The Four Seasons

National Weather Service Burlington, VT

VOLUME III, ISSUE II

SUMMER 2016

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Letter from the Editors

Welcome to the Summer 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 Tropical Cyclone Irene, some weather hazards that accompany the Summer season, a couple of recent workshops, staff highlights, why summer is the "fog season" and a phone app that let's you report precipitation type. We will close with a tribute to one of our Lead Forecasters who retired this past May. Thanks for reading and we hope you enjoy the newsletter.

Tropical Cyclone Irene: 5 Years Later
-Greg Hanson, Service Hydrologist

Tropical Cyclone Irene caused the most devastating flood in Vermont and northeast New York in a generation. After a spring that saw record flooding on Lake Champlain and severe river and flash flooding in April and May, Irene brought floods of such destruction in August 2011 that the landscape and the people who lived there would be forever changed.

Irene originated as a tropical wave moving off the west coast of Africa on August 15, 2011. The wave crossed the tropical Atlantic Ocean and became more organized in the following days. Irene was designated a Tropical Storm shortly before 00:00 UTC August 21, 2011 and moved west-northwest across the Caribbean Sea. Irene became a Hurricane as it passed over Puerto Rico, and intensified to a Category 3
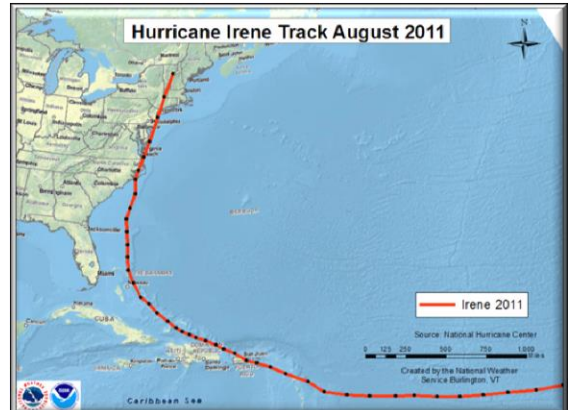

Figure 1. Track of Irene

Hurricane over the Bahamas with a peak wind of 105 knots and minimum central pressure of 957 millibars at 12:00 UTC on August 24. Irene continued north and weakened, making landfall as a Category 1 storm near Cape Lookout, NC at 12:00 UTC August 27 with an intensity of 75 knots, then weakening to a Tropical Storm as it brushed by Atlantic City, NJ at 09:35 UTC August 28, and crossed Coney Island in Brooklyn, NY around 13:00 UTC later in the morning. Rain and wind were felt in Vermont and northeast New York beginning in the early morning hours of August 28,

Figure 2. Visible Satellite image from GOES-13 on August 30, 2011.

and its center tracked along the Vermont/New Hampshire border around 00:00 UTC August 29. Irene lost its tropical characteristics as it moved through New England, and by 06:00 UTC on August 30 the circulation that was Irene was absorbed into a frontal system over northeast Canada. (Fig.1)

Although the storm itself passed through the region very quickly, flooding from the storm continued through the end of the month. In Vermont and Northern NY, five to eight inches of rainfall (Fig. 3) produced deadly record flooding resulting in several deaths and historical road, home, and infrastructure damage. Also, the combination of flooding and damaging winds left at least 50,000 customers without electricity. The widespread deadly flooding across Vermont is likely the second greatest natural disaster in the 20th and 21st century (November 1927 Flood, being 1st) for Vermont.

Tropical Storm Irene struck the WFO Burlington forecast area on August 28 and 29 with devastating consequences. Flooding was widespread and severe, especially in Essex County, NY and the southern half of Vermont. There were three confirmed deaths in Vermont due to flooding, and two persons missing in flood waters. In Clinton County, New York, there were two fatalities when a car drove past warnings signs and off a washed out bridge. Major Disasters were declared for all Vermont counties in WFO Burlington's Hydrologic Service Area except Grand Isle, and for Clinton and Essex Counties in New York.

In both states, ferocious flood waters tore through villages and towns, ripping up pavement, destroying buildings, and washing out bridges. Public works buildings such as fire stations, public libraries, and highway garages were damaged or destroyed. Farm fields were flooded and dairy cows were swept away by floodwaters and drowned. Public lands including the Green Mountain National Forest and Adirondack Preserve lost trails, roads, and bridges to landslides and flooding.

All rivers were in flood in Vermont. In southern Vermont, river channels were altered, sections of major highways washed away, and homes were swept off their foundations. More than 400 local and state roads isolated 11 towns for several days. National Guard was used to transport supplies by air and ground until access was restored to all towns on September 6. Three of the state's iconic covered bridges were destroyed and others were damaged. The Waterbury State Office Complex that

Figure 3. Storm Total Rainfall August 27 & 28, 2011
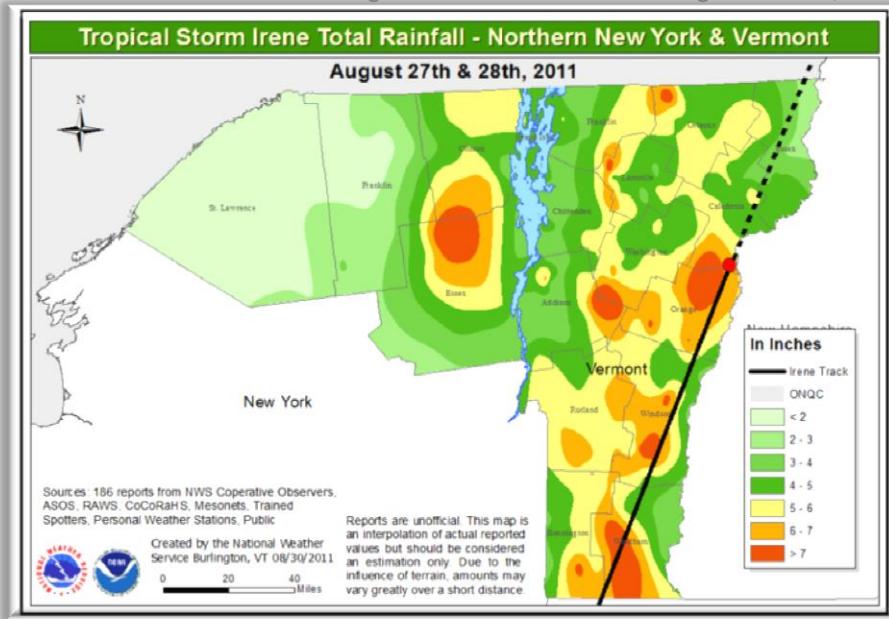
...Continued from Page 2

houses much of Vermont's administrative functions was flooded. State agencies including Vermont Emergency Management were forced to relocate for extended periods of time.

