# Stormbuster



#### Volume 25

# INSIDE THIS ISSUE

Meet a Meteorologist	1-2
2019 Tornado Season	3-4
Climate Data	4-5
Fall/Winter Skywarn Schedule	6
Stay Safe this Winter	6
Word Search	7
Word Scramble	8
Join CoCoRaHS	8
Word Scramble—Answer Key	9



Welcome to "Meet a Meteorologist!" This is where you will get to know fun facts about one of our Meteorologists. In this edition, we introduce our newest Meteorologist, Brett Rathbun, who comes to us from State College, PA.

#### When did you first become interested in Meteorology?

"I had a passion for weather when I was at least 8 years old. I was excited whenever it rained, snowed or thundered. To aid in my passion, my parents bought me a rain gauge to keep track of rainfall as well as my own weather station to monitor temperatures, air pressure and winds. I used to take these measurements and email my local TV station to be able to show them on the evening news."

#### Where did you go to college and where did you work before the NWS at Albany?

Meet a Meteorologist

"I earned my Bachelor's Degree at SUNY Oswego and my Master's at Plymouth State University. I began my career doing a 1-year adjunct teaching position at SUNY Oswego where I taught to junior level meteorology students. Afterwards, I moved to State College to work for AccuWeather for five years, before getting hired into the NWS."

#### What do you enjoy most about returning to NY?

"Coming back to NY means being closer to family, which is important to me. Living in Albany also allows the opportunity to travel to so many different places (Adirondacks, Boston and New York City), that can be reached within 3 hours or less."

#### What will you miss the most about PA?

"The numerous life-long friendships that I made and my involvement in the local community, including Wingfest (a summertime wing-eating contest) and PAWS Bingo (raising money for a local pet shelter). I am sure the Albany area will bring new activities my wife and I can enjoy."

# What aspect of weather do you enjoy the most? Any favorite storms or historical weather events?

"My favorite weather events include tropical systems, wintertime nor'easters and lake-effect snow. There are two different weather events in which I recall are my favorites. The first event was a nor'easter on Christmas Day in 2002. I remember opening a few presents, then having to take a break to go outside and measure the snowfall, report it to the local TV station, then go back to unwrapping gifts. We ended up receiving 32" of snow that day. My parents took a picture of me in the snow in our driveway, which was nearly up to my shoulders. The 'icing on the cake' was another snowstorm just after New Year's Day which brought another 2 feet of snow. Once that was done, our snow banks were high enough I was able to walk onto the roof of our garage without a ladder.

My next favorite storm was during my second of three storm chasing trips to the Plains. In Kansas in May of 2013, we watched a tiny cumulus cloud develop into an EF-3 large, wedge tornado. This tornado was nearly stationary over open field, was on the ground for about 1 hour, and was over a quarter of a mile wide. Not only was the tornado exciting to see, the inflow of air into the thunderstorm/ tornado was impressively strong. This tornado did kill over 100 head of livestock, but it did not do any structural damage nor kill any people."

#### Do you have any hobbies? What do you like to do in your spare time?

"My favorite hobbies are golfing, bowling and traveling with my wife. Following our honeymoon at a Sandals resort in the Bahamas, our goal is to attend all other Sandals resorts throughout our lifetime. With my wife a big Disney fan, we plan to go to our first Disney World trip together in the near future. I also enjoy attending sporting events, including baseball, football and ice hockey."

#### What are you most excited about working for the National Weather Service?

"My goal after graduating from high school was to work for the National Weather Service and I am excited to have made that a reality. I thank all the hard work and dedication I put in through my education and prior work career to achieve this goal. I am looking forward to working with some of the best meteorologists in the country to help save lives and property. The Albany WFO also allows the opportunity to return to launching weather balloons, something that I did during my educational career."

