Fall 2024 Southern New England CoCoRaHS News

My apologies for not being able to send newsletters more frequently. Work commitments at NWS Boston have kept me busier than usual over the past year and we're still in the process of backfilling vacant jobs after retirements and promotions. I'm hoping to send something quarterly (each season) going forward. Please don't hesitate to contact me by email (jdellica@gmail.com) if you have any questions about reporting.

Welcome and Thank You!

Many new observers joined our network over the past year. We're glad to have you aboard! Whether you report daily or once in a while, that's OK. Report as often as you like. Here are the observers who joined so far in 2024:

Connecticut:

- CT-HR-143, Newington 2.5 SSE
- CT-FR-108, Shelton 1.3 W
- CT-FR-109, Bridgeport 2.9 W
- CT-FR-110, Norwalk 4.0 NNE
- CT-HR-145, Kensington 0.4 N
- CT-NH-91, Wallingford 1.7 W
- CT-NH-92, Oxford 0.6 ESE
- CT-NL-76, Uncasville 2.4 NNW

Massachusetts

- MA-BA-106, Centerville 0.4 NNW
- MA-BA-107, Dennis 0.8 S
- MA-BA-108, Osterville 1.6 NNW
- MA-BA-109, North Falmouth 0.7 E
- MA-BE-39, Stockbridge 0.9 SE
- MA-ES-100, Beverly 1.6 W

- MA-ES-103, Gloucester 1.8 WSW
- MA-HD-62, Southwick 4.3 NW
- MA-HD-64, Feeding Hills 1.2 N
- MA-HD-65, Westfield 1.8 SSE
- MA-HS-58, Northampton 2.7 NE
- MA-HS-59, Belchertown 1.8 NNE
- MA-HS-61, Hadley 3.2 NNE
- MA-MD-238, Melrose 1.2 NNW
- MA-MD-239, Lincoln 1.7 NW
- MA-MD-244, Arlington 1.4 SE
- MA-NF-89, Franklin 3.8 SW
- MA-NF-92, Plainville 2.4 NE
- MA-NF-94, Needham 1.0 SE
- MA-PL-76, Rochester 4.2 NNE
- MA-PL-77, West Wareham 0.4 ENE
- MA-PL-78, Hanover 4.2 WNW
- MA-SF-39, Roslindale 0.1 SSW
- MA-WR-134, Winchendon 1.2 SSE
- MA-WR-135, Worcester 1.7 NNW
- MA-WR-137, West Brookfield 3.1 NNE
- MA-WR-138, Uxbridge 2.4 WSW

Rhode Island

- RI-BR-21, Barrington 0.8 ENE
- RI-NW-42, Portsmouth 3.4 SW
- RI-KN-83, Warwick 3.8 N
- RI-PR-150, Providence 2.4 NNW
- RI-PR-151, Rumford 1.1 SSE

We also want to recognize those observers who have been with us for many years, some of whom joined in 2008 or 2009 when CoCoRaHS began in southern New England. Here's a list of observers who have been active for 10 years or more:

- CT-FR-3, New Canaan 1.9 ENE (June, 2009)
- CT-FR-5, Darien 3.6 N (June, 2009)
- CT-FR-9, Brookfield 3.3 SSE (June, 2009)
- CT-FR-15, Southington 3.0 E (March, 2013)
- CT-HR-5, Enfield 1.5 SE (July, 2009)
- CT-HR-6, Wethersfield 1.2 WSW (July, 2009)
- CT-HR-8, North Granby 1.3 ENE (June, 2010)

