



# Southern



# New England

**June 2017**

The American Robin and Mountain Laurel are the state bird and state flower of Connecticut. Our anniversary section for Connecticut is at the end of this newsletter, as we conclude our state anniversary series.

We lead off with a quick mention about keeping quality in your reports. It's time to start recognizing observers who have submitted 3000 Daily Reports. We start by recognizing our first two observers from Rhode Island who have done so.

The Hurricane Awareness Tour came to Islip-MacArthur Airport on May 8<sup>th</sup>. With that tour, there are a few items to pass on about that event. Looking for a vacation spot away from the cold and the snow of winter, perhaps a mountain retreat somewhere, the cold and the snow found me in Estes Park Colorado with several other State Coordinators, headquarters staff, and others interested in volunteer observing networks.

Our Map of the Month is about Dukes County MA. Warmer days at the beach are coming.

Right after getting a firsthand Farm Report that you saw in Nolan's last newsletter, a visit to where our network got its start in Fort Collins Colorado.

All of this and another record breaking reporting month. Let's get into it.

## **Quality Reports**

Last month, we passed on a list of observer tips. As you reviewed those, one overall guiding principle to pass along as you submit reports.

***Mistakes happen with reporting, not with measuring.*** Spend just a few seconds looking over your report before pressing submit. Having the decimal point in the incorrect location, incorrect date or observation time, incorrect start or end date on the Multi-Day Report, or using the Daily Report instead of the Multi-Day Report are the most common errors that are found. That's before it snows again and we begin to report multiple values of snow and melted amounts. More about snow later on!

If you are new to the crew, unsure of what to do, or if you want a second set of eyes to look over your last report, please ask Joe or Matt.

Keep Quality in your Reports.

## **3000 Daily Reports**

Congratulations to 2 Rhode Island observers who have submitted over 3000 Daily Reports.

Those observers are

RI-NW-4 Middletown 1.1 SW  
RI-KN-2 East Greenwich 2.3 ESE

## **Hurricane Awareness Tour**

During this last month of May, the National Hurricane Center conducted a tour of various cities along the east coast, to bring awareness to the widespread impacts that tropical cyclones have in our area.

Tropical cyclones, and its other forms named tropical storms or hurricanes, have widespread impacts. Those impacts include damaging winds, coastal flooding, heavy rains, and inland flooding. As you look at any of our 3 states separately, or if you want to look at all 3 of our states as a whole, we experience ALL of those impacts. No one area is not affected from any of the impacts of tropical cyclones, regardless of what the wind speeds are or where the center of storm passes.

The National Hurricane Center will track tropical cyclones before they affect land, and they will track your precipitation reports after they affect land. You may experience tree damage, power outages, flooding, or be forced to evacuate. Your safety is above all and super-human efforts are not expected as an observer. Just know that our network of local observers is highly valued by the National Hurricane Center. Whatever reports of precipitation you can accurately and timely make, will serve as an important and valued element in the Center's post-storm analysis.

In the past 115 years, about 16 tropical cyclones have affected our area. Simple math says we are affected by these systems once every 7 years. The last tropical cyclones to affect our area were when Irene passed through in late August 2011 and when Sandy passed to our south in late October 2012, and we all held our collective breath when Matthew was headed our way in early October of last year. There is no fixed or predictable interval for these storms to affect our area, so be ready every year.

Being ready involves having a plan and insurance. Tips are at [www.ready.gov/hurricanes](http://www.ready.gov/hurricanes). Stay informed during hurricane season by looking at [www.nhc.noaa.gov](http://www.nhc.noaa.gov)

On to the equipment that is used.



WC-130J - The venerable workhorse of an aircraft, the rugged pickup truck of our air fleet, an airframe that has flown since the 1950's, has been modernized and made more efficient for the long and bumpy flights to, from and within tropical cyclones.



Gulfstream G-IV. Normally used with executive transport in business aviation as a long range, jet engine aircraft, this aircraft has a unique design feature. While most jet

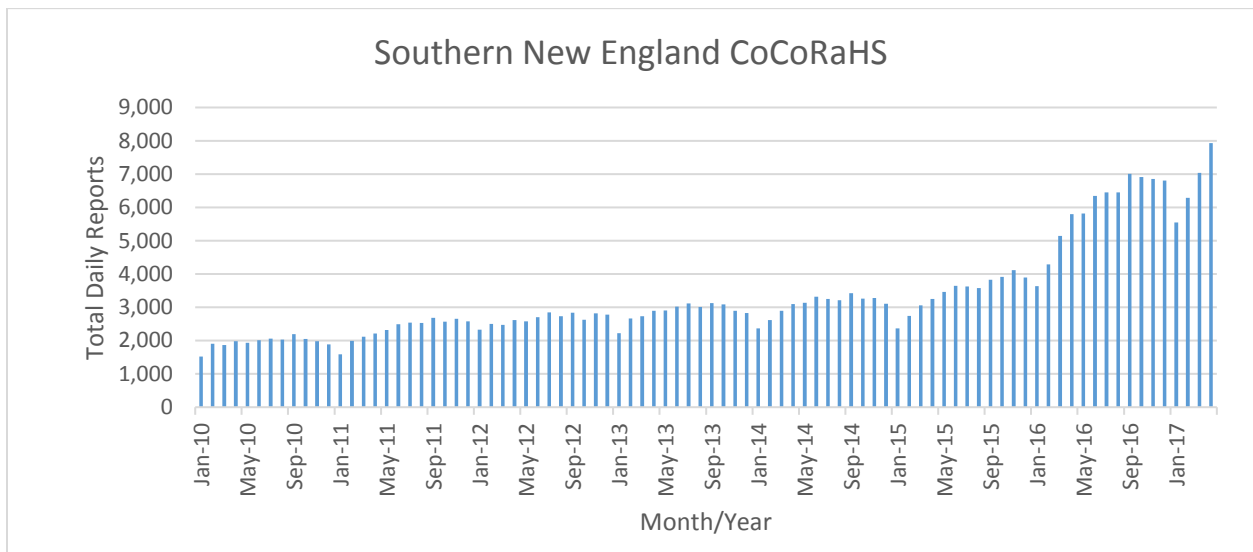
aircraft travel at 30,000-35,000 feet, this aircraft flies above all of the others at 40,000-45,000 feet, making it valuable to measure the wind speeds and directions at that altitude.

The tail of the aircraft is modified to enclose a full Doppler Radar so that the aircraft can make a vertical image of the tropical cyclone.

Sampling of wind speeds and directions is performed by dropping sensors on a parachute, called dropwindsondes, from a tube mounted within the airframe. About 15 sensors are dropped on a typical WC-130 mission, and 25-30 sensors are dropped on a typical G-IV mission. All of that data helps determine the intensity and direction of the tropical cyclone.

## **He clapped**

The topic was “Mentoring Coordinators”. My first year at this conference in Estes Park Colorado, and my second year as Coordinator, I was the one who needed mentoring. Over two dozen people in the room, an assortment of state climatologists and other scientists. The presentation started as a playful poke about the mentoring I do towards Joe. In the middle, listing of the several of the things that we do from monthly newsletters, emphasizing the reporting of zeros, emphasis on why our network exists, recruiting venues we explore, to the certificates we distribute after the Water Year. Towards the end of presentation, I displayed a graph of our monthly reporting totals going back to Year 2010.



