL US MAP OF NWS RIVER FORECAST CENTERS

The NERFC forecasts for nearly 200 watershed regions. The US Geological Survey (USGS) has located nearly 208 flow and height gauges in the area that transmit data in real time via satellite. At most of the gauges, the NERFC generates its forecasts of river height and flow. Example below of a recent river forecast for the Berkshire County MA area of Great Barrington.



RIVER FORECAST FOR HOUSATONIC RIVER AT GREAT BARRINGTON MA, BEFORE THE RAIN CAME.

In a process that begins each day from 6:30AM to 9:30AM, NERFC gathers precipitation data, whether that comes from weather radar estimates or actual reports. Actual reports from CoCoRaHS! Two groups of customers look over CoCoRaHS reports every morning: Your local Weather Forecast Office and the NERFC.

The stations in Middlesex County CT are being used in this example below because of their consistent reporting, their value to the lower part of the Connecticut River, there are no ASOS in Middlesex County CT, and there are few other sources of precipitation reports for this area.

Your reports are turned into Standard Hydrologic Exchange Format (SHEF)

```
.AR CTMD02 20151029 DH12/PPD 2.15 : CT Portland Cocorahs
.AR CTMD05 20151029 DH12/PPD 1.15 : CT Westbrook Center
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Station ID Oct 29, 2015 12Z (no change with DST) Precipitation amount reported, (inches)

Not all CoCoRaHS stations are used in this data gathering phase. There are two reasons for this.

One reason is if your station does not report precipitation, during the data gathering time frame, when it's obvious your station should have precipitation to report, your station becomes excluded, especially if a missing report occurs many times. NERFC has a map of stations much like our CoCoRaHS maps, primarily consisting of ASOS, NWS Cooperative Observers and CoCoRaHS stations. When non-zero precipitation reports come in, those stations get a colored dot, just like our CoCoRaHS maps have. The analogy given for the colored dots was one of the colors of Trix cereal! The big difference between a CoCoRaHS map and the NERFC map is missing reports leave a black dot for that station on the NERFC map. Black dots stand out when all of the others have a brightly colored dot.

The second reason has to do with how NERFC deals with several CoCoRaHS stations clustered closely together. Their old software would cause several non-zero precipitation reports in close proximity to overstate the inflow to a watershed region, thus overstating what the flow and level would be further downriver. NERFC had to selectively keep and eliminate some of the CoCoRaHS stations. With newer software, NERFC would like to take another look at your stations to see if they are reliable enough to include its precipitation reports.

After the data gathering is done, from 9:30AM to 11:30AM, forecast models are created for the 200 watersheds and 208 gauges. Look at the time stamp on the previous graphic of the Housatonic River. After that is complete, the forecasts are issued to the public. NERFC's biggest customer are the area's 8 Weather Forecast Offices, followed by the US Army Corps of Engineers for the area dams, news agencies and power companies. A source of electricity usually needs a source of water.

NERFC also forecasts precipitation amounts in 6 hour time blocks for the next [48-72 hours](#). That input is used to forecast river levels and flows. This time of year, air temperature forecasts are given a closer look to see if the precipitation will fall as snow or as rain, which would affect the inflow to a watershed.

The value of the CoCoRaHS stations in Berkshire County MA was mentioned because they are at the headwaters of the Housatonic, Farmington and Hoosic Rivers and there are few other sources of precipitation reports from that area.

The value of your snow depth reports was also mentioned. During the snow season, NERFC has weekly phone calls with another branch of NOAA: The National Operational Hydrologic Remote Sensing Center (NOHRSC) (pronounced “no-risk”) collocated with the Weather Forecast Office in Chanhassen MN, near Minneapolis.

NOHRSC is NOAA’s branch that monitors snow amounts, remotely through satellite, airborne surveys and actual reports. Actual reports from CoCoRaHS! And that’s for a newsletter topic later this winter. During those weekly phone calls between NERFC and NOHRSC, your snow depth and SWE reports are valuable inputs into understanding what can melt into our area watersheds.

Who looks at CoCoRaHS data? In last month’s newsletter, we said “You do!” Make a deposit. Make a withdrawal. See the value in your own reports. Check your data each month for completeness. In this month’s newsletter, we say “River Forecast Centers do, too!” Your precipitation, snow depth and SWE reports are of value to this customer of ours.

Websites for your further exploration.

Nationally - <http://water.weather.gov/ahps/>

NERFC - <http://www.weather.gov/nerfc/>

NERFC Self Briefing - [http://www.weather.gov/nerfc/self\\_brief\\_cold](http://www.weather.gov/nerfc/self_brief_cold)

Daily Briefing, from the morning efforts described earlier.  
<http://www.weather.gov/nerfc/briefings>

You can get this same briefing from [@NWSNERFC](https://twitter.com/NWSNERFC) on Twitter or by following [NWSNERFC](https://www.facebook.com/NWSNERFC) on Facebook.

## **Wrap Up**

Thanksgiving is a unique holiday, a day in which we pause to give thanks.

We are all volunteers in a citizen-science project, measuring and reporting rain, hail and snow. Whether you've been a member for years, months or weeks, your low cost measuring tools have high value results. The River Forecast Center is one customer of ours that can put a high value to your reports to use in their mission to protect lives and property.

Thank you for your reports throughout the year. It is amazing to see the CoCoRaHS Map come alive each day. Whether that map is grey with zeros or brightly colored like Trix cereal, it comes alive from people like yourselves, taking time out to make a measurement and report it.

Thank you to over 15 new observers who signed up this past month of October through the NWS "Did You Know?" social media campaign in the early part of October, and after October 20 by the website link to join CoCoRaHS from the Taunton MA Weather Forecast Office. Explore the [website](#), [YouTube](#) videos, and [Water Year Summaries](#). Read the [newsletters](#) and the great work of Illinois' Steve Hilberg with the [CoCoRaHS Blog](#). There is so much to learn and to experience. In making the finishing touches to this newsletter, it was great seeing new stations reporting, and we look forward to seeing more reports soon.

Thank you to the NERFC team for their explanation on how they use our measurements and reports in serving their customers each and every day. 4 different hydrologists spent nearly 3 hours showing me their impressive craft and toolsets that they have, and answering my questions. We have a valued customer with the NERFC.

Thank you for reading these increasingly lengthy newsletters. As the winter sets in, the newsletters should get shorter.

Each newsletter concludes with a word of thanks and this month will be no different. Thank you for all that you do for CoCoRaHS, whether in the past, present and in the days to come.