- CT-HR-15, Southington 3.0 E (March, 2013)
- CT-HR-19, Newington 0.8 ENE (November, 2013)
- CT-HR-22, East Hartford 1.3 E (May, 2014)
- CT-HR-23, Southington 0.9 SSE (December, 2014)
- CT-LT-5, Winsted 2.6 NNW (July, 2009)
- CT-LT-7, Litchfield 2.3 NNE (December, 2011)
- CT-LT-9, New Hartford 3.2 SW (March, 2013)
- CT-NH-14, Prospect 1.9 ENE (October, 2011)
- CT-NL-5, Oakdale 2.6 WNW (December, 2009)
- CT-NL-6, New London 1.0 NNW (October, 2015)
- CT-NL-8, Uncasville 1.6 ENE (December, 2015)
- CT-NL-10, Norwich 2.5 NNE (December, 2015)
- CT-TL-2, Staffordville 0.4 NNW (June, 2009)
- CT-TL-7, Columbia 2.2 SSW (July, 2013)
- CT-WN-4, East Killingly 1.3 SW (August, 2009)
- CT-WN-6, Dayville 2.0 ENE (June, 2013)
- CT-WN-8, Moosup 1.7 NE (November, 2014)
- MA-BA-1, Yarmouth 2.3 SSE (February, 2009)
- MA-BA-2, Falmouth 3.1 NNW (February, 2009)
- MA-BA-3, Falmouth 3.0 E (March, 2009)
- MA-BA-7, Wellfleet 3.0 E (March, 2009)
- MA-BA-10, East Sandwich 2.3 SE (January, 2011)
- MA-BA-11, East Falmouth 1.4 ESE (January, 2011)
- MA-BA-12, Orleans 1.1 E (January, 2011)
- MA-BA-13, Falmouth 0.6 NNW (February, 2011)
- MA-BA-15, Sandwich 0.9 NNE (February, 2011)
- MA-BA-17, East Falmouth 1.2 WNW (February, 2011)
- MA-BA-18, Waquoit 0.6 SSW (February, 2011)
- MA-BA-19, East Falmouth 0.7 NW (April, 2011)
- MA-BA-22, Yarmouth 0.9 NNW (September, 2011)
- MA-BA-23, Harwich 2.9 NE (September, 2011)
- MA-BA-27, Wellfleet 0.7 NW (July, 2012)
- MA-BA-42, Orleans 1.8 S (October, 2014)
- MA-BA-43, Chatham 0.4 WSW (November, 2014)
- MA-BE-2, Great Barrington 0.4 N (October, 2009)
- MA-BE-3, Stockbridge 2 NNE (January, 2010)
- MA-BE-4, Becket 5.6 SSW (April, 2010)
- MA-BE-11, Great Barrington 3.0 N (September, 2013)
- MA-BR-2, Rehoboth 2.1 N (February, 2009)

- MA-BR-3, Norton 1.8 NNE (February, 2009)
- MA-BR-8, Dighton 1.1 WSW (March, 2009)
- MA-BR-11, Attleboro 2.9 E (September, 2009)
- MA-BR-14, Dartmouth 2.5 SSW (December, 2012)
- MA-BR-16, Somerset 0.4 SSE (July, 2013)
- MA-BR-18, Fairhaven 2.2 ESE (December, 2014)
- MA-DK-2, Vineyard Haven 0.8 WSW (March, 2009)
- MA-DK-9, West Tisbury 0.4 S (March, 2016)
- MA-ES-4, Groveland 0.5 WSW (March, 2009)
- MA-ES-12, Boxford 2.4 S (September, 2011)
- MA-FR-8, New Salem 3.1 S (November, 2012)
- MA-FR-10, Conway 0.9 SW (July, 2013)
- MA-HS-2, Westhampton 1.8 SW (October, 2010)
- MA-HS-7, Plainfield 2.2 SW (September, 2013)
- MA-HS-8, Williamsburg 1.2 WSW (March, 2014)
- MA-MD-4, Townsend 3.2 NW (March, 2009)
- MA-MD-7, Winchester 0.7 SE (June, 2009)
- MA-MD-11, Cambridge 0.9 NNW (February, 2010)
- MA-MD-12, Acton 1.3 SW (August, 2010)
- MA-MD-18, Belmont 0.2 ESE (March, 2011)
- MA-MD-25, Ayer 0.1 SW (March, 2012)
- MA-MD-36, Townsend 2.6 S (August, 2013)
- MA-MD-42, Holliston 0.8 S (July, 2014)
- MA-MD-44, Medford 1.2 W (August, 2014)
- MA-MD-47, West Townsend 0.5 W (December, 2014)
- MA-NF-1, Norwood 1.3 NW (February, 2009)
- MA-NF-7, Millis 0.6 SSE (September, 2012)
- MA-NF-11, Millis 2.0 SW (November, 2013)
- MA-NT-1, Nantucket 3.8 WNW (April, 2014)
- MA-NT-2, Nantucket 2.2 E (May, 2015)
- MA-NT-9, Nantucket 5.9 ESE (July, 2020)
- MA-PL-2, Sagamore Beach 1.0 NW (February, 2009)
- MA-PL-5, Kingston 3.3 WNW (March, 2009)
- MA-PL-15, Abington 1.2 NNE (November, 2014)
- MA-WR-8, Fitchburg 1.6 SSW (October, 2010)
- MA-WR-18, Northborough 0.6 SSE (January, 2012)
- MA-WR-25, Holden 2.0 ESE (September, 2013)
- MA-WR-27, West Boylston 1.5 S (December, 2013)
- MA-WR-28, Berlin 1.3 WSW (April, 2014)