Nolan clapped. He clapped. It was the only thing he clapped for during the entire 2 ½ day conference. Take the applause from the mountains of Colorado and pass it on to all of you. You are behind this growth we are experiencing here and now.

## **Detail and Summary for May 2017**

From the National Weather Service (NWS) Climate sites for May 2017.

<b>Location</b>	<b>Station ID</b>	<b>May 2017 Precip</b>	<b>May departure from normal</b>	<b>Mar-Apr-May Precip</b>	<b>3 month departure from normal</b>	<b>Dec-May Precip</b>	<b>6 month departure from normal</b>
Pittsfield MA	PSF	6.80"	2.59"	13.20"	1.76"	21.80"	1.76"
Bridgeport CT	BDR	5.49"	1.69"	14.65"	2.67"	23.27"	2.07"
Hartford CT	BDL	4.59"	0.24"	12.29"	0.60"	21.00"	-0.25"
Worcester MA	ORH	5.97"	1.78"	14.73"	2.21"	24.88"	1.82"
Providence RI	PVD	6.89"	3.34"	17.84"	4.92"	28.16"	3.87"
Boston MA	BOS	3.45"	-0.04"	13.36"	1.81"	24.08"	2.14"

It has taken nearly two years, but the negative numbers have almost been eliminated. May was our second rainy month in a row. Notice what happened during our drought last year? We struggled to get a day, any day, with over 1" of rain. Usually, we get one day a month with 1" or more of liquid from the sky. This past May, we had three days with over 1" of rain, May 5<sup>th</sup>, 13<sup>th</sup>, and 25<sup>th</sup>. May saw its first heat wave during the middle of the month. Spring rains and cool weather ended the month, along with 5 hail reports from the central part of Massachusetts.

A healthy 4"-6" for many stations in our area. Our Franklin County observers don't stop at measuring snow. They will measure over 8" of rain in a month as well.

Plenty of new stations in new places. Welcome to the observers from Stamford CT that returned, from Warren CT near the Housatonic River, in eastern CT, from our smallest county of Bristol RI, our 100<sup>th</sup> registered observer in Middlesex County MA, from Methuen MA, and at last, new observers along the Sudbury River to compliment those we have along the Concord River.

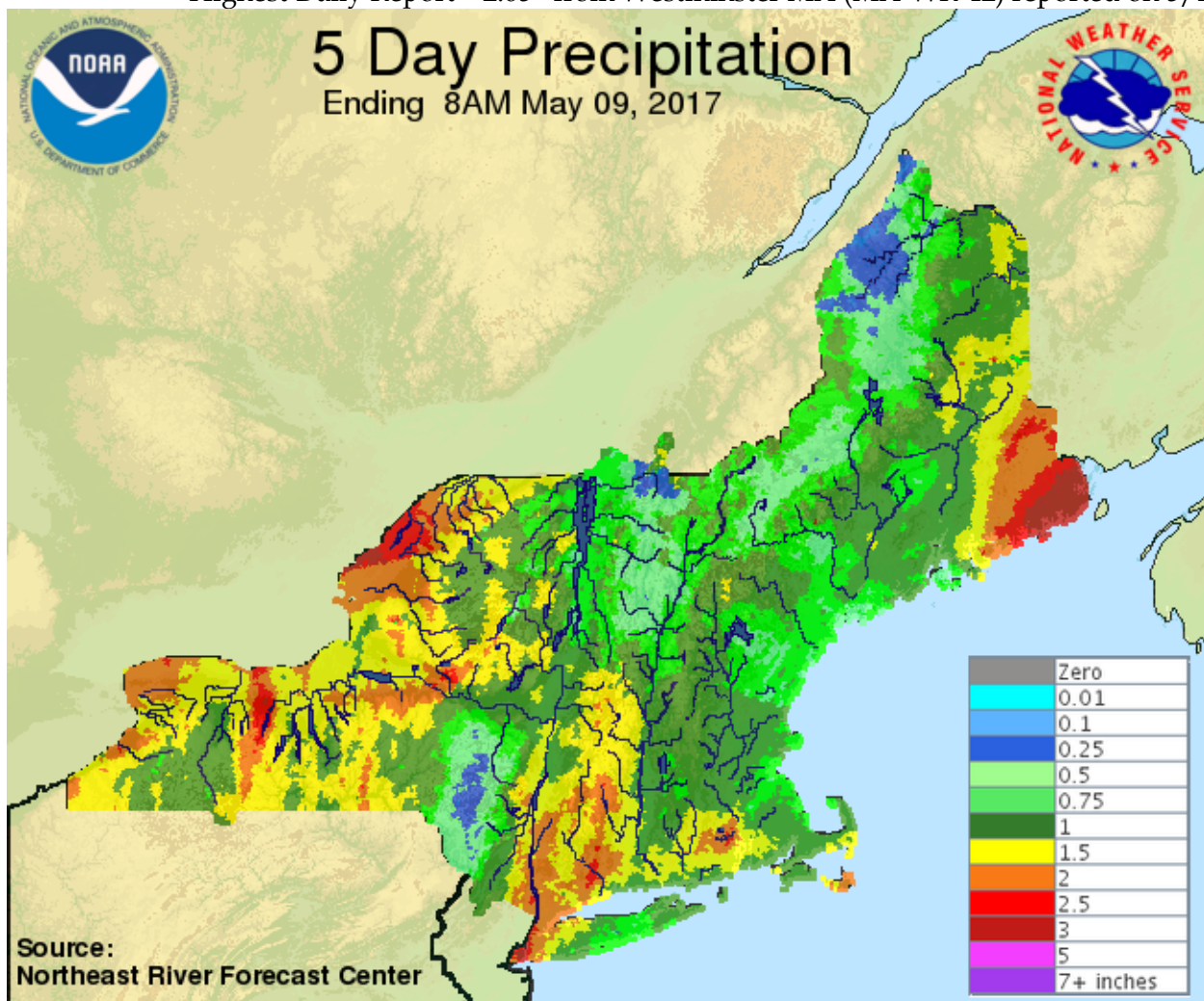
We broke through 7000 Daily Reports in April. We came close to 8000 Daily Reports in May. 173 stations made the list of stations appearing next.

Take in this next section of your reports with appreciation of your efforts.



