NOAA's National Weather Service

Volume 2, Issue 1
Fall 2006

The Lake Breeze

The Newsletter of the Buffalo Forecast Office

Thomas Niziol, Meteorologist In Charge
Judith Levan, Warning Coordination Meteorologist

Winter Preparedness Week October 29—November 4

The National Weather Service and state and local governments want you to know that now is the time to prepare for the severe winter weather our area can experience. It's never too early to think safety. While winter "officially" begins on December 21st, you know that winter weather arrives much earlier.

By taking a few simple steps, you can protect yourself and your family from the harsh effects of winter.

The first step is to be aware of local weather conditions by listening to broadcasts of NOAA Weather Radio, the National Weather Service, and local television and radio stations. During major winter storms, it's usually best to remain at home rather than venturing outdoors. However, if you must, before going out on the road, listen to the local media reports for the latest road conditions.

You should always be prepared to ride out any adverse weather. Your primary concerns at home include the possible loss of heat, electricity, and telephone service. You may also run out of supplies if the storm persists for several days. You should keep a three-day supply of non-perishable food that requires no cooking or refrigeration. Have a non-electric can opener available. Store one gallon of water per person, per day. Your disaster supplies for the home should also include a first aid kit along with essential prescription medication (a minimum one-week supply of essential medicines), a portable radio with extra batteries, a NOAA weather radio, flashlights with extra batteries, and several blankets.

Make sure you have a supply of heating fuel. Fuel carriers may not reach you for days after a severe winter storm. Since most furnaces are controlled by electric thermostats, if the power goes out, residents should have some kind of emergency heating equipment and fuel available to keep at least one room of the house warm enough to be livable. Common examples of emergency heating equipment are kerosene heaters or a supply of wood if you have a fireplace or woodstove. Learn to use equipment properly to prevent a fire. Have proper ventilation. If necessary, conserve fuel by keeping the house cooler than usual, or by "closing off" some rooms temporarily. Never operate a generator indoors.

Give your home a safety check. Have a professional check out your furnace, woodstove and chimney. Make certain they are in good working condition. Replace the batteries in your smoke, heat and carbon monoxide detectors. It's also a good idea to make certain your snow blower is ready to go to work.

(Continued on page 2)

Winter at NWS Buffalo NY

INSIDE THIS ISSUE:

Winter Preparedness Week (continued)

(Continued from page 1)

Be sure your vehicle is ready for the winter driving season. Have your engine tuned up, your battery checked, and your engine coolant or antifreeze tested to see if it can withstand the extreme cold. Also, you can increase your visibility by installing new windshield wipers. Finally, be sure your snow tires or all season tires are properly inflated and have enough tread to grip the road. You should consider a survival kit for your car, especially if you drive in rural areas. Have a blanket or sleeping bag on hand along with a supply of non-perishable food, a first aid kit with prescription medication if necessary, and bottles of drinking water or juice. If you become stuck or stranded, your chances of survival will be greater. Also include a shovel, sand or cat litter, booster cables, an ice scraper, and a snowbrush.

Judith Levan
Warning Coordination Meteorologist
Judith.Levan@noaa.gov

Snow Sensor Research Product

The National Weather Service in a continuing effort to provide the most real-time and dependable data possible, is working in conjunction with Colorado State University on a remote snow sensor to measure snowfall and snow depth, and bring this capability to those locations that currently do not take such measurements.

The project was started in the 2004-2005 winter season under the sponsorship of Colorado State University at a number of select locations across the United States. Your National Weather Service Office in Buffalo, New York was one of these sites.

The original sensor array consisted of two competing models of sensors from different companies. The testing phase lasted through the 2004-2005 winter season and provided valuable data on the quality and capabilities of each sensor. At the end of the winter season, all of the data from every office participating in the project was tabulated and reviewed. The results showed great promise and the 2005-2006 winter season saw the project continue on a voluntary basis to gain even more useful information.

NOW TO THE PRESENT

The National Weather Service has taken the leadership role as the prime sponsor for the 2006 through 2008 winter seasons. The sensors will be deployed to many more stations across the country, with the sensor array itself expanded to comprise three separate sensors laid out in a triangular formation to get the most accurate data possible.

