

The Four Seasons



National Weather Service Burlington, VT

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1-2

SUMMER 2015

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Letter from the Editors

Welcome to the Summer 2015 edition of The Four Seasons, a quarterly newsletter issued by the National Weather Service in Burlington, VT. In this edition we'll take a look back at this past spring including the record breaking month of May, & take a closer look at some severe weather climatology & statistics from around our area. We'll also delve a bit deeper into one of the North Country's summer weather phenomenon, thunderstorms, their different types, & how they form. Finally we'll provide you with some awareness information you'll need this summer & we'll check out our climate & past weather page that some of you might find very useful. Thanks for reading and we hope you enjoy the newsletter.

Omesfor the Record Books:

Record May Warmth

- Michael Muccilli

Coming off a tremendously cold end of Winter, and despite a relatively slow start to Spring, once May arrived, the warm weather sprung into action and delivered a near-record to record warm month to the North Country. The month of May featured several episodes of 80-degree warmth with the mercury even approaching 90 degrees on four separate occasions. May was also mostly drier than normal, and this combined with the very warm temperatures led to many days of sunshine and mild temperatures, mitigating any flooding concerns, and even leading to a few weeks of high fire danger.

Across the North Country, May finished well above normal, with Burlington, VT registering a monthly mean of 63.6 degrees, or 7.3 degrees above normal. Similar numbers were seen in Montpelier, VT, where the site finished 5.2 degrees above normal, as well as Massena, NY, finishing at 5.4 degrees above normal. For a more indepth look at these sites, please see Table 1 on the next page. These numbers gave Burlington its warmest May in its historical record, dating back to 1884. Montpelier (Continued on Page 2)

	Average Temp	Departure from Normal
Burlington (1884)	63.6°	+7.3°
Montpelier (1948)	59.0°	+5.2°
Massena (1949)	60.5°	+5.4°
Mt. Mansfield (1955)	52.6°	+7.3°

Table 1. May 2015 Average Temperatures and Departures from 1981-2010 Climate Normals

came in at second overall (since 1948), Massena at third overall (since 1949), and Mount Mansfield at second overall (since 1955). See Table 2 below for the top 3 Mays at each location.

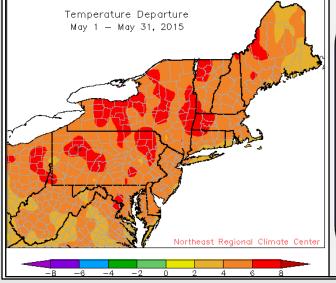
The warmth wasn't only limited to Vermont and northern New York either. The entire northeastern United States (12 states from West Virginia to Maine) was well above normal and the Northeast Regional Climate Center (http://www.nrcc.cornell.edu/) reports that throughout the Northeast temperatures ranged from 2 to 8 degrees above normal, and all but one of the 35 airport climate sites ranked the month among their top 12 warmest Mays, with 7 sites registering as the warmest. See Figure 1 below for a map of the

Northeastern US's temperature departures.

The Northeast Regional Climate Center (NRCC) also reported that 30 out of the 35 airport climate sites in the Northeast saw below normal precipitation, with 3 sites having record dry Mays. Locally, most of the North Country was between normal to 1.5 inches below normal, although some locations in central Vermont and the eastern Adirondacks did have a surplus of rain due to thunderstorms and a heavy rainfall amount in final few days of the month. Burlington finished with 2.92" of total rainfall, 0.53" below normal. The greatest rainfall at an official reporting station (with the exception of mountain summit sites) fell at Montpelier, VT where 4.93" of rain fell, or 1.56" above normal, more than half of that occurring over the final two days of the month. The least amount of rain fell at Ogdensburg, NY where only 1.09" of total rain fell. The dryness through much of the month led to abnormally high fire dangers and even led to a burn ban being issued in Vermont, as well as in New York, although it is common practice in New York. Parts of the region, including the Saint Lawrence Valley of New York and southeastern Vermont, were also categorized as being in a "Moderate Drought" as of May 26th, before the heavier rains of May 30th – June 1st.