## From your reports for May 2017

Observers reporting	320
Reported all 31 days	135
Completed by Multi-Day Reports	38
Missing 1 or 2 reports	47
Daily Reports	7995
Zero Reports	3177
Non-Zero Reports	4818
Daily Comments	1415
Multi-Day Reports	164
Condition Monitoring Reports	38
Significant Weather Reports	17
Hail Reports	5
Snowfall Reports	3182
Snow Depth Reports	1367
Highest Daily Report	2.65" from Westminster MA (MA-WR-42) reported on 5/26



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

Watershed	Watershed Name	Station	Station Name	Precip
01070004	Nashua			
0107000401	North Nashua River	MA-WR-44	Westminster 0.6 WSW	8.23"
0107000401	North Nashua River	MA-WR-8	Fitchburg 1.6 SSW	4.57"
0107000401	North Nashua River	MA-WR-22	Fitchburg 2.0 NNE	6.57"
0107000401	North Nashua River	MA-WR-13	Leominster 1.5 S	5.38"
0107000402	Headwaters Nashua River	MA-WR-56	Sterling 4.3 NW	5.66"
0107000402	Headwaters Nashua River	MA-MD-25	Ayer 0.1 SW	4.93"
0107000403	Squannacook River	MA-MD-47	West Townsend 0.5 W	6.26"
0107000403	Squannacook River	MA-MD-36	Townsend 2.6 S	5.82"
01070005	Concord			
0107000501	Sudbury River	MA-MD-90	Marlborough 0.1 SW	4.73"
0107000501	Sudbury River	MA-MD-100	Sudbury 1.6 N	4.59"
0107000501	Sudbury River	MA-MD-88	Wayland 2.1 SSE	4.26"
0107000502	Concord River	MA-WR-30	Shrewsbury 1.6 NNE	5.64"
0107000502	Concord River	MA-WR-28	Berlin 1.3 WSW	5.46"
0107000502	Concord River	MA-WR-18	Northborough 0.6 SSE	5.57"
0107000502	Concord River	MA-WR-42	Northborough 2.3 N	5.36"
0107000502	Concord River	MA-MD-12	Acton 1.3 SW	5.14"
0107000502	Concord River	MA-MD-51	Maynard 0.7 ESE	4.67"
0107000502	Concord River	MA-MD-53	Acton 4.0 ENE	4.69"
0107000502	Concord River	MA-MD-62	Chelmsford 1.2 E	4.27"
0107000502	Concord River	MA-MD-60	Billerica 2.0 W	4.58"
01070006	Merrimack River			
0107000611	Spicket River	MA-ES-38	Methuen 1.6 NNE	3.84"
0107000613	Shawsheen River	MA-MD-96	Lexington 0.3 NE	5.05"
0107000614	Powwow River - Merrimack River	MA-ES-3	Haverhill 3.6 WNW	4.36"
0107000614	Powwow River - Merrimack River	MA-ES-29	North Andover 1.9 SSE	4.07"
0107000614	Powwow River - Merrimack River	MA-ES-20	Haverhill 0.7 N	4.08"
0107000614	Powwow River - Merrimack River	MA-ES-27	Amesbury 1.2 ENE	5.14"
01080201	Middle Connecticut			
0108020106	Manhan River - Connecticut River	MA-HS-2	Westhampton 1.8 SW	7.48"
0108020106	Manhan River - Connecticut River	MA-HS-8	Williamsburg 1.2 WSW	7.30"
0108020106	Manhan River - Connecticut River	MA-HS-26	Easthampton 0.5 SW	6.50"
0108020106	Manhan River - Connecticut River	MA-HS-21	Northampton 0.6 ESE	6.11"
0108020106	Manhan River - Connecticut River	MA-FR-12	Sunderland 1.3 SE	5.98"
0108020107	Batchelor Brook - Connecticut River	MA-HD-13	Springfield 4.1 W	6.10"



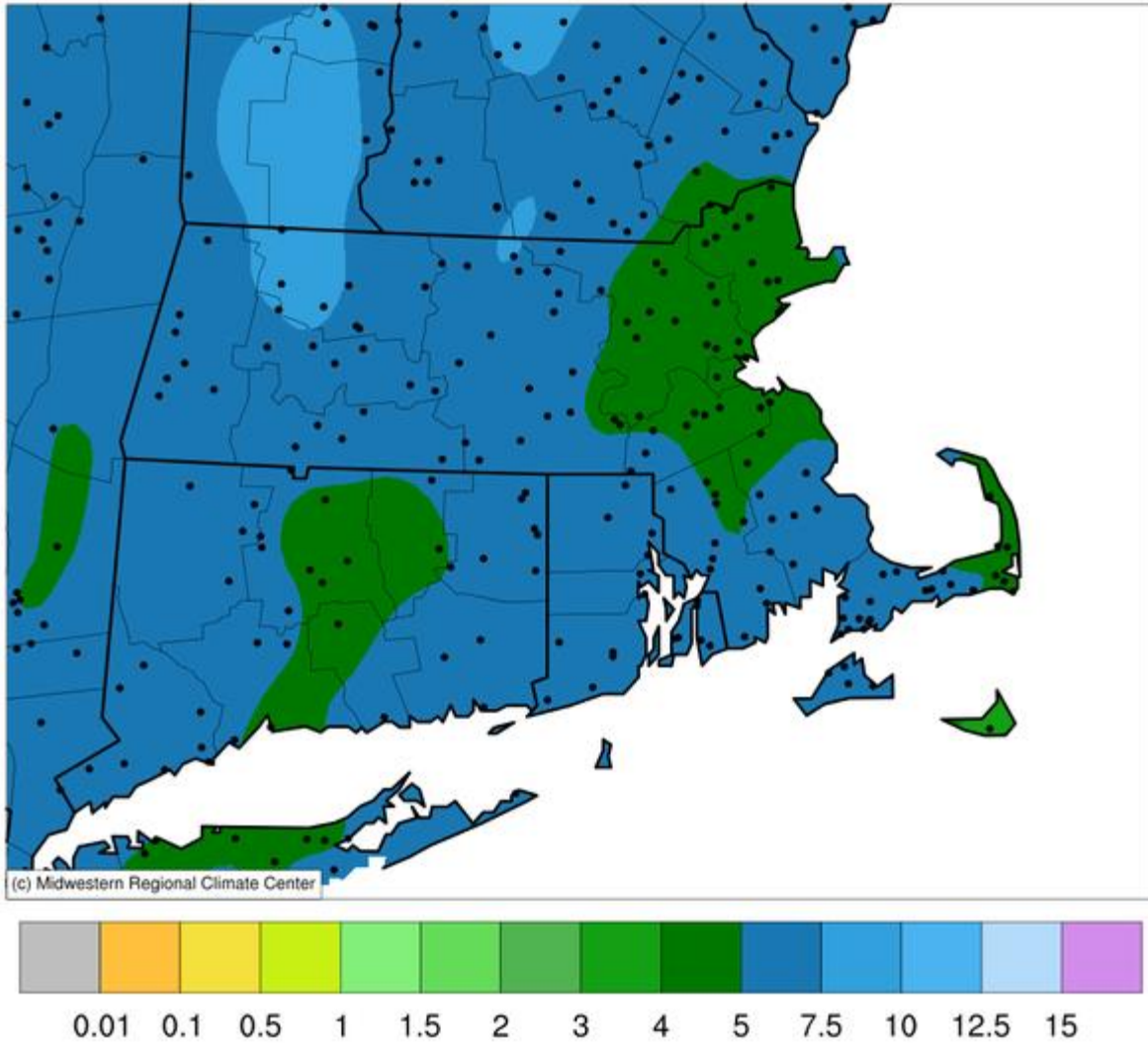
01080202	Miller			
0108020202	Lower Millers River	MA-FR-23	Erving 2.0 W	7.69"
01080203	Deerfield			
0108020305	Lower Deerfield River	MA-FR-17	Buckland 1.8 ESE	8.51"
0108020305	Lower Deerfield River	MA-FR-13	Conway 2.9 NW	8.85"
0108020305	Lower Deerfield River	MA-FR-10	Conway 0.9 SW	8.79"
01080204	Chicopee			
01080205	Lower Connecticut			
0108020502	Scantic River	MA-HD-20	Wilbraham 3.7 SSW	5.27"
0108020502	Scantic River	CT-TL-15	Central Somers 0.3 N	4.43"
0108020503	Park River	CT-HR-39	Farmington 1.6 SW	5.08"
0108020503	Park River	CT-HR-9	West Hartford 2.7 NNW	5.33"
0108020503	Park River	CT-HR-49	West Hartford 1.1 W	4.96"
0108020503	Park River	CT-HR-11	West Hartford 2.7 SSE	4.56"
0108020504	Hockanum River	CT-TL-16	Vernon 3.5 NNE	3.81"
0108020504	Hockanum River	CT-TL-13	Crystal Lake 1.2 W	4.00"
0108020505	Roaring Brook - Connecticut River	CT-HR-6	Wethersfield 1.2 WSW	4.46"
0108020505	Roaring Brook - Connecticut River	CT-HR-22	East Hartford 1.3 E	3.91"
0108020506	Mattabesset River	CT-HR-15	Southington 3.0 E	5.86"
0108020507	Higganum Creek - Connecticut River	CT-MD-2	Portland 0.9 S	4.21"
01080206	Westfield			
0108020601	Headwaters Westfield River	MA-HS-7	Plainfield 2.2 SW	7.86"
0108020601	Headwaters Westfield River	MA-HS-14	Plainfield 2.4 ESE	7.34"
0108020603	Outlet Westfield River	MA-HD-17	Southwick 2.5 WSW	5.40"
01080207	Farmington			
0108020701	Still River	CT-LT-15	Colebrook 1.0 NE	5.89"
0108020702	West Branch Farmington River	MA-BE-4	Becket 5.6 SSW	6.63"
0108020704	Headwaters Farmington River	CT-LT-9	New Hartford Center 3.2 SW	5.71"
0108020704	Headwaters Farmington River	CT-HR-24	Collinsville 0.9 NW	5.35"
0108020704	Headwaters Farmington River	CT-HR-28	North Canton 0.8 SSW	4.92"
0108020705	Salmon Brook	CT-HR-8	North Granby 1.3 ENE	5.37"
01090001	Charles			
0109000101	Plum Island Sound - Frontal Atlantic Ocean	MA-ES-24	Newburyport 0.8 SW	5.61"
0109000102	Ipswich River	MA-MD-85	Wilmington 2.2 WNW	4.97"
0109000102	Ipswich River	MA-ES-12	Boxford 2.4 S	4.59"
0109000102	Ipswich River	MA-ES-2	Beverly 2.8 NW	4.46"
0109000103	Essex River - Frontal Atlantic Ocean	MA-ES-41	Danvers 0.8 ESE	4.64"
0109000104	Saugus River - Frontal Broad Sound	MA-MD-81	Wakefield 0.5 NNW	4.22"
0109000105	Mystic River - Frontal Fishers Island Sound	MA-MD-87	Woburn 0.5 NW	4.83"
0109000105	Mystic River - Frontal Boston Harbor	MA-MD-44	Medford 1.2 W	4.71"
0109000105	Mystic River - Frontal Boston Harbor	MA-MD-11	Cambridge 0.9 NNW	4.57"

