The Weather Eye

A Southern New England
Cooperative Weather Observer Newsletter

November 2013 ***Editor: Kimberly Buttrick***

WINTER TIME CHECKS

It is good practice to check your innertube and overflow can for leaks from time to time. As a suggestion, check for leaks at the beginning and at the end of the winter season.

During the winter season, the funnel and innertube should be removed from the overflow can. This will enable any and all snowflakes that fall at your station to accumulate in your overflow can and thus get representation on the climate record.

When you hear that snow is in the forecast, that's your cue to remove the funnel and innertube from your rain gauge.

FREEZING RAIN REMINDER

If it is raining at your station and the temperature is 32 degrees Fahrenheit or below, that spells Freezing Rain. The rain doesn't necessarily need to freeze when it reaches the ground, but if it is raining at 32 degrees or below, it is called freezing rain.

If the rain does freeze upon contacting the ground, you can check the "Glaze" box on your B91 under Calendar/Observation Day Weather. If you observe freezing rain at your station, whether it glazes or not, it is good to mention the freezing rain in the Remarks section of your B91.

A FLURRY OF ACTIVITY = TRACE
SPOTTY DRIZZLE = TRACE

If you see flurries occurring at your station, you should report a Trace of snowfall. And a trace of snowfall means a trace of liquid precipitation, too! Even if the flurries do not accumulate on the ground, you would record a Trace of precipitation, a Trace of snowfall and zero for snow on the ground.

We have a few observers who call in their observation to our office each morning. There have been a few instances when they report either light rain or snow (drizzle or flurries) and then report zero for precipitation. If it is precipitating at the time of your observation, you must record something for precipitation – at least a Trace. The precipitation, whether frozen or liquid, may not measure up to anything in your rain gauge or on your snow board, but a trace is a trace is a trace – is a trace!

NO SNOW, THEN LET US KNOW!

This is a reminder for you to fill in all 3 precipitation fields: Liquid precipitation, snowfall AND snow on the ground (aka snow depth). Even in summer when you never have snow on the ground, it's better to document zero every day than to leave the field blank. All 3 precipitation fields must have an entry. Blank fields are discouraged. Thus, got no snow, then let us know!

JUNE 2013 ABUNDANT RAINS

June 2013 was an extremely wet month for Southern New England. All of the climate sites across Southern New England reported above normal rainfall totals. So what is a climate normal? A climate normal is based on the latest 30 year average of a climatological variable – in this case the variable is precipitation. Climate normals (30 year averages) are produced every 10 years with the current normal dataset spanning 1981–2010. A climate normal is like a benchmark from which to measure. Anything below the benchmark is below normal. Anything above the benchmark is above normal. And anything right along or near the benchmark is considered normal or near normal. The June 2013 rainfall reported across Southern New England was well above the benchmark. In other words, above normal!

What brought on all the rainfall in June 2013? A number of weather systems gave Southern New England a dousing. There were the typical summertime warm and cold fronts that moved through the region spawning showers and thunderstorms. But there were 2 weather events that contributed significantly to June's surplus rainfall. The first and overall wettest weather event was the remnants of Tropical Storm Andrea. She moved through Southern New England June 6-8. Andrea may have only been a remnant, but tropical remnants are notorious for their abundant rainfall. Andrea held true to her tropical origins, delivering Southern New England tropical downpours. The greatest 24 hour precipitation total from Andrea was 4.50 inches reported from the West Thompson Lake U.S. Army Corps of Engineers Project located in North Grosvenordale, CT. The second wettest weather event occurred June 13-14, which was caused by a low pressure area from the Ohio Valley that scooted east across Long Island then southeast of Nantucket. The greatest 24 hour precipitation total from the June 13-14 event was 2.90 inches reported from Shuttle Meadow Reservoir in New Britain, CT.

Following is a list of some climate sites across Southern New England. The 3 columns adjacent to the climate sites list:

1) June rainfall totals;
2) Normal rainfall for the 1981-2010 time period; and
3) Departure from normal.

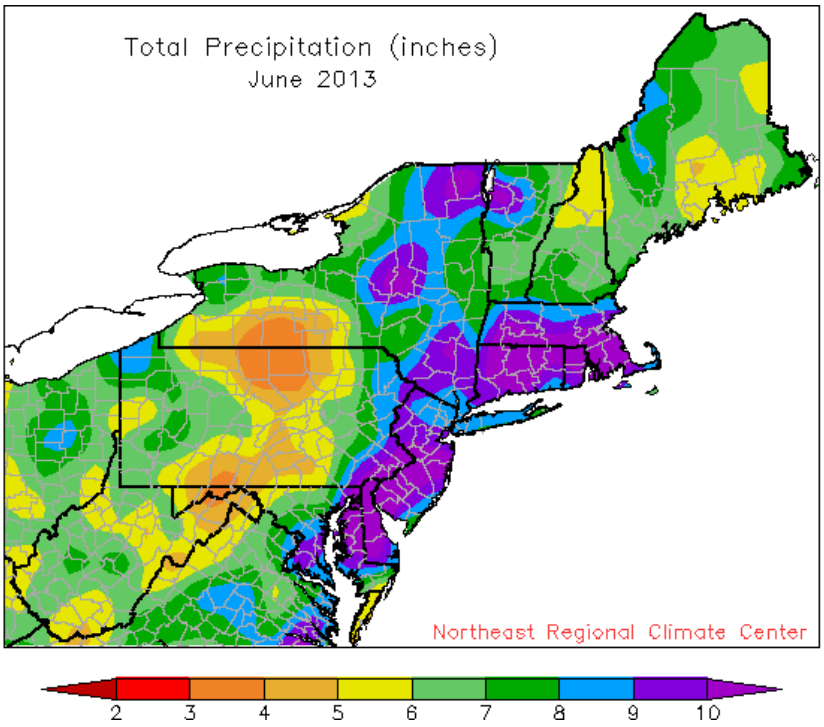
All climate sites are on the plus side of normal – above the benchmark. Those highlighted in bold are the greatest monthly rainfall reported for that state.

