

The Lake Breeze

NATIONAL WEATHER SERVICE BUFFALO, NY
FORECAST OFFICE

Photo Credit: David Church

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Fall 2018

Welcome to the latest issuance of The Lake Breeze.

Staff at NWS Buffalo are ready for the winter season, whatever it may bring. In this issue, we'll look back on the summer of 2018 and sit down with an NWS Electronic Technician and NWS Observer in Perrysburg, NY. We hope you enjoy!

- Heather Kenyon, Editor



A Note from the Meteorologist in Charge By Judith Levan

Changing with the Seasons!

It seems that we have finally flipped the switch from summer to autumn – cool temperatures and leaves changing color and falling. While you might have missed Winter Weather Awareness Week the last week of October/first week of November, now's the time to prepare for the upcoming winter season. That means preparations for at home and work, in your vehicles and for pet owners and on the farm. You can find out how to prepare by visiting www.weather.gov/safety/winter.

We at the NWS Buffalo office have also made our “winter preparations”. We held our annual Winter Weather Workshop where forecasters dust off their winter weather forecasting skills. We have several new and/or improved projects and products this year. First, our experiment with Lake Effect Snow Polygon Warnings will be expanded to two neighboring offices – Albany and Binghamton. Second, WFO Buffalo will go live with Probabilistic Snowfall Forecasts (www.weather.gov/buf/winter). And third, when needed, we'll be issuing new Snow Squall Warnings.

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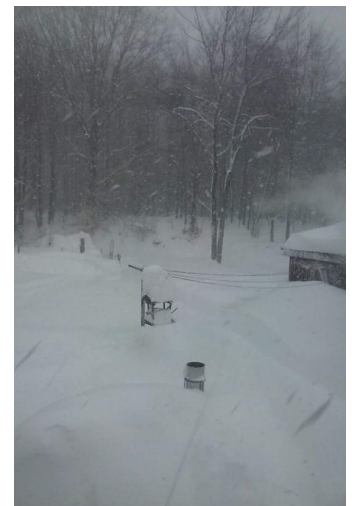
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Meet the Observer—Lori Dankert, Coop Observer, Perrysburg, NY By Dan Kelly

Even at a young age growing up in West Seneca, Lori Dankert had a true passion for weather. She recalls doing numerous projects on meteorology and clouds. For one of her class projects, she created a weather station, complete with a working anemometer!

In September of 1994, Lori moved from West Seneca, NY to Perrysburg, NY, in northwestern Cattaraugus County. Growing up in the Buffalo Southtowns, she was used to around 100 inches of snow in a winter. When she moved to Perrysburg, Lori was shocked to find out the annual snowfall was more than double what she was used to! From her location in Perrysburg, quite often there is a significant drop-off in the amount of snow farther down the hill and to the north, and people even on the same road a few miles away may have just a fraction of the snow that Mrs. Dankert receives. The topography really

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Observing site in Perrysburg, NY, with a standard rain gauge in foreground.

Meet the Observer (continued)

concentrates the snowfall right around the Perrysburg area. Perrysburg is located near the top of a tall hill which slopes downward all the way to Lake Erie, and the lake effect snow bands off of Lake Erie are enhanced greatly by this upslope, making Perrysburg a prime location for significant snowfall amounts.

In 1999, when the National Weather Service Buffalo office was looking to expand the snow spotter network, a public information statement was placed on the NOAA Weather Radio. Lori heard the call for snow spotters and was ecstatic. Finally, she was able to fulfill her passion for weather. In 2003, after 4 years as a passionate and dedicated weather spotter, Mrs. Dankert was recruited as a NWS Cooperative Observer, and has reported religiously each day since.

On the evening of August 9, 2009, a band of rain moved ashore and stalled over extreme northern Chautauqua and Cattaraugus Counties, as well as southern Erie County. This rain band produced torrential rainfall amounts, and Lori called our office at around midnight as her driveway was washing away, to report that 5.89 inches of rain had fallen in the hour and a half! This report allowed the NWS to provide life-saving information to the public in advance of the catastrophic flash flood in Gowanda. Mrs. Dankert wound up with a 24 hour rainfall total of 7.27 inches that day!



