Media Workshop
Christopher Strong, Warning Coordination Meteorologist

The Winter Media Workshop was conducted on December 11th at the Baltimore/Washington Forecast Office. Our forecast area was well represented with an even split of television meteorologists from the Baltimore, Washington, Charlottesville, and Winchester television markets. The workshop was designed to have a good give and take of ideas and experiences, and to foster good professional relationships with the people that most people turn to for their weather information.

A recent national Harris Poll that indicates nearly half of the nation gets their weather information from local newscasts. It’s easy to see why a good relationship is important to getting our information out to the world. Without the media, the NWS would be forecasting for ourselves. The entire workshop was interspersed with great dialog, ideas, and stories between everyone present. Thanks to all that made this workshop our most successful yet!

From left to right: Jim Lee, Jessica Starr Ch45 BAL, Chris Strong, Howard Bernstein Ch9 WAS, Alex Leggitt Ch7 WAS, Jay Kendrick Ch11 BAL, Clayton Silver Ch29 CHO, Emily Gracey Ch2 BAL, David Rogers Ch29 CHO, Tanya Emswiler Ch3 WIN, Vytas Reid Ch45 BAL, Lauryn Ricketts Ch3 WIN, Andrew Woodcock, Topper Shutt Ch9 WAS, Steve Zubrick, Brian van de Graaff Ch9 WAS, John Collins Ch11 BAL.

MIC’s Corner
James E. Lee, Meteorologist-In-Charge

On November 26th, I took a tour on the property of our new facility, which is less than a mile away from our present office adjacent to Old Ox Road in Sterling, VA. The workers have roughed out the access road leading to the facility, and have poured the exterior slab and set the load-bearing footings. This has created an outline of the building, so it is easier to picture what we will be moving into as opposed to architectural drawings. The concrete floor is to be poured shortly, along with paving the access road. If the weather cooperates, the roof should be in place in January 2008, and we should be moving into the facility next summer.

At the end of November, we held our annual Winter Weather Workshop, where the Baltimore/Washington Weather Forecast Office staff gets together for one day to review procedures and take some classroom training on the latest meteorological techniques in forecasting winter weather. It was good timing, because the first widespread snowfall of the season occurred on December 5, 2007. This event reminded me of the challenges of winter weather forecasting, as heavy snow fell across the northern tier of our forecast area.

Our forecast performance for winter 2006-2007 was excellent. The accuracy of our Winter Weather Warnings were 92%, with a false alarm rate of only 24%, and an average of 17.7 hours lead time for our warnings before the storms hit. So when you hear that a Winter Weather Warning has been issued, there is a greater than nine in ten chance of it being correct, so take action! It will be difficult to live up to this level of performance year-in and year-out. However, I am confident that our staff, coupled with the training and tools they have at their disposal, can have another outstanding year forecasting winter weather.

We are in a La Nina winter, which tends to be warmer than normal with normal precipitation. This leads me to believe that we will have more-than-usual freezing winter precipitation type events, such as sleet and freezing rain.

If you have any questions or comments about the NWS Baltimore/Washington Weather Forecast Office, please email me at James.E.Lee@noaa.gov, or phone me 703-260-0107, ext. 222.
For Skywarn spotters, please use your Skywarn ID when reporting severe weather. If you are home, please say so; we will then be able to use that pinpoint location to accurately report where the damaging event occurred. If you are not home, then be as exact as you can with where you are, as outlined above. For all other user groups, please keep the specificity of location in mind when you communicate with us. Feel free to share this information with others you work with.

If you have a NOAA Weather Radio, there will be no change to your warnings, for now. These are currently locked in to being a county based warning system. As the technology improves, NOAA Weather Radio warnings will also advance to warning by location, and not by county.

In addition, no changes have been made to Winter Storm Watches or Warnings, High Wind Warnings and Wind Advisories, Dense Fog Advisories, and all other watch, warning, and advisory products. These have been and will still be issued based on your forecast zone, which typically is a county or part of a county.

More information on this subject can be found on our internet site at: [http://www.weather.gov/sbwarnings/](http://www.weather.gov/sbwarnings/)

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**NWS Now Using Storm-Based Warnings**

*Howard Silverman, Senior Forecaster*

The National Weather Service is taking advantage of the latest technology in delivery and display mechanisms for the composition of our warning products. Previously, when forecasters issued Severe Thunderstorm, Tornado or Flash Flood warnings, they were issued for counties.