Figure 1. May 2015 temperature departure from normal in degrees Fahrenheit (NRCC).

Table 2. Mean monthly temperature rankings for the month of May, year of occurrence, and length of historical record at each respective location.



Average Monthly Temperature Rankings Burlington, VI Montpelier, VT 1.) 1975 (61.9°) 1.) 2015 (63.6°) 2.) 1911 (62.5°) 2.) 2015 (59.0°) 3.) 1975 (62.3°) 2.) 1982 (59.0°) Since 1884 Since 1948 Massena, NY Mount Mansfield, VT 1.) 1998 (63.5°) 1.) 1998 (53.3°) 2.) 1975 (61.3°) 3.) 1975 (51.7°) Since 1949 Since 1955

Local Severe Weather Climatology

- Andrew Loconto

Photo Credit: Matt Sutkoski

As we turn toward the warmer months, the frequency of thunderstorms begins to increase, some of which become severe. The National Weather Service defines a thunderstorm as severe when it produces one-inch or greater diameter hail, and/or wind gusts of 58 mph or greater capable of causing damage, and/or tornadoes. However, any thunderstorm is capable of producing deadly lightning and flash flooding.

The National Weather Service office in Burlington, Vermont has recently updated the North Country severe weather climatology through 2013, which includes Clinton, Franklin, Essex and St. Lawrence Counties in New York, and all of Vermont except for Bennington and Windham Counties. The following discusses some of the results of the updated severe weather climatology, spanning the years from 1952 to 2013. Keep in mind that severe weather occurrences vary significantly from year-to-year. Non-meteorological factors also may influence the severe weather climatology as well. For example, prior to the mid-1990s, data tends to be very limited. A greater emphasis on severe thunderstorm verification and changes in severe weather reporting practices account for some of these differences, including a stronger spotter network and the adaptation of social media as a way to communicate severe weather.

Monthly Severe Weather Distribution

Figure 1 (next page) shows the distribution of severe weather reports received by month from 1952 to 2013. June, July and August is considered our "severe weather season", though July is by far the most active of all months with 869 combined severe weather reports, or 36 percent of all reports. Instability and moisture are at their greatest during these months, and the climatological position of the jet stream shifts northward across the northern tier of the United States, allowing for weather systems to act on this instability and moisture.

Severe straight-line winds are the most frequent severe weather type, followed by severe hail. Tornadoes are the least-common, with about one occurring each year. Severe hail tends to occur with less regularity after the peak in July, as warmer temperatures at greater heights in the atmosphere lead to large hailstones melting before reaching the ground.

Distribution by Time of Day

Figure 2 (next page) shows the distribution of combined severe weather reports by time of day. There's a clear diurnal trend, with the greatest number of severe weather reports falling between 3:00 PM and 7:00 PM. It is in this time period when the atmosphere is the most unstable as the sun heats the surface. The atmosphere tends to become more stable after sunset, with a decrease in severe thunderstorms during the overnight hours. Severe weather lasting well into the overnight is a rare occurrence.

Photo Credit: Willi Wilkens



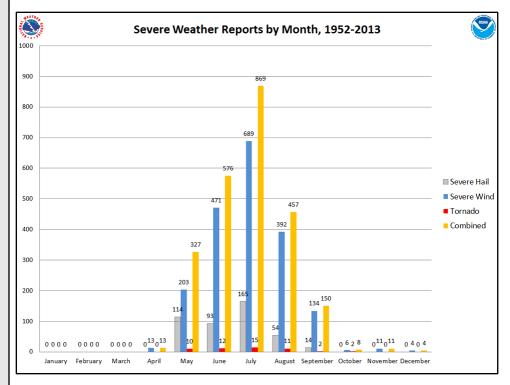


Figure 1. Monthly distribution of North Country severe weather reports from 1952-2013. Numbers above bars depict counts of 1"+ diameter hailstones (gray bars), severe straight-line winds (blue bars), tornadoes (red bars) and combined tornado, hail and wind reports (yellow).