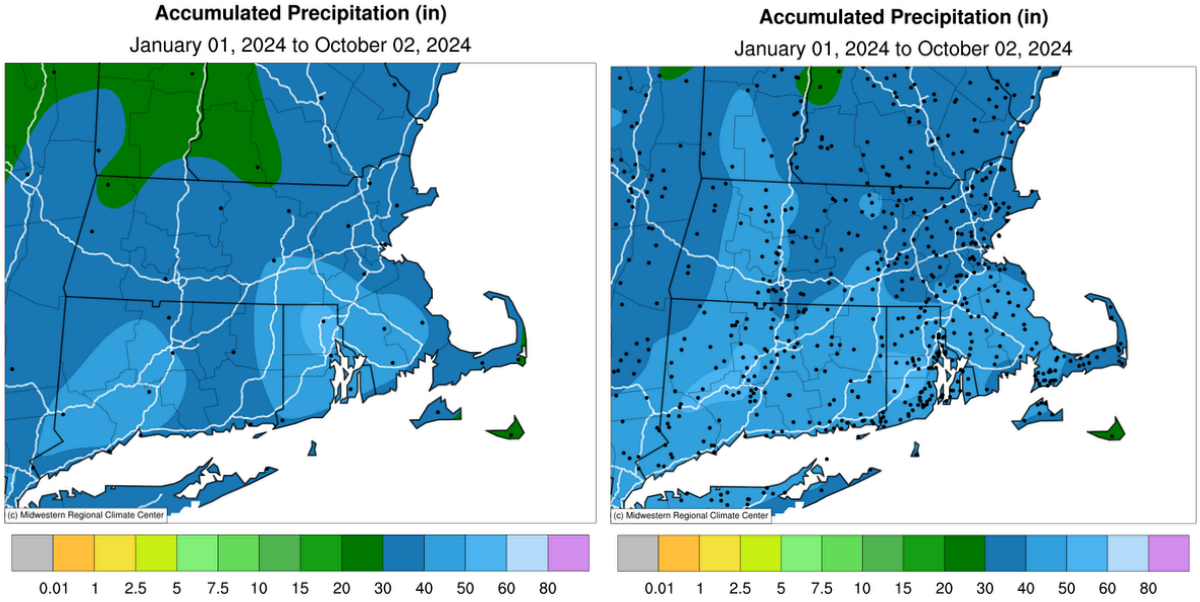
(My apologies if your station was unintentionally left out - please let me know if that was the case!)

CoCoRaHS Data Explorer

You may have noticed a new feature on the CoCoRaHS site known as the Data Explorer. This lets you look at in-depth precipitation data for your station or others from around the network. The direct link is https://dex.cocorahs.org/stations/MA-NF-1/ (change the station ID from MA-NF-1 to your station). Give it a look and see how your data compares to normal!

Your Reports Make a Difference!

CoCoRaHS reports help fill the gaps between automated observations from airports. Here in southern New England we have roughly two dozen stations in our three states but your reports truly help define the climate by providing added detail to rainfall and snowfall maps. Check out the comparison below and see for yourself!