0109000105	Mystic River - Frontal Boston Harbor	MA-SF-10	Chelsea 0.8 N	4.28"
0109000106	Upper Charles River	MA-WR-1	Milford 2.3 NNW	5.34"
0109000106	Upper Charles River	MA-NF-11	Millis 2.0 SW	4.81"
0109000107	Lower Charles River - Frontal Boston Harbor	MA-NF-17	Needham 1.2 E	4.23"
0109000107	Lower Charles River - Frontal Boston Harbor	MA-MD-74	Somerville 0.7 SSE	2.82"
0109000108	Neponset River - Frontal Boston Harbor	MA-NF-1	Norwood 1.3 NW	4.64"
0109000109	Whitmans Pond - Frontal Boston Harbor	MA-NF-32	Quincy 1.8 WSW	3.38"
0109000109	Whitmans Pond - Frontal Boston Harbor	MA-NF-5	Weymouth 0.5 NW	4.26"
01090002	Cape Cod			
0109000201	North River - Frontal Massachusetts Bay	MA-PL-5	Kingston 3.3 WNW	5.39"
0109000201	North River - Frontal Massachusetts Bay	MA-PL-2	Sagamore Beach 1.0 NW	5.27"
0109000202	Cape Cod	MA-BA-2	Falmouth 3.1 NNW	6.37"
0109000202	Cape Cod	MA-BA-14	North Falmouth 0.5 ENE	5.69"
0109000202	Cape Cod	MA-BA-13	Falmouth 0.6 NNW	7.28"
0109000202	Cape Cod	MA-BA-50	Falmouth 5.4 NNE	5.69"
0109000202	Cape Cod	MA-BA-19	East Falmouth 0.7 NW	7.68"
0109000202	Cape Cod	MA-BA-3	Falmouth 3.0 E	6.41"
0109000202	Cape Cod	MA-BA-18	Waquoit 0.6 SSW	7.65"
0109000202	Cape Cod	MA-BA-47	Mashpee 2.4 WSW	7.66"
0109000202	Cape Cod	MA-BA-45	Sandwich 0.9 NNE	5.19"
0109000202	Cape Cod	MA-BA-22	Yarmouth 0.9 NNW	6.50"
0109000202	Cape Cod	MA-BA-1	Yarmouth 2.3 SSE	6.20"
0109000202	Cape Cod	MA-BA-52	Truro 0.8 E	5.75"
0109000202	Cape Cod	MA-BA-37	Orleans 0.8 W	4.39"
0109000202	Cape Cod	MA-BA-51	Orleans 3.0 S	5.30"
0109000202	Cape Cod	MA-BA-12	Orleans 1.1 E	4.58"
0109000202	Cape Cod	MA-BA-30	Eastham 0.6 SW	4.51"
0109000203	Mattapoisett River - Frontal Buzzards Bay	MA-PL-19	Rochester 1.2 NNW	6.15"
0109000203	Mattapoisett River - Frontal Buzzards Bay	MA-PL-6	Middleborough 5.5 E	5.68"
0109000204	Paskamanset River - Frontal Buzzards Bay	MA-BR-14	Dartmouth 2.5 SSW	5.43"
0109000205	Sakonnet Point - Frontal Rhode Island Sound	RI-NW-5	Little Compton 1.7 NW	5.75"
0109000205	Sakonnet Point - Frontal Rhode Island Sound	RI-NW-7	Little Compton 0.6 E	5.61"
0109000206	Elizabeth Islands – Martha's Vineyard	MA-DK-5	West Tisbury 2.9 N	7.62"
0109000206	Elizabeth Islands – Martha's Vineyard	MA-DK-2	Vineyard Haven 0.8 WSW	7.15"
01090003	Blackstone			
0109000301	Upper Blackstone River	MA-WR-60	Worcester 3.5 N	5.42"
0109000301	Upper Blackstone River	MA-WR-32	Auburn 1.9 ESE	5.95"
0109000302	Lower Blackstone River	RI-PR-50	Harrisville 1.2 SSE	6.20"
0109000302	Lower Blackstone River	RI-PR-28	North Smithfield 0.7 SE	6.04"
0109000302	Lower Blackstone River	RI-PR-45	Manville 0.4 WSW	5.93"
0109000302	Lower Blackstone River	MA-NF-26	Bellingham 2.4 S	5.52"