#### - Jennifer Vogt, Meteorologist

## The 2019 Eastern New York and Western New England Tornado

#### Thomas Wasula Meteorologist, NWS Albany, NY

The National Weather Service (NWS) at Albany forecast area includes east-central New York (NY) and western New England (southern Vermont, the Berkshires of western Massachusetts, and Litchfield County in northwest Connecticut). There were 2 tomadoes that occurred in eastern NY and one in southern Vermont in 2019 prior to October 1st. Two of the tornadoes were EF-1's, and one was an EFO.

The Albany forecast area averages two to three tornado events each year based on a tornado climatology mean period from 1950-2010. The majority of the tornadoes in the NWS at Albany forecast area are EF-0 or EF-1 (~80%). The operational Enhanced Fujita Scale is a set of wind estimates based on degree of damage. This tornadic damage scale was modified from the old Fujita Scale by a team of meteorologists and engineers, and was implemented on February 1, 2007. The EF scale ranges from 0 to 5, and has estimated 3-second wind gust ranges in miles per hour (mph). An EF-0 has winds of 65-85 mph, and an EF-1 has winds of 86-110 mph. An EF-2 has estimated 3-second wind gusts of 111-135 mph. Estimates of the damaging gusts are based on the subjective judgment of the survey team on 8 levels of damage to 28 structural and vegetative indicators. More information on the EF Scale, and the transition from the old Fujita Scale, can be found at the following website: http://www.ncdc.noaa.gov/oa/satellite/satelliteseye/educational/fujita.html.

Three tornadoes occurred near a warm front, approaching upper level disturbance and a low pressure system during the afternoon on August 21, 2019. The first tornado of the season touched down o at approximately 2:24 p.m. EDT near Johnstown in Fulton County within the Mohawk Valley. The NWS at Albany survey team confirmed an EFO tornado with estimated peak winds of 70 to 80 mph. A small area of damage extended from Johnson to Pleasant Avenue in the city. The estimated path width was 150 yards with a path length of a half mile. The damage from the tornado included numerous snapped or uprooted trees. There were no injuries or fatalities.

A second tornado occurred on August 21, 2019 in the NWS at Albany forecast area. A brief touch down of a tornado occurred in Saratoga County near Saratoga Springs at roughly 3:35 pm EDT. The tornado only had a path length of a 0.5 mile, and a path width of 75 yards. A National Weather Service Survey team inspected damage in Saratoga Springs.

Page 3

The team confirmed an EF-1 tornado with maximum winds of 105 mph, as several hardwood trees were uprooted and a few were snapped near Gilbert Road. Numerous trees were uprooted and snapped near the intersection of Route 29 and Schallen Rd. Some of the trees were over a foot in diameter. The trees in this area were lying in all different directions with several large trees in the back of a residence (see Fig. 1). A tin roof on a barn was also peeled upward on the northeast facing section of the barn indicating a swirling wind field from southwest to northeast. There were no injuries or fatalities.

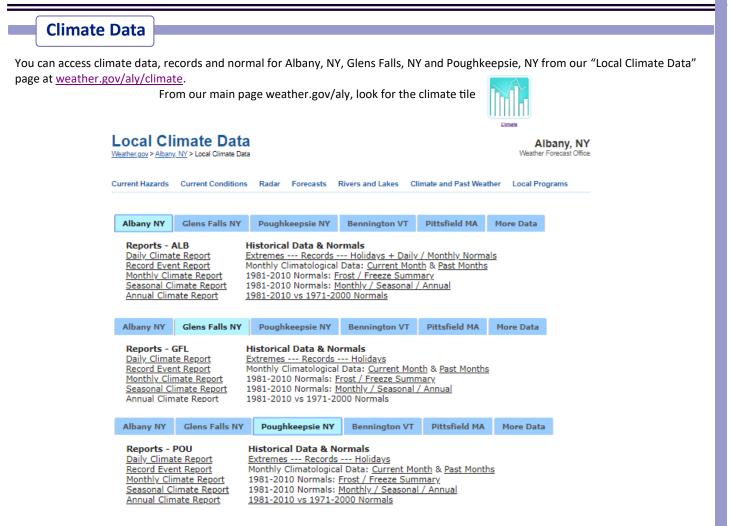
A third tornado occurred on August 21st at 5:50 pm EDT in southern Vermont. The last tornado in southern Vermont that impacted Bennington and Windham Counties occurred July 21, 2003. It was a long path F1 tornado. The tornado in late August was classified as a high end EF1 with maximum wind speeds of 105-110 mph. The tornado hit Windham in Windham County. It had a path width of 350 yards and a path length of 0.75 miles. There was shingle and siding damage to several homes in Windham. Several dozen trees were snapped and uprooted. Outdoor furniture, siding, shingles and other debris were tossed several hundred yards. There were no injuries or fatalities