Comparison of 2024 precipitation without CoCoRaHS (left) and with CoCoRaHS (right)

How We Use CoCoRaHS Data at NWS Boston

You submit your Daily Report in the morning. Each week, you submit a Condition Monitoring Report to help describe the ongoing drought conditions. During a thunderstorm, you send a Significant Weather Report after picking up 2 inches of rain in less than one hour. Then you wonder if anyone sees these reports and actually uses them. The answer is simple - yes! At the

NWS Boston office in Norton, MA your reports are used throughout the month in a variety of ways. Let's go through a typical month to show you how.

It's October 1. Starting off the day, our morning shift sends the daily CoCoRaHS observation for station MA-BR-55, NWS Boston/Norton 2.5 ESE. Our Senior Service Hydrologist Rob Megnia starts to gather precipitation data from September which is used for several reports, the first being the monthly E-5 Report which provides a summary of rainfall, rainfall departures, and any flooding that occurred during the month and is part of the hydrologic record for southern New England. Gathering the data from CoCoRaHS observers, NWS Cooperative Observers, and automated ASOS stations at airports takes a few days to compile. He also incorporates drought information or any flooding that took place during the month.

NWS Form E-5 (04-2006) (PRES. BY NWS Instruction 10-924)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE

MONTHLY REPORT OF HYDROLOGIC CONDITIONS

HYDROLOGIC SERVICE AREA (HSA)
Boston/Norton MA

REPORT FOR:
MONTH YEAR
September 2024

TO: Hydrologic Information Center, W/OS31
NOAA's National Weather Service
1325 East West Highway
Silver Spring, MD 20910-3283

SIGNATURE
Joe Dellicarpini (for Robert W. Megnia)
Meteorologist

DATE
October 2, 2024

When no flooding occurs, include miscellaneous river conditions below the small box, such as significant rises, record low stages, ice conditions, snow cover, droughts, and hydrologic products issued (NWS Instruction 10-924).

X An X inside this box indicates that no flooding occurred within this hydrologic service area.

September Temperature and Precipitation Trends

Precipitation across southern New England in September, 2024 was near to below normal for most of southern New England. The exception was in southern Rhode Island and especially in southeast Massachusetts where precipitation was above normal for the month, as a result of a coastal storm which brought heavy rainfall from September 19-22. September precipitation totals (Map 1) averaged 1 to 3 inches across most of the region but were as high as 4 to 7 inches near Cape Cod and the Islands. Departures for the month (Map 2) were 1 to 4 inches below normal, except near Cape Cod and the Islands where departures were 2 to 5 inches above normal for the month. Temperatures averaged within a degree of normal across the region.

Climate Site	*September Precipitation (Inches)*	*Precipitation Departure from Normal (Inches)*	*Temperature Departure from Normal (Degrees F)*
Boston	1.33	-1.84	0.2
Worcester	0.92	-2.86	2.1
Providence	1.86	-1.87	-0.9
Hartford	0.65	-3.24	2.0

Sample E-5 Monthly Report of Hydrologic Conditions

Each Monday, it's time to gather data for input for the weekly Drought Monitor. Rob reviews a week's worth of rainfall data and Condition Monitoring Reports from CoCoRaHS, in addition to other factors such as groundwater, streamflow, and reservoir levels. (Hint: Try and send a Condition Monitoring Report on Mondays!) He writes a quick email summarizing ongoing conditions and their recommendations for drought levels in the three states and sends on Tuesdays it to the Northeast DEWS (Drought Early Warning System) group, which is led by the Northeast Regional Climate Center (NERCC). Their input is compiled with others from the Northeast and one recommendation is sent to the Drought Monitor author from NERCC for Thursday's Drought Monitor issuance.

Report Date ▲	Station Number	State	County	Scale Bar	Categories	Description
10/3/2024	MA-BE-24	MA	Berkshire	Mildly Dry	General Awareness Agriculture Business & Industry Energy Fire Plants & Wildlife Relief, Response & Restrictions Society & Public Health Tourism & Recreation Water Supply & Quality	Open soil is dusty again. Jewelweed is drooping. Brook is very low. Thank goodness it's not hot too. But yesterday's wind was drying. ALSO- no frost and it's 10/2/24 and I've been on this same land for 70 years! Frost was always by 9/20.