Site names followed by an asterisk (*) do not have normals.

Climate Site	*Monthly Rainfall June 2013*	*June Normals 1981-2010*	*Departure from Normal*
MA			
Amherst	9.44	4.10	+5.34
Ashburnham	8.32	4.36	+3.96
Ashburnham North	8.10	4.45	+3.65
Ashfield *	11.85		
Barre Falls Dam	8.84	4.24	+4.60
Belchertown	8.16	4.35	+3.81
Beverly	7.65	3.61	+4.04
Birch Hill Dam	8.41	4.37	+4.04
Blue Hill Coop	11.94	4.31	+7.63
Blue Hill LCD	12.11	4.31	+7.80
Boston's Logan Airport	10.50	3.68	+6.82
Bridgewater	11.27	3.91	+7.36
Brockton	11.17	4.03	+7.14
Buffumville Lake	10.64	4.15	+6.49
Chatham	7.20	3.41	+3.79
East Brimfield	9.67	3.95	+5.72
East Sandwich *	11.03		
East Wareham	9.77	3.71	+6.06
Edgartown	6.62	3.74	+2.88
Foxboro *	10.58		
Franklin	10.16	4.32	+5.84
Granville Dam *	13.09		
Greenfield	10.90	4.23	+6.67
Groveland	7.80	4.20	+3.60
Hardwick *	8.72		
Haverhill	8.33	4.02	+4.31
Hingham	12.37	3.92	+8.45
Hyannis	9.05	3.37	+5.68
Jamaica Plain	10.93	4.30	+6.63
Lawrence	9.05	4.00	+5.05
Leverett *	7.14		
Lowell	8.19	4.17	+4.02
Marblehead	11.02	3.87	+7.15
Maynard	9.34	4.21	+5.13
Middleboro	10.90	3.93	+6.97
Middleton	8.70	3.95	+4.75
Milford	11.73	4.20	+7.53
Natick	10.70	4.09	+6.61
Newburyport	7.50	4.05	+3.45
Northbridge	11.97	4.20	+7.77
Norton	11.75	3.97	+7.78
Plymouth/Kingston	11.21	3.91	+7.30
Reading	9.37	3.98	+5.39
Rochester	10.86	4.13	+6.73
Southbridge	11.22	4.50	+6.72

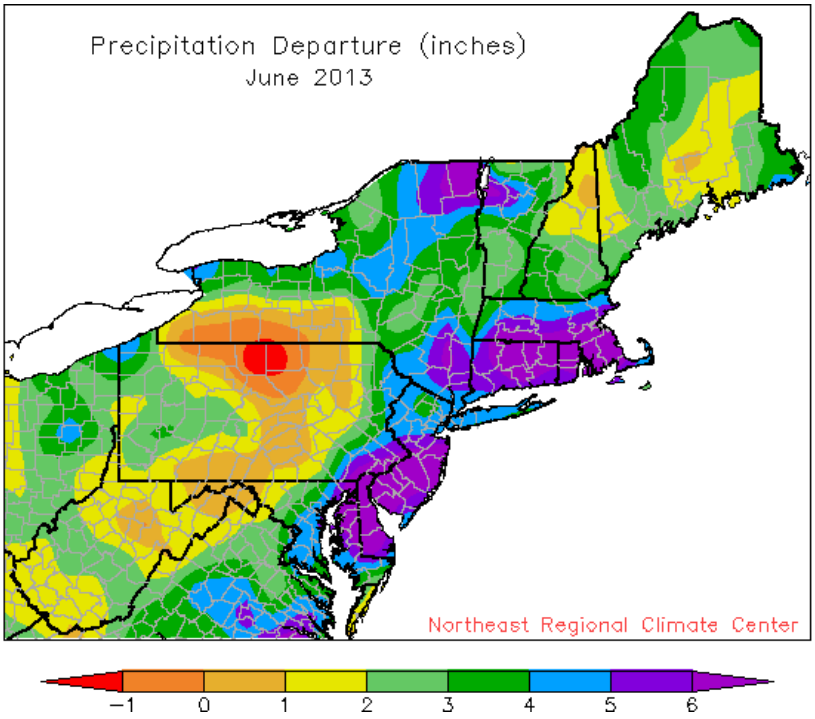
Climate Site	*Monthly Rainfall June 2013*	*June Normals 1981-2010*	*Departure from Normal*
Sunderland	8.47	4.30	+4.17
Taunton NWS *	11.23		
Tully Lake	8.84	4.25	+4.59
Walpole	10.95	4.08	+6.87
Ware	7.84	4.46	+3.38
Westfield	**13.23**	**4.50**	**+8.73**
Woods Hole Golf Club *	7.46		
Worcester Airport	10.06	4.19	+5.87
Worthington	10.90	4.81	+6.09
NH			
East Milford	7.53	5.00	+2.53
Edward MacDowell Lake *	7.82		
Fitzwilliam	8.28	4.15	+4.13
Francestown	6.04	4.10	+1.94
Greenville	7.77	4.03	+3.74
Hudson	6.81	4.28	+2.53
Jaffrey Silver Ranch Arpt *	7.73		
Keene	7.27	3.90	+3.37
Massabesic Lake	6.34	4.11	+2.23
Nashua	7.15	4.40	+2.75
Otter Brook Lake	6.73	4.19	+2.54
Surry Mountain	7.26	4.30	+2.96
Walpole	**8.73**	**4.29**	**+4.44**
Weare *	7.48		
CT			
Barkhamsted	12.09	4.68	+7.41
Bradley Intl Airport	10.79	4.35	+6.44
Burlington	**14.11**	**4.74**	**+9.37**
Hampton	11.77	4.37	+7.40
Shuttle Meadow Rsvr	11.59	4.59	+7.00
Staffordville	11.17	4.56	+6.61
Storrs	12.18	4.46	+7.72
West Thompson Lake	11.89	4.55	+7.34
RI			
Coventry *	11.55		
Kingston	9.99	4.28	+5.71
North Foster	11.15	4.58	+6.57
PVD T.F. Green Airport	10.08	3.64	+6.44
Tiverton	**11.79**	**3.88**	**+7.91**
Woonsocket	10.83	4.21	+6.62

