NORTHEASTERN
STORM BUSTER
A Publication for Emergency Managers & Storm Spotters
Spring, 2006*-VOL. 11, NO.2*
Evan L. Heller, Editor
Raymond O'Keefe, Publisher
Ingrid Amberger, Webmaster

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DEPARTMENTS

WINTER 2005-06: SHORT ON SNOW

Evan L. Heller
Climatologist, NWS Albany

The winter of 2005-06 can definitely be described as consistently below normal, insofar as snowfall is concerned. Much of the precipitation that fell came in the form of rain…by a significantly higher proportion than is normal. This is because the season also had above normal temperatures.

Beginning with the first month of the climatological winter, December 2005, we saw below average snowfall despite slightly above normal precipitation. Even more unusual, on the surface, one would expect to see above normal snowfall as well, given that the average temperature for the month of 26.7° was actually 1.3° below normal. But the monthly total of just 8.8" was 4.0" less than the normal. This anomaly is explained by the fact that the coldest days in December were those that were relatively precipitation-free. Periods of big warm-ups between cold periods balanced out the month, and no temperature records of any kind were tied or broken, with no lists being 'cracked'.

There also weren't any precipitation or snow records, and the only feature that stands out in December is that just one day, the 29th, had a daily precipitation amount greater than an inch. This 1.02" total made up more than a third of the 2.95" precipitation total for the entire month that was 0.19" above normal. Rain fell during 20 days of the month, with more than a trace on 11 of them. Of these 11 days, 6 recorded 0.10" or more, with 4 of these receiving 0.25" or more, and 3 of those, 0.50" or more. It snowed on 18 days, but it was measurable on only 8 of them. The greatest daily amount recorded was 2.8", on New Year's Eve. This

snow spread into the first day of the New Year to provide a 3.7" total for the event.

The average high temperature for the month was 32.8º, which was 3.2º below normal, and the average low was 20.6º, 0.5º above normal. The warm reading for the month was 44º, occurring on the 1st, and the cold reading for the month was 1º, on the 14th. The high mean and low mean temperatures for the month also occurred on the 1st and 14th, and they were 39.0º and 9.5º, respectively. The low maximum temperature for December occurred on the 14th, when the mercury reached only 18º, and the high minimum was 35º, on the 29th. All but three days fell to freezing or below, and 12 days failed to rise above freezing.

The month gave Albany dense fog on the 9th and 26th, and a mixed bag of precipitation on the 16th. There were just 6 clear days, with 14 partly cloudy, and 11 cloudy ones. The peak wind for the month was 40 mph, from the west-northwest on the 2nd, and the west on the 9th. The average wind speed for the month was 7.4 mph. The windiest day was the 2nd, with an average wind speed of 14.1 mph, from the west-northwest, while the calmest day was Christmas eve, with an average wind speed of just 0.9 mph.

January 2006 was actually quite a bit wetter than normal, but with the 31.5º average temperature being a whopping 9.3º above normal, it isn't surprising that the overwhelming majority of the 4.75" of precipitation during the month fell in the form of rain. As the precipitation was 2.04" above normal, January wound up being marginally too wet to make Albany's list of Top 10 Wettest Januarys, by just 0.03".

On the other hand, this January was the 7th warmest on record in Albany. The extreme warmth resulted in seven daily temperature records being set or tied. The first of these occurred on the 20th. There were actually three different records set this day. The high of 53º tied the record established in 1986, and with a low reading of 38º, the mean temperature for the 20th wound up being 45.5º. This exceeded the 1986 record by 1.0º, and made it January's warmest day. The 38º low also established a high minimum record for the day. The previous record was 37º, from way back in 1890. The 21st was another very mild day, with the mercury topping out at the month's high of 61º. This shattered the exactly 100-year-old record by 3 degrees. The 30th was only about as mild as the 20th, but it was warm enough a day to set two more daily temperature records. The highest low temperature during the month on this date, 40º, was 4 degrees milder than the 1924 record, and the 46.5º mean was a full 5.0º warmer than the 1974 record.

Summing up the other January temperature highlights, the 16th was the coldest day, with a mean of 12.0º. It was also the day with the lowest reading, 2º, and the lowest high temperature, 22º. Temperatures fell to freezing or lower on all but 4 days of the month, and 6 days failed to make it above freezing. The departures from normal for January were nearly perfectly uniform, with the average high for the month of 40.4º being 9.3º above normal, and the average low of 13.3º being 9.4º above normal.

One daily precipitation record was established during January in Albany. It also was the only one inch or greater daily rainfall for the month, and the only daily precipitation record of the season. The 1.72" inch rainfall of the 18th more than doubled the 0.79" record from 1891. Precipitation fell on all but 8 days in January, on 16 of which it was measurable. A tenth of an inch or more fell during 7 days, with 0.25" or more during 5 of these, and 0.50" or more on 4 of those.

For reasons previously discussed, the 14.4" snowfall for January was 3.6" below normal despite the well above normal precipitation. Most of this snow came during two minor snowfall 'events'. Exactly 4" had fallen from the 14th to the 15th, while 5.2" fell on the 23rd. Needless to say, these amounts were nowhere near high enough to set any new records for the middle month of climatological winter. In total, snow fell on 16 days, and was measurable on all but 4 of them.

There were 8 clear, 12 partly cloudy, and 11 cloudy days in January. Dense fog occurred on the 4th, 18th, 23rd, 24th and 30th. Freezing rain fell on the 4th, with freezing rain and sleet on the 17th, and graupel on the 10th. The average wind speed for January was 14.2 mph. The windiest day at Albany International Airport was the 15th, with a 22.3 mph average, from the northwest. But the peak wind occurred on the 21st, when a gust reached 55 mph from the west-northwest. The calmest day, with an average speed of just 0.7 mph, was the 4th.

February was very low on moisture, and a little on the warm side. Just 1.02" of rain fell during the month, and this was just short enough to place it in a 7-way tie for 95th driest month on record at Albany. There were no other precipitation records, and the total for the month was less than half of the 2.27" normal. But even with the average temperature in Albany being only 2.9º above normal, the city managed to eke out 5 daily

temperature records. The warm day was the 3rd. The mean temperature was 48.5º, and three of the records were set this day. First, the 56º record high from 1991 was tied. Then, the month's high minimum temperature of 41º beat the record high minimum of 38º from 1983. Lastly, the resulting 48.5º mean temperature for the day broke the 1983 record high mean by 4.0º. Two more record highs were established this month when, on the 15th, the high of 55º broke the 54º record from 1908, and then on the 16th, the month's warmest reading of 61º broke the 58º record high from 1882.