In northern New York, Essex County suffered the most grievous blows from Irene. Flooding along the Ausable River and its tributaries was historic. At least 100 homes were made uninhabitable, over 50 businesses were severely damaged and at least 17 county owned roads and 18 bridges were damaged. Other county facilities such as the fish hatchery and public health building were also affected. Large portions of Routes 9, 9N, and 73, as well as numerous local roads were inundated, damaged, or completely washed away. Route 73 was closed for two weeks following the storm. In Clinton County, 112 homes were affected by flooding.

Figure 4. Rainfall prior to Irene

Four river gaging stations recorded new record crests based on USGS provisional data. Record crests were recorded at Otter Creek at Center Rutland VT, Dog River at Northfield Falls VT, East Branch Ausable River at Ausable Forks NY, and the Bouquet River at Willsboro NY.
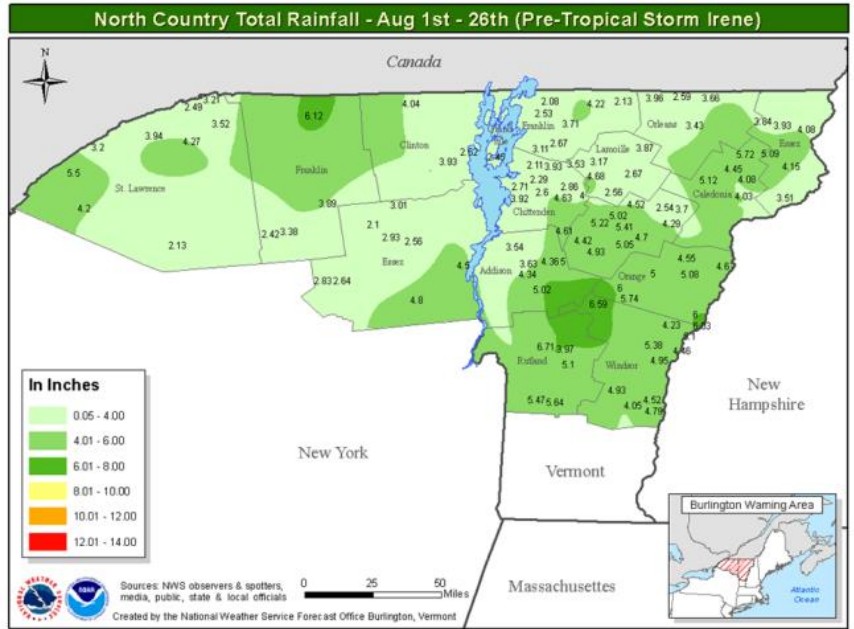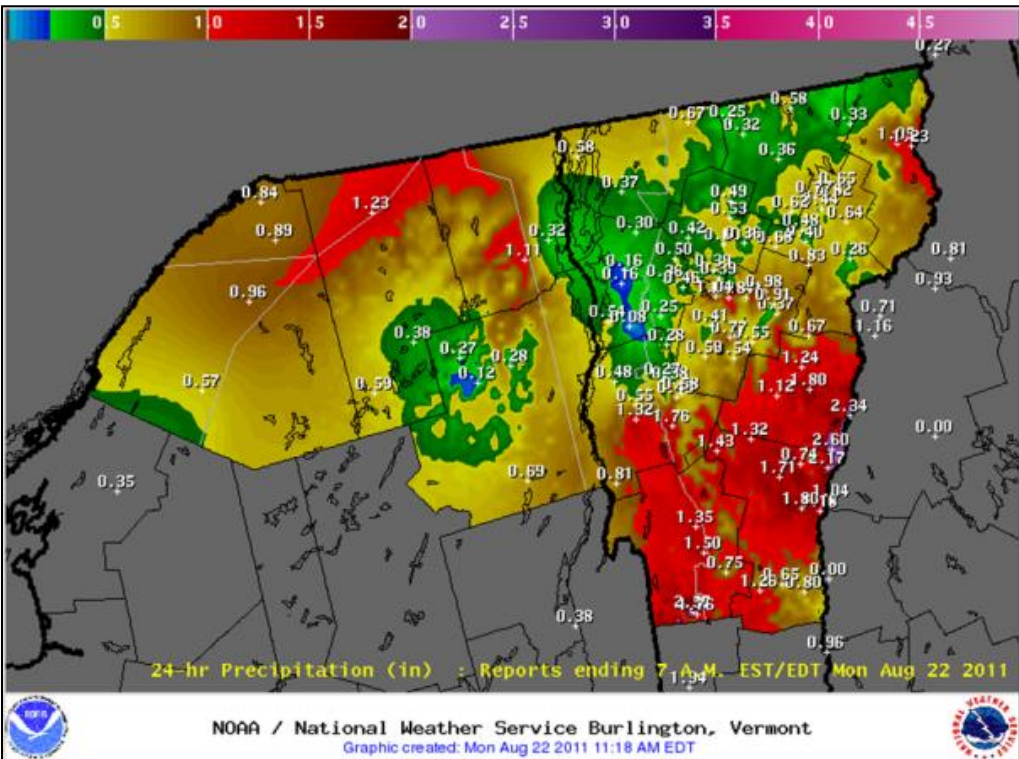

Figure 5. August 21, 2011 rainfall

Rainfall earlier in August, prior to Irene's arrival, played a large role in the flood impact. Four to six inches of rain fell across the region in the first 3 weeks of August (Fig. 4), including 1.5 inches of rain one week prior to Irene's arrival (Fig. 5). This precursor rainfall increased soil moisture to the top 10 percent of historical values (Fig. 6), which greatly enhanced runoff from Irene's rainfall.

In addition to wet soil, the antecedent rainfall

also increased river flows prior to Irene. Rivers across the southern half of Vermont were in the top 10 percent of recorded flow for the week prior to August 28.

Rivers responded very quickly to the rainfall, with smaller rivers and streams cresting 6 to 12 hours after the rainfall, and downstream points on larger rivers cresting 24 hours or more later. The graphic below (Fig. 7) is for river gages in the Winooski River Basin. Gages on smaller streams such as the Mad River, the Dog River, and even the Winooski in Montpelier rose quickly, crested, and were on their way back down by the evening of August 28 (00:00 UTC August 29). Downstream however, the Winooski at Essex Junction VT crested the evening of August 29 (00:00 UTC August 3) and then began to recede.