01090004	Narragansett			
0109000401	Upper Taunton River	MA-BR-30	Taunton 3.9 N	4.90"
0109000401	Upper Taunton River	MA-NF-31	Stoughton 1.2 E	4.51"
0109000401	Upper Taunton River	MA-PL-15	Abington 1.2 NNE	3.93"
0109000401	Upper Taunton River	MA-PL-23	Pembroke 2.8 SW	4.83"
0109000402	Middle Taunton River	MA-PL-31	Bridgewater 1.8 SE	5.03"
0109000403	Threemile River	MA-NF-19	Foxborough 1.8 SSW	5.38"
0109000403	Threemile River	MA-BR-33	Taunton 2.4 W	5.30"
0109000403	Threemile River	MA-BR-9	Taunton 2.6 NW	5.14"
0109000404	Ten Mile River	MA-BR-17	North Attleboro 0.8 E	5.66"
0109000405	Wonnasquatucket River-Moshassuck River	RI-PR-33	Greenville 0.7 NNW	5.72"
0109000405	Woonasquatucket River-Moshassuck River	RI-PR-51	North Smithfield 0.6 S	6.15"
0109000405	Woonasquatucket River-Moshassuck River	RI-PR-53	Providence 1.7 N	4.57"
0109000408	Lower Taunton River - Frontal Mount Hope Bay	MA-BR-3	Norton 1.8 NNE	5.14"
0109000408	Lower Taunton River - Frontal Mount Hope Bay	MA-BR-19	Somerset 2.0 NNE	5.69"
0109000408	Lower Taunton River - Frontal Mount Hope Bay	MA-BR-8	Dighton 1.1 WSW	5.75"
0109000409	Narragansett Bay	RI-KN-2	East Greenwich 2.3 ESE	6.62"
0109000409	Narragansett Bay	RI-PR-32	Providence 2.3 NE	6.86"
0109000409	Narragansett Bay	RI-BR-5	Barrington 1.3 WNW	5.27"
0109000409	Narragansett Bay	RI-NW-4	Middletown 1.1 SW	4.47"
0109000409	Narragansett Bay	RI-NW-16	Portsmouth 1.3 S	5.36"
01090005	Pawcatuck-Wood			
0109000501	Wood River	RI-WS-25	Rockville 0.4 E	7.26"
0109000503	Lower Pawcatuck River	RI-WS-35	Westerly 1.0 SW	5.79"
0109000504	Frontal Block Island Sound	RI-WS-36	Charlestown 3.0 WSW	6.57"
01100001	Quinebaug			
0110000101	Upper Quinebaug River	MA-HD-16	Wales 0.4 SSW	5.41"
0110000103	Fivemile River	CT-WN-6	Dayville 2.0 ENE	6.42"
0110000103	Fivemile River	CT-WN-4	East Killingly 1.3 SW	6.33"
0110000104	Middle Quinebaug River	CT-WN-14	Dayville 0.7 W	6.03"
0110000105	Mossup River	CT-WN-8	Moosup 1.7 NE	6.69"
0110000106	Pachaug River	CT-NL-21	Griswold 0.9 N	6.37"
01100002	Shetucket			
0110000201	Willimantic River	CT-TL-18	Hebron 5.3 NW	4.93"
0110000201	Willimantic River	CT-TL-2	Staffordville 0.4 NNW	5.04"
0110000202	Natchaug River	CT-WN-12	Eastford 2.0 W	5.11"
0110000203	Shetucket River	CT-NL-10	Norwich 2.5 NNE	6.27"
0110000203	Shetucket River	CT-NL-28	Lisbon 2.0 SW	5.49"
01100003	Thames			
0110000302	Thames River-Frontal New London Harbor	CT-NL-7	Uncasville-Oxoboxo Valley 5.6 W	6.05"
0110000302	Thames River-Frontal New London Harbor	CT-NL-17	Waterford 2.2 N	5.76"

0110000302	Thames River-Frontal New London Harbor	CT-NL-6	New London 1.0 NNW	6.17"
0110000302	Thames River-Frontal New London Harbor	CT-NL-8	Uncasville-Oxoboxo Valley 1.6 ENE	6.04"
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-22	Central Waterford 2.7 SSW	5.90"
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-19	Mystic 0.9 W	6.11"
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-24	Stonington 1.4 NNW	5.75"
0110000303	Mystic River - Frontal Fishers Island Sound	CT-NL-18	Stonington 0.5 NNE	5.64"
01100004	Quinnipiac			
0110000401	Quinnipiac River	CT-NH-14	Prospect 1.9 ENE	5.45"
0110000401	Quinnipiac River	CT-NH-30	Cheshire Village 2.2 SE	5.04"
0110000402	Hammonasset River - Frontal Long Island Sound	CT-MD-11	Westbrook Center 1.5 NE	5.54"
0110000403	Mill River - Frontal Long Island Sound	CT-NH-16	Milford 1.8 E	5.14"
0110000403	Mill River - Frontal Long Island Sound	CT-NH-29	Hamden 3.0 WSW	4.95"
01100005	Housatonic			
0110000501	Headwaters Housatonic River	MA-BE-11	Great Barrington 3.0 N	5.30"
0110000501	Headwaters Housatonic River	MA-BE-3	Stockbridge .2 NNE	5.97"
0110000501	Headwaters Housatonic River	MA-BE-10	Pittsfield 2.0 NNW	7.07"
0110000504	Macedonia Brook - Housatonic River	CT-LT-20	Warren 2.4 WNW	5.77"
0110000508	Still River - Housatonic River	CT-FR-43	Bethel 0.5 E	5.93"
0110000508	Still River - Housatonic River	CT-FR-41	Bethel 3.5 NNE	5.94"
0110000508	Still River - Housatonic River	CT-FR-9	Brookfield 3.3 SSE	5.77"
0110000510	Eightmile Brook - Housatonic River	CT-FR-44	Newtown 4.3 E	6.50"
0110000511	Headwaters Naugatuck River	CT-LT-7	Litchfield 2.3 NNE	5.33"
0110000512	Outlet Naugatuck River	CT-NH-22	Prospect 0.5 SW	5.44"
0110000513	Housatonic River - Frontal Long Island Sound	CT-FR-42	Monroe 0.1 SE	6.58"
0110000513	Housatonic River - Frontal Long Island Sound	CT-FR-23	Shelton 1.3 W	6.67"
01100006	Saugatuck			
0110000601	Saugatuck River - Frontal Long Island Sound	CT-FR-31	Newtown 4.6 SSW	5.61"
0110000602	Norwalk River - Frontal Norwalk Harbor	CT-FR-29	Ridgefield 1.9 SSE	6.50"
0110000602	Norwalk River - Frontal Norwalk Harbor	CT-FR-3	New Canaan 1.9 ENE	6.45"
0110000602	Norwalk River - Frontal Norwalk Harbor	CT-FR-25	Norwalk 2.9 NNW	6.23"
0110000603	Pequonnock River - Frontal Long Island Sound	CT-FR-20	Westport 2.5 ENE	6.21"
0110000603	Pequonnock River - Frontal Long Island Sound	CT-FR-32	Monroe 0.8 W	6.45"
0110000604	Mianus River-Rippowam River	CT-FR-12	Stamford 3.3 NW	6.38"
0110000604	Mianus River-Rippowam River	CT-FR-50	Darien 2.8 NW	6.27"
0110000604	Mianus River-Rippowam River	CT-FR-35	Darien 1.8 ENE	5.67"

**Accumulated Precipitation (in)**  
May 01, 2017 to May 31, 2017



## **Map of the Month – Dukes County MA**

The County of Dukes County consists of 11 islands off the southeast coast of Massachusetts, within sight of Cape Cod. More than 99 percent of the County's population lives on the largest island, Martha's Vineyard, an international tourist destination and vacation-home resort. The Vineyard's year-round population of 15,000 soars to more than 100,000 in the summer season, not counting the boatloads of "day trippers" who take the ferry into Vineyard Haven or Oak Bluffs, or even those who travel by air to the airport, which is located in the pine barrens of Vineyard Haven.