Lori Dankert (right) was presented with a 15 year Length of Service Award as a Coop Observer in Sept 2018. One of her daughters, Ashley Campbell (left) was presented with a 10 year Length of Service Award.

Only counting the snow measured as a Coop Observer, Lori has measured a total of 3,251.1 inches of snow over the past 15 years! The greatest 24 hour snowfall was 24.5 inches (January 15, 2012), and the maximum amount of snow on the ground was 40 inches (February 2, 2015)!

When not watching the weather, Mrs. Dankert sits on the bench as the Judge for the Town of Perrysburg. This often results in her having to be ready at a moments notice overnight for an arraignment. She has served her community as a Judge for the past 10 years or so, and has worked for the Town, as well as the Village of Perrysburg since 1996. Lori lives in Perrysburg with her husband Dan, and daughter Jessi, who is her backup observer. Her other daughter lives in nearby Gowanda, and is a trained Skywarn Spotter for the National Weather Service.

A Note from the MIC (continued)

There have been a couple of other changes of note. Recently two of our forecasters have moved on to exciting opportunities elsewhere in the NWS. David Church has accepted a lead forecaster position at the Forecast Office in Salt Lake City, UT, and Shawn Smith accepted a position in Silver Spring, MD. Their contributions to the Buffalo Office were immense and while we miss them, we know their talents will continue to be assets to their new offices and the NWS.



Q & A with NWS Buffalo - Tony Allen, Electronic Technician

By Heather Kenyon

The Electronic Maintenance Program at the National Weather Service in Buffalo, NY is comprised of one Electronic Systems Analyst (ESA) and two Electronic Technicians (ETs or EI Techs.) They are a very important part of the National Weather Service mission as they make sure all communications and local networks are maintained. They also investigate and diagnose any reported equipment operations. Major equipment they work on includes the NWS Weather Surveillance Radar (WSR-88D) and Automated Surface Observing Systems (ASOS.) I sat down with Tony Allen, Electronic Technician at NWS Buffalo.

What are the roles of an Electronic Technician at a National Weather Service Forecast Office?

Our main role is to ensure all weather sensors/radios throughout WNY are working and calibrated from Dunkirk to Watertown with many places in between, as well as keeping the NEXRAD radar spinning. We wear many hats, electronics is just an adjective that mean we repair everything.

What is the best part of the job?

Truthfully this job is very fulfilling. If we have an issue, we troubleshoot, then repair. So, when we walk away, we always have a sense of accomplishment. Another big plus is we always have choices if we want to work outside or inside, depending on what the weather is doing. A luxury most do not have.

We appreciate all the hard work the Electronic Staff provides to the forecasters, especially during hazardous weather. Is there any weather event that stands out to you?

Not really a single weather event that stands out for me. We do have to work in some pretty harsh environments, but its only temporary. My worst was working in a wind chill of -25° , on a wind sensor 25 feet in the air, removing small screws on a terminal board with no gloves, that one hurt a lot.

What was your career path to your current position?

I joined the Air Force in the late 80s. My job was NAVAIDS/METNAV. Which translates to what ever ground electronics aircraft used to land, I had to work on. TACAN, ILS, VOR, weather sensors, ground to air radios, and NEXRAD. My tech school was 10 months long. 5 days a week, 8 hours a day we went to school. We learned basic electronics for the first 3 months, then the next 7 months was dedicated to equipment systems. Funny thing is, most of the stuff we learned in tech school, we never used in the field. When we got into the field we learned how to maintain the equipment. Tech school taught us how the systems worked electronically, in the field we learned how to repair it when it broke. I served 24 years active duty.

What do you like to do outside of work?

I am car nut, so I play in my garage. I get to utilize a lot of what I have learned throughout my career and am able to modify cars to my liking.

What is the craziest piece of equipment you've worked on?

Digital Ionospheric Sounding Systems (DISS). Its a system that checks the ionosphere, an electrically charged layer of the upper atmosphere, to see what frequencies pass through or bounce back off it. The propagation of radio waves reflected or refracted back toward Earth from the ionosphere are used by NASA, US Air Force Space Forecast Center, but for me the most important aspect of this system was it informed our troops down range what frequencies to use on their radios for support (air strikes, medical, extraction, etc.)