The sensor itself works on a principle similar to radar. Where radar sends out a beam of radio energy, the snow sensor sends out a high frequency sound wave. Each stands by and listens for the return of energy as it bounces off an object. In the case of the snow sensor, it measures the time it takes for the sound waves to return, and thus calculates the depth of snow on the board underneath the sensor. With this figure in mind, the equipment can now calculate the amount of snow that has fallen within a specific period of time as it continually measures the depth of the snow.

Manual measurements of the snow depth under each sensor will be taken at 6-hour intervals by observers and forecasters and then compared to the readings generated by the sensors themselves. These readings will be used to ensure the reliability and accuracy of the sensors. The National Weather Service hopes to eventually integrate the real-time data output from the snow sensors onto our internet website, and provide you the public, with real-time snow data.

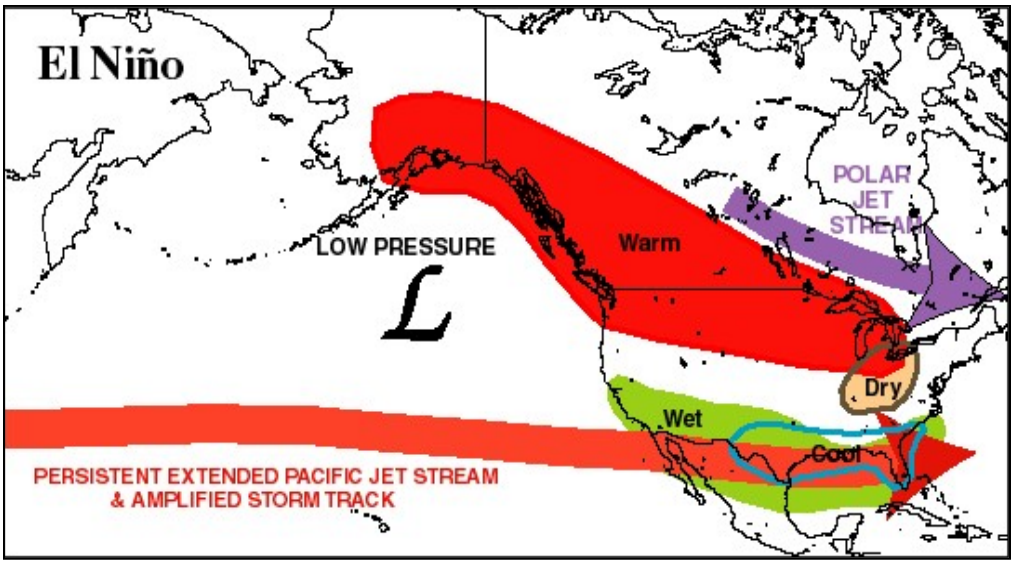
This snow sensor technology is quite exciting, and offers new capabilities for the future, as your National Weather Service continues its efforts to bring you more data for everyday use and climatological studies.

Thomas Schmidt
Hydro-Meteorological Technician

Snow depth sensor outside NWS Buffalo

Developing El Nino = Mild Winter for Us?

Sea Surface temperatures across the eastern tropical Pacific Ocean have been steadily rising during the past six months with increasing evidence that a full fledged El Nino event is developing. The Climate Prediction Center (CPC) is also seeing signs of weaker northeast trade winds across the Pacific Ocean—another sign of a developing El Nino.



Typical January—March weather anomalies and atmospheric circulation during moderate to strong El Nino

An El Nino is a cyclical event that naturally occurs every 3 to 5 years across the tropical Pacific Ocean. Sea surface temperatures in that region climb above normal, and this leads to increased convection (storminess) over the warmer waters. The increased number of thunderstorms eventually disrupts the normal Northeast Trade winds that cross the equatorial Pacific, and this in turn shuts down the flow of cooler water that flows to the west from South America. Without the addition of the cooler water, sea surface temperatures become warmer and warmer. This leads to a cycle of 'warm' and 'cool' spells across the tropical Pacific which are defined as El Nino's or La Nina's.