Dukes County also embraces the Elizabeth Islands, lying several miles west of the Vineyard across the waters of Vineyard Sound. They are named Nonamesset, Uncatena, Weepecket, Gull, Naushon, Pasque, Nashawena, Penekise and Cuttyhunk. Noman's Land, an uninhabited isle off the southwest end of Martha's Vineyard, completes Dukes County's land inventory. The island was used by the United States Navy as a practice bombing range from 1943 to 1996. In 1998, the Navy transferred the island to the United States Fish and Wildlife Service for use as an unstaffed wildlife refuge. Due to safety risks from unexploded ordnance and its value as a wildlife habitat, the island is closed to all public use.

Seven towns, each with its own government and distinctive personality, punctuate the county. On Martha's Vineyard, the three "down-island" towns of Tisbury, Oak Bluffs and Edgartown are more densely populated. The "up-island" towns of West Tisbury, Chilmark and Aquinnah are comparatively rural. The Town of Gosnold embraces the entire Elizabeth Island chain with the settlement itself situated on the outermost island of Cuttyhunk. Gosnold has a year-round population of less than 100 hardy souls.

Historians suggest that the land now called Dukes County has been inhabited continuously for more than 10,000 years. The earliest record of European exploration was made by Italian explorer Giovanni de Verrazzano, who sailed past in 1524 and named the largest island Louisa. The islands were "officially" discovered in 1602 by English explorer Bartholomew Gosnold, who arrived on the sailing ship Concord to "a place



most pleasant.” He did not find Martha’s Vineyard uninhabited. The Wampanoag Indians on the island are believed to have numbered at least 3,000. Today, more than 400 years later, the Wampanoag population holds steady at 3,000, although only about 350 tribal members live on Martha’s Vineyard. The Wampanoag Tribe gained federal recognition in 1987.

Dukes County was incorporated in 1683 as a province of the Colony of New York. It included the island of Nantucket. In 1691, a mere eight years later, Dukes County was transferred to Massachusetts Bay Colony. The County was officially incorporated in 1695, without Nantucket. Because the statute created a county “by the name of Dukes County,” the redundancy “County of Dukes County” survives to this day as the formal name.

Whaling, fishing, farming and trading became the four major industries of Dukes County. In the 1800s, people of Portuguese and African descent came in numbers, enhancing the County’s cultural diversity. Perhaps as a legacy of the early missionaries, a Methodist camp took root in Cottage City, now called Oak Bluffs. The camp survives to this day as a center of religious and cultural activities. Tourism is now the County’s main industry.

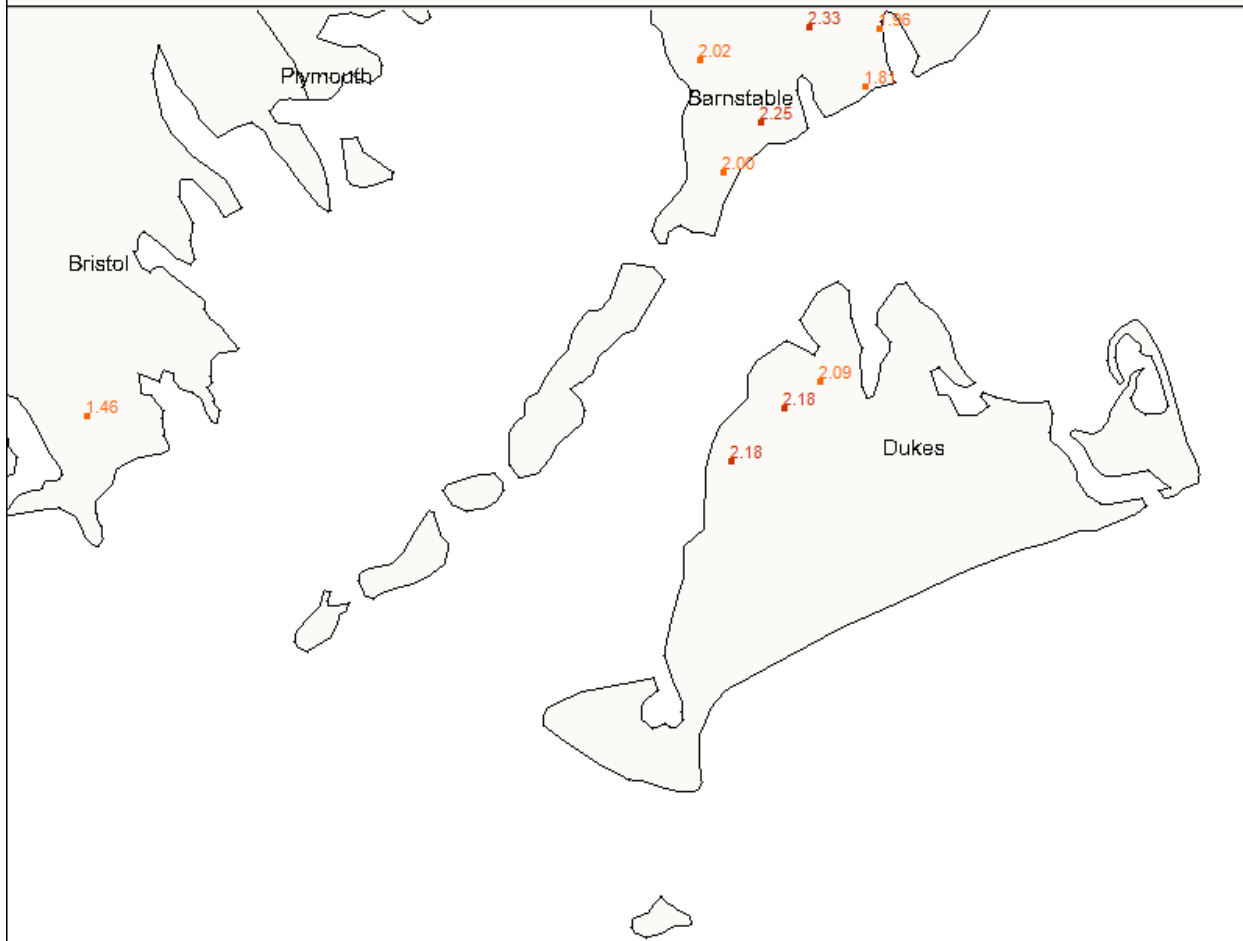
The Vineyard is blessed with an abundant supply of clean groundwater that greatly exceeds present-day and projected drinking water needs. Most of the Island, including all town wells, draws its drinking water from one main aquifer located in the Outwash Plain, where glacial ice deposited layers of sand and gravel as it melted, creating porous deposits that readily absorb rainfall, which percolates down into the water-saturated zone known as an aquifer. The entire Island has been designated by EPA as a Sole-Source Aquifer, since groundwater is the Island’s only source of drinking water.