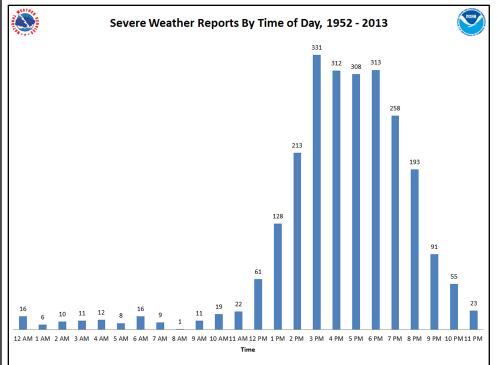


Figure 2.. North Country severe weather reports organized by time of day. Numbers above bars denote the number of combined tornado, severe wind, and severe hail reports.



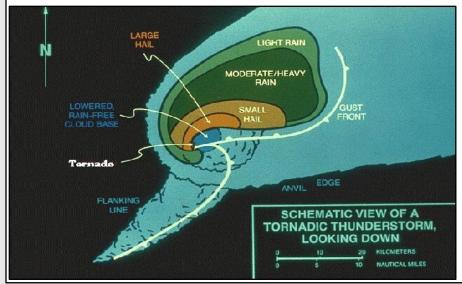
Each convective season the North Country experiences many different types of thunderstorms and associated weather. Some thunderstorms produce only a couple of rain drops, while others bring strong winds, large hail, flooding rains, and frequent lightning. In this article we will briefly discuss the most common types of thunderstorm found across the North Country and the typical thunderstorm life cycle.

The four basic types of thunderstorms are supercells, multi-cell cluster, multi-cell lines or squall lines, and single cell storms. A <u>supercell</u> thunderstorm is extremely dangerous to both the public and aviation, with the capabilities to produce weak to violent tornadoes, large hail greater than 2 inches in diameter, destructive thunderstorm wind gusts greater than 60 mph, occasional flash flooding, and plenty of lightning. The schematic below shows the location of potential severe weather associated with a supercell thunderstorm. Fortunately these

types of storms are not common across the North Country and are typically found across the Central Plains of the United States.

The next type of thunderstorm is the <u>multi-cell</u> <u>cluster</u>, which can produce damaging winds greater than 60 mph, moderate-sized hail, flash flooding, and weak tornadoes. Multi-cell cluster type storms occur 2 to 4 times per year across our region and frequently produce flash flooding, especially if numerous storms *train* over the same region. These types of storms pose a moderate danger to the public and aviation community.

After the multi-cell cluster the third type of the thunderstorm is the <u>multi-cell line</u> or squall line. A well-organized squall line typically occurs once every couple of years across Northern New York into Vermont, with the primary threat being strong and damaging thunderstorm wind gusts greater than 60 mph. In addition, squall lines typically produce brief (Continued on Page 6)



Train: When thunderstorms train, they move over the same region in a relatively short period of time. Training thunderstorms are capable of producing excessive rainfall totals, often causing flash flooding.

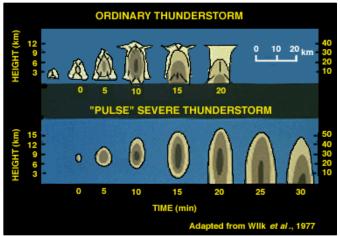
Figure 1. Schematic View of a supercell thunderstorm (National Weather Service)

heavy rainfall and small hail, with a low threat for flash flooding and weak tornadoes. These types of storms are largest in scale and sometimes can cover several states, while moving at 40 to 60 mph. Figure 2 shows a schematic of a multi-cell squall line (top right) and associate radar depiction of a squall line (middle right). The image highlights the greatest threat of severe weather, precipitation, and potential location of a weak tornado, which is just north of the apex of the bow echo reflectivity structure.

The final thunderstorm type is a <u>single cell</u> or pulse type storm, which occurs most frequently across our region (approximately 10 to 20 times per year). These types of storms are also known as garden variety or airmass storms, which develop during the peak heating of the summer months. Single cell storms produce limited and very isolated severe weather and only last about 20 to 30 minutes. The most common weather associated with these storms are brief heavy rainfall, localized wind gusts to 50 mph, small hail, and lightning. The image below shows the 30 minute life span of a pulse or single cell thunderstorm, along with an associated cloud photo. The darker colors indicate the radar reflectivity core of heavier precipitation falling toward the ground as the storm weakens.