* These sites do not have normals.



To the left
is an image
of the June 2013
total rainfall
for the Northeast.

To the right
is an image of the
June 2013
rainfall departure
from normal.



For a more comprehensive summary of June 2013 across the Northeast, refer to this link:

http://www.nrcc.cornell.edu/impacts/Impacts_06-13.html#

The June rains of 2013 had different effects throughout the communities of Southern New England. Observers at the climate sites were asked how the June rains impacted them. Here are some of their responses, in their own words:

Ashfield, MA:

The two notable effects were: 1) Erosion of wooded roads and increased difficulty navigating wooded areas and 2) 1st cut of hay was significantly delayed (typically completed by the end of June, but was not completed until July 29th this year)*

*The 1st cut of hay was so late that most of the Orchard grass was browning / dry and typical 2nd cut grasses were coming in.

Birch Hill Dam and Tully Lake, MA (Army Corps of Engineer Projects):

Birch Hill Dam and Tully Lake experienced flooding of some of our recreation trails in June. Birch Hill Dam received 8.41 inches of rain in June, and the reservoir rose 6 feet above normal. Tully Lake received 8.84 inches of rain in June, and the reservoir rose 1.5 feet above normal.

Blue Hill LCD, MA:

With 12.11 inches, it was the 4th wettest June for the period of record (POR) from 1886 to Present. Here are the top 4 wettest Junes:

1) 17.32 inches in 1998
2) 13.73 inches in 1982
3) 12.31 inches in 2006
4) 12.11 inches in 2013

Also, June 2013 is the 10th wettest month during the POR.

East Brimfield Lake, MA (Army Corps of Engineers Project):

Nothing significant, minor pool storage levels, recreation area closed a few days, that's all.

East Wareham, MA (Univ of Mass Cranberry Experiment Station):

Most cranberry bogs were at early bloom stage when the heavy rain came. Growers were able to use a stringent fungicide program this season and were able to apply fungicides between rain events. Bee hives for pollination were being distributed during the second half of the month, when it was much drier. So all and all the timing of the rain was good for the Growers and helped replenish the water reservoirs from the spring frost season.

Franklin, MA (Franklin Water Department):

The biggest issue for us was that we had to shut a well down, because we know we will pull bacteria when it rains substantially like that. The well is adjacent to a stream that was flowing higher than normal. Besides that we found out which roofs need work due to leaks!

Hingham, MA:

Over a foot of rainfall made for the 3rd wettest June for the period of record (POR) from 1953 to present. Here are the top 3 wettest Junes:

1) 2006 – 14.62 inches
2) 1982 – 13.43 inches
3) 2013 – 12.37 inches

Also, June 2013 is the 6th wettest month for the POR.

Hudson, NH:

In Hudson, the 6.81" was quite a bit above normal, but there weren't any cases of flooding of note. There were lots of rainy days (17 with 0.01" or more) and around here most of the problems were with farmers having problems getting the hay cut, dried, and baled. There were at least a couple of rain events where the heaviest stayed south of here and caused more of an impact from Boston south.

Keene, NH:

The only problem that readily came to mind was the abundant and unprecedented mosquito population. The little buggers have been ravenous! I think the local farmers have also been delayed in harvesting their hay crop.

Kingston, RI (URI – Department of Plant Sciences):

We logged 9.99 inches. There's no question that all the rain interfered with field operations, from the agricultural perspective, especially planting and hay-making. I spoke to our Cooperative Extension agents who know more than I about what's going on with growers around the State, and they, as well, were quite surprised that there weren't more significant repercussions from the rain, especially in the disease area. The rain was intermittent enough that it was merely an inconvenience. Most were happy to not be irrigating, and with the HOT, dry July, it's a good thing we didn't have a dry June. The first cutting of hay was late, but vegetable crops seem to be doing quite well.

Lowell, MA (Lowell Regional Water Utility):

We didn't get flooded out here. Heavy rain makes us have to increase our process chemicals due to high color and turbidity in the river.

Manchester, NH (Manchester Water Works):

The two major effects that all that rain had on the Manchester Water Works (MWW) were: 1) We were able to run our 400KW hydro-electric generator for a few weeks in June/July saving us money while not allowing that extra precipitation to just spill over our dam and 2) Lake Massabesic was full later in the summer than any other time in my 27 years here at MWW.

Marblehead, MA (Water and Sewer Commission):

We were not really impacted all that much with the rainfall, just the regular drainage problems but only short term.