However, we now issue warnings based solely on the most likely area to be damaged by a severe storm. This is called **Storm-Based Warnings**. The same holds true for Special Marine Warnings. Previously they were issued for marine zones, and now they will be storm-based as well.

Here’s how it works. Once a severe storm is identified, an area is drawn around the strongest part of the storm, and extended out in the direction of movement. That area will surround the communities we feel will be at risk by the storm. The size of the area will vary due to uncertainties in speed, aerial extent, and strength. So, if the thunderstorm is only going to affect the northern part of your county, the warning will be valid for that part only. If you happen to live or work in the southern side of the same county, you will be unaffected by the warning. This will cut down on a large amount of false alarm warnings to those who are not in the path of a severe storm.

Since the warnings themselves are more specific, the follow-up event information needs to be more specific as well. Trees down somewhere within a warned county will no longer be detailed enough for what we need. It is now important exactly where the downed trees occurred to determine if they fell inside or outside of our warning area - not just inside or outside of the county. Therefore, we would appreciate it if storm reports could be as precise as possible in terms of location. For example, are you inside city limits or in the outskirts? What direction and distance from the city? In a neighborhood that is named? Near a major highway or crossroads? These items can make a difference in assisting us in identifying the location of damage.

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**Staffing News**

Brandon Peloquin was promoted from General Forecaster to Senior Forecaster. Born and raised in Ohio, Brandon attended college at The Ohio State University, receiving a Bachelor of Science in Atmospheric Science in March 2000.

Shortly after, Brandon accepted a position as a meteorologist with AccuWeather. After nearly 3 years at AccuWeather, Brandon joined the NWS as a Meteorologist Intern in Elko, Nevada. Brandon joined the Baltimore/Washington Office in 2004. Brandon leads both the Aviation and Marine Programs, in addition to conducting occasional diversity activities.

Brian LaSorsa was recently promoted from Meteorologist Intern to General Forecaster. Originally from the Philadelphia area, Brian graduated from The Pennsylvania State University in 2001 with a Bachelor of Science in Meteorology.

After graduation, Brian also worked at AccuWeather for several years before joining the NWS in October of 2006. Brian currently manages the Climate Program and works with the Student Volunteer Program.

**Congratulations Brandon and Brian!**
August through October Climate Summary
Brian LaSorsa

Temperatures for the period of August through October were well above normal while precipitation averaged near normal. This is preliminary data. Data does not become official until it is reviewed and certified by the National Climatic Data Center.

At Reagan National the average temperature for the month of August was 79.7 degrees making it the 14th warmest on record. For September the average temperature was 72.9 degrees and this is tied for the 18th warmest on record. October turned out to be very warm with an average temperature of 67.0 degrees. This makes it the warmest October on record by far.

Precipitation was close to normal in August, but September was very dry with only 0.60 inches of rain recorded. This is the fifth driest on record, with only three days of measurable rainfall for the entire month. October started off very dry as well. There was a stretch of 34 days from September 15th through October 18th with no measurable rainfall. This is the longest stretch on record for Reagan National. October ended up being a very wet month thanks to a stalled storm system that brought beneficial rains from the 24th through the 27th.

The average temperature for August at Baltimore/Washington International was 77.5 degrees, three degrees above average. September was also warm with an average temperature of 70.6 degrees, 3.2 degrees above the normal. There were 6 days in September with a maximum temperature of 90°F or higher. This is tied for the twelfth highest on record. October was also a very warm month with an average temperature of 63.4 degrees. This makes it the fifth warmest on record.

Precipitation averaged out to be close to normal for the month of August, but September was a very dry month. Only 0.35 inches of rain was recorded for the entire month of September making it the fourth driest on record. There were only four days of measurable rainfall for the entire month and this is the fifth lowest total on record. October also started off dry, but a beneficial soaking rain was recorded on the 24th through the 27th when 5.43 inches of rain fell. The total for the month was 5.85 inches which is 2.69 inches above normal.

Marine Users Committee Hosted this Autumn
Brandon Peloquin, Senior Forecaster

Another Marine Users Committee Meeting was held at the Baltimore/Washington Weather Forecast Office on November 13, 2007. The local committee has been going strong for 2 years, meeting at least twice during the year. Not only did the most recent meeting welcome the regular cast of characters, including local Power Squadrons, Sailing Clubs and Coast Guard Auxiliary representatives, but also opened the door to guests Mark Tew and Wayne Weeks from NWS Headquarters.