On the cold side of the spectrum, the 27th was the coldest day, with a mean temperature of 12.0º, and with the coldest reading for the month of 3º on this day to contribute to this. The 26th recorded the low maximum temperature for the month, 20º. The average high temperature in Albany for February was 36.9º, 2.6º above normal, the average low, 18.8º, 3.1º above. The mercury dipped to 32º or lower 26 days during February, and failed to rise above freezing during 11 days of the month.

Precipitation fell on all but 8 days in February, on 12 of which it was measurable. A tenth of an inch or more fell on 3 days, with 0.25" or more on 2 of these. The wet day was the 3rd, with just 0.31". Snowfall for the month totaled just 3.9". This was 8.8" below normal, yet it just missed cracking Albany's 10 Least Snowiest February's list. The greatest daily amount of snow during the month, 1.9", fell on the 25th. Snow fell during 17 days, but was measurable on only 9 of them.

There was a thunderstorm on the 17th, and dense fog on the 23rd. February had 8 clear, 16 partly cloudy, and 4 cloudy days. The average wind speed for the month was 9.9 mph, and the peak wind was 60 mph, from the northwest on the windiest day, overall, the 17th, which recorded an average speed of 23.2 mph. The calmest day was the 4th, with a 4.0 mph average wind speed.

Summing up the season, the average temperature for this past winter in Albany was 28.7º, 3.6º above normal, yet it wasn't warm enough to be one of Albany's 10 warmest winters. The average high was 36.7º, 2.9º above normal, and the average low was 20.7º, 4.3º above normal. There were no days below zero. The seasonal precipitation total of 8.72" was 0.98" above normal. And the total snow of 26.9" was 16.6" shy of the normal for the 3-month period.

YOU CAN HELP IMPROVE OUR FLOOD WARNINGS

Bob Kilpatrick
Hydrometeorologist, NWS Albany
and
Steve DiRienzo
Service Hydrologist, NWS Albany

Issuing flood warnings and forecasts is one of our most important responsibilities as employees of the National Weather Service here in Albany. Each year, floods needlessly claim lives, and destroy millions of dollars worth of property. Accurate and timely forecasts of flooding can help prevent loss of life, and reduce property damage by mobilizing residents and those who work in flood-prone areas to take the actions necessary to safeguard their property. But we need your help in our efforts.

Because we're usually here at the Forecast Office during flooding events, we generally don't get an opportunity to observe actual flooding as it's occurring. As a river or stream rises and spills over, it will have a varying impact on people, and structures such as roads, bridges and homes. Many of the smaller rivers and streams are not even gaged for measurement, and when there is a gage, it's often several miles away from a flooding segment. Often, we have only one gage for an entire river or stream. The problem is that when your nearby road or field floods, the water may still be several feet short of flooding near where the gage is, or, when the road next to the gage hut floods, it may still be several feet short of reaching nearby buildings. Gages are usually located where the stream conditions are ideally suited for measuring, with a minimal impact on the gage equipment from the river forces, as otherwise, this equipment could be destroyed, and records, lost.

We have made many improvements in the forecasting of river stages and flows. We run models of the atmosphere that predict rainfall and temperatures, and then feed that output into river forecasting models that will compute how much flow will come as a result of melting snow and rain. Every day, we issue a daily River and Lake Summary that contains specific forecasts for many of our more important locations. And there's also a graphical forecast, known as the Advanced Hydrologic Prediction System, available on the internet. This displays both the observed and forecast stages, and, in some cases, the flow rate.

Where we could really use your help is in refining the levels of impact. Not only is there much impact information that we are not made aware of, but sometimes structures change over the years. Roads get moved or elevated; protections such as berms or levees are built, and; sometimes, homes in areas that are frequently flooded are either moved or torn down.

When a flood occurs in your area, please take a few minutes to gather specific information about it, and pass it along to us. You may either e-mail the Service Hydrologist (Steve DiRienzo) directly from our NWS website, or, if you have access to NYSPIN, you can use the pre-formats provided there. You may also call the number that you'd ordinarily call to report severe weather.

Here's some of the information that would really help us out:

1. What was impacted? (e.g., Easy Street between First and Second Avenue, or; the parking lot of the super-mart at the edge of town.)

2. When did the flooding begin? When was the water at its highest? (e.g., The flooding started around Noon, and was worst right around 4 PM.)

3. How Severe was it? (e.g., There was a foot of water in the parking lot, and two inches in the store.)

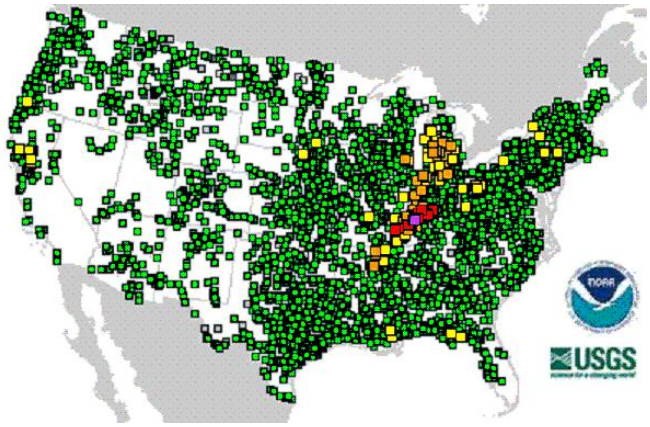
4. What did it do? (e.g., Due to water inside, the power had to be shut off.)

5. What caused it? (e.g., There'd been a very heavy downpour in the last two hours.)

6. If the flood has ended, about what sort of total impact did it have? (e.g., The super-mart is still closed, and it's unknown how long it will stay closed, but thousands of dollars worth of food and equipment was ruined.)

Good reports will help make our forecasts more useful, as we can tie them to real-time local flood information.

If you have not yet seen the Advanced Hydrologic Prediction System graphics,
have a look! Go to www.weather.gov/ahps, and click on any of the squares to view a map. Here's a sample graphic:



CLIMATE DATA – 'WHERE CAN I FIND IT?'

Ingrid Amberger
Climate Services Program Leader, NWS Albany

In the Fall of 2005, the National Weather Service (NWS) switched over to an agency-wide standardized Climate Page. Much work had been done to ensure that the data available from the old site was restored on this new one, and that new data was added. As always, the data available is unofficial, as the only source for official data is the National Climatic Data Center (NCDC).