Middleton, MA (Danvers Water Treatment Plant):

It actually helped us out immensely. We are nearing the end of a major upgrade. The nature of this upgrade required several outages. Without the rain we received early this summer, the outages would not have been possible. More rainfall equals less demand. Also, our withdrawal permit dictates that the availability to use our Wells is directly related to the Ipswich River flow at the South Middleton dam. Increased rainfall means the dam had a higher flow rate which allowed us to run our Wells well into the summer. Combined, this allowed us to go a day here and there without running the plant for the entire day.

Milford, MA (Milford Water Company):

The rain received in June raised our reservoir, Echo Lake in Hopkinton, MA, a total of 32.5" between June 4th and June 19. That put us in great shape for the summer with July and August totaling very little rainfall. Coming out of summer now, the reservoir is 70% full.

Northbridge, MA (Whitinsville Water Company):

We had nearly 12 inches of rainfall in June and it was very well received by our company (we are a water company remember). Our reservoirs filled up so we were pleased with that. No real negative impacts from the rainfall.

Reading, MA:

With 9.37 inches, it was a very wet 9 days, but nothing spectacular to write about.

Storrs, CT:

1) Many fields too wet to drive in at all most weeks in June. This caused veggie plantings to be late and we gave up on a couple of sweet corn and squash. This was our biggest issue.
2) Very high incidence of disease on all turf grass and veggie fields.
3) Saw a loss of nitrogen fertilizer due to leaching in lower areas of some fields, producing yellow nitrogen deficient plants and low or no fruit yield.

Surry Mountain Lake and Otter Brook Lake, NH (Army Corps of Engineers Projects):

The cumulative late June, early July rain in the Otter and Surry watershed required flood control operations/water storage at both reservoirs.

Otter Brook Lake stored +10 feet above normal summer recreation lake level which peaked 4 July. Swim beach and lawn area closed, picnic tables moved/secured. All back to normal within 5 days, no damage.

Surry Mountain Lake stored +28 feet above normal. Entire park was inundated and did not return to normal level for 3 weeks. Park entrance road partially washed out, sediment/muck covered lawn areas and buildings, most lawn dead, foul odor due to decaying organics and debris. Decision made to NOT reopen for the remainder of 2013 summer recreation season. Rehab is ongoing. NH State Hwy Rte. 12A, north of Surry remains closed at this time. Repairs are in progress.

Walpole, MA:

I thought it was nice, with no problems here. The grass and shrubs were green and needed no watering. June was a much more pleasant month than the record heat of July.

Weare, NH:

We couldn't get some of our garden planted in a timely fashion because it was always raining. Then it was too muddy to go out and weed in the rain so the weeds got a good head start. Finally, the lack of sun seemed to stunt some of the crops and the excess moisture caused some plants to "damp off." Not a good start to the gardening season.

West Thompson Lake, CT (Army Corps of Engineers Project):

Fortunately, the June rainfall was not really a big deal for us. The pool level only rose 7 feet which is typical for a 5-10 year event. The elevated pool level lasted a week before returning back to normal. We received relatively small amount of debris. Otherwise we were not impacted.

Woods Hole Golf Club, MA:

All the rain resulted in too many salt marsh mosquitoes on the course.

Worthington, MA:

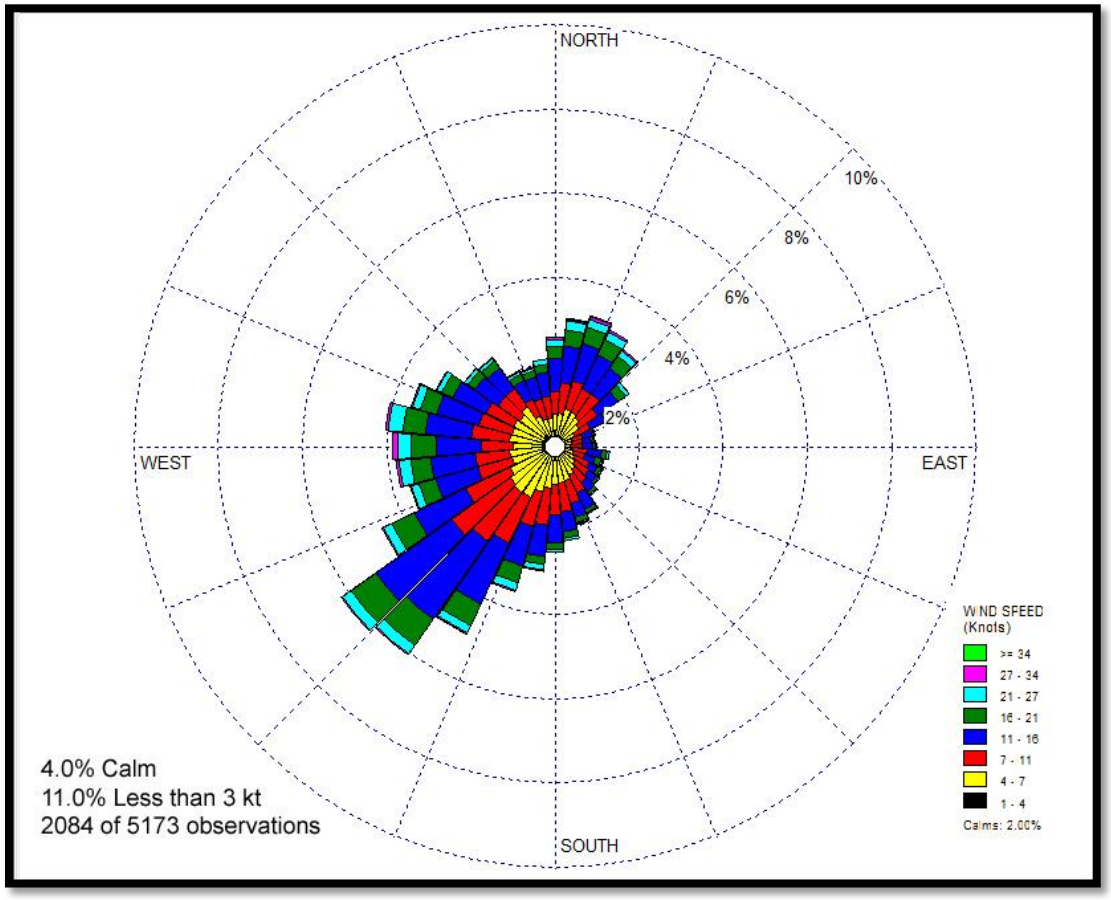
This year had been well below normal prior to June's surplus, so the excess was absorbed for awhile. Eventually the ground became saturated however, making gardening messy to say the least. Weeds and lawns grew like crazy, and with July's heat our bush berry season was productive but compressed, as berries ripened very quickly.