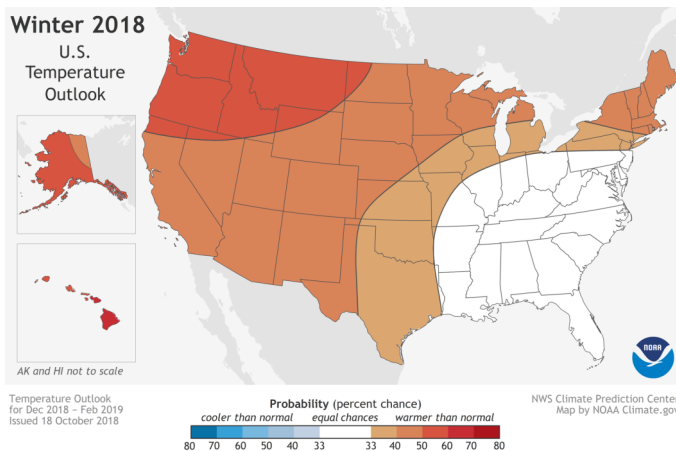


Tony Allen, Electronic Technician maintains a vegetation box that is needed under the temperature and dew point sensors.

2018– 2019 Winter Seasonal Outlook

By David Thomas

After a pleasant summer and first half of fall, the cooler (and snowier) days of late autumn have us ready for winter across Western and North Central New York. The National Oceanic and Atmospheric Administration (NOAA) released their 2018-2019 winter outlook for the United States this past October. Based in part on a weak to moderate El Niño developing this winter the prediction is for much of the country, including Western and North Central New York to have greatest odds for warmer than normal temperatures this winter (December, January and February). El Niño, which is a measure of water temperature in the equatorial western Pacific, will not be as strong as the major El Niño event that developed in the winter of 2015-16. Local research has found weak El Niño winters can still feature a number of arctic air intrusions across the Eastern Great Lakes, with the Arctic Oscillation a major influence to the number of cold air outbreaks. Unlike the ENSO (El Niño / La Niña), the Arctic Oscillation is a challenge to forecast more than a couple of weeks in advance.



There are no clear signals in the atmospheric currents and ocean temperatures to influence the winter precipitation outlook. NOAA has given equal chances for a wet or dry winter across Western and North Central New York. However across the southern states, storm tracks are expected to bring a wetter than normal winter season.

If you haven't done so already, now is the time to prepare for the winter across New York. This includes getting snow removal equipment tuned up, pulling out the coats, mittens, hats and boots and preparing an emergency winter car kit.

Working with our Media Partners

By Mike Fries

Communication of hazards is of huge importance to the National Weather Service mission of protecting life and property from hazardous weather. As an agency, we work collectively with many groups to make consistent and accurate communication a priority. This includes law enforcement, emergency management, the transportation sector, and our local broadcast media. Without effective coordination and collective training amongst our collaborating partners, messaging of hazards would become increasingly difficult and more confusing for the public as a whole.

On September 17 and October 11, in Buffalo and Rochester respectively, we were able to meet with local broadcast meteorologists from the two markets that collectively serve approximately 2.2 million people and 1.1 million homes. Topics that were covered included changes in winter weather product definitions, a new 0.3 degree elevation scan of the Buffalo Nexrad Doppler Radar System, climate statistical resources, the usage of social media in operations, and the products and services provided by the National Weather Service.

Of critical importance during these meetings were the changes to winter products. As the winter season is impending, several important statements will be changing. First, Snow Squall Warnings will be issued this upcoming season. These will be issued for quick bursts of snow which quickly reduce visibility to below one-quarter of a mile for less than an hour, resulting in near whiteout conditions, and rapidly deteriorating travel conditions. The second major change is

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Working with our Media Partners (continued)

that Lake Effect Snow Warnings will be replaced by Winter Storm Warnings for lake effect snow. This is strictly a terminology change. There will be no change to the criteria required to issue a warning (7" in 12 hours or 9" in 24 hours). The warnings will just display differently on www.weather.gov and other places.