From the main climate page, "Observed Weather" tab (Figure 1), many climate products issued by our local NWS Forecast Office are available. You have access to the Daily Climate Reports (CLI) for Albany NY, Glens Falls NY and Poughkeepsie NY. The CLI provides you with the details for the day. Preliminary Climatology Data (CF6) is available for Albany NY, Glens Falls NY, Poughkeepsie NY, Pittsfield MA and Bennington VT. The CF6 reports are monthly tallies, providing summarized data for each day in an easy-to-read table format. The Record Event Report (RER) is available only for our primary climate data site, Albany NY. RER's are issued anytime a daily record for Albany is tied or broken. The Monthly Weather Summary (CLM) is also available only for Albany NY. To view the local climatology locations on a map, go to the "Climate Locations" tab. The Regional Summary (RTP) is routinely issued twice a day, and contains maximum/minimum temperatures, as well as precipitation for locations across New York State, Vermont and extreme western New England.

If you're interested in specific past storms or weather events, you also have access to: Storm Event Database, from the Storm Prediction Center (SPC), and; Storm Data, from the National Climatic Data Center (NCDC). From the SPC web site, you have access to current severe weather reports, storm report data for previous days, statistical data for the current year, older archived data, and the Online Severe Weather Climatology Page. You can also search the NCDC Storm Event database to find information on various types of storms recorded for your county.

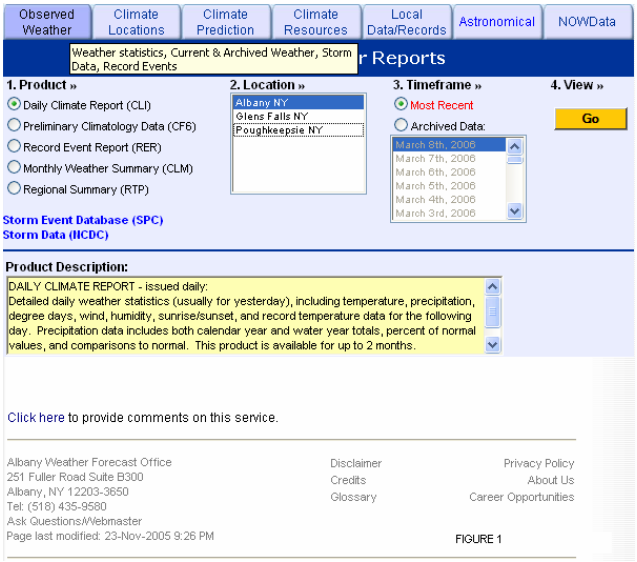


FIGURE 1

From the "Climate Prediction" tab (Figure 2), you have access to long-range forecasts from the Climate Prediction Center (CPC), and climate information from the Climate Diagnostics Center (CDC). You can monitor a range of climate subjects, such as El Niño/La Niña, drought information, intra-seasonal oscillations, and the 'teleconnections' which affect the weather.

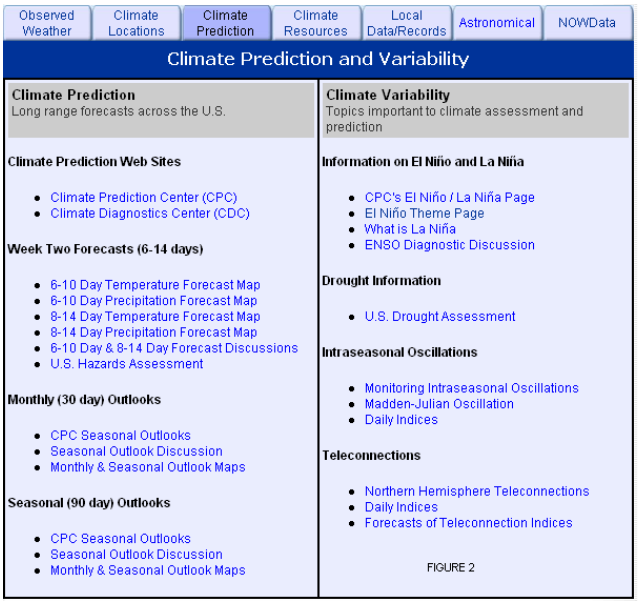


FIGURE 2

From the "Climate Resources" tab (Figure 3), there are many links to both national and international climate organizations, including the National Climatic Data Center (NCDC), and their data.

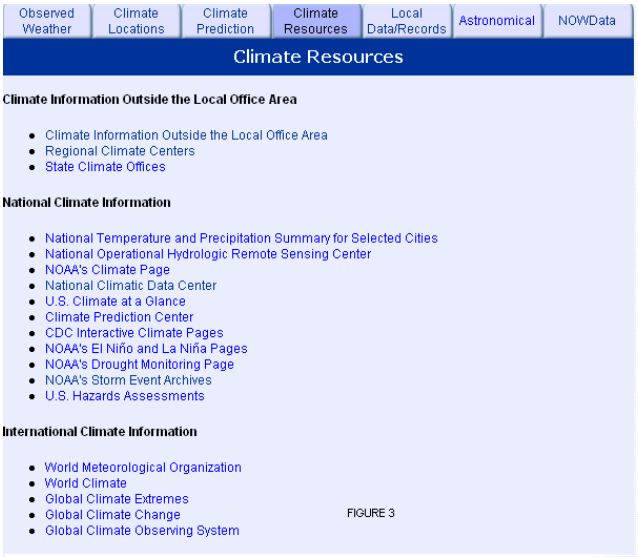


FIGURE 3

From the "Local Data/Records" tab (Figure 4), you will find specialized local climate data such as records, weather extremes, normals, holiday weather, and more. This is where much of the information from the old climate page now resides.