Woonsocket, RI (Woonsocket Water Treatment Plant):

The only impact was changes made to the treatment of the raw water. When there is heavy runoff into the reservoirs the treatment changes.

WIND ROSES

A wind rose is a graphic tool providing a view of how wind speed and direction are typically distributed at a particular location over a period of time – long for a climatological record of prevailing winds or short to show wind character for a particular event or purpose. Pictured below is an annual wind rose for Falmouth, MA. Wind observations from 2004-2009 were used to create this wind rose.



Most wind roses, such as the one depicted above, use the 4 cardinal directions (N, E, S, W) as well as intermediate directions (NNE, NE, ENE etc.). Presented in a circular format, the length of each spoke around the circle indicates the frequency of wind coming from that particular direction over the period of record – the longest spokes of the rose corresponding to the most frequent wind directions. Being of long duration, the annual wind rose for Falmouth gives us a climatological record showing a prevailing wind direction from the southwest (the longest spokes). This rose also shows that there is a secondary prevailing wind from the west and another from the north/northeast. Further interrogation of Falmouth wind roses by month indicates the prevailing winds are seasonal. A southwest wind is prevailing in summer whereas a west wind is prevailing in winter. A northeast wind is more typical at Falmouth during the spring and autumn.

Each concentric circle of the wind rose represents a different frequency, emanating from zero at the center to increasing frequencies at the outer circles. In the wind rose depicted for Falmouth, the distance between two concentric circles represents a frequency of 2%. The longest spoke is from the southwest and extends outward a little over 3 rings thus indicating that the wind blows from the southwest 6.2% of the time.

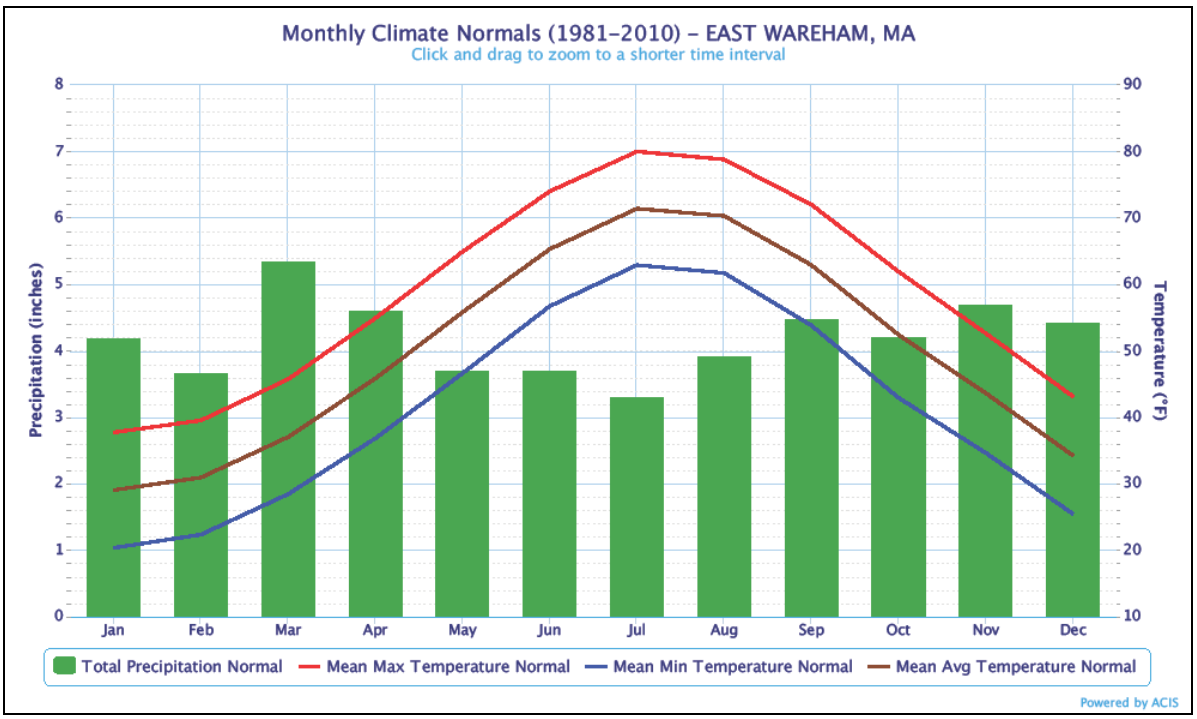
Let's look at the prevailing wind from the southwest on the Falmouth wind rose. The 4 longest spokes from the southwest direction comprise 21.7% of all hourly wind directions over the period of record. This is quickly calculated by taking the sum of the frequencies of the 4 longest spokes (4.5 + 6.2 + 6 + 5 = 21.7%). If one were to add up the frequencies of each spoke on the diagram, they would total 100%.