At this meeting, the group finalized a streamlined list of landmarks used in Special Marine Warnings. This updated list includes evenly separated, well known landmarks that will help users to quickly react to Special Marine Warnings during hazardous convective situations.

As a guest speaker, Mark Tew discussed the proposed Marine Weather Warning (MWW) product. Currently, no marine weather watch products or marine weather warning bulletins exist. Longer duration headlines are only located in the Coastal Waters Forecast (CWF) and Hazardous Weather Outlook (HWO). The MWW is designed to add value to customers by painting a picture of the weather situation and to link it to the resulting hazardous wind/wave situation. This new product would serve as a dedicated long duration marine watch, warning and advisory product. National implementation of this product is scheduled for late calendar year 2008.

Mike Koterba from the Chesapeake Bay Observing System, or CBOS, described the CBOS support that will be provided toward a Chesapeake Inundation Prediction System, or CIPS. The CIPS goal is to produce an integrated, timely and accurate observational and flood forecast system for the Tidal Potomac and Upper Bay. The Baltimore/Washington Office is working closely with CBOS and CIPS to achieve the project goal of providing NWS local offices a visual static and evolving dynamic storm surge inundation forecast.

In addition, Mike queried the group as to where future buoys should be placed. If you are a marine user and have any input where future buoys can be deployed, or any feedback about WFO Baltimore/Washington forecasts, please email me at Brandon.Peloquin@noaa.gov.

As always, if you are a mariner on the waters and are able to phone in a marine report, please call our toll free number at 1-800-253-7091. We are most interested in wind speeds and gusts, estimated wave heights and weather that reduces visibilities.
Each November NWS Baltimore/Washington personnel gear up for the approaching winter with an all-day workshop, both to refresh the minds of the more seasoned forecasters, and to introduce the intricacies of forecasting in the Mid Atlantic to newer staff.

At this year’s workshop much time was spent on an area, that until recent years was sometimes overlooked – the counties on our western border. Positioned on the western slopes of the Allegheny Front, and with elevations frequently topping three thousand feet, this area is generally cooler than the remainder of our forecast area and susceptible to lake effect snowfall. A guest speaker at the workshop was Tom Niziol, the Meteorologist in Charge of the NWS Buffalo office, and a world renowned expert on lake effect snow. Tom showed how cold northwest winds pick up moisture from the warmer water of the open Great Lakes, eventually depositing the moisture inland as snow. While the Buffalo area is synonymous with lake effect snow, this phenomenon occurs frequently in western Allegany County, Maryland, as well as Mineral, Grant, and Pendleton Counties in West Virginia. Tom gave our office many tools to consider when we contemplate lake effect snowfall this winter.

Another guest speaker, Dr. Mike Brennan, the Science Officer at the NOAA Hydrometeorological Prediction Center (HPC) in Camp Springs, MD gave presentations on HPC’s role and new scientific techniques in winter weather forecasting. Steve Rogowski discussed the use of Doppler radar in the wintertime. The use of different scanning strategies and changes to the radar settings were the primary focus. In a later talk, Steve shed light on new techniques and technology to aid in the short term forecasting of precipitation coverage, type and intensity.

Brian LaSorsa and Sarah Rogowski provided an in-depth review of the “surprise” snowstorm of January 2000. For days leading up to the storm, computer models and forecasters had projected that the storm would remain well off the coast. On the evening prior to onset, forecasters realized that the models had been in error and radical adjustments were required. Retired NWS meteorologist Phil Poole, who worked that evening, attended the workshop and added his memories of the storm. Although the warning was issued ten hours before the snowfall began, many people had already gone to sleep, and were surprised to wake to a snow which halted government operations. Brian also gave a briefing on La Nina and its potential impacts on the upcoming winter.

From August 1 to October 31, the NWS Baltimore/Washington Forecast Office performed around 35 Outreach events. These included tours, media visits, weather and safety talks, Skywarn presentations, and several visits with our Emergency Managers.


On August 18, Steven Zubrick and Luis Rosa gave a tour of the office to visiting Skywarn spotters. Randy Sly, the NWS Baltimore/Washington Skywarn Coordinator also helped out.

On August 22, Chris Strong attended a Regional VDEM meeting with the Emergency Managers from the City of Fredericksburg, Carolina, Spotsylvania and King George Counties. On August 28, Chris Strong attended a second Regional VDEM meeting with the Emergency Managers from Culpeper, Fauquier, Rappahannock and Greene Counties.