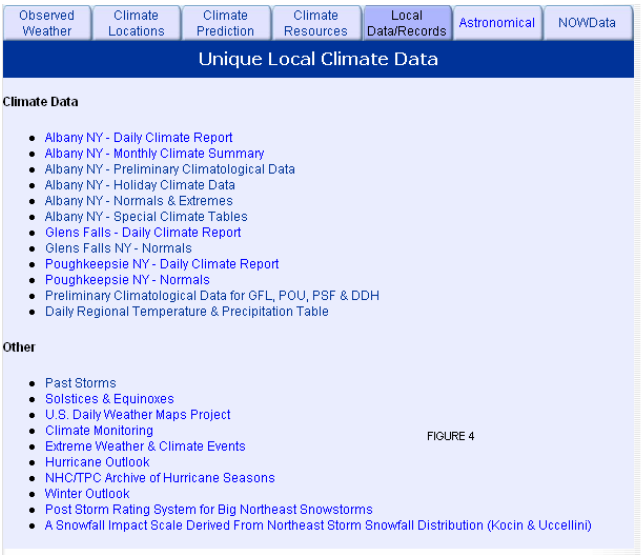


FIGURE 4

The link "Albany NY – Preliminary Climatological Data" provides you with access to Preliminary Climatologic Data (CF6) for Albany, back to April, 1996 (Figure 5).

FIGURE 5

The link "Albany NY – Holiday Climate Data" gives you access to all the holiday data we currently have available for Albany (Figure 6).

FIGURE 6

The link "Albany NY – Normal & Extremes" provides access to lots of information specific to Albany (Figure 7), including the daily and monthly normals and extremes for each month. This includes data for temperature (daily: maximum, minimum, low maximum, high minimum, high mean and low mean, and monthly: warmest and coldest), precipitation (daily record, and wettest and driest months) and snowfall (daily record, and snowiest and least snowiest months). The monthly and [climatological] seasonal normals can be found in tables. For the warmest, coldest, wettest and driest seasons, you must click on each individual season in the bottom table, but it's all there.

Monthly and seasonal normals are also available for Glens Falls NY and Poughkeepsie NY from their own links on the Local Data/Records page (Figure 4).

Note: The normals are based on data from 1971-2000, and are from the National Climatic Data Center.

Normals & Extremes

FIGURE 7

All data on this page is unofficial
(National Climatic Data Center - official data source)

Daily / Monthly Normals & Extremes

WINTER	SPRING	SUMMMER	AUTUMN
DECEMBER	MARCH	JUNE	SEPTEMBER
JANUARY	APRIL	JULY	OCTOBER
FEBRUARY	MAY	AUGUST	NOVEMBER

Monthly Normals 1971-2000

Month	MaxT	MinT	MeanT	HDD	CDD	Pcpn	Snow
Jan	31.1	13.3	22.2	1330	0	2.71	17.7
Feb	34.3	15.7	25.0	1135	0	2.27	12.8
Mar	44.5	25.4	35.0	938	1	3.17	10.9
Apr	57.3	35.9	46.6	553	3	3.25	2.9
May	69.8	46.5	58.1	240	27	3.67	0.1
Jun	77.5	55.0	66.3	62	102	3.74	0
Jul	82.2	60.0	71.1	10	206	3.50	0
Aug	79.7	58.3	69.0	26	157	3.68	0
Sep	71.3	49.9	60.6	168	46	3.31	0
Oct	59.7	38.8	49.3	484	2	3.23	0.2
Nov	47.5	30.8	39.2	772	0	3.31	5.1
Dec	36.0	20.1	28.0	1142	0	2.76	13.0
Ann	57.6	37.5	47.5	6860	544	38.60	62.7

Seasonal Normals 1971-2000 (in table)
& Extremes (click on individual season)

Season	MaxT	MinT	MeanT	HDD	CDD	Pcpn	Snow
Winter	33.8	16.4	25.1	3607	0	7.74	43.5
Spring	57.2	35.9	46.4	1731	31	10.09	13.9
Summer	79.8	57.8	68.8	98	465	10.92	0
Autumn	59.5	39.8	49.7	1424	48	9.85	5.3
Annual	57.6	37.5	47.5	6860	544	38.60	62.7

HDD = Heating Degree Days CDD = Cooling Degree Days

The link "Albany NY – Special Climate Data" gives you access to more climate data specific to Albany (Figure 8). Temperature, precipitation, snowfall and snowstorm records are available, as well as data on annual temperatures and precipitation dating back to the early 1800s, and growing season information going back to 1874.

Special Climate Data
Albany NY

FIGURE 8

All data on this page is unofficial
(National Climatic Data Center - official data source)

Annual Temperatures & Precipitation

Go to "Normals and Extremes" for monthly and seasonal data on the Warmest, Coldest, Wettest, Driest, Snowiest and Least Snowiest

Temperatures	
Top 10 Coolest Years	Top 10 Warmest Years
Top 10 Coldest Months	Top 10 Hottest Months
All times -20 degrees or below	All times 100+ degrees
---	90+ degree days
Cold Spells	Heat Waves

Precipitation	
Top 10 Wettest Years	Top 10 Driest Years
Top 10 Wettest Months	Top 10 Driest Months
---	Dry Spells

Growing Seasons	
Growing Seasons	Start of the Season

Snowfall & Snowstorms	
Seasonal Snowfall Totals	Top 20 Snowstorms
Top 20 Seasonal Snowfall	Top 10 Snowstorms by Month
Top 20 Least Snowiest Seasons	Daily Snowfall Records
Snowfall Season beginning/ending dates	

From the "Astronomical" tab (Figure 9), you will find data on sunset/sunrise, moon phases, tides and currents, and official time.

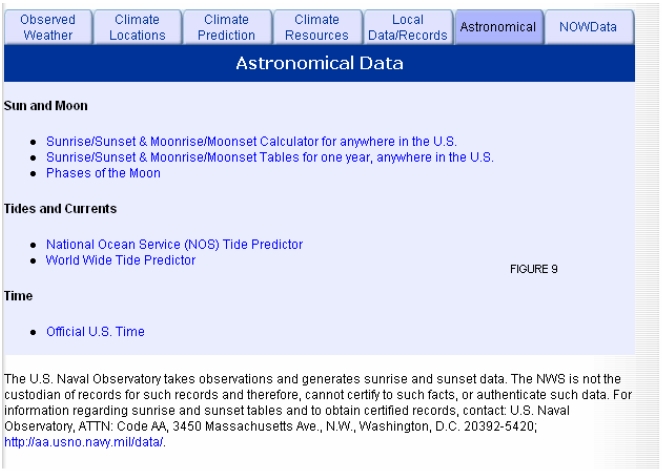
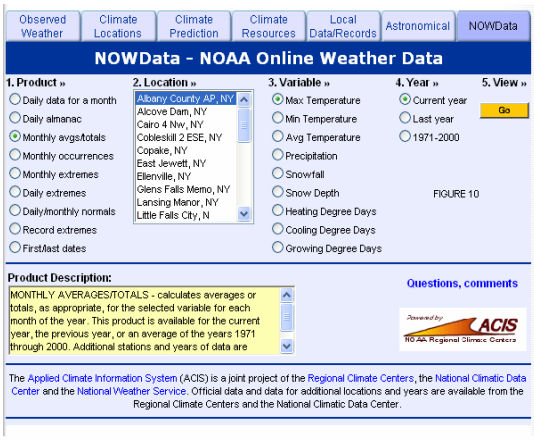


FIGURE 9

From the "NOWData" tab (Figure 10), you have access to climate data from around the local area for many locations. The data here is provided to you through a joint project between the Regional Climate Centers, the National Climatic Data Center, and the National Weather Service. Each time you select a

product, a description of that product is provided. Happy searching.



Any questions, comments or suggestions regarding our climate page can be directed to the NWS Albany webmaster at: Alywebmaster@noaa.gov.

OPERATIONAL RESEARCH AND THE BLIZZARD OF 2006

Gene Auciello
Meteorologist In Charge, NWS Albany

The research project *Continuing Studies of Cool and Warm Season Events Over the Northeast United States* is a collaborative effort between University at Albany Department of Earth and Atmospheric Sciences researchers and graduate students, and National Weather Service (NWS) meteorologists and hydrologists across the Northeast. The results from this operational research have been applied toward significantly improving the NWS warning and forecast process. This can be demonstrated by looking at the historic 11-12 February 2006 Blizzard. A feature of particular interest with this storm was the formation of an intense mesoscale snowband along the I-95 corridor, which was accompanied by 4-inch-an-hour snowfall rates in the New York City metropolitan area. Research results were utilized in such a way so as to improve warning lead times, which resulted in the ability of NWS Forecast Offices impacted by the blizzard to provide an impressive 24 hours of lead time for the onset of blizzard conditions during this event.

NWS offices across the Northeast have been studying precipitation forecast challenges with the University at Albany for the past six years as part of the Collaborative Science, Technology, and Applied Research (CSTAR) Program. Precipitation forecast challenges studied include: the effects of upstream convection on downstream precipitation; the role of snow microphysics in determining snowfall rations, and; the physical processes responsible for mesoscale snow banding. CSTAR research results for mesoscale snow banding were incorporated into a forecast strategy whereby forecasters can now anticipate mesoscale band formation, using a step-by-step process. Forecaster training was provided via teletraining, professional presentations and office seminars. A paper describing the forecast strategy was published in the American Meteorological Society's February 2006 issue of *Weather and Forecasting*.

The CSTAR band strategy was utilized by forecasters during the 11-12 February 2006 Blizzard to help recognize the potential for banding up to 60 hours prior to the event. In fact, all nine Eastern Region Forecast Offices impacted by the snowband had explicitly mentioned the potential for banding in their forecast products 24 hours prior to the event. Additionally, the strategy provided a high level of confidence in the issuance of Blizzard Warnings with 24 hours of lead time, and in pinpointing the band location and intensity six hours in advance.

The significant results of this program research are evidenced via the feedback provided by our customers. They are noticing more accurate forecasts, and some solid scientific reasoning behind them. The successful use of this strategy before its formal publication clearly demonstrates how well the University at Albany's CSTAR Program has effectively managed to apply its research results to NWS operations throughout the Northeast.

GOLF AND LIGHTNING SAFETY: WHAT YOU NEED TO KNOW

Joe Villani
Meteorologist, NWS Albany
and
Evan L. Heller
Meteorologist, NWS Albany

Each year during the spring and summer months, thousands of people flock to golf courses. In northern states, golfers approach the first tee with unabated enthusiasm once the weather becomes warm enough to play. Most people, especially avid golfers, are quite familiar with the risks and dangers involved in partaking in this ever more popular outdoor activity.

We've learned that being out in the sun for more than an hour or two puts people at risk for serious sunburns, and that long-term exposure can even lead to skin cancer. The dangers the sun poses have been well-publicized, and are commonly known, particularly to golfers and other spring and summertime enthusiasts of the outdoors. But when the weather becomes unsettled, another major risk to golfers arises: thunderstorms, and the greatest danger associated with them is lightning.

In the Northeast, including New York state, thunderstorms occur quite frequently during the late spring and the summer. According to the National Lightning Safety Institute, 15 people were killed in New York state between 1990 and 2003 due to lightning strikes. Still many more have been struck and merely injured. New York has been ranked 18th highest state in the country for lightning deaths. Not all people are adequately sensitized to the danger lightning poses, but they really need to be, and they also need to take appropriate measures to ensure their safety.

It's important to always take proper precautions to prevent being struck by lightning, particularly out on the golf course. Lightning is more likely to strike the taller of objects in open areas. This poses a serious problem to golfers during a thunderstorm, since an upright human is usually the tallest object on a course besides trees, especially when standing out in fairways or on greens. Due to their large size, trees are very susceptible to being struck by lightning. A person sheltered beneath a tree when lightning strikes it will usually also be struck, since trees are very good conductors of electricity all the way down to the ground and into the immediately surrounding air. The use of metal golf clubs, as well as electric carts, which are also made mostly of metal, is no more safe, since both of these will also readily conduct electric currents. The bottom line is that there is no safe location on a golf course during a thunderstorm. One location, however, is a best choice.

So, what should you do if you encounter a thunderstorm on the golf course? First of all, be aware of the weather conditions expected on the day you plan to golf. If there's a forecast potential for thunderstorms, have a plan of action should you find yourself, say, at the 12th hole, and you suddenly hear thunder or see lightning. The best thing you can do is immediately seek shelter. When you first hear thunder, the core of the storm is probably closer than you think, and you need to promptly start heading back to the safest location on the golf course: the clubhouse. A second option would be to get inside a heavy, and fully-enclosed vehicle. There is generally still adequate time at this point to seek safe harbor. But do not hesitate to take immediate action! If you wait for even a minute, you may find yourself caught outside with the storm quickly on your heels, and you could become rain-soaked, or worse! It's also important to know that lightning can also strike well away from the main core of a storm, as far as several miles. Golfers and other warm-season outdoor sports enthusiasts have actually been struck by lightning directly beneath clear skies. Even if a thunderstorm should interrupt the smooth flow of your game, it's usually only temporary. If you have the time and patience to wait it out, many storms last just 15 minutes to a half hour, and you can resume play afterwards. The bad news is that other storms sometimes follow.

Climatologically speaking, most thunderstorms occur during the afternoon and early evening hours, so if you'd like to avoid encounters with most storms, set a tee time between 6 and 8 am, and be finished in time for a relaxing lunch. The morning hours also happen to be generally the coolest time of the day during the hot summer months, so, if you are an early riser, by all means, take advantage! However you choose to 'slice' it, heed this advice and have yourself a safe and enjoyable golfing season!

ALBANY HOLDS FIRST-EVER FIRE WEATHER CONFERENCE

Hugh Johnson
Meteorologist, NWS Albany

Twenty-four individuals from various government and local offices in New York, Vermont and Connecticut, as well as the Binghamton and Albany National Weather Service Forecast Offices, met inside the Center for Environmental Science and Technology Management (CESTM) auditorium at the Albany Forecast Office on March 15th to talk Fire Weather. Our Meteorologist In Charge, Gene Auciello, opened the conference with talk of the tragic wildfires that had occurred recently in Texas. He stated that while floods are more common than wildfires within Albany's County Warning Area, the potential for wildfires always exists, and fire issues like those plaguing the Southwest could one day come to affect us here in the Northeast. He therefore stressed the importance of regularly holding conferences like Fire Weather in order to better unify fire weather policy between state and local officials, and the National Weather Service. More importantly, it's critical to keep the communication lines open and in good working order, should something such as a Red Flag Warning need to be hoisted.

As NWS Albany's Fire Weather Program Leader, I discussed the routine fire weather products that will be issued when our fire weather season commences on Monday morning, March 20th. Our Fire Planning Forecast (FWF) is a daily product that will be issued each morning during the fire weather season. For each of our 34 zones, it provides a forecast of various fire weather parameters. I also discussed our National Fire Danger Rating System (NFDRS) for Marlboro, VT. I then went into a discussion about our special products, including Spot Forecasts and Red Flag Warnings, and provided instructions on how to go about requesting a Spot Forecast. All these products will be available on our internet page, along with our fire weather Grids, which are issued throughout the year. To access these items through our webpage, click on 'Experimental Forecast Images' about halfway down the right-hand side of the main page. Just above the map on the next page, inside the blue border, click on 'Fire Weather'. An interactive menu will display, allowing you to choose amongst various fire weather parameters. You may want to begin by first looking at temperatures, and then going from there.

Joe Kennedy, of the New York State Forest Rangers, discussed the dilemmas of Red Flag Warnings, and the differences in criteria that exist from region to region. Further complicating the problem is the fact that many agencies have their own fire danger rating systems, based on their own understanding of how dry fuels impact their local areas. The result is that adjoining areas can have very different danger ratings, and this can lead to confusion. Joe has been researching data from the state of New Hampshire, which has catalogued its Red Flag Warnings and historical fire information, in an effort to establish what factors truly make for a dangerous fire situation. He plans to run the study within the 10 different geographical areas of New York state, and hopes to have results by next year that pinpoint more specific parameters which correlate to a high fire danger, and to the need for a Red Flag Warning. He also hopes to tie in the Red Flag Warning with the Fire Danger rating, and make it easier for all officials to act more quickly, should a Red Flag Warning be issued.

Joe elaborated on one last item, discussing the objective Fire Danger system used by the New York State Forest Rangers, with its ratings ranging from low to extremely high. A program called Fire Family Plus helps intertwine the NFDRS with historical probabilities of fire ignitions, but Joe reiterated that this descriptive rating criteria needs to be made uniform amongst all the agencies.

The conference concluded with some constructive feedback on how to make our products work better for our users. For more information on the conference, please go to http://cstar.cestm.albany.edu/FireWeather/FireWx2006.htm.

LA NIÑA 2006

Thomas A. Wasula
Meteorologist, NWS Albany

La Niña is an ocean-atmospheric phenomenon that impacts global weather. In late January, the National Oceanic and Atmospheric Administration's (NOAA's) Climate Prediction Center announced the return of La Niña. Central and eastern equatorial Pacific sea surface temperatures are cooler than normal, and they have met the operational climatic definition of La Niña, for the November to January time frame. La Niña is defined by the abnormal cooling of the ocean waters off the coasts of Peru and Ecuador. It can have a significant impact on weather around the world.

La Niña events typically occur every three to five years. The last La Niña occurred from 2000 to 2001. The current La Niña has been labeled a weak event, and forecasters are watching for possible strengthening to a moderate or strong one. The last strong La Niña occurred from 1998 to 2000. The present La Niña has qualified as a weak one since, over the past 5 months, a running index of three-month mean sea surface temperatures calculated over a latitude-longitude area box (5ºN-5ºS and 120-170ºW) in the central Pacific considered ideal for determination was found to be 0.5ºC cooler than normal. Reversed, or El Niño, conditions are occurring if this index is 0.5ºC warmer than normal over a 5-month stretch.

In a La Niña, the trade winds are usually very strong, with the abnormally warm water in the western Pacific warm pool area, near Southeast Asia, Indonesia and Australia, locked in place. During a Northern Hemisphere La Niña winter, conditions are wetter than normal across such Southern Hemisphere locations as Indonesia and northern Australia. Indeed, rainfall is above normal over the Amazon basin and southeastern Africa, while below average rainfall usually occurs over the eastern half of the Pacific Ocean near the equator, and over equatorial east Africa. Drought conditions occur over the southwest United States, while above normal precipitation occurs over the Pacific Northwest and Tennessee Valley. These precipitation anomalies had already occurred during this past cool season, and can be correlated to a typical cool season La Niña jet stream configuration. The Northern Pacific jet stream, or polar jet, shifts poleward, and is weaker than average over the central Pacific and southwestern U.S. Winter precipitation is highly variable in the Northeast during La Niña events. Some La Niña winters have yielded seasonal snow totals well above normal, while others have yielded totals well below.

Moderate to strong La Niñas have appeared with increased frequency during active Atlantic hurricane seasons, while they've tended to keep a lid on Eastern Pacific hurricane activity. It's too early to tell whether the presently weak La Niña will have a profound affect on the 2006 Atlantic hurricane season, but it should be noted that the last two abnormally active Atlantic tropical cyclone seasons had actually occurred during non-La Niña events. NOAA plans to issue its initial 2006 Atlantic Hurricane Season Outlook on May 22nd.

In early March, NOAA's Climate Prediction Center stated that the current La Niña conditions over the tropical Pacific will last another three months into the summer. Above normal temperatures are expected over the Desert Southwest and most of the Sunbelt states through May. Below normal precipitation is forecast over the same time frame across the Desert Southwest, and lower Middle Atlantic states including a large portion of the Southeast. Above normal precipitation is forecast for the Ohio Valley, as well as the central and eastern Great Lakes regions. The majority of the Northeast has about equal chances of having both temperatures and precipitation be above normal, below normal or near normal this spring.

For more information, please visit the following NOAA web sites:

http://www.cpc.ncep.noaa.gov/
http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/cold_impacts.shtml

http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/ensostuff/prelude_to ensofaq.shtml
http://www.cpc.ncep.noaa.gov/products/precip/CWlink/MJO/enso.shtml
http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/index.html
http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.pdf

THE LION AND THE LAMB

Bob Kilpatrick
Hydrometeorologist, NWS Albany

During a typical upstate New York and New England winter, many of us have very pleasant thoughts of Spring. We daydream about brilliant sunshine, white puffy clouds floating across a blue sky, bright yellow and purple flowers popping up through lush green grass, and young leaves coloring the trees with their delicate shades of green. After all those days of dull, leaden-gray winter skies, with those dull whitish layers of dirty salt persistently covering the roads, your car, and even your winter coat, you are more than ready for that welcome and inevitable change that's fast closing in.

Northeast winters are a bear, and the weather stats 'bear' this out. The normal percentage of sunshine in Albany goes from a meager mid 40s in winter to the mid 50s in spring, but more importantly, the days are getting longer, and with increasing rapidity. At the start of the Vernal Equinox (~March 21st), the days are already nearly three hours longer than in mid-January, and by the Summer Solstice (~June 21st), they are longer by yet another three hours. This change is ever more noticeable during the first week in April, when the clocks jump ahead for daylight time, and suddenly, the sunny afternoons last an hour longer into the evening. Also, the normal high temperature for Albany rises from 39 degrees at the beginning of March, all the way up to a balmy 74 degrees at the end of May.

But, while spring can have plenty of 'lamb', there's a fair 'lion's share', too. Some of our worst snowstorms have occurred during March, the first month of climatological spring. What's considered by most to be the worst snowstorm in history occurred from March 11th through the 14th back in 1888. Most activity throughout the region was shut down, and people in the cities froze, as no coal could be delivered for heat. It took days to clear city streets. Over practically the same period 95 years later, in March of 1993, an intense winter storm dumped between two and more than three feet of snow on the region. The disruption this time, however, was shorter, as now there were snowmobiles to make emergency trips, and motorized snow plows to open the roads fairly quickly after the heavy snow ended.

Not only do we get big snowstorms in early spring, but spring is also a very active severe weather season in the Northeast. Icy air from the frozen Canadian prairies clashes with sultry tropical air off the warm waters of the Gulf of Mexico and southeast Atlantic, and there's plenty of solar energy to evaporate moisture off the ocean's surface, and heat it up over land. This scenario oftentimes makes conditions favorable for tornadoes and severe thunderstorms. Unlike big winter cyclones and late summer hurricanes, which take days to get going, severe thunderstorms can pop up in less than an hour if conditions are favorable.

Springtime is a very active time for our rivers, too. Most of our worst floods have occurred in spring. Because the ground is usually wet, and oftentimes, winter snow is left over to melt on top of it and soak into the ground, it usually takes much less rainfall to swell the rivers and bring them up to overflow in spring than at other times. In 1987, ten lives were lost when the bridge of the New York State Thruway over the Schoharie Creek suddenly collapsed into its flood waters. And ten years before that, a span of the Green Island Bridge buckled, and eventually fell into the Hudson River.

So, while you're getting your barbeque ready for that late afternoon or weekend cookout, you just might want to first take a peek at some of the National Weather Service's forecasts and graphics, to get a heads-up as to what you might expect over the day or so to come. A good starting point is the Hazardous Weather Outlook, a product of ours that is a twice-a-day outlook geared mainly toward emergency managers, but which is useful to the general public as well. It's provided to give a heads-up as to the hazardous weather that could come into the picture over the forthcoming several days. For any given grouping within the outlook, there's a 'day one' section, which will include information on any watches, warnings or advisories, followed by a 'days two through seven' section, and then, a SkyWarn spotter activation message.

'Loops' of radar images can be viewed from our webpage. The color scheme clues you in as to how intense the precipitation is that's headed your way, or whether there might be thunderstorms in the area.

And of course, there's NOAA's All-Hazards Radio. Not only are its broadcasts available throughout most of the area, but new-technology programmable receivers, available to the public, can be set for activation only when warnings are issued for a user-specified area. So, even if the volume on your radio is muted, it will alarm if we issue a severe thunderstorm warning for your area, and you will be informed.

River flows are plentiful in the spring, so some people take to the rivers for fun, riding in canoes, kayaks, rafts and tubes. You can find out what many of our rivers are doing by visiting our Advanced Hydrologic Predictions Site (AHPS). Simple graphics show you not only what has happened, but also what is expected to. It's a nation-wide program, so if you're interested in a river that's in some other part of the country, you can follow the link from our webpage to the national AHPS site, and then to the river or area of interest.

SPRING 2006 SKYWARN SPOTTER TRAINING SESSIONS

John S. Quinlan
SKYWARN Coordinator, NWS Albany

Date	***Day Time City or Town Location***	***County***
4/03/06	MON 1900-2130 (7-9:30 PM) NISKAYUNA, NY NISKAYUNA HIGH SCHOOL CAFETERIA	SCHENECTADY
4/08/06	SAT 1000-1230 (10 AM-12:30 PM) EAST FISHKILL, NY EAST FISHKILL FIRE DISTRICT TRAINING BUILDING 2502 SR 52	DUTCHESS
4/11/06	TUE 1900-2130 (7-9:30 PM) KINGSTON, NY HOSE #5 FIRE HOUSE AT 830 ULSTER AVE.	ULSTER
4/12/06	WED 1830-2100 (6:30-9 PM) HERKIMER, NY 911 CENTER AT HERKIMER COUNTY COMM. COLL.	HERKIMER
4/24/06	MON 1830-2100 (6:30-9 PM) TORRINGTON, CT TORRINGTON CITY HALL 2ND FLOOR AUDITORIUM 140 MAIN ST.	LITCHFIELD
4/26/06	WED 1900-2130 (7-9:30 PM) ALBANY, NY CESTM 1ST FLOOR AUDITORIUM AT 251 FULLER RD	ALBANY
4/27/06	THU 1900-2130 (7-9:30 PM) BALLSTON SPA, NY SARATOGA COUNTY FIRE TRAINING CENTER 6010 COUNTY FARM RD.	SARATOGA
4/29/06	SAT 1000-1230 (10 AM-12:30 PM) BENNINGTON, VT BENNINGTON FREE LIBRARY AT 101 SILVER ST.	BENNINGTON
5/01/06	MON 1900-2130 (7-9:30 PM) GREENPORT, NY COLUMBIA GREENE COMMUNITY COLLEGE ROOM 206 IN THE MAIN BUILDING	COLUMBIA
5/02/06	TUE 1830-2100 (6:30-9 PM) BRATTLEBORO, VT BRATTLEBORO SAVINGS AND LOAN COMMUNITY RM. 221 MAIN ST.	WINDHAM
5/03/06	WED 1900-2130 (7-9:30 PM) SCHOHARIE, NY PUBLIC SAFETY FACILITY 2ND FLR. EMO TRAINING RM. 1 DEPOT LANE	SCHOHARIE
5/04/06	THU 1900-2130 (7-9:30 PM) FONDA, NY COUNTY EMO COUNTY OFFICE BUILDING 64 BROADWAY	MONTGOMERY
5/06/06	SAT 1000-1230 (10 AM-12:30 PM) INDIAN LAKE, NY TOWN HALL ASSEMBLY ROOM ON PELON RD.	HAMILTON
5/09/06	TUE 1900-2130 (7-9:30 PM) TANNERSVILLE, NY TANNERSVILLE MEETING HALL 1 PARK LANE	GREENE
5/10/06	WED 1900-2130 (7-9:30 PM) JOHNSTOWN, NY FULTON COUNTY FIRE TRAINING CENTER 133 SUN VALLEY RD.	FULTON
5/11/06	THU 1900-2130 (7-9:30 PM) PITTSFIELD, MA BERKSHIRE CTY EMO AT 235 TYLER ST.	BERKSHIRE
5/13/06	SAT 1000-1230 (10 AM-12:30 PM) OLD FORGE, NY TOWN OF WEBB PARK AVENUE OFFICES MEETING RM. 183 PARK AVENUE	HERKIMER
5/15/06	MON 1900-2130 (7-9:30 PM) LAKE PLEASANT, NY LAKE PLEASANT FIRE DEPARTMENT CR 11/SOUTH SHORE RD.	HAMILTON
5/20/06	SAT 1000-1230 (10 AM-12:30 PM) WARRENSBURG, NY TOWN HALL COMMUNITY ROOM AT 3797 MAIN ST.	WARREN

5/22/06 MON 1900-2130 (7-9:30 PM) WASHINGTON
HARTFORD, NY
HARTFORD CENTRAL SCHOOL LIBRARY
INTERSECTION SR 149 & SR 40

5/25/06 THU 1900-2130 (7-9:30 PM) RENSSELAER
AVERILL PARK, NY
TOWN HALL AT 8428 MILLER HILL RD.

SKYWARN is a nationwide network of volunteer weather spotters who report to, and are trained by, the National Weather Service (NWS). These spotters report many types of significant or severe weather, such as thunderstorms, tornadoes, hail, heavy snow and flooding. The staff at the NWS Forecast Office in Albany is responsible for issuing local forecasts and severe weather warnings for much of eastern New York, southern Vermont, western Massachusetts and northwestern Connecticut. SKYWARN spotters provide an invaluable service by providing ground truth for conditions that we observe using radar and satellite imagery, and observations from weather reporting stations. These spotters act as our eyes and ears in helping us provide better forecasts and warnings. Please check out the SKYWARN National Homepage.

It's easy to join SKYWARN. All that's required is for you to partake in an interesting 3 hour training session. For new spotters, these sessions are offered in the spring. For those who need a refresher course, we offer advanced sessions in the fall. The sessions are held at various locations throughout our County Warning Area. Upcoming sessions are announced on our NOAA Weather Radio Stations, and posted on our web site. The spotter network is usually activated whenever there's a threat of severe weather. This is usually preceded by the issuance of a Severe Thunderstorm, Tornado or Flood Watch, or some other type of watch. SKYWARN reports can be relayed from whatever your location, be it your office, your neighborhood, or out on the road. Your information is relayed to the NWS via volunteer ham radio operators, the telephone and the internet.

Pre-registration is required for all SKYWARN Spotter Training Sessions. The preferred method for pre-registration is via the internet. Go to www.weather.gov. Then click on 'eastern New York', and look for the link to 'SKYWARN Spotter Training'. The other option is to pre-register by phone by dialing 518-435-9580. You'll be prompted to press '7' for SKYWARN Spotter Training. You'll then be asked for your name and phone number, and the session you wish to sign up for. You must have a touch-tone phone to pre-register, and once you have pre-registered, you will not receive a call back unless the session has been cancelled, changed, or the session is full.

WCM Words

Ray O'Keefe
NWS Albany Warning Coordination Meteorologist

Many great articles in this edition of StormBuster. My thanks to our authors – and you. While the golf article may not improve your game, it could save your life. Flooding, climate, winter season wrap-up, and research – all topics covered here this quarter.

As you can see from John Quinlan's article, we have an ambitious Skywarn training session this Spring. Our goal is simple – train as many Skywarn spotters as possible. As readers of this publication, I know you're interested in severe weather. Please consider attending a Skywarn session this season – bring a friend too.

Some key upcoming preparedness events. Severe Weather Awareness Week in New York will be April 2-8 and in New England May 1-5. Hurricane Preparedness Week will be May 21-27. NOAA will issue the 2006 hurricane outlook to coincide with this week. We have just concluded Flood Awareness Week. Links are available now for Severe Weather and Flood Awareness Weeks. We'll keep the web updated on hurricanes and other preparedness activities.

Please feel free to contact me if you have any comment on these articles

From the Editor's Desk

We hope you had a great winter! We return this season with our first regular seasonal issue of Northeastern StormBuster in a revised format. I would like to personally welcome Ingrid Amberger on board as our new Webmaster for Northeastern StormBuster, and to thank all of our contributors for making this issue one of our biggest. We hope you enjoy the articles, and we look forward to seeing many of you at our various area SkyWarn sessions planned for April and May. Please refer to John Quinlan's schedule listing beginning on page 13 for the SkyWarn training session most

convenient for you. Until we see you again in summer, enjoy the warming temperatures!