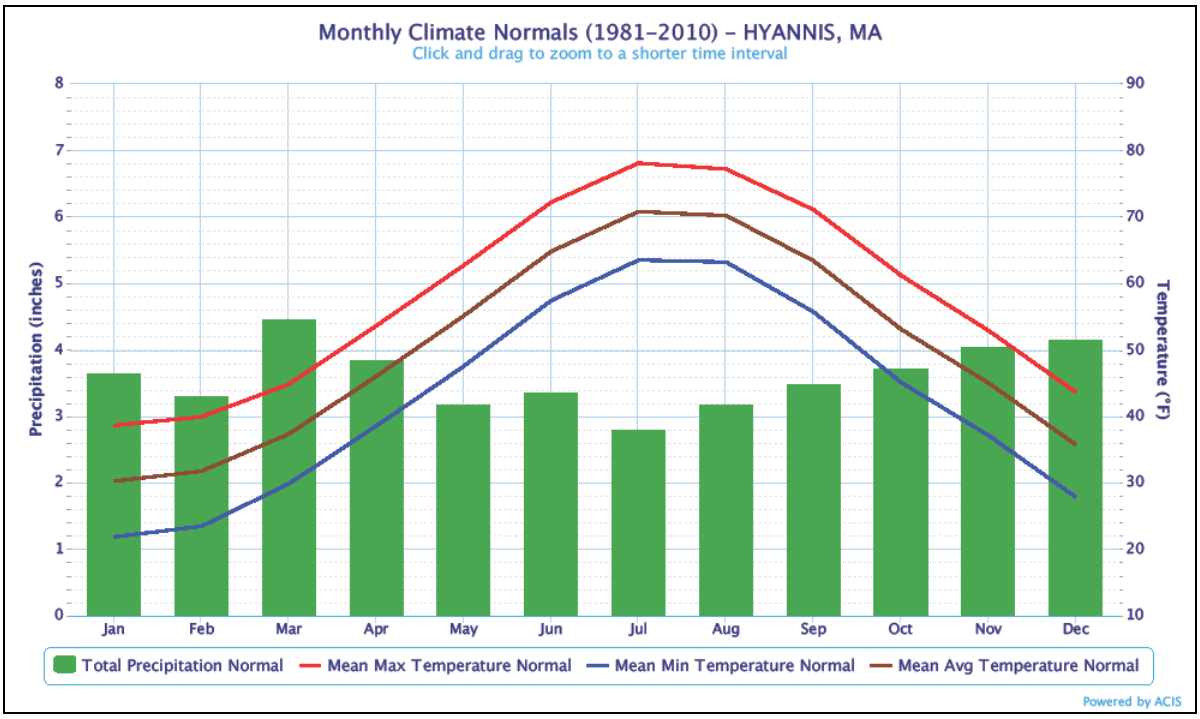
The Falmouth wind rose contains additional information about wind speed. Each spoke is broken down into discrete colored segments showing speed ranges. The wind speeds are indicated by color as noted in the legend at the bottom right of the diagram. Let's examine the longest spoke – the one from the southwest direction that occurs 6.2% of the time. One can determine from this spoke that approximately 1% of the time the wind blows from the southwest at speeds of 4-7 knots (the yellow part of this spoke juts out from the center to the 1% ring). Similarly, on this spoke it can be calculated that winds blow from the southwest at speeds between 7-11 knots about 2% of the time (the red part juts out to 3%, thus subtract the yellow from the red: 3% - 1% = 2%), at speeds between 11-16 knots about 2.2% of the time (the blue juts out to 5.2%, thus subtract the red from the blue: 5.2% - 3% = 2.2%), between 16-21 knots about 0.8% of the time (the green juts out to 6%, thus subtract the blue from the green: 6% - 5.2% = 0.8%), and between 21-27 knots 0.2% of the time (the turquoise juts out to 6.2%, thus subtract the green from the turquoise: 6.2% - 6% = 0.2%). When you add up the individual colored wind speed frequencies on this particular spoke (1+2+2.2+0.8+0.2), they add up to 6.2%.

The information provided by a wind rose can be applied to many and varied situations. Sailors use wind rose information taken from the "Pilot Charts" by the U.S. Naval Oceanographic Office to get average winds for each ocean for each month of the year to help create optimal sailing routes between ports. Architects use wind rose information for the siting of buildings and stadiums. Wind power farms do extensive wind rose type studies prior to erecting their wind turbines. Thus the wind rose is a simple information display technique that has a multitude of uses.

UPPER CAPE COD CLIMATE DATA

Ever wonder how your daily observations are really used? Over the long haul, the daily observations you take paint a climate picture for your location. As was discussed earlier in this newsletter (under June 2013 Abundant Rains), normals can be computed at a coop station that has 30 or more years of data. Following are 2 graphs showing 30 year climate normals for East Wareham and Hyannis.





Each graph depicts normal precipitation and normal temperature by month. The temperature is broken down into the mean maximum temperature normal, the mean minimum temperature normal and the mean average temperature normal. All this brought to you by you – the Coop Observer! And some software ingenuity from the Northeast Regional Climate Center!