The four types of thunderstorms mentioned above all go through different stages of development. We'll briefly discuss the life cycle of a thunderstorm and the different stages on the next page.

(Continued on Page 7)



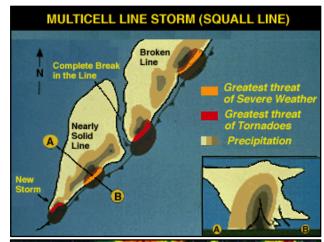




Figure 2. Schematic view of a multi-cell line storm (top) and associated radar signature (bottom)

(National Weather Service)



Figure 3. Schematic view of a pulse thunderstorm (lower left) and associated cloud photo (lower right) (National Weather Service)

The first stage (1) is called the developing stage. In this stage, towering cumulus clouds develop, typically over terrain or along a boundary, and indicate rising air motions. This stage lasts about 10 to 15 minutes and normally little rain occurs with occasional lightning if the vertical development is adequate. The next stage in development is the mature stage (2). At this stage a mature thunderstorm is mostly likely to produce hail, heavy downpours, frequent lighting, strong winds, and possible tornadoes. The storm occasionally has a black or dark green appearance, suggesting hail aloft and deep vertical cloud development. This stage usually last 10 to 20 minutes, but can persist up to an hour in stronger supercell type thunderstorms. The final stage of a thunderstorm life cycle is called the dissipating stage (3). In this stage, downward flowing air dominates the storm, which can cause downburst wind damage. In addition, rainfall intensity decreases in the dissipating stage along with the frequency of lightning. The diagram below shows the three stages of thunderstorm development and associated cloud structure for each stage.

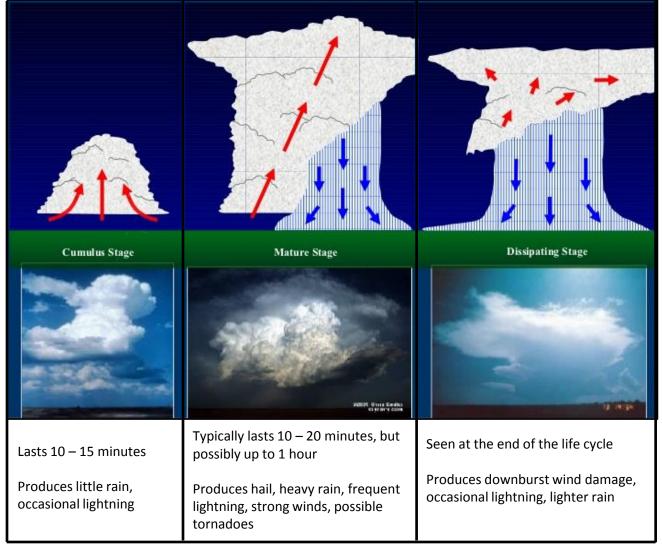


Figure 4. The life cycle of thunderstorm development and associated stages along with observed cloud structure (National Weather Service)



The Spring of 2015 started right where winter left off, cold, but by the end of it, we were flying headfirst into summer warmth. Looking back at the meteorological spring, defined as the days from March 1st through May 31st, the season started on the cold side, but came across the finish line as near normal, thanks to a record warm May. What didn't change however was the overall dry trend through each of the three months.

For the three month period, the temperatures at Burlington, VT were 0.9 degrees above the 30-year normal, the warmest relative to normal climate site in the region. Elsewhere most locations were near normal or slightly below, with the Northeast Kingdom as much as 2 degrees below normal. Precipitation was well below normal across the entire region, with some locations only at 50 percent of their normal rainfall. Burlington, VT finished the Spring 2.03 inches below normal, however Springfield, VT was well over 6 inches below normal. Figures 1 and 2 below show the 2014-2015 departures from the 1981 – 2010 climate normals across the North Country for both temperature and precipitation.