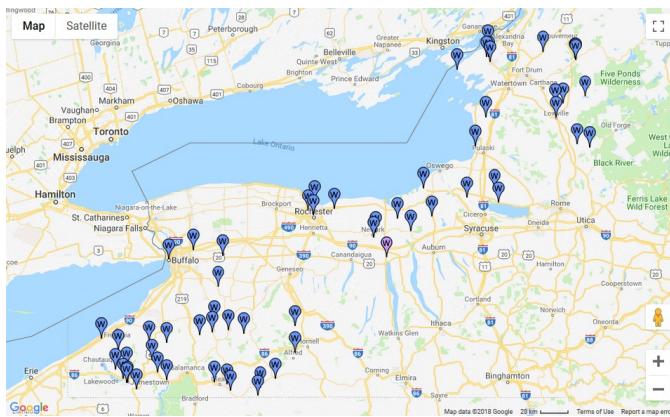
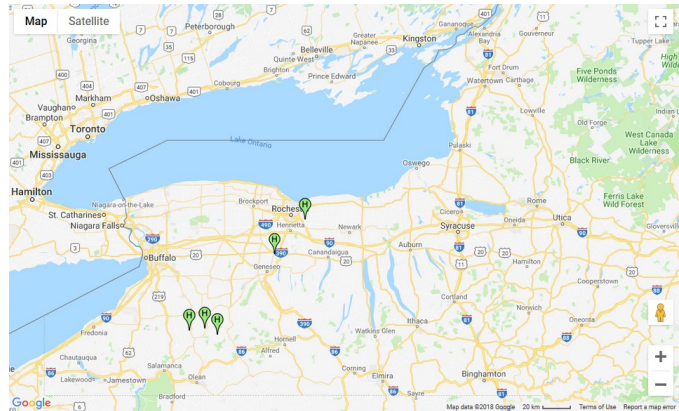
The building of the relationship between local media and the National Weather Service is an important part of ensuring the effective communication of life saving warnings. By meeting with the media on a regular basis, we hope to promote consistent messaging across the media spectrum that will help to save lives going forward.

Preliminary Review of the 2018 Severe Weather Season

By Jon Hitchcock

The 2018 severe weather season was far less active than last year, and below the long term average. The preliminary damage reports received by the National Weather Service in Buffalo show 123 severe weather reports from January 1st through October 29th, including 115 reports of damaging winds from thunderstorms, 7 large hail reports, and 1 tornado. The relatively quiet 2018 severe weather season comes on the heels of one of the busiest severe weather seasons in recent memory in 2017, when 342 reports of severe weather were received, including 5 tornadoes. To be included in these numbers, a report must meet the severe weather criteria of hail 1 inch or larger in diameter, a tornado, or wind gusts of 58 mph or greater.

The severe weather reports from late summer and fall are still preliminary. The National Weather Service in Buffalo reviews the reports and makes any necessary corrections to eliminate duplicate reports and adjust times. Once this process is complete, the reports are input into a program called Storm Data for inclusion in the official record.



The vast majority of the severe weather reports this season were for damaging thunderstorm winds. Most of the reports were of trees and powerlines down, with a few instances of trees coming down on houses. Large hail was very limited this year, with only 7 reports.

There were only two days with organized, more widespread severe weather. These events occurred on June 13 and September 21, with 23 and 14 severe weather reports respectively. Otherwise, the remainder of the severe weather was isolated, with just a few severe thunderstorm reports at a time.

There was 1 tornado late in the season, on October 20th. This was a very weak, very brief EF-0 tornado which touched down in West Seneca, just south of Buf-

falo. EF stands for the Enhanced Fujita Scale, which is the scale meteorologists use to rate tornado strength. An EF-0 tornado produces winds from 65 to 85 mph. Based on the limited damage in this event, the wind speed was likely at the bottom end of the EF-0 range. This tornado formed from a relatively weak thunderstorm which had produced a waterspout over Lake Erie a short time prior. Damage from the tornado was limited to minor roof damage to one building and some minor tree damage.

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2018 Summer Summary (continued)

The majority of our severe thunderstorms occur from spring through early fall, but we do occasionally see severe thunderstorms in late fall or even winter. You should always be prepared for severe weather with emergency supplies, a safe shelter, and a plan for you and your family to stay safe.