Total Column Soil Moisture Percentiles for 2011/08/25 based on VIC Simulations forced with NLDAS−2 (w.r.t. samples within a 49−day window in 1951−2004)
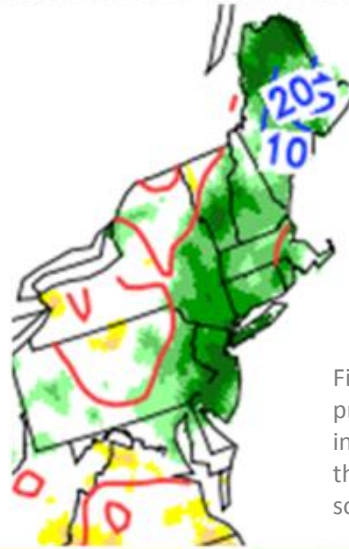
Figure 6. Soil Moisture prior to Irene. Dark green in Southern Vermont is in the top ten percent of wet soils.

http://hydrology.princeton.edu/forecast/plots/nowcast/20110825_tsm.png

Figure 7. River hydrographs for gages in the Winooski Basin

For a complete description of Tropical Cyclone Irene, see the National Hurricane Center's Tropical Cyclone Report for Hurricane Irene here: http://www.nhc.noaa.gov/data/tcr/AL092011_Irene.pdf

Five Anniversary of Irene: Our Next Outreach Webinar

Five Year Anniversary of Tropical Cyclone Irene

NOAA National Weather Service
Burlington, Vermont

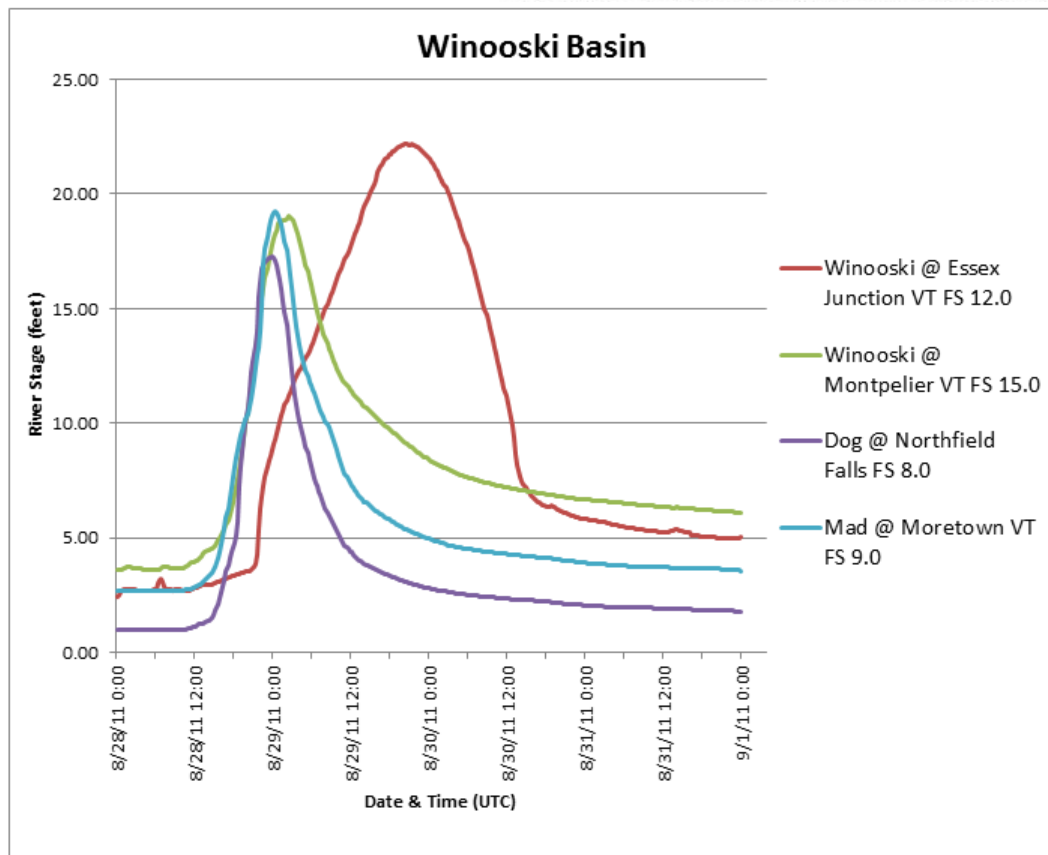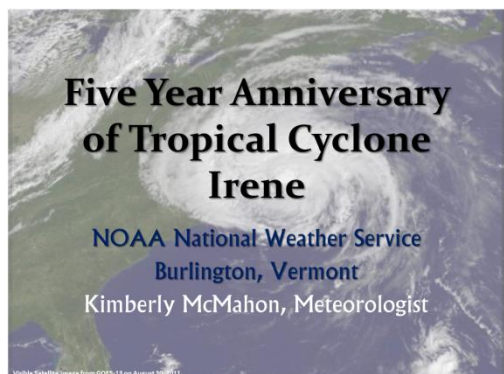Kimberly McMahon, Meteorologist

Visible Satellite image from GOES-13 on August 30, 2011.

Five years ago this August, Tropical Cyclone Irene developed into a massive storm that moved across the Eastern United States. This historic cyclone affected millions and brought devastation to the North Country.

NWS Burlington will be hosting an online Webinar reviewing this record breaking phenomenon.