The Spring of 2015 started off very cold and dry, leading to a below normal March for both temperatures and precipitation. This gave way to an up and down April that featured both snow and hints of warmth, and finished the closest to normal area-wide for temperatures and precipitation. The *(Continued on Page 9)*

Departure from Normal Temperature (F) 3/1/2015 - 5/31/2015

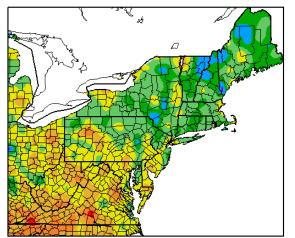


Figure 1. Average March – May 2015 Temperature Departures from 1981-2010 Normals (Northeast Regional Climate Center)

Departure from Normal Precipitation (in) 3/1/2015 - 5/31/2015

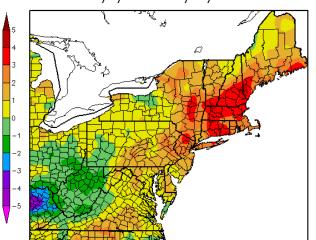


Figure 2. Average March – May 2015 Precipitation Departures from 1981-2010 Normals (Northeast Regional Climate Center)

warmth finally broke out in full force in May, giving the region a record-breaking May and a taste of summer's warmth.

March Recap

March was essentially extension of winter and featured plenty of cold weather, however it was also dry and relatively snowless. Over the first seven days of the month, the temperature only rose above freezing once at Burlington, VT, on March 4th. This stretch also featured three days below zero at Burlington, including a -10 degree low on March 6th. Some locations saw the mercury drop to as low as -20 to -30 degrees, with the coldest being Canaan, VT bottoming out at -33 degrees (See Figure 1 right).

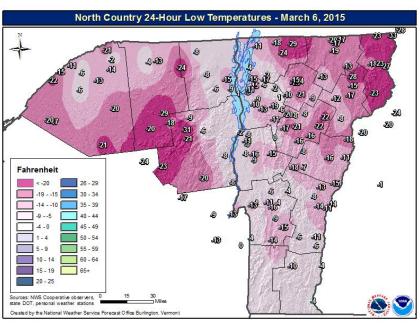


Figure 1. Observed Morning Low Temperatures on March 6th, 2015

That day was 20 degrees below the climate normals for March 6th at Burlington. There was some moderation following the brutal start, but only one day managed to break 50 degrees in the month, and that occurred on March 11th. Much of the month featured highs in the 30s and 40s and lows well below freezing. Even as the calendar marched towards April, the North Country just couldn't shake Old Man Winter, with low temperatures on the morning of March 29th falling well below zero in some locations, including a -9 degree reading at Saranac Lake (See Figure 2 below). The month as an entirety had 21 days below normal, 11 of which were double digit departures.

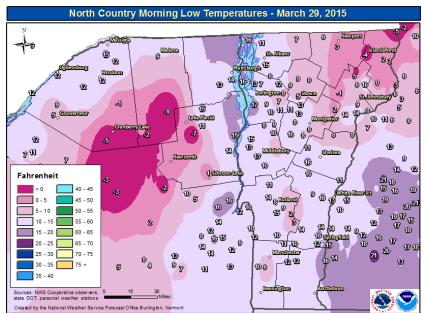


Figure 2. Observed Morning Low Temperatures on March 29th, 2015

Warmest: 56°- Danby, VT Mar 11th Coldest: -33°- Canaan, VT Mar 6th Warmest at Burlington: 50°- Mar 11th Coldest at Burlington: -10°- Mar 6th

April Recap

April was a battleground month as usual where large swings in temperatures were observed including the region's first 70+ degree day as well as several last bouts of snow and winter weather. In the end, all of these swings balanced out nicely, leaving the region with a near normal month for both temperature and precipitation.