NWS Taunton recently had a request to assist with an update to the climate information for Joint Base Cape Cod – formerly the Massachusetts Military Reservation located on Upper Cape Cod. To assist with this request, the climate normals from East Wareham and Hyannis were used as well as annual and monthly wind roses from Falmouth. For those who like to visit or vacation to the Upper Cape here is a climate summary for that locale:

> This section summarizes climatological information for the area around Cape Cod Air Force Station (CCAFS). CCAFS is located on the upper part of Cape Cod, also referred to by the locals as the Upper Cape. The climate around CCAFS is influenced by a marine environment with Cape Cod Bay to the north/northeast and Buzzards Bay to the south/southwest. And there is the nearby Cape Cod Canal to the west which connects the two bays. On average the climate around CCAFS is humid with a mean relative humidity of 60% in mid-afternoon and 90% at dawn. Fog is likely to develop in the morning when the overnight conditions are clear and cool with calm winds. Fog is also likely in the spring when a warm front is positioned just south of Cape Cod. During summer afternoons, low clouds and fog can advance over the Upper Cape and nearby waters via southwest winds.
>
> The area around CCAFS is subject to summer time thunderstorms and if thunderstorms do occur they are most likely to occur during the overnight and morning hours versus during the late afternoon and evening hours. The average annual precipitation is 46.82 inches, based on the latest 30 year normal (1981-2010) which averages 3.90 inches of precipitation a month. The wettest months of the year, with near or above normal precipitation, are March, April and October through December. During these months the area is prone to coastal storms known as Nor'easters. These winter storms can bring a wintry mix of wind, rain, snow, sleet and freezing rain. The Upper Cape is often the demarcation for the rain/snow line for these pesky winter Nor'easters. In other words, the Upper Cape and nearby Cape Cod Canal act as a boundary zone between snow falling to the west/northwest and rain falling to the east/southeast, with a wintry mix in between. The average annual snowfall for the CCAFS area is about 24 inches.
>
> Winters (December through February) are generally cold, with an average daily high temperature of 40°F and a nighttime low averaging 24°F. Summers (June through August) are generally warm, with an average daily high temperature of 77°F and a nighttime low of 61°F.
>
> The prevailing wind during the winter is from the west/northwest averaging 10 to 20 MPH sustained with gusts averaging 30 MPH. During the summer the prevailing wind is from the southwest averaging 15 to 20

mph sustained with gusts averaging 27 mph. And there is a third component of the wind – out of the northeast. Northeast winds are not as prevailing across the CCAFS area, but they do play a role, namely in March through May and again September through November. These winds average around 15 mph sustained with gusts averaging 30 mph.

WARNING/ADVISORY CRITERIA

If you ever want to know what triggers specific advisories and warnings issued from NWS Taunton for Southern New England, you can check out this link:

http://www.erh.noaa.gov/box/warningcriteria.shtml

NWS TAUNTON NEWSLETTER LINK

Did you know that NWS Taunton issues an office newsletter called *Prevailing Winds*? While *The Weather Eye* is specifically written and published for Coop Observers, *Prevailing Winds* targets a wider audience. You can check out recent and past issuances of *Prevailing Winds* at:

http://www.erh.noaa.gov/box/officePrograms/SkyWarn.shtml

COOP PAGE REMINDER

A Coop Page is located on NWS Taunton's web site. To access the Coop Page go to this link:

http://www.erh.noaa.gov/box/officePrograms/Coop.shtml

There are some informative links to access, such as the history of the Coop Program, the National Cooperative Observer Newsletter, snow measurement guidelines, and current and past copies of *The Weather Eye*!

WEATHER RECORDS

Looking for past weather records from your site or perhaps somewhere else? All Coop data gets scanned and archived at the National Climatic Data Center. You can view these data on-line by going to this web site:

http://www7.ncdc.noaa.gov/IPS/

Click on Coop Data (the 6th link down on the list);
Click on a State;
Click on a Coop site;
You'll then see monthly data to choose from.

For a more interactive approach to looking at weather data across the globe, go to:

http://www.ncdc.noaa.gov/cdo-web/search

WE WELCOME

An established coop station in Litchfield County Connecticut, called Barkhamsted now falls under NWS Taunton's Coop Program area. Formally, Barkhamsted fell under NWS Albany's Coop Program area due to its location in Litchfield County. Why the switch from Albany to Taunton? The coop site at Barkhamsted, CT falls under the Metropolitan District Commission (MDC) – a vast watershed area with reservoirs of water supply. A sister coop site to Barkhamsted resides in Burlington, CT which also falls under the MDC and NWS Taunton's Coop Program area. Given that both these sites are located along the Litchfield / Hartford County line, it just

made sense to have one forecast office service them – thus NWS Taunton volunteered. So WE Welcome Barkhamsted, CT.

WE RECOGNIZE

Thanks to all of you for your dedication and interest in weather data collection. Your daily efforts are much appreciated. When it comes to weather, you are the eyes and ears of your community. Look ahead to view a number of fellow Coop Observers that have received length of service awards over the past 9 months. Those not pictured but who received awards are as follows:

Wayne Plante
Whitinsville Water Company
– Northbridge, MA
-30 year Length of Service Award

Robert Melancon
New Bedford Water Department
Quittacas Water Treatment Plant
– Rochester, MA
-25 year Length of Service Award

Dave Texeira
New Bedford Water Department
Quittacas Water Treatment Plant
– Rochester, MA
-20 year Length of Service Award

Richard Griffin
Town of Franklin DPW – Water Dept.
– Franklin, MA
-20 year Length of Service Award

Mike Ziegenhagen
New Britain Board of Water Commissioners – Shuttle Meadow Reservoir
– New Britain, CT
-20 year Length of Service Award