During an El Nino event, the normal weather across many parts of the Northern Hemisphere can be significantly altered. For instance, Indonesia and northern South America will be drier than normal while central South America and parts of Africa will be wetter than normal. In Canada, warmer than normal weather is usually found across the western half of the country. Meanwhile here in the United States, warmer than normal weather can develop over the western and northern parts of the country… especially in the Dakotas. It can also be wetter (and thus cooler) than normal along the Gulf Coast and across Florida.

It should then come as no surprise that many people across our region equate El Nino with mild winters for the Great Lakes region. While this is true for the stronger El Nino events, one should be careful to make such assumptions.

Local studies done at the National Weather Service in Buffalo show that only about two thirds of the months during a weak El Nino exhibit a mild bias, compared to 80% of the months during a moderate El Nino and 100% for strong El Nino's. When entire winters are examined, weak El Nino's have a tendency to produce temperatures that are close to…or actually below normal. A cold bias during weak El Nino's is more pronounced during the second half of winter. Moderate to strong El Nino's produce milder and milder winters respectively.

The main reason for the temperature anomalies can be traced to the jet stream pattern that ultimately decides our overall weather. During an average winter, the jet stream will exhibit a high amplitude across the country. This meandering river of air can dive south from Canada and bring prolonged periods of cold weather to a region, or can move to the north and produce mild weather. The high amplitude also produces strong areas of high pressure and low pressure.

During an El Nino though, the high amplitude of the jet stream is replaced by a more zonal flow. This is more of a west to east flow with only small dips and peaks. A persistent zonal flow will mean fewer Arctic outbreaks, as the colder air will remain bottled up across northern Canada. Fewer Arctic outbreaks generally leads to less lake effect snow, but not necessarily less snow from organized storms. An example of this was in 1998 when a strong El Nino cut the overall snowfall in half across the lake snow belts of New York, but snowfall across the Finger Lakes was actually some 30-40% higher due to a wealth of storms that crossed just to our south that year.

The Climate Prediction Center is predicting that the newly developed El Nino will persist through at least next Spring. While there is fairly high confidence that the current El Nino will be with us for some time, it is difficult to predict if and how much it will strengthen. Therein lies the key for how our upcoming winter will be.

If the current El Nino event does not become any stronger, then climatology would suggest a normal or possibly colder than normal winter. However, any strengthening of El Nino would most likely lead to a milder than normal winter. These factors have to be weighed, along with affects from other teleconnections such as the North Atlantic Oscillation.

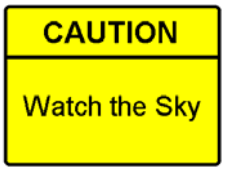
Additional information about El Nino and other teleconnections can be found at www.cpc.ncep.noaa.gov. More specific climatology pertaining to Western and North Central New York is available through a link about El Nino…found at the top of our web page (www.weather.gov/buf) in the 'Top News of the Day' section.

Bob Hamilton, Lead Forecaster
Robert.Hamilton@noaa.gov

National Weather Service Winter Weather Products

Let's review what winter weather products are issued by the National Weather Service and when.

A **WINTER STORM OUTLOOK** is issued when there is a chance of a major winter storm from 3 to 5 days in the future. This is meant to assist people with their long range plans. However, since the outlook is issued so far in advance, the accuracy of the prediction may be limited.



As the event gets closer in time, a **WATCH** may be issued. A watch is issued when there is a 50% or greater chance of a hazardous winter weather event occurring. Although a watch indicates the risk of a hazardous winter weather event has increased, the occurrence, location, and/or timing is still uncertain. Specifically...

A **WINTER STORM WATCH** is issued when there may be hazardous winter weather due to various elements such as heavy snow, sleet, or ice accumulation from freezing rain. In our region, heavy snow means 7 inches or more of accumulation in 12 hours or less, or 9 inches or more of accumulation in 24 hours or less.
A **LAKE EFFECT SNOW WATCH** is issued when there is a possibility of heavy lake effect snow (accumulating 7 inches of more within a 12 hour period or 9 inches or more within a 24 hour period). Lake effect snow usually occurs in narrow bands over limited areas.
A **BLIZZARD WATCH** is issued when conditions are favorable for a blizzard event within the next 12 to 48 hours.