The month started out on the chilly side with the majority of the first ten days on the below normal side of the spectrum, and also featured four days of accumulating snow at Burlington. (Continued on Page 10)

This led to Mount Mansfield recording its deepest snow depth of the season on April 9th. However the region also saw two days break into some spring warmth on April 2nd and 3rd, including a 69 degree high on April 3rd. The middle third of the month then transitioned to a warmer period with plenty of 50 and 60 degree temperatures, and one very warm day on April 13th where the high temperature reached 75 degrees (at Burlington). Winter was not going to fade away easily though with one last gasp on the 23rd and 24th where the temperatures struggled to break out of the 30s and low 40s, and a trace of snow was recorded on the 24th and 25th at Burlington. Finally as we moved towards May temperatures rebounded back into the 60s.

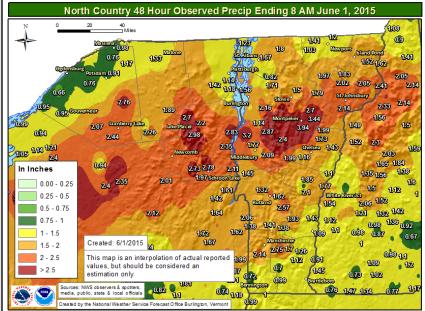


Figure 3. Observed 48 Hour Rainfall Ending on June 1st, 2015

Warmest: 78°- Ogdensburg, NY Apr 13th Coldest: -1°- Saranac Lake, NY Apr 1st Warmest at Burlington: 75°- Apr 13th Coldest at Burlington: 20°- Apr 1st

May Recap

The warm weather sprung into action as the calendar flipped and delivered a near-record to record warm May to the North Country. The month of May featured several episodes of 80-degree warmth with the mercury even approaching 90 degrees on four separate occasions. May was also mostly drier than normal, and this combined with the very warm temperatures led to many days of sunshine and mild temperatures, mitigating any flooding concerns, and

even leading to a few weeks of high fire danger. More information on the numbers behind the record May can be found in our lead story.

The month was very warm throughout with 23 days at or above 70 degrees, however there were still a few recurring cooler shots of air, occurring mainly between May 13th-15th and May 20th-23rd. The warmest stretches occurred from May 7th-10th with widespread mid and upper 80s and again from May 26th-30th where even a few localized 90s were observed (See Table 1). And while being dry overall, some heavy rain at the tail end of the month quickly put an end to any drought concerns. The region experienced a widespread 1 to 2 inches of rain, with a swath of 2 to locally 3+ inches from the Adirondacks eastward into central Vermont (See Figure 3). However, because it was dry, any flooding was localized and minor.

Warmest: 91°- Vergennes, VT May 26th Coldest: 23°- Saranac Lake, NY May 14th Warmest at Burlington: 89°- May 26th Coldest at Burlington: 36°- May 14th

Table 1. Selected 90 degree high temperatures on May 26th, 2015

High Temperatures May 26 th , 2015				
Location	High Temperature			
Vergennes, VT	91°			
New Haven, VT	91°			
Plattsburgh, NY	90°			
Addison, VT	90°			



Warmer weather has arrived! And with it comes different weather hazards for the season. The most common hazard during the warm season is thunderstorms. Without the proper precautions and preparedness, every thunderstorm is dangerous. Every thunderstorm contains lightning, which kills about 50 people in America each year and injures hundreds of others.

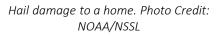




Most people struck by lightning were outside in an open area or near a tree. No place outside is safe when thunderstorms are in the area and the best way to stay safe is to follow this advice: *When Thunder Roars, Go Indoors!* When you hear thunder, *immediately* move to safe shelter: a substantial building with electricity or plumbing, or an enclosed, metal-topped vehicle with windows up. Stay away from windows and doors, and stay off porches. You should also stay off corded phones and avoid touching electrical cords or equipment while

thunderstorms are in your area, as the electricity from lightning can easily travel through the cords and shock you. Stay in your safe shelter for at least 30 minutes after you hear the last sound of thunder to make sure the thunderstorm has completely moved past your location.

Besides lightning, thunderstorms can also produce hail, damaging winds, tornadoes, and heavy downpours which can lead to flash flooding. In fact, when thunderstorms produce hail one inch in diameter or greater and/or damaging wind gusts in excess of 58mph, we call these storms *Severe*. Wind and hail of this magnitude can cause damage to structures, especially if the hail is being carried by strong winds.