On September 6, Jim Lee gave a Weather & Safety Talk in Blandy, Virginia (Clarke County). This talk was part of the Master Naturalists Training Program.

On September 19, Howard Silverman attended the Fairfax County Emergency Preparedness Open House. Also on the 19th, Sarah Rogowski gave a tour to around 20 teachers from the JASON Project.

Two Skywarn Basics I classes were taught in October. The first class was held in Faber, Virginia (Nelson County) and was taught by Nikole Winstead Listemaa. The second Basics I class was held on October 22 in La Plata, Maryland (Charles County) and was taught by Howard Silverman. A combined 65 people attended the classes.

On October 13, Sarah Rogowski spoke to a Girl Scout encampment at Prince William Forest Park. Topics included women in Meteorology and NWS operations. The next day Chris Strong hosted the Skywarn Advisory Meeting at the NWS Baltimore/Washington Forecast Office.

On October 17, Nikole Winstead Listemaa attended the Freddie Mac Emergency Preparedness Day. Freddie Mac held this event to help educate their staff about preparing for catastrophes and weather related emergencies.

On October 25, Chris Strong attended a Marine Users Meeting at National Weather Service Headquarters in Silver Spring, Maryland (Montgomery County). Over 100 Marine Users attended this meeting.

Chris Strong met with several Washington DC Television Meteorologists, including Sue Palka, Doug Hill and Topper Schutt. One of the main topics discussed was Storm Based Warnings.

Chris Strong made several visits to Emergency Managers in October. He visited Fauquier, Prince Georges, Anne Arundel and Loudoun Counties.

Luis Rosa, Art Patrick and Chris Strong each gave tours of the NWS Baltimore/Washington Facility.
Desperate times call for desperate rainfall. A promising start to the summer convective season quickly turned into a disappointment as July came to a close. Weather system after weather system continued to slide by just to the north of the region. The prolonged dryness across the Mid Atlantic was a mere ‘drop in the bucket’ compared to a completely parched Southeast, covering much of Alabama, Tennessee, the Carolinas and especially Georgia. Areas that were used to at least 50 inches of rain over the course of a year had received less than half their normal rainfall. By early October, the drought began to creep up the Eastern Seaboard, with little or no relief in sight. On October 18, Reagan National Airport recorded its 33rd straight day without measurable rainfall, breaking a 12 year old record. By that time, the area was nearly ten and a half inches below normal for the year, with less than an inch recorded in the previous 2 months.

With water supplies reaching dangerously low levels, city and county governments throughout the Washington Baltimore Metropolitan area were enacting mandatory water restrictions. Many area farmers throughout northern Virginia and Maryland were experiencing effects of the building drought. Many farmers were unable to plant the fall and winter crops in the dry ground, not to mention the failing crops that still that were in the latter stages of the growing season. Vegetation across the region, trees, bushes and lawns were drying out.

For much of the late summer months, low pressure systems were numerous, though too far to the north or dragging limited moisture along a cold front that did not make it south of the Pennsylvania border. With the summer convective season coming to a close, substantial rainfall events were becoming few and far between, with persistent high pressure across off the coast of the Carolinas not only keeping the area dry, but warmer than normal. October saw an average temperature of 67.0 °F, 8.2 °F degrees above normal at Reagan National Airport, a similar story across the Baltimore/Washington Metropolitan area, adding to devastating effects of the rainfall shortage.

In a typical year, rainfall accumulated during the summer months should exceed the amount of moisture evaporated from plants and soil. The resulting ‘surplus’ is then stored in the ground during the fall in preparation for winter, which is normally a dry season. The excess moisture is then utilized by the soil when the cycle goes back into a ‘deficit’ in the spring. The only problem for the Mid Atlantic this year was that the springtime deficit did not move into the summer recharging stage. The rainfall deficit continued to climb as cold fronts continued to move across the region with little or no moisture crossing the Central Appalachian range and lots of high pressure influence.

Dry spells along the eastern seaboard are most often mitigated by a late season tropical system that streams moisture across the eastern seaboard from the Atlantic or the Gulf of Mexico. In 2007, relief did not come in that form. Instead, a major pattern shift allowed for a strong low pressure system to develop over the Texas Gulf Coast and make its impact felt.
Storm Data – July through September

Sarah Rogowski, General Forecaster

High pressure across the western Atlantic brought hot and humid conditions to the Mid