Condition Monitoring Report from Station MA-BE-24, Hancock 3.6 NNE

During the first week of the month, it's time to prepare drought briefings. The office has a team, led by Rob, to create the briefings and present them during meetings with state drought officials from Connecticut, Massachusetts, and Rhode Island. The role of the NWS is to provide information on observed rainfall, rainfall departures, and forecast trends for the next few weeks. CoCoRaHS reports are heavily relied upon to fill in the gaps in precipitation data, since automated airport stations and Cooperative Observer sites are few and far between.

Rhode Island Precipitation
National Weather Service Boston/Norton, MA
Preliminary Precipitation Data (inches) by Drought Region
Past 12 to 36 months ending September 2024
Includes CoCoRaHS Data

RI 1-month September 2024	Rainfall	Departure	Percent	Normal
Northwest	1.82	-2.58	41	4.40
Northeast	1.87	-2.21	46	4.08
Central West	1.53	-2.76	36	4.29
Central East	1.91	-2.17	47	4.08
Eastern	2.94	-0.97	75	3.91
Southern	1.88	-2.27	45	4.15
New Shoreham	0.73	-3.33	18	4.06

RI 2-month Aug 24-Sep 24	Rainfall	Departure	Percent	Normal
Northwest	5.60	-3.31	63	8.91
Northeast	5.70	-2.39	70	8.09
Central West	5.41	-3.16	63	8.57
Central East	6.25	-1.84	77	8.09
Eastern	6.58	-1.16	85	7.74
Southern	7.14	-1.03	87	8.17
New Shoreham	5.11	-3.15	62	8.26

Sample table of 1 month and 2 month rainfall data for Rhode Island.

As you can see, CoCoRaHS reports are used in a variety of ways throughout the months at NWS Boston and other NWS offices, whether it be during drought, flood, severe weather, or winter weather events. We encourage you to submit Daily Reports and weekly Condition Monitoring Reports since these become critical during periods of dry weather. Also, don't forget to submit a Significant Weather Report (SWR) - it doesn't just have to be for heavy rain or flooding! Here's an easy way to remember when to send a SWR - the "1-2-3 Rule):

- 1" of rain or snow or more per hour
- Total of 2" or more of rain
- Total of 3" or more of snow
- Anything else you feel is important (storm damage, for example)

The SWRs automatically alert at NWS forecaster workstations so they see your report immediately! Believe me, they are very helpful!

Observer Tips

Now that we're into the fall season, here are a few tips to help protect your gauge from becoming damaged in freezing conditions and some winter weather reporting tips.

When temperatures are expected to be near freezing (33-36F):

- Remove the funnel from the top of the gauge and the inner cylinder and keep them indoors.
- Allow rain to fall into the larger outer cylinder then carefully pour it into the inner cylinder to measure the rainfall amount.

When snow falls:

- Allow snow to fall into the larger outer cylinder.
- Bring the cylinder indoors to melt the snow. You can let it melt on its own or add a measured amount of warm water (using the inner cylinder) to melt it more quickly.
- Carefully pour the melted snow into the inner cylinder to measure the precipitation amount. If you added warm water to help it melt, remember to subtract that from the total.
- If there were just flurries (no accumulation), report a **Trace (T)** of precipitation and snowfall

Remember, winter weather reporting is probably the most difficult thing you will do! If you make a mistake, that's OK. Just do the best you can. Feel free to reach out to me (jdellica@gmail.com) if you have questions. You can also refer to the CoCoRaHS Winter Precipitation Measurements Guide for more detailed information.

Lastly, always be safe! If it's too cold, too icy, or simply too dangerous to go to your gauge, **wait until it's safe to do so**. Some observers "take the winter off" from reporting and that's perfectly fine too. We will keep your station "open" until you are ready to report again.

That's all for now. Look for the next newsletter around the start of winter!