Date: Monday, August 29, 2016
Time: 7:00 pm EDT

Check our website for how to register:
www.weather.gov/burington

Summer Weather Safety
-Kimberly McMahon

Summer. A new season. A season of sun and fun – but like any other season, one where we need to stay alert to hazardous weather. As we all make plans to be outside, it's important to make sure we stay aware of weather conditions and forecasts. The North Country experiences a variety of weather hazards during the summer, including:

- Thunderstorms
  - Tornadoes
  - Lightning
  - Damaging winds
  - Hail
  - Flash Flooding
- Heat
- Tropical Cyclones/Hurricanes

WHEN THUNDER ROARS GO INDOORS!
lightningsafety.noaa.gov

NWS Heat Index — Temperature (°F)

Relative Humidity (%)	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
40	80	81	83	85	88	91	94	97	101	105	109	114	119	124	130	136
45	80	82	84	87	89	93	96	100	104	109	114	119	124	130	137	
50	81	83	85	88	91	95	99	103	108	113	118	124	131	137		
55	81	84	86	89	93	97	101	106	112	117	124	130	137			
60	82	84	88	91	95	100	105	110	116	123	129	137				
65	82	85	89	93	98	103	108	114	121	128	136					
70	83	86	90	95	100	105	112	119	126	134						
75	84	88	92	97	103	109	116	124	132							
80	84	89	94	100	106	113	121	129								
85	85	90	96	102	110	117	126	135								
90	86	91	98	105	113	122	131									
95	86	93	100	108	117	127										
100	87	95	103	112	121	132										

Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity

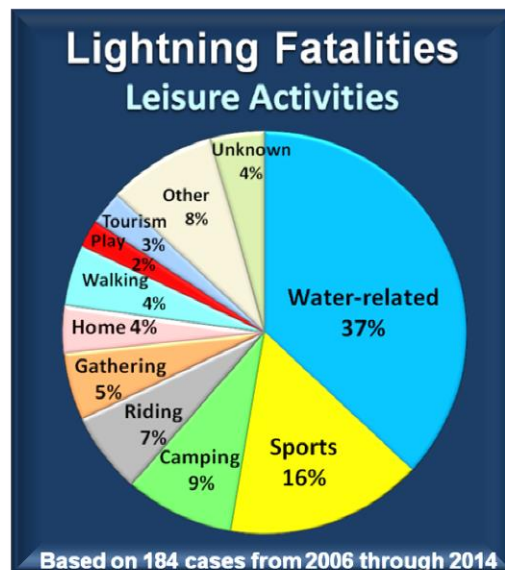☐ Caution ☐ Extreme Caution ☐ Danger ☐ Extreme Danger

While thunderstorms are common in the Northeast, we must not become complacent to the dangers they pose. All thunderstorms produce lightning and all lightning is dangerous. Thunderstorms can also produce strong damaging winds, large hail, heavy downpours that can reduce visibilities and result in flooding and flash flooding. Last but certainly not least, severe thunderstorms can produce tornadoes. These threats can also accompany Tropical Cyclones .

Remember, when Severe Weather is possible, pay attention to NWS Watches & Warnings.

When there is a **WATCH, Be Prepared**!

When there is a **WARNING, Take Action**!

Know where to seek shelter during hazardous weather and stay abreast of changing weather www.weather.gov/burlington

Lightning Fatalities
Leisure Activities

- Water-related 37%
- Sports 16%
- Camping 9%
- Riding 7%
- Gathering 5%
- Home 4%
- Walking 4%
- Play 2%
- Tourism 3%
- Other 8%
- Unknown 4%

Based on 184 cases from 2006 through 2014

2016 Warm Season Workshop
-Brooke Taber

On April 28, 2016 the National Weather Service (NWS) in Burlington, Vermont held their annual Warm Season Workshop. This workshop was well attended by the Burlington staff, along with local T.V. media partners, and private forecasters from the region. The Warm Season Workshop is designed to present the latest research and technology from colleagues around the National Weather Service, regional professors, and climatologists, along with local expertise in the field of severe weather. The goal of the workshop is to increase our knowledge of severe weather and integrate this science into providing the best warning decision support services possible for the protection of life and property for the citizens of the North Country.

Figure 1: National Weather Service, Burlington, Vermont 2016 Warm Season Workshop.

This year's workshop featured two presentations from NWS Science and Operations Officers (SOO) with one presentation called "Lightning Signatures and Trends in our Advanced Weather Interactive Processing System (AWIPS) and Potential for Severe Weather" and the other "Utilizing Average Recurrence Interval Data to Anticipate Flash Floods." In addition, local NWS meteorologist provided a 2015 Warning Review and Associated Top 10 Warning Signatures, Large Scale Patterns and Impact on Severe Weather Outlook for 2016, along with several local case study reviews. The afternoon session included a complete Weather Event Simulation of the July 21, 2015 broken line of severe

thunderstorms across northern New York into the Champlain Valley. This simulation featured interrogating radar data, practice issuing a severe thunderstorm watch and several warnings, along with providing decision support services to multiple outside activities.

Figure 2: NWS Meteorologists during the Weather Event Simulation.

The Warm Season Workshop had excellent participation with many new concepts, techniques, and strategies learned by the participants for enhanced services provided to our users across the North Country. In closing this workshop and the associated interaction helps the NWS continue their strong partnership with the local media and other private forecasters in the area, while sharing our knowledge and expertise.

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BTV Forecasters recognized with the Roger Damon Avalanche Award
- Brooke Taber

Burlington NWS Forecasters Brooke Taber and Conor Lahiff were honored by the Eastern Division of the National Ski Patrol (NSP) with the Roger H. Damon Jr. Avalanche Award on May 18, 2016. The nonprofit National Ski Patrol is the largest winter educational organization in the world composed of more than 26,000 members who serve in 11 geographical divisions. Brooke and Conor are recognized for over a decade of contributions in research, curriculum development, and instructional outreach efforts for protecting the skiing and riding community of Northern New York and Vermont. As instructors for the level 1 and 2 courses Conor and Brooke share their knowledge of how weather plays a significant factor in snow conditions and potential avalanche danger along with challenges of forecasting in complex terrain, while integrating direct feedback from the users to improve the National Weather Service, Burlington, Vermont Point 'n Click Mountain Recreational Forecast. As stated by Roger H. Damon, "There is no doubt in my mind that your efforts have already resulted in proper life-saving decisions being made by folks in mountainous terrain, regardless of the season." Brooke and Conor look forward to continuing their strong partnership with the Eastern Division of the National Ski Patrol for many years to come.

Roger Damon, a member of the Mount Washington Ski Patrol, joined the NSP in 1947. He received National Appointment in 1965. He has been a leader in Avalanche Education in the Eastern Division and the NSP for his entire Patrol career.

Pictured from left to right: Conor Lahiff (NWS BTV), Roger Damon (previous National Ski Patrol Eastern Division Avalanche Coordinator and Instructor), Brooke Taber (NWS BTV), and Charles Boyd (National Ski Patrol Eastern Division Avalanche Coordinator and Level 1 and 2 Instructor).

Welcome to Fog Season!