Finally, a **WARNING** is issued when there is an 80% or greater likelihood of a hazardous winter weather event meeting or exceeding the warning criteria within the next 36 hours.

A **HEAVY SNOW WARNING** is issued for 7 inches or more of snow within a 12 hour period or 9 inches or more of snow within a 24 hour period.
A **LAKE EFFECT SNOW WARNING**: Issued when heavy lake effect snow is occurring, is imminent, or has a very high probability of occurring within the next 12 hours. The snow is expected to accumulate 7 inches or more within a 12 hour period or 9 inches or more within a 24 hour period. This is similar to a Heavy Snow Warning, except Great Lakes induced squalls/showers occur in narrow bands and over limited areas. Lake effect snow squalls/showers can occur quite suddenly and cause blizzard-like conditions.
An **ICE STORM WARNING** is issued when ice accumulation of ½ inch or greater (enough to bring down power lines) is expected within the next 12 hours.
A **WINTER STORM WARNING** is issued when severe winter weather having more than one predominant hazard (for example heavy snow and blowing snow, snow and ice, or combination of heavy snow, sleet, and/or freezing rain) is expected within the next 12 hours.

A **BLIZZARD WARNING** is issued for severe winter conditions including a combination of strong winds averaging or frequently gusting to, or above, 35 miles an hour and very low visibility due to blowing or falling snow. These are the most dangerous winter storms and can be especially severe when combined with temperatures below 10 degrees.

ADVISORIES, in general, are issued for weather conditions that are expected to cause significant inconveniences and may be hazardous. These situations are normally not life threatening if caution is exercised.

SNOW ADVISORY is issued for snowfall accumulation of 4 to 7 inches of snow within a 12 hour period.
LAKE EFFECT SNOW ADVISORY is issued for Great Lakes induced snowfall in western and central New York totaling greater than 4 inches, but less than 7 inches in a 12 hour period. Blowing and drifting snow is also common in relatively limited areas and in narrow bands
BLOWING SNOW ADVISORY: widespread or localized blowing snow reducing visibilities to ¼ mile or less with winds less than 35 mph.
SNOW AND BLOWING SNOW ADVISORY: sustained wind or frequent gusts of 25 to 34 mph accompanied by falling and blow snow, occasionally reducing visibility to less than ¼ mile.
FREEZING RAIN ADVISORY: Light ice accumulation is expected either from freezing rain or freezing drizzle.
WINTER WEATHER ADVISORY: issued for winter events having more than one predominant hazard, meeting the advisory criteria for at least one of the elements, but remaining below warning criteria. Examples include could include snow and ice or snow and sleet.

The National Weather Service also issues several "non-precipitation" watches, warnings and advisories:

A **HIGH WIND WATCH** is issued when conditions are favorable for damaging winds to occur within 12 to 48 hours.
HIGH WIND WARNING: Expected winds will average 40 mph or more for at least 1 hour or winds gusts will be greater than 58 mph. Trees and power lines can be blown down
WIND ADVISORY: Issued for average wind speeds between 31 and 39 mph, or for frequent wind gusts between 46 and 57 mph.

A **WIND CHILL WATCH** is issued when there is a possibility of dangerous wind chill values.
WIND CHILL WARNING: Life threatening cold with wind chill temperatures computed to be -25 degrees or less (-30 degrees or less in Jefferson and Lewis counties) for at least 3 hours. Exposure to this combination of strong winds and low temperatures without protective clothing will quickly lead to frostbite and/or hypothermia. Longer exposures can be fatal.
WIND CHILL ADVISORY: Issued for cold temperatures and winds, with wind chill temperatures computed to be -15 degrees or less (-20 degrees or less for Jefferson and Lewis counties) for at least 3 hours. Exposure to this combination of strong winds and low temperatures without protective clothing can lead to frostbite and/or hypothermia. Prolonged exposure may be fatal.