We currently have 10 CoCoRaHS observers in the County of Dukes County, 5 of whom report regularly. These observations are important and help officials monitor the levels of aquifers and ponds. If you know of anyone who would like to join our growing network, have them sign up today!

Daily Precipitation (inches x.xx), for the 24 hour period ending ~7:00 am

Dukes County, Massachusetts 5/14/2017

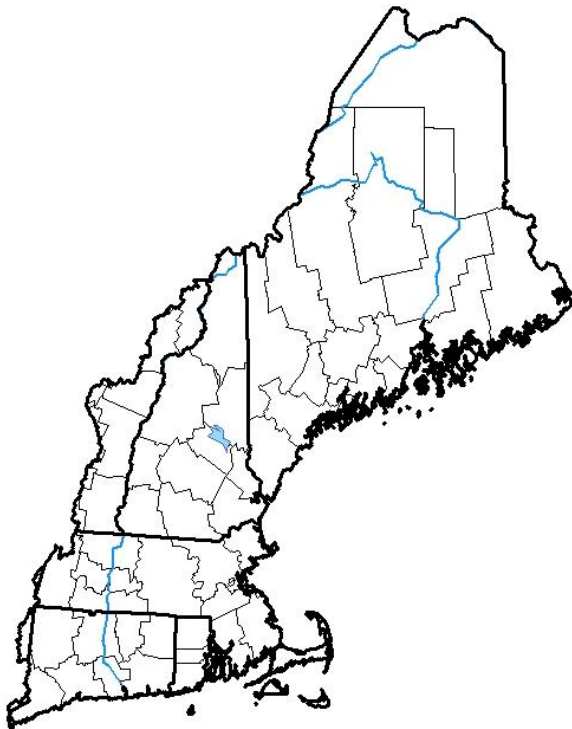
0.0 Trace 0.01 - 0.12 0.13 - 0.24 0.25 - 0.59 0.60 - 1.41 1.42 - 2.11 2.12 - 2.33



From the Drought Monitor.

Take a good look. It's all gone! It can take months for a drought to develop and deepen. It can take months for a drought to be eliminated. Give or take ¼", 4" of precipitation each month is our normal. Every drop counts and zeros do too!

## U.S. Drought Monitor New England Watershed



**June 6, 2017**

(Released Thursday, Jun. 8, 2017)

Valid 8 a.m. EDT

*Drought Conditions (Percent Area)*

	None	D0	D1	D2	D3	D4
<b>Current</b>	100.00	0.00	0.00	0.00	0.00	0.00
<b>Last Week</b> <i>05-30-2017</i>	98.74	1.26	0.00	0.00	0.00	0.00
<b>3 Months Ago</b> <i>03-07-2017</i>	33.54	28.98	18.17	19.31	0.00	0.00
<b>Start of Calendar Year</b> <i>01-03-2017</i>	14.64	11.89	49.23	19.61	4.63	0.00
<b>Start of Water Year</b> <i>09-27-2016</i>	26.77	14.45	18.64	25.58	14.56	0.00
<b>One Year Ago</b> <i>06-07-2016</i>	65.06	29.34	5.60	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:

Deborah Bathke  
National Drought Mitigation Center



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

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

## **Where it all started**

Fort Collins Colorado is a growing city of nearly 160,000 people within 54 square miles of land, located on the front range of the Rocky Mountains. It sounds like some of our cities here, like Worcester, Providence, Hartford, or New Haven. A big difference is precipitation. The phrase “Every drop counts” started in Colorado, because it does. Fort Collins only receives about 15” of precipitation annually, much less than the 45”-50” of precipitation we receive annually. Irrigation, lawn watering, water conservation, it’s all a big deal in Fort Collins.

July 28, 1997, widespread rain fell with a localized amount of over 14” of rain fell on the western side of Fort Collins and the impacts were devastating and deadly as that water flowed eastward.

Below are some pictures of where the greatest impacts of the flood waters occurred.



**CREEKSIDE PARK, FORT COLLINS COLORADO**



**VARIOUS FLOOD LEVELS AT CREEKSIDE PARK. THE 1997 FLOOD REACHED THE HIGHEST MARK.**





"To commemorate the Fort Collins Flood of July 28, 1997, in which five people lost their lives and hundreds of homes and businesses were damaged. This monument honors the victims of this tragedy, the many rescuers who risked their lives, and the community members who selflessly worked side by side to help those in need."

What started a year after this flood as the Colorado Collaborative Rain Hail Study, CoCoRaHS, has grown and evolved to the international network of citizen-scientists we are participants in today.

We watch the weather. We define the climate. The CoCoRaHS observers in Fort Collins are doing just that. This past month of May, 82 observers submitted over 1750 Daily Reports, averaging 56 reports per day for the city of Fort Collins. Having been a part of CoCoRaHS for nearly 20 years, Fort Collins observers have uncovered something never known about their city. An average of 17" of precip falls annually on the west side of the city, 15" in the center part of the city, and 13" in the eastern part of the city. CoCoRaHS observers are defining the climate in Fort Collins.

Fort Collins Colorado is where our network started. Let it continue and grow where you are.

## **Spring Snow in Colorado**

It was a nor'easter, Colorado style. A low pressure system centered north and east of Denver, threw moisture from the northeast, upslope into the cold air over the mountains where our meeting was in Estes Park, 8000' elevation.

Winter Storm Watches were posted in advance and were changed to Winter Storm Warnings. 1 or 2 feet of snow seemed possible, but really? 3 feet? The group of us at the meeting all submitted their best guesses as to how much snow and liquid was going to fall, although my skepticism showed with a guess of about 18"

The snow started around 1030pm on Wednesday May 18, and continued for about 24 hours to 1030pm on Thursday May 19. A few snow showers continued on Friday morning. 9" of snow fell by sunrise on Thursday and snow continued at 1" per hour all day and night. Totaling 36" and over 3" of liquid. The warm pavement made snow removal easy. The sunlight on Friday was especially bright with May sunshine on the snow pack.

Measuring and melting snow with the preeminent expert in the field, our Nolan Doesken, was a real treat. All while a heat wave was occurring here.



NOLAN BRINGING IN A CORE SAMPLE.



DIDN'T WE STOP DOING THIS OVER TWO MONTHS AGO?





**EVENTUALLY, WE GOT OUR CARS DUG OUT. NOTICE THE WET PAVEMENT.**



**A FEW HOURS LATER, THE SUN POPS OUT AND THE VIEW IS JUST STUNNING.**



**NO INTEREST IN SWIMMING TODAY.**



**DIG IT OUT, BACK IT UP TOWARDS THE HILL, HIT THE BRAKES, AND THE SNOW SLIDES OFF THE ROOF.**

# **Happy Anniversary, Connecticut!**



July 1, 2009. Connecticut is admitted to CoCoRaHS, the 45<sup>th</sup> state to join the network.

While we are recognizing those observers with 3000 Daily Reports, these observers have submitted over 2000 Daily Reports.