-By Peter Banacos

Serpentine strips of fog outlining valley locations across Vermont and northern New York have a propensity to form on clear nights during the warm season. Foggy nights are relatively common July through September, and visible satellite imagery around sunrise will typically show extensive fog in the Connecticut, Lamoille, Mississquoi, lower Passumpsic, Winooski, and White river valleys (e.g, Fig. 1). The fog typically develops after midnight, and reaches maximum extent around sunrise. Daytime heating and mixing typically dissipates the fog in the first couple of hours after sunrise, often dissipating last in the Connecticut river valley.

While valley fog can create beautiful panoramas, limited visibilities within the fog have a negative impact on travel and recreational interests. As such, fog represents an important forecast problem in public, aviation and marine forecasts issued by the National Weather Service. The goal of this article is to examine the climatological frequency of fog across the North Country, and touch upon general factors controlling the timing and preferred locations for fog development and persistence.

Fog type

Most of the fog that occurs around the North Country during the warm season develops during the pre-dawn hours, and is referred to either by the responsible physical process (*radiational fog*) or by the time of occurrence (*nocturnal fog*). The Winooski river valley in central Vermont is a common spot for the occurrence of fog. As an example, late summer (July through September) data from Montpelier, Vermont reveals that low visibility (≤ 1 statute mile) occurs most frequently between midnight and 8 AM EST (4% occurrence or greater in observations), with a maximum occurrence around 5 AM EST (22% of observations) (Fig. 2). Also, these low visibilities occur less than 1% of the time across other hours of the day, showing the temporally focused nature of the fog events during the warm season.

Formation processes

Similar to stratus clouds, fog forms in moist, stable environments with a relatively cool layer of air beneath warmer air aloft. In essence, fog is a cloud deck in contact with the ground which significantly restricts horizontal visibility as it deepens (typically from the ground upward).
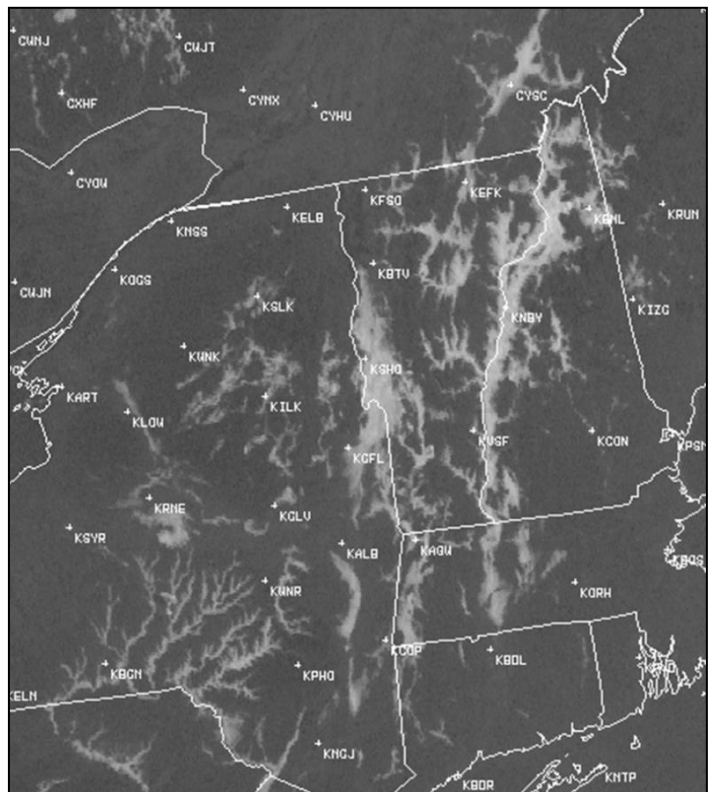

Figure 1. Fog graces the river valleys of the interior northeastern U.S. in this early morning GOES-East visible satellite image, taken 17 August 2011 at 11 UTC (7 am LST).

In the nocturnal fog process, temperatures cool at night as heat escapes the atmosphere through the process of longwave radiation. Radiational cooling is enhanced with clear skies and light winds. If the radiational cooling is strong enough and sufficient moisture present, condensation will occur near ground level as the air reaches saturation, and water vapor condenses out as tiny cloud droplets – what we see as fog.

Clouds and/or high winds are generally detrimental to fog development. Clouds limit the rate of heat loss, as some of the outgoing long-wave radiation is bounced back to the surface. Likewise, high winds cause turbulent mixing, often through a deep layer, which allows drier/sub-saturated air to mix down from aloft, precluding or at least limiting the amount of fog. Thus, forecasting conditions favorable for radiational fog involves accurate prediction of the relative absence of clouds, the potential for light winds, and near surface moisture, including from water sources and/or recent wetting rainfall.
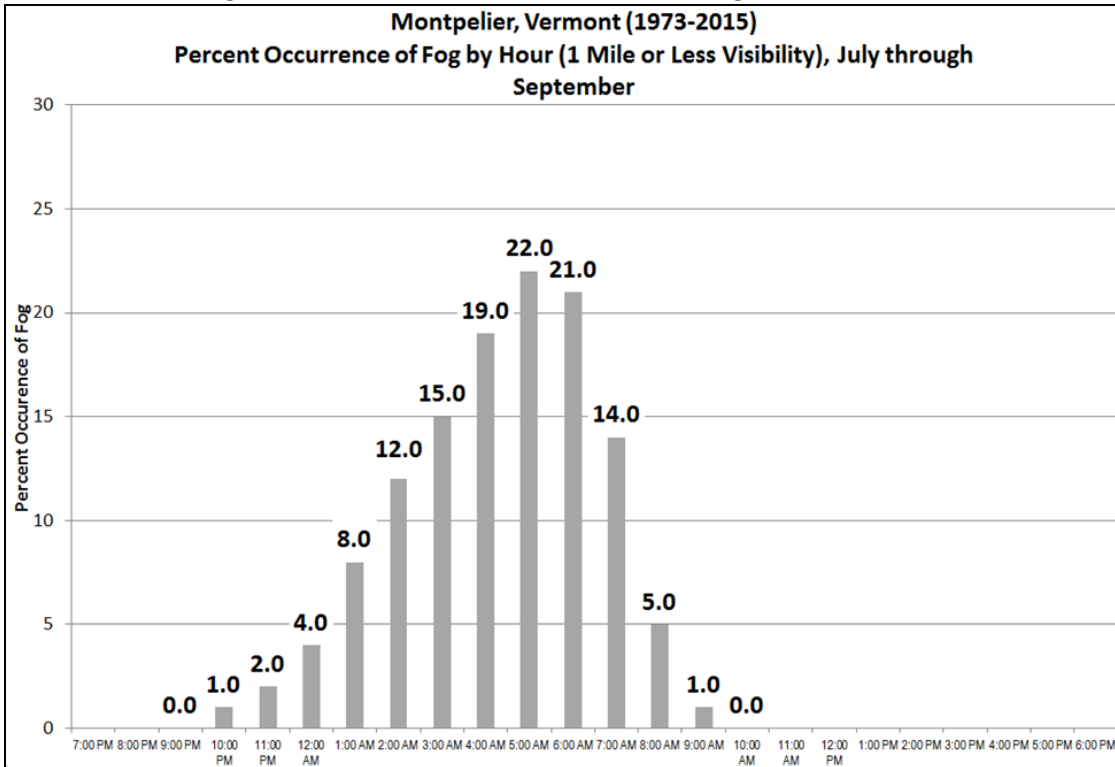