Being Prepared—As Easy as One, Two Three

An emergency – be it a natural disaster or emergency such as a winter storm, flood, power outage or a terrorist act – can occur quickly and without warning. You can become better prepared to protect yourself and your family by following this safety information:

One: Develop a Family Emergency Plan.
Emergencies may strike anywhere. Develop a plan at home. But also learn about your plans at your workplace, or anywhere else you and your family spend time.

Two: Stock Up on Emergency Supplies.
Often during an emergency, electricity, heat, air conditioning or telephone service may not work. Be prepared to make it on your own for at least three days, maybe longer. Make sure you include bottled water, non-perishable food, flashlight, batteries and a battery-operated radio. For more information, visit the Citizens Guide to Preparedness at www.security.state.ny.us.

Three: Be Aware
Pay attention to the news. Know you local radio and television stations that can provide you with official up-to-date official information during an emergency.

2006 SKYWARN Recognition Day

The 2006 Special Event is fast approaching. It will take place on December 2nd from 0000 UTC – 2400 UTC…that's Friday 7PM EST through Saturday 7PM EST. SKYWARN Recognition Day was developed in 1999 by the National Weather Service and the American Radio Relay League. It celebrates the contributions that volunteer SKYWARN amateur radio operators make to the National Weather Service. Many NWS offices use the real-time information in their warning decision-making process.

Last year, base operators here at the Buffalo office made 543 contacts in 46 states, including contact with 60 other NWS offices across the nation. If you're interested in being a base operator here at the Buffalo Office for this year's event, you can contact Judy N2TEZ at judith.levan@noaa.gov.

More information about the Special event and a list of participating NWS offices can be found at http://hamradio.noaa.gov

Protecting Your Pets

Winter is a time we should pay close attention to the safety of our pets.

Ingesting anti-freeze can be fatal for your dog or cat. It has a sweet taste and even a tiny amount can cause severe kidney damage and even death. If you spill some, soak it up immediately. (Clay kitty litter works well. Discard the litter once the anti-freeze has been absorbed.)

Pets that live outdoors should be fed a bit more in the winter because they need the extra calories to stay warm. They also should have fresh water put out a couple of times a day, or consider a special bowl that prevents the water from freezing.

If your pet goes outdoors, be aware of the temperature. Pets can get frostbite very easily on the ears, tail and paws.

When walking your dog, check the paws to make sure that ice is not building up between the toes and that salt from the roads is not irritating the skin.

If your dog is a swimmer, keep it on a leash around open water or unstable ice. Hypothermia can set in quickly and the dog may be unable to get out of the water.

Before you start your car, you should honk the horn to make sure that a cat has not decided to nap in a warm spot under the hood of the vehicle.

If decorating for the holidays, keep ornaments out of the reach of your pets. Remember that poinsettias, holly, mistletoe and other plants can be toxic if ingested.

Winter SKYWARN

While SKYWARN was originally conceived with the intention of helping the public with pin-pointing severe thunderstorms and the hazardous weather they produce, SKYWARN is also a very valuable tool during the winter season.

Large-scale snowstorms, localized lake effect blizzards, floods from ice jams and significant icing are all examples of the types of weather that the National Weather Service would appreciate information about.

If you....
....pick up more than 6 inches of snow in 12 hours or less
....experience thunder and lightning during a snowfall
....receive significant icing
....experience flooding
....or know of any damage due to high winds or icing

Please give the National Weather Service a call. Significant snowfall totals after a large storm will also be very useful.

Continuing Training and Education for Meteorologists

The understanding of the state of the atmosphere continues to increase dramatically in pace with technological advances and improvements in computational resources. Taking a quick look back in time, roughly 40 years ago, we were just starting to get our first satellite images of earth. These images, compared to today's imagery, were very grainy and hard to interpret. Today we get multiple forms of high resolution visible in infrared imagery every 15 minutes, and often every 7 minutes during severe weather outbreaks.