When hazardous weather is expected the best things you can do to stay safe are...

- Keep abreast of developing conditions by tuning into the NWS forecasts via our website or NOAA Weather Radio
- 2 If you hear or see a thunderstorm, head indoors immediately.
- If you are in a Severe Thunderstorm Warning or Tornado warning, take cover immediately with your pre-packed emergency kit.
- 4. Don't forget to bring animals into a safe shelter too!



If flash flooding is a threat, move to higher ground!

For more information on how to prepare for hazardous weather, visit our Hazard Awareness webpage:

http://www.weather.gov/btv/hazard_awareness
And watch our safety videos on YouTube:

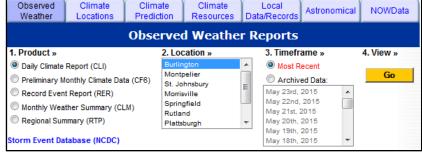
http://www.youtube.com/user/NWSBurlington



Flood damage to road. Photo Credit: NOAA/NWS Burlington



Have you ever been interested in weather conditions on specific day? Or perhaps how warm or cold a month from the past was? Or something as simple as how much rain or snow fell on a particular date? If you answered yes to any of these questions, you may be interested in our Climate and Past Weather page on our website.



So how do you get to that National Weather Service Burlington's Climate and Past Weather Page. section of the site? Start at our homepage, www.weather.gov/btv, then click on the words "Climate and Past Weather" above the map. This will take you to the "home base" of our climate page (See image above).

Observed Weather. The tab that it defaults to will give you information about our main climate sites with automated sensors. Our top two choices that you may be interested in here are the first bubble (Daily Climate Report) and the second bubble (Preliminary Monthly Climate Data). As the names imply, you can see information about any particular day in the past 2 months with the first choice, and any particular month in the past 5 years with the second choice.

Let's say you want to see data from May 23rd 2015. Click on the first bubble, choose your location, and then click on the "Archived Data" section followed by the date of your choosing. Then click "Go". This will give you all of the data collected from that day (in this case May 23rd). You can see the temperatures, precipitation, snowfall, heating/cooling degree days, wind speed, relative humidities, the climate normals, and finally the sunrise and sunset times.

Alright, so you're done with that, but now you're interested in how the weather was in April 2015. All you have to do is click on the bubble next to "Preliminary Monthly Climate Data", choose your location, click on "Archived Data" and then pick any month from the last 5 years. This will pop up a new window with every daily report neatly arranged by columns. Some of the more popular ones include the date in column 1, followed by the observed maximum and minimum temperatures. Column 5 shows the departures from normal, column 7 shows how much liquid or liquid equivalent precipitation was measured, and columns 8 and 9 show the snow and snow depth, if available (only for Burlington). If you scroll further down the page you can find more of a monthly summary of temperature and precipitation data as well as their respective departures from normal. In this example, you'd be able to see that April 2015 for Burlington, VT had an average monthly temperature of 44.8 degrees, or exactly normal. The precipitation was 2.64" and the snowfall was 3.1".

NOWData. The other tab of interest to some is the "NOWData" tab. Here you can peruse more data for additional sites as well as viewing any date in that site's particular history. It should be noted that not every one of the available locations has the data you may be looking for. Also not every location has snowfall data. Navigating this tab is similar to the previous one, see image on next page for how it appears when you first click on it. (Continued on Page 11)

... Continued from Page 10 Observed Climate Climate Climate Local Astronomical NOWData Weather Locations Prediction Resources Data/Records NOWData - NOAA Online Weather Data 1. Location » 2. Product » 3. Options » 4. View » View map Daily data for a month Go Date: 2015-04 Burlington Area Daily almanac Burlington Intl, VT Monthly summarized data Bethel 4 N, VT Calendar day summaries Brookfield 2 WSW, V Daily/monthly normals Canaan, VT Cavendish, VT Climatology for a day Chelsea 2 NW, VT First/last dates Corinth, VT Temperature graphs Cornwall, VT Danby 4 Corners, VT + Accumulation graphs

National Weather Service Burlington's NOWData Page.