Overall, it was a fairly average year for tornado occurrences across eastern New York and western New England with the three that were recorded. It was unusual that they all occurred on one day. Two of the tornadoes were EF-1's with minimal extensive damage. It will be interesting if 2020 ends up being an above or below average year for tornadoes in the Albany Forecast area.

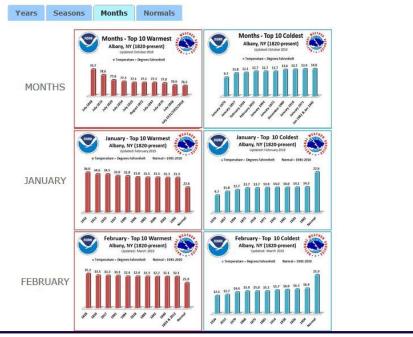


Figure 1: Damage near a home east of Saratoga Springs, NY. Trees were snapped or uprooted (Photo by Mike S. Evans).





Top 10 charts for temperature and precipitation are available for all three locations. However, snow charts are only available for Albany. You will also find information on heat waves, number of 90+ and 100+ degree days, number of days with temperatures at or below zero and much more.



Interested in All-Time Extremes? We have that data too!

#### All-Time EXTREMES for Glens Falls, NY

Records date back to 1893, however data is missing for 1931 and from January 1934 through August 1942 Also, there are gaps in the data prior to 1949 NOAA Regional Climate Centers Updated: May 2019

Temperature										
Record	Measurement	Date(s)								
Lowest	-36°F	January 5, 1904								
Highest	101°F	August 7, 1918 and July 3 & 4, 1911								
Low Maximum	-13°F	December 29, 1933								
High Minimum	81°F	July 29, 1909								
Coldest Month	4.9°F	January 1970								
Warmest Month	75.0°F	July 1921								
Coldest Year	42.2°F	1904								
Warmest Year	49.1°F	1921								
Shortest Growing Season	79 days	July 2- September 20, 1929								
Longest Growing Season	174 days	April 13 - October 5, 1901								
Record	Measurement	Date(s)								
Earliest First 32°F or below	31°F	August 29, 1982								
Latest First 32°F or below	32°F	October 20, 2005								
Earliest Last 32°F or below	30°F	April 13, 1901								
Latest Last 32°F or below	32°F	July 2, 1929								
Most # of Days 20°E or below in a Year	11 days	1968								

 Latest Last 32°F or below
 32°F
 july 2, 1929

 Most # of Days -20°F or below in a Year
 11 days
 1968

 Most # of Days zero or below in a Year
 42 days
 1982 & 1904

 Most # of Days zero or below in a Month
 24 days
 January 1970

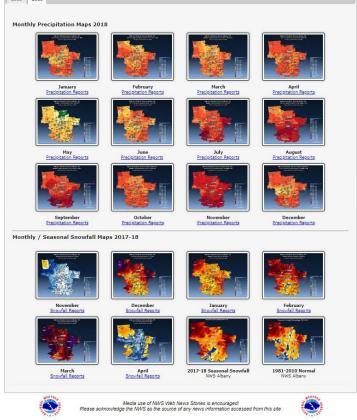
 Most Consecutive Days Lows -20°F or below
 7 days
 January 1970

 Most Consecutive Days Lows zero or below
 17 days
 Dec 31 1969 - Jan 16, 1970

 Most Consecutive Days Highs 32°F or less
 40 days
 January 3 - February 11, 1985

There is also data and normals available for Bennington, VT and Pittsfield, MA from the Local Climate Data page. Unfortunately, the period of record for these locations is not long enough for official records due to the short station historical record for each.