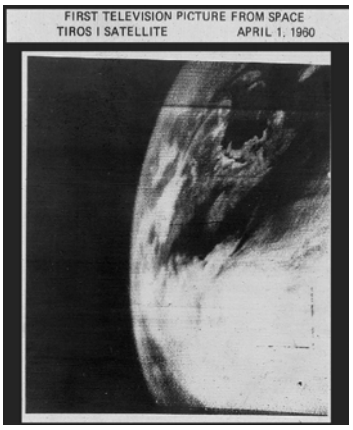


Figure 1. The first weather image from space

Twenty years ago, the NWS didn't have Doppler radar data, and therefore could not easily determine rotation within storm clouds, often an indicator severe weather, including tornadoes. In fact, it's hard to believe that much of the data used for weather forecasting was viewed on black and white computer screens. Now fast forward to only 10 years ago, the NWS was just starting to take advantage of a wealth of data via the Internet. However, the NWS could only run two or three computer models, two times per day. Today, in comparison, we have entire ensembles of global model data running multiple times per day, giving us an "envelope" of possibilities. In addition, locally, we run high resolution models with which we are beginning to see highly detailed simulations of the atmosphere, including the development of lake breeze boundaries and lake effect plumes.

However, In order to be able to adequately understand all the new and exciting developments in meteorology, we need to continue training and education well after we receive our degrees in meteorology. Below are a few examples of some of the training based actives meteorologists are involved with during the course of the year.

As in any profession, much of the learning comes with experience. But forecasters don't get to experience really wild weather each day. In addition, the NWS needs a way to quickly train new meteorologists. So, we save entire model datasets, radar, surface observations, and satellite data, and re-run them through a simulator. Just as airlines use simulators to train pilots, we employ a similar concept, called a Weather Event Simulator (WES) to handling unique and challenging weather events. Examples of some wild weather include flash flooding, tornadoes, large hail, strong wind storms, and a variety of winter weather.

One of the difficulties in training a weather staff has to do with the fact that we work rotating shifts, that is, 24/7. With such a schedule, it is impossible to train NWS employees across the country all at the same time. Therefore, we've developed both live and recorded teletraining sessions that can be viewed multiple times over the course of the year. These training sessions often focus on newly available datasets and cutting edge research results.

More recently, the NWS has developed a national training plan called AWOC, or the Advanced Warning Operations Course. AWOC is designed to provide all NWS forecasters training on advanced techniques in weather interpretation, with an emphasis on developing forecast skills required for issuing weather related warnings. Two years ago, AWOC focused on summertime convection and severe weather. This year, the focus is on winter weather forecasting. These courses are intensive, including 20-30 hours of video presentations, along with quizzes, tests, and other reading. The winter AWOC also includes a WES case previously described.

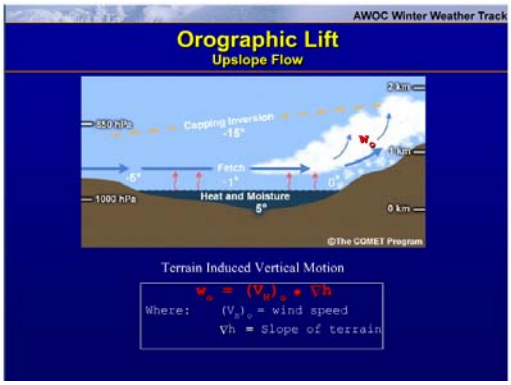


Figure 2. An example of AWOC winter weather training. This image is part of a video presentation discussing some of the atmospheric components necessary for the development of lake effect snow

The NWS also has a Training Center in Kansas City, MO. Here, NWS staff attends residence classes on meteorology. These courses are usually one to two weeks long. In addition, there are numerous courses related to NWS specific computer software and hardware, and as well as more generalized courses on leadership training and team building. This center is also open to other Federal agencies.

In addition to the NWS Training Center, cutting edge meteorology courses, both online and through residence training, often one to two weeks in length, are provided by Cooperative Program for Operational Meteorology and Education Training (COMET), in Boulder, CO. This program is partly funded through a variety of organizations, including the National Oceanic and Atmospheric Association (NOAA), the parent organization of the NWS, as well as Environment Canada and the Australia Bureau of Meteorology to name a few. These are some of the best post collegiate courses available to meteorologists.