Figure 2. Percent occurrence of visibility less than 1 statute mile by hour (local standard time) at Montpelier, Vermont for the months of July through September. Data are based on the years 1973-2015.

Why is fog more frequent in the Valleys?

The shape of the local terrain is a strong driver controlling the relative frequency of fog at various locations. Typically, fog events are more common in the deeper and narrower valleys across central and eastern Vermont, and in a few valley spots within the northern Adirondack region of northern New York.

In areas of terrain containing mountains and valleys, the aforementioned loss of heat through outgoing longwave radiation develops relatively cold air along mountain slopes, where the air tends to be slightly drier and more susceptible to cooling (Fig 3.). This colder air at mid-slope level is more dense than its surroundings, and will tend to sink toward the valley floor. Light downslope wind at
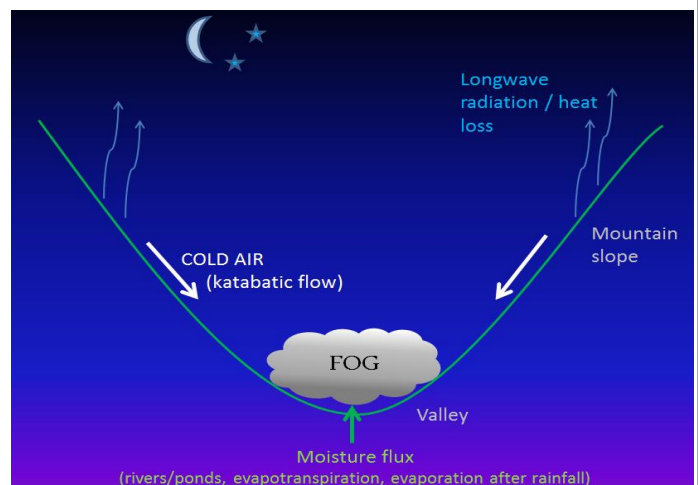

Figure 3. Schematic showing processes related to nocturnal valley fog formation.

night is known as *katabatic flow*, and the downslope flow creates an environment of modest mixing with warmer and more moist air near the valley floor. This moist air is maintained by drawing moisture (in the form of water vapor) upward from surface. Sources for water vapor include bodies of water (e.g., ponds and rivers), evapotranspiration from active vegetation (generally May through early October), and from any standing water – especially after a wetting rainfall when fog is even more likely to develop. These local sources of water vapor to the atmosphere are important factors in reaching saturation in the valleys as mixing occurs with the colder air draining down the mountain slopes.

Antecedent rainfall is particularly important in terms of how widespread and dense the fog may become. Rain water saturates the soil, dampens plants, and tends to raise dew points of the air near ground level. Higher dew points mean that less overall cooling of the air is needed to reach saturation. If skies clear following rainfall with high pressure building in from the west or northwest with light winds for the overnight period - fog is likely. Furthermore, the fog will potentially be of longer duration and more widespread in comparison to those setups without antecedent rainfall.

During the nighttime hours, low level conditions tend to be stable, and this allows the moisture to remain concentrated near ground level aiding in potential fog formation. If winds are relatively light, low-level conditions will remain stable through the duration of the nighttime hours and generally allow the fog layer to deepen and reach a maximum extent at sunrise.

Northern New York and Vermont warm season fog climatology

To quantify our understanding of local mountain/valley influences, a simple fog climatology was constructed using surface observational data for the months of May through October, and for the years 2009-2015. The climatology shown in Fig. 4 summarizes the average number of days per month reporting fog (horizontal visibility of ½ statute mile or less) at stations across northern New York, Vermont, and adjacent western New Hampshire.

Nocturnal fog reaches peak frequency in August and September, and is most common in the narrower river valleys of central and eastern Vermont and locally around Saranac Lake (Fig. 4). In comparison, note the relative absence of fog days for stations across the Champlain and St. Lawrence Valleys. For example, in August, Montpelier averaged 15 days with fog, while Burlington only averaged 3 for the seven year period studied.
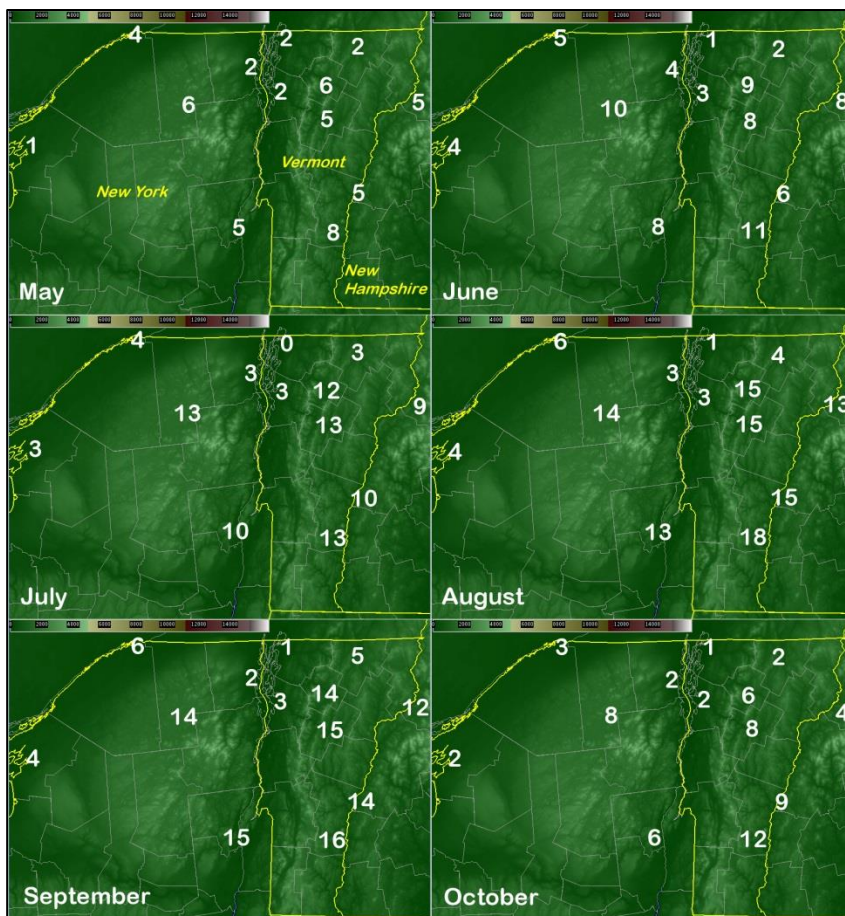