We also create monthly rainfall and snowfall maps for NWS Albany's forecast area of responsibility. These maps are available on our "Precipitation & Snowfall Map" page: weather.gov/aly/maps. The data is collected from <u>Automated Surface Observing Systems</u> (ASOS) located at airports, <u>NWS Cooperative Observer Program</u> and <u>CoCoRaHS</u> observers. We provide the list of reports used to create each map.



Have questions? Go to weather.gov/aly/contacts and click on "Climate" to send us an e-mail.

### **Fall/Winter Skywarn Sessions**

Ready to become part of our #Skywarn Weather Spotter Network? Training sessions are scheduled as registration is required. Additional webinars are being planned too so stay tuned to our web page for more information. We look forward to seeing you soon!



### Stay Safe this Winter!

Winter storms can bring snow, sleet, and freezing rain across the entire United States and its territories. Even Hawaii gets snow in its Big Island, and major cities as far south as Atlanta and Dallas have been paralyzed by snow and ice. Blizzards occur when strong wind causes blowing snow and whiteout conditions, making roads impassable. Thousands of people are injured or killed every year in traffic accidents related to slippery roads from winter storms. According to the Department of Transportation, there are approximately 1.2 million weather-related vehicle crashes every year - leading to, on average, nearly 6,000 fatalities and over 445,000 injuries. It's clear we could all use a little refresher when it comes to navigating those slick roads this winter.

#### Building a Weather-Ready Nation





#### Know your Risk, Take Action, Be a Force of Nature!



To learn more about winter safety, visit https://www.weather.gov/wrn/winter safety

Source: NOAA NWS Weather-Ready Nation Winter Safety Campaign

- Jennifer Vogt, Meteorologist

**Word Search** 

# Winter Weather

Q	в	L	0	w	I	N	G	s	N	0	w	s	F	BLIZZARD CYCLONE FROST JET STREAM SNOWFLAKE BLOWING SNOW FLURRIES GRAUPEL NOREASTER SNOWSQUALL BOMBOGENESIS FOG ICE JAM RADAR CLOUDY WINDY
В	о	м	в	о	G	Е	Ν	Е	s	Т	s	Е	L	
0	D	т	Ν	R	Ν	о	м	А	J	о	L	s	U	
R	w	R	Α	т	w	Е	s	А	Ν	Е	м	Ν	R	
А	G	о	Α	F	Т	R	м	E	с	Ν	А	о	R	
D	U	R	L	z	с	Y	с	L	о	Ν	Е	w	I	
А	s	А	Α	Α	z	G	т	s	Y	Y	R	s	Е	
R	к	s	E	U	Т	I	Ν	т	D	с	т	Q	s	
Е	L	I	w	с	Ρ	I	L	Ν	U	s	s	U	R	
Ν	J	D	E	Р	F	E	I	В	о	А	т	Α	о	
w	Е	J	E	о	с	w	L	R	L	L	E	L	в	
т	Α	I	G	т	s	0	R	F	с	s	J	L	о	
м	E	R	E	т	s	Α	E	R	0	Ν	E	Ν	Ν	
с	L	s	G	М	Ν	Ν	с	R	s	E	G	I	z	





CoCoRaHS is a grassroots volunteer network of backyard weather observers of all ages and backgrounds working together to measure and map precipitation (rain, hail and snow) in their local communities. By using low-cost measurement tools, stressing training and education, and utilizing an interactive Website, our aim is to provide the highest quality data for natural resource, education and research applications. If you would like to sign up as a volunteer observer and become part of our expanding network, please click here.



- Jennifer Vogt, Meteorologist