2018 Summer Student Volunteers

By Dave Zaff

Nearly every summer, NWS BUF hosts up to four students nearing the completion of their undergraduate studies in Meteorology, Atmospheric Science, or Hydrology. During the summer of 2018, we hosted three volunteer summer students and one paid student through an Ernest F. Hollings Undergraduate Scholarship. Each student learned how to view real-time model and observational data with help and guidance from our forecast staff. They completed several weather balloon launches, and even wrote portions of our Area Forecast Discussion. Each student also went through a weather event simulation as well, which is akin to weather time machine. Students were placed in a simulation near Norman, OK on May 23, 2015, where they were able to issue multiple severe weather and tornado warnings while learning about complex storm structures.

Our student volunteers worked on an evolving lake effect project, some of which is available on our online Lake Effect Snow Event Archive page. The Hollings Scholar did extensive research on a flash flood project and presented at a national meeting at NOAA Headquarters in August. We hope to publish his work this year. This research project may result in a new forecasting tool that would improve lead time for flash flood prediction. All of the students gain tremendous amounts of on-the-job training they cannot get in an academic environment. Many of our former students have moved into professional careers in Meteorology or have pursued advanced degrees. Some are in broadcast media, while others now work for the NWS. For more information on the Student Volunteer Program, email Dave Zaff at david.zaff@noaa.gov

Jon Hitchcock Wins the 2018 NWS Golf Tournament

Senior Forecaster Jon Hitchcock spent some vacation time this June participating in the 47th annual National Weather Service Golf Tournament, held in Jeffersonville, Indiana. The weather was very warm and humid in far southern Indiana that week with a few scattered thunderstorms, but all rounds of golf were completed. The week started off with team events, followed by a two day individual tournament for the title. The competition was very close for the championship, with Senior Forecaster Jon Hitchcock from the National Weather Service in Buffalo, New York, and Senior Forecaster Sam Lashley from the National Weather Service in North Webster, Indiana, tied after 36 holes. Jon Hitchcock prevailed with a birdie on the first playoff hole to win the tournament. This is Jon's 9th victory at the National Weather Service Golf Tournament since 2004.

The National Weather Service Golf Tournament has a rich history spanning 47 years. The location changes every year, with events being held from Florida to northern Minnesota in years past. The trophy travels home with the winner each year, and has a history spanning from 1972 to 2018. Rumor has it the trophy was in south Florida when Hurricane Andrew devastated the area in 1992. While golf and fun is the main draw of the gathering, we have plenty of discussions over the week on meteorology and the latest operations and research at other National Weather Service offices. This year, golfers from 10 different National Weather Service offices participated.



Senior Forecaster Jon Hitchcock

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The National Weather Service Golf Association is also a proud Weather Ready Nation Ambassador. The Weather Ready Nation initiative formally recognizes National Weather Service partners who are improving the nation’s readiness, responsiveness, and overall resilience against extreme weather, water, and climate events. To that end, each year we have a discussion on the dangers of severe weather, flooding, and lightning with the host golf courses. Since 2006, the National Weather Service Golf Association has donated nearly \$3,000 to local Red Cross Chapters.



SKYWARN® News

By Jon Hitchcock, Meteorologist

Temperatures have turned cold already this November, with several rounds of snow across the region. As we move deeper into winter weather, now is a good time to review snow measuring techniques. Before more snow, gather the supplies you need including a ruler or yardstick, a light colored board about 2 feet by 2 feet in size, and a flag or stake to mark the board location. Pick a location in your yard for the snow board that typically does not drift or blow bare from the wind. Once you receive snowfall, measure on your snow board and sweep the board clean, placing the board on top of the existing snow to be ready for the next snowfall. By measuring on a snow board, you can more effectively differentiate between newly accumulated snow and old snow already on the ground. If the wind is blowing and the amount of snow on your snow board does not look representative, take several measurements throughout your yard and take an average.



There are many ways to report your snowfall to the National Weather Service in Buffalo. You can sign up for CoCoRaHS if you are interested in reporting daily. Their website is www.cocorahs.org. You can report by email at bufstorm.report@noaa.gov, or give us a call on our toll free spotter line that was provided during your SKYWARN® training. You can also report on our Facebook page or on Twitter.

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