Figure 4. Average number of days per month with observed fog (≤ ½ statute mile visibility), based on data 2009-2015

The most favorable months of August and September for fog is consistent with juxtaposition of the still active vegetation and the lengthening period of night as the autumnal equinox is approached. Longer nights mean a longer period of radiational cooling for similar environmental conditions. From the standpoint of

large scale weather, high pressure systems also settle across the northeastern United States and southeastern Canadian with greater frequency toward the fall, and this sets up the potential for clear skies and light winds also conducive for fog formation.

Vegetation gradually becomes dormant with the lowering sun angle and the first freezes of the fall. As vegetation goes into dormancy and the strong evapotranspirative effects are lost, radiational fog frequency drops off dramatically later in September and into October. Fog frequency remains low through the balance of the fall, winter, and much of the spring. The 12-month graph showing average monthly fog days at Montpelier, Vermont (Fig.5) illustrates the dramatic increase in fog frequency for the months of July, August and September as compared to the rest of the year.
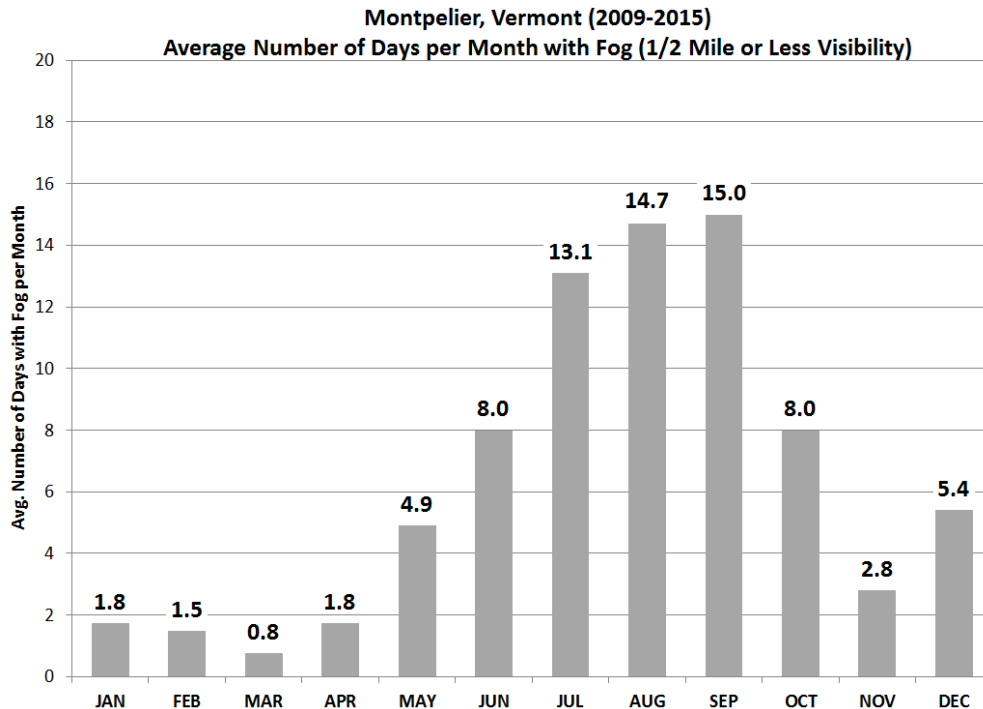
Montpelier, Vermont (2009-2015)
Average Number of Days per Month with Fog (1/2 Mile or Less Visibility)

Month	Avg. Number of Days with Fog per Month
JAN	1.8
FEB	1.5
MAR	0.8
APR	1.8
MAY	4.9
JUN	8.0
JUL	13.1
AUG	14.7
SEP	15.0
OCT	8.0
NOV	2.8
DEC	5.4

Figure 5. Average number of days per month with observed fog (≤ 1/2 statute mile visibility) at Montpelier, Vermont, based on data 2009-2015.

Fog safety tips

The National Weather Service offers fog safety tips at the following URL:
http://www.nws.noaa.gov/om/fog/index.shtml
For drivers contending with dense fog, the National Weather Service recommends the following actions:

- Slow down and allow extra time to reach your destination.
- Make your vehicle visible to others both ahead of you and behind you by using your low-beam headlights since this means your taillights will also be on. Use fog lights if you have them.
- Never use your high-beam lights. Using high beam lights causes glare, making it more difficult for you to see what's ahead of you on the road.
- Leave plenty of distance between you and the vehicle in front of you to account for sudden stops or changes in the traffic pattern.
- To ensure you are staying in the proper lane, follow the lines on the road with your eyes.
- In extremely dense fog where visibility is <u>near zero</u>, the best course of action is to first turn on your hazard lights, then simply pull into a safe location such as a parking lot of a local business and stop.
- If there is no parking lot or driveway to pull into, pull your vehicle off to the side of the road as far as possible. Once you come to a stop, turn off all lights except your hazard flashing lights, set the emergency brake, and take your foot off of the brake pedal to be sure the tail lights are not illuminated so that other drivers don't mistakenly run into you.

Women of NWS Burlington Attend the Vermont Federal Women's Network Workshop
-Kimberly McMahon

On June 9, 2016, three employees of the National Weather Service Burlington, Vermont attended the Vermont Federal Women's Network* Annual Workshop. This year's theme was "High Performance: Effectively Leading Ourselves and Others. Men and women across a variety of federal agencies gathered at the Holiday Inn in South Burlington, VT to network and learn about how they can be effective leaders in various parts of their lives. The work shop was filled with presentations revolving around leadership, stress management, and healthy nutrition.