Finally, there are always multi-day regional and national workshops to attend. Workshops also provide forecasters with new ideas, theories, and methodologies that are geared toward improving the state of the science of weather forecasting. Often, these workshops are hosted by multiple organizations. For example, a NWS office and nearby university meteorology department might hold an annual workshop. A nearby example would be the Great Lakes workshop, which is an international workshop attended by numerous NWS offices and Environment Canada, as well as by several researchers from meteorological departments from around the Great Lakes region. There are also

(Continued on page 7)

Continuing Training and Education for Meteorologists (cont.)

(Continued from page 6)

workshops held by meteorological organizations, such as the American Meteorological Society and National Weather Association. Lastly, many NWS offices hold local office workshops. NWS Buffalo has two daylong workshops each year, one in the spring in preparation for the summer severe weather season, and one in the fall with eyes on the upcoming winter weather season. These workshops tend to focus on new local forecasting and operational techniques as well as a review of lessons learned from the previous season.

In summary, as meteorologists, we are always learning. From simulations, to multiweek classes at training centers, to hour long presentations and multi-day workshops, there is always something new to learn about meteorology. But while research and technology continue improve our understanding the current and future state of the atmosphere, in the back of our minds we know that no two storms are alike; there is always something new to learn about when it comes to weather forecasting by simply watching the weather change each day.

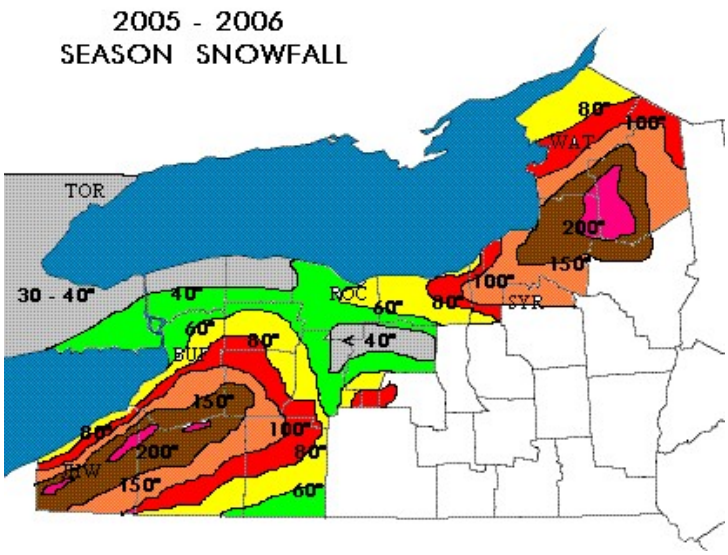
Dave Zaff, Science and Operations Officer
David.Zaff@noaa.gov

NWS Buffalo Snowspotters

As you all know, one of our greatest challenges in western and central New York is forecasting and monitoring our infamous "Lake Effect Snow". This type of snowfall is usually quite localized due to its mesoscale nature with conditions ranging from sunshine to whiteouts in a matter of a mile or two. For many years, we only had "official" stations like Buffalo and Rochester to monitor real time snowfall and had an expanded network of co-operative observers to fill in the blanks. But most of these were climate stations and did not report actual real time conditions.

So, starting in 1994, we recruited a new type of observer—the snowspotter—and the snow savvy residents of western and central New York responded in kind. Soon, over 200 spotters were reporting real time as well as monthly snowfall data throughout the 17 counties we serve and really filled in the gaps. Their reports are vital to us during ongoing events as they can supplement and verify radar signatures of snowbands and their movement, thereby improving our advisory and warning products.

In addition, their monthly snowfall reports have enabled us to develop a snowfall climatology over the past 12 years and better defined local maxima. This information is not only used by our office, but utilized by the River Forecast Centers, Northeast climate Center, National Climatic Data Center and many local users such as the media and academia. A plethora of snowfall information is available in our website's Lake Effect page, with over 100 storm summaries as well as specific storm and season summaries—the vast majority is courtesy of our spotters.