CT-FR-9 Brookfield 3.3 SSE  
CT-TL-2 Staffordville 0.4 NNW  
CT-HR-6 Wethersfield 1.2 WSW  
CT-WN-4 East Killingly 1.3 SW  
CT-HR-5 Enfield 1.5 SE  
CT-MD-2 Portland 0.9 S  
CT-WN-2 North Grosvenor Dale 1.7 SSE  
CT-HR-8 North Granby 1.3 ENE  
CT-HR-7 Central Manchester 2.7 SW  
CT-NL-5 Oakdale 2.6 WNW

## **Connecticut CoCoRaHS**

Comments by Matt Spies – Connecticut State Coordinator

The State Seal has 3 grapevines, representing the first 3 settlements of Connecticut in Windsor, Hartford and Wethersfield. The state is covered by 3 climate zones for the shoreline, Litchfield County area and the remainder in between. The state is also covered by 3 NWS forecast offices.

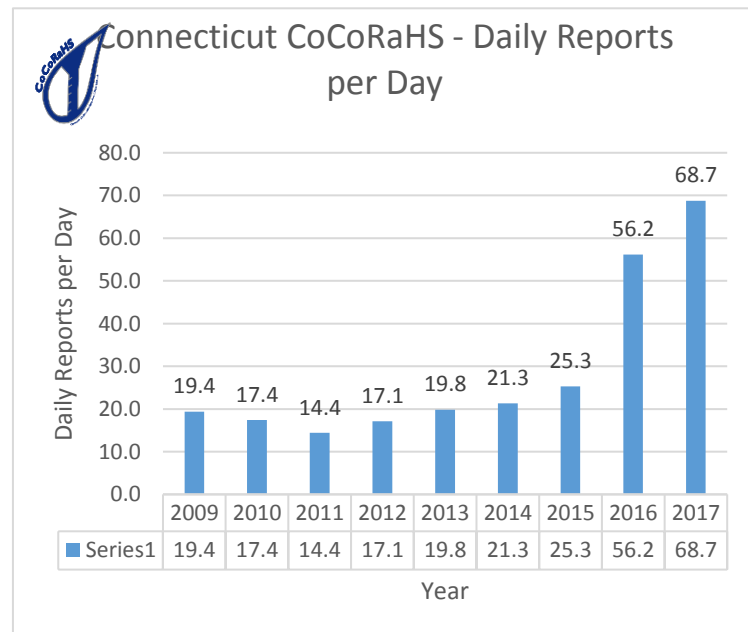
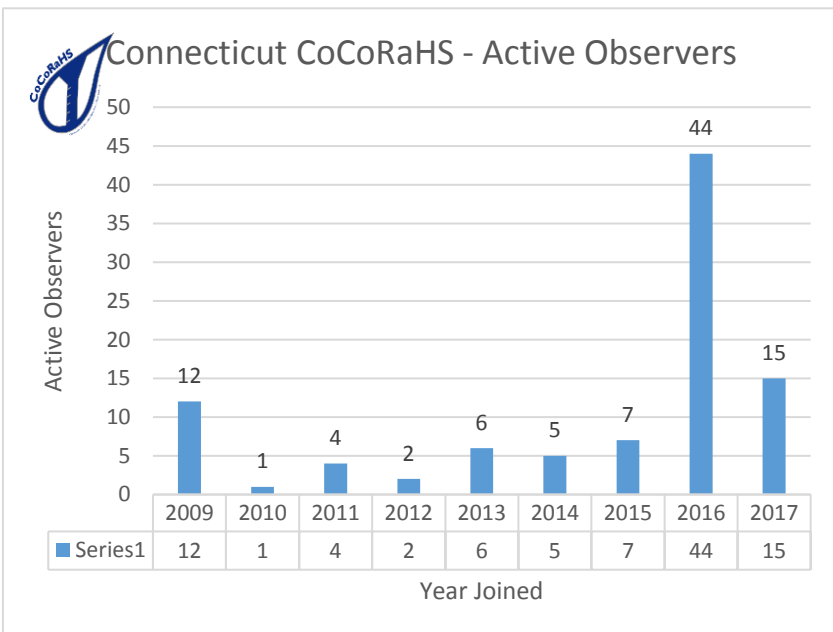
As an observer, I'm supposed to say that the first 6 years are the toughest. The only message in an email box is a newsletter from Nolan, seeing what other parts are experiencing in the network, hearing that our reports are really used, and of course, chuckling at the Farm Report. Each day, look at the map of reports within Connecticut and see not much of a change while other areas have a denser participation.

All of that changes. Connecticut grows in participation. Nolan's newsletter is not the only newsletter in an email box. Print screens are made showing where our reports go. We define where the snow is and where it is not. A word of thanks comes every month and at the end of the Water Year.

The results are stunning. Reporting records are broken. Gaps are filling in from Stamford to Stonington, from Warren to Waterford. A small grouping of observers are forming in Prospect, Wethersfield, West Hartford, Bethel, Darien and Dayville. The Drought Maps have a clarity to them that no grouping of airports could ever show. We find a “Dust Bowl”, a dry spot over West Hartford CT.

Our network in Connecticut is fortunate to have people of all different ages and backgrounds; widows and widowers, school age students and school teachers, first responders, budding climatologists, a retired meteorologist and a TV meteorologist, a botanist, a retired aircraft pilot, an observer who also reports for the NWS Co-Operative network and our network in the predawn hours every day, an insurance agent, a growing number of ham radio operators, active people with social media, and 1 of the 3 people in the entire CoCoRaHS network who is blind, and reports diligently.

This concludes our state anniversary series. Thank you for your participation, your diligence, your efforts day after day, week after week, month after month, year after year which are seen and applauded by our Founder himself.



## **Wrap up**

The more widespread spring rains will become fewer and the more localized summer thunderstorms and isolated cells will become more numerous. Keep Significant Weather Reports and Hail Reports in mind as more summer like weather occurs.

The sun tracks high in the sky and has its maximum impact to evaporate water. Will the green grass continue to stay green? Any time is a great time to start or continue making Condition Monitoring Reports.

Be a hero. Report your zeros. The cloudy and rainy days of April and May have passed.

Are you new to the crew? Know what to do about dew.

Only 2 stations replied with Gauge Photos. A call to all of you to take 1 digital picture of your rain gauge. With your permission and your station ID, we would like to make a photo montage of all of your gauges, a close up picture of your gauge and point the camera in a direction that can make for a good background. Please make the digital picture more about the gauge. If you want to include a little background story, we will print that too. Email your photo along with your CoCoRaHS Station ID to [joseph.dellicarpini@noaa.gov](mailto:joseph.dellicarpini@noaa.gov) for MA & RI observers or to [matt.spies@att.net](mailto:matt.spies@att.net) for the CT observers. Subject: Gauge Photo please, so we can group these email messages together within our inbox.

Hurricane Season began on June 1. Although the climax of Hurricane Season occurs here in early September, now is a good time to get into the habit of staying informed and to have a plan in place should a storm come our way this season.

Saturday June 17 will mark the 19<sup>th</sup> year since CoCoRaHS started. This newsletter shows you where it all started.

Summer begins with the summer solstice and that occurs this year June 21, shortly after midnight at 12:24am EDT. Soak up the sunshine and the late sunsets before we start to lose daylight in July.

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