Dave Camden
New Britain Board of Water Commissioners – Shuttle Meadow Reservoir
– New Britain, CT
-15 year Length of Service Award

Kevin Monahan
Manchester Water Works
– Massabesic Lake, NH
-15 year Length of Service Award

Tom Cutler
Southbridge Water Department
– Southbridge, MA
-10 year Length of Service Award

Dave Boisvert
Manchester Water Works
– Massabesic Lake, NH
-10 year Length of Service Award

Jim Jordan
Amherst Waste Water Treatment Plant
– Amherst, MA
-10 year Length of Service Award

The Arnold Arboretum of Harvard University receives a 50 year Honored Institution Award. This climate site, located in the Jamaica Plain section of Boston, has been recording daily precipitation and temperature data for 50 years! To ensure that quality daily observations are taken 365 days a year, it requires a team effort. The stewards, who continue the climate legacy from the Arnold Arboretum, are pictured from left to right: Eyob Solomon, Dana Greenhouse Intern, Jack Alexander, Plant Propagator, Irina Kadis, Curatorial Assistant, Bob Famiglietti, Arboretum Greenhouse Horticultural Technologist and Oren McBee, Dana Greenhouse Nursery Manager.

Ralph Gendron (left), Project Manager at the U.S. Army Corps of Engineers – Barre Falls Dam, MA, receives a 30 year Length of Service Award with Park Ranger Brianna Green (right) in attendance.

Pictured left, The Whitinsville Water Company of Northbridge, MA receives a 50 year Honored Institution Award. Those accepting the award are employees of the company.

Pictured from left to right are:

Linda St. Francis, Accounts Payable and Billing

Dawn Calderwood, Office Manager

Maureen Dowdey, Receptionist

and

Randy Swigor, General Manager.

Also taking part in the 50th award presentation at Whitinsville Water Company are some of the operators.

Pictured from left to right are:

Rich Chace,
Mike Descy
and
Roland Roy.

Roland holds the grand 5 ft snow staff to be deployed for use during this upcoming winter!

Mark Alan Lovewell (pictured left) of Edgartown, MA, accepts a 30 year Length of Service Award from Coop Program Manager Kim Buttrick. The weather equipment is located on Martha's Vineyard in the backyard of John Lovewell, Mark's dad. Each day throughout the year, before heading to work at the Vineyard Gazette, Mark stops by his dad's house in Edgartown and not only takes the weather observation but also visits with his feisty and fiery 92 year old dad. All are labors of love for Mark.

Carl Sawyer (right), a Research Associate at the University of Rhode Island's (URI) Department of Plant Sciences, receives a 25 year Length of Service Award. The climate site at URI is located on the Kingston campus near the G.H. Gardner Crops Research Building. The Kingston, RI site is part of the Historical Climate Network with records dating back to 1888! Daily observations at this historic site require a team effort. Other team members are Tim Sherman (left), Research Assistant and Farm Manager, and Rebecca Brown (center), Facility Supervisor and Associate Professor of Turf & Vegetable Management.

Operators at the Woonsocket Water Treatment Plant in Rhode Island receive length of service awards for their contributions to the climate record from Woonsocket. Bob Rochefort, pictured left, receives a 25 year Length of Service Award and Michael Bouchard, pictured right, receives a 10 year Length of Service Award. Much thanks to Bob and Mike for continuing the climate record from Woonsocket with a weather record dating back to 1931!

Richard Griffin (2nd in from left) receives a 20 year Length of Service award. Richard is a Pump Station Operator with the Franklin Water Department in Massachusetts. Those present for this milestone are pictured from left to right: Laurie Ruszala, Water Superintendent, Richard Griffin with his award, and fellow Pump Station Operators, Steve Nunnery and John Paul MacNeil.

Wayne Pincence (left), Operations Supervisor at Lawrence Hydroelectric Associates, receives a 20 year Length of Service Award for his contribution to the climate record in Lawrence, MA. The climate site at Lawrence is part of our Nation's Historical Climate Network with weather data dating back to 1856! Wayne is seen here with his co-workers who also participate in the daily recording of precipitation and temperature measurements. Pictured center is Pat Donahue and to the right is Joe Burke, both Plant Operators.

Folks at the Water Supply Division, Metropolitan District Commission (MDC) in Connecticut receive length of service awards. Phillip Royer (right), Water Supply Construction/Maintenance Supervisor, receives a 15 year Length of Service award as does Jim Shelesky (left), Water Supply Maintenance Crew Leader. Phill and Jim take observations from 2 climate sites that fall under the MDC – one is located in Barkhamsted, CT (pictured above) and the other is located in Burlington, CT. Both sites date back to 1932 with over 75 years of weather data! Thanks to Phill and Jim for contributing to this long history of weather data collection.

Pictured left: Mike Bumpus, Operator at the Middleboro Pumping Station, receives a 10 year Length of Service award for his contributions to weather observing from Middleboro, MA. Presenting the award are 3 summer interns with NWS Taunton.

Pictured from left to right are: Chris McCray (junior at Lyndon State College in VT), Chris Roller (graduate student at UMASS Lowell), Mike Bumpus receiving his award, and Alyssa Hammond (Senior at Plymouth State University in NH). All 3 interns are studying Meteorology and have high hopes of someday working for the NWS!

The Middleboro Pumping Station has a long history of weather records dating back to 1887 – a few years after the pump house was erected (see the date above the doorway).

Operators with the Southbridge Water Department, MA receive length of service awards. Operator Steve Gregoire (left) receives a 5 year Certificate of Recognition and Chief Operator Bob Ash (right) receives a 10 year Length of Service award.

Thanks to all of You!

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