The Buffalo snowspotter network was the first of its kind in Eastern Region, but most offices have subsequently developed similar networks in recent years.

HOW TO MEASURE SNOW?

Measuring snow is a rough art and can be very subjective. It is an increasingly important parameter however and is used by more and more municipalities in developing budgets, insurance companies, and even the Stock Market in derivative trading. So it is imperative that a consistent and accurate methodology be established. Specific guidelines were set about ten years ago. A lot depends on frequency and location of your measurement. You want a cold, flat surface. Pavement is alright if it is cold, but should not be used under milder conditions due to melting. Grass is too uneven and will usually give inflated amounts. A picnic table or auto is good if winds are light. If drifting is a problem, take several measurements and average them. A "snowboard" is best. You can make one by painting an 18" by 18" piece of plywood white.

Frequency of measurement is vitally important. Do not measure every hour and accumulate the totals during a snowfall—this gives inflated amounts. On the other hand, waiting for a 24 hour measurement may underestimate snowfall due to settling. The difference in hourly measurements versus daily ones can be as much as 30 percent. Measure no more frequently than every six hours—before cleaning the board or measuring area. Take no more than 4 measurements in a 24 hour period for climate purposes. Of course, hourly rates can be phoned in for real-time reports. Snow which melts as it falls should be recorded as a trace.

Steve McLaughlin, Lead Forecaster
Stephen.McLaughlin@noaa.gov

New NOAA Weather Radio All Hazards Transmitter

Western Southern Tier residents, visitors and boaters now have access to weather information anytime, thanks to a new NOAA Weather Radio All Hazards transmitter recently installed at Frewsburg, NY. This radio broadcast has been made possible through a partnership between NOAA and Chautauqua County.

Residents of the western southern tier area can tune to 162.525 MHz on NOAA Weather Radio All Hazards for the broadcasts from NOAA's National Weather Service in Buffalo, New York. The broadcasts began October 4, 2006. NOAA Weather Radio All Hazards, known as "The Voice of the National Weather Service," is a continuous 24-hour source of the latest weather forecasts and warnings broadcast directly from the Buffalo forecast office. NOAA Weather Radio All-Hazards provides important weather information during natural or man-made disasters, and can be used to place safety information directly on the airwaves to directly alert the public to take protective actions.

The new transmitter comes on-line as area schools will soon be receiving Weather Radio All Hazards Receivers. In a program sponsored by the Departments of Homeland Security, Education and Commerce, all public schools in the nation (about 100,000 of them) will be getting Receivers.

Judith Levan, Warning Coordination Meteorologist
Judith.Levan@noaa.gov

NOAA's
National
Weather Service

We're on the Web!
weather.gov/buf

National Weather Service Forecast Office
587 Aero Drive
Cheektowaga, NY 14225

Phone: 716-565-0204
Fax: 716-565-9002

EDITORS NOTE:

It's hard to believe that most of this issue of The Lake Breeze is dedicated to winter weather. Yes, winter is just around the corner and now is the time to prepare!

Change seems to be the norm at the Buffalo NWS office and there are a couple of changes to note.

Personnel-wise, forecaster Bob Hamilton has been promoted to Lead Forecaster, filling the position I vacated when I took over as Warning Coordination Meteorologist. Bob is a frequent contributor to this newsletter and many of you know him as N3QOT from the SKYWARN training sessions he presents. Congratulations Bob!

Equipment-wise, in addition to the installation of the expanded snow sensors described in the article on page 2, the NWS has begun an effort to replace its current network of obsolete radiosonde observing systems with a modern system that improves data availability and accuracy, operates within a reduced frequency spectrum and is more efficient to operate and maintain. The new system is being installed at Buffalo between October 9th and 20th.

Published quarterly, each of issue of "The Lake Breeze" contain articles about our operations, new products and services, and interesting local weather submitted by various members of our staff. If you have a comment about our programs, or an idea for something you'd like to see included in an upcoming issue, we'd like to hear from you. You can email me at judith.levan@noaa.gov.

Judith Levan, Warning Coordination Meteorologist