To browse through the data, all you have to do is click on any site from the location menu. This includes both automated stations and cooperative observer stations. Next click on what product you are interested in. You can view anything from snowfall to temperatures to first and last freeze dates. Then click on the time period you are looking for. This will vary from location to location depending on the history of the site. Finally, just click go.

As an example, let's say you are looking for the normal last freeze date at Island Pond, VT for your gardening purposes. Scroll down on the menu, click on "Island Pond, VT", choose "First/last dates", choose your timeframe (Use "por" as your start date to include all years), and then set the criteria as "Min temp <= 32". In this particular case (see image right) you'll be able to see every first and last freeze date since 1991 for Island Pond, VT, except for a few missing years. The mean (normal or average) is May 27th, but it did occur as late as July 2nd in 1992.

Daily Climate Maps. From this page you can also access our Daily Climate Maps which were discussed in our previous Spring 2015 edition of this publication. These can be found by clicking on the "Local Data/Records" tab, scrolling down to Climate Graphs, and then clicking on "Daily Climate Maps". If you recall these maps are generated daily (and have data available back to May 11th, 2007) and display 24 hour observed maximum temperatures, minimum temperatures, precipitation, snowfall, and snow depth.

Observed Weather	Climate Locations	Climate Prediction	Climate Resources	Local Data/Records	Astronomical	NOWData	
	Unique Local Climate Data						
Climate Data							
Nonthly Temperature/Precipitation/Snowfall Records Top 10 Temperature/Precipitation/Snowfall Records Temperature Extremes Precipitation Extremes I-liphest and Lowest Temperature Occurrences Burlington Heat Waves Top 20 Greatest Snowstorms EarliesUt.atest Snowfalls Climate Graphs							
Daily Climate Maps A Value-Added Approach in Calculating Daily Degree Days							

National Weather Service Burlington's Unique Local Climate Data Page

Date	Last	First		
1991	May-21 (1991)	Sep-02 (1991)		
1992	Jul-02 (1992)	Sep-13 (1992)		
1993	-	-		
1994	Jun-10 (1994)	Oct-02 (1994)		
1995	-	-		
1996	-	-		
1997	May-28 (1997)	-		
1998	May-27 (1998)	Sep-24 (1998)		
1999	-	-		
2000	Jun-05 (2000)	Sep-27 (2000)		
2001	Jun-01 (2001)	Sep-15 (2001)		
2002	May-25 (2002)	Sep-29 (2002)		
2003	Jun-03 (2003)	Oct-06 (2003)		
2004	May-31 (2004)	Sep-20 (2004)		
2005	May-21 (2005)	Sep-24 (2005)		
2006	May-08 (2006)	Oct-06 (2006)		
2007	Jun-07 (2007)	Oct-17 (2007)		
2008	May-30 (2008)	Sep-19 (2008)		
2009	May-26 (2009)	Sep-26 (2009)		
2010	May-13 (2010)	Sep-21 (2010)		
2011	May-12 (2011)	Sep-17 (2011)		
2012	May-18 (2012)	Sep-28 (2012)		
2013	May-27 (2013)	Sep-17 (2013)		
2014	May-19 (2014)	Sep-15 (2014)		
2015	-	-		
Minimum	May-08 (2006)	Sep-02 (1991)		
Mean	May-27	Sep-23		
Maximum	Jul-02 (1992)	Oct-17 (2007)		

National Weather Service Burlington's NOWData for First and Last Freeze Dates at Island Pond, VT



The Four Seasons

Volume II, Issue II



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We Need Your Storm Reports!



Please report snowfall, flooding, damaging winds, hail, and tornadoes. When doing so, please try, to the best of your ability, to measure snowfall, estimate hail size, and be specific as to what damage occurred and when. We also love pictures!



http://www.weather.gov/btv/stormreport



National Weather Service Burlington, VT
Burlington International Airport
1200 Airport Drive
South Burlington, VT 05403

Phone: (802) 862 2475

www.weather.gov/btv Email: btv.webmaster@noaa.gov Follow us on Facebook and Twitter!



US National Weather Service Burlington, VT



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