It was a great turnout with over 100 participants. Guest presenters Joe Fusco, Merryn Rutledge and Lisa Deavitt spoke of the fundamentals of leadership, coaching and goal setting. Sam Standard Ph.D., Lehte & Skye Mahoney NTP focused on healthy living and nutrition to maintain work-life balance. The Leadership Panel consisted of three high-ranking women in federal positions that have achieved great success throughout their career, while balancing family and personal life, and dealing with challenges faced by many women in the working world. They shared stories of how they have achieved greatness and the different paths taken in their careers. The presenters (below) were Teresa Benevento, Branch Chief, Quality Assurance and Analysis, US Citizenship and Immigration; Danielle Esposito, Chief, Personnel Security Division, US CIS; and LTC Tracey Poirier, Vermont Army National Guard.

"VFWN did a really good job blending categories on topics that all dealt with leadership and infused the work-life balance. I liked the Leadership Panel the most, as it really brought it all together with their personal stories and openness."
-June Plankey, NWS Burlington

*The Vermont Federal Women's Network is a group of federal employees in Vermont who seek to further professional and personal development, as well as connect government employees through the State of Vermont. Their mission is to support and empower Vermont Federal Women through innovative, life-enriching opportunities.

Vermont Federal Women's Network

mPING, the Meteorological Phenomena Identification Near the Ground, is a project designed to collect weather information from the public through their smart phone or mobile device with GPS location capabilities. This project and app was developed through a partnership between NOAA/National Severe Storms Laboratory(NSSL), the University of Oklahoma, and the Cooperative Institute for Mesoscale Meteorological Studies. Using the free mPING app, anyone can submit a weather observation anonymously helping to crowdsource weather reports. The data immediately goes into a database at NSSL and is displayed on a map that is accessible to everyone. These reports are vital to help "ground truth" radar data over a given location as well as help ensure that algorithms written to determine different precipitation types (i.e. rain, hail, snow, freezing rain) are working properly.
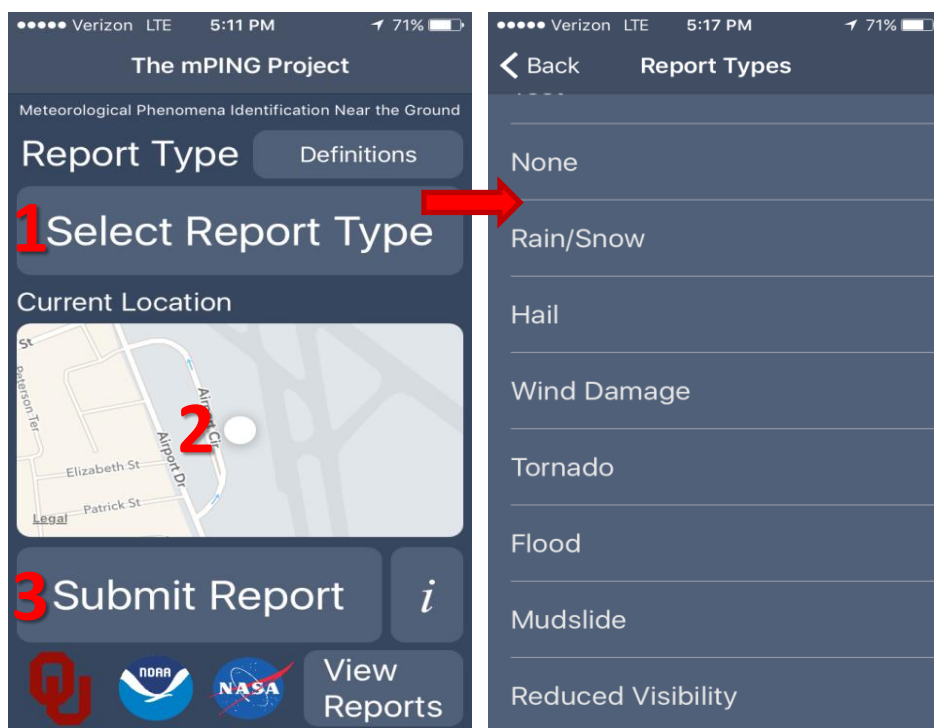
Using the App is simple! First download from the App Store or Google Play. When you open the app, make sure your GPS is on so that your location can be placed correctly in the report. From there:

1. **Select Report Type (unsure of type? Click definitions button to see what each means)**

2. **Ensure your location is correct.**

3. **Hit Submit Report**

4. **You're all done!**

You can also click the "View Reports" to see other reports in your area as well as yours. Also, the database is always kept anonymous, so your personal data is never known or shared. All that is shared is just the important weather information that you pass on to us!

Interested in learning more about mPING or have questions not answered here? Then be sure to visit the mPING website at http://mping.nssl.noaa.gov/ to learn all about the program and keep up on the latest news. You can also keep up with the mPING community at: https://www.facebook.com/MPING-110367635704016/. So what are you waiting for? Share your reports!

This issue of the Four Seasons is Dedicated to: Robert "Uncle Bob" Schiesser

On June 11th we paid tribute to one of our own as Bob Schiesser, Lead Meteorologist at WFO Burlington, VT (BTV), officially retired on April 30th, 2016 after over 26 years of government service with the National Weather Service.

Bob earned his Bachelors of Science from Lyndon State College in the spring of 1977. He accepted a job with FleetWeather in Hopewell Junction, NY later that same year. Bob worked with FleetWeather for about 13 years before he accepted a position with the National Weather Service as a meteorologist intern in Portland, Maine in February 1990. He was the NOAA Weather Radio (NWR) program leader while at Portland, in addition to launching upper air balloons, taking observations, and operating the radar during active weather situations. It was also fitting that during his time in Portland, the only hurricane to affect the area was his namesake - "Hurricane Bob". In March of 1994 after four years in Portland, Bob was promoted to general forecaster in Burlington, VT. He was promoted to lead meteorologist in early 2003. While at BTV, Bob remained involved in the NWR program, took on responsibilities with the marine program, and developed the first and a highly successful fire weather program.

Bob will spend his retirement continuing to attend live music concerts, and following the New York Yankees and Jets. He is already missed at the NWS in Burlington, after 22 years with us. Congratulations Bob!

Pictured here: Retired BTV Lead Forecaster Bob Shiesser and BTV Science Operations Officer Paul Sisson

The Four Seasons
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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!

For reports, please call:
(802) 863-4279
Or visit:
http://www.weather.gov/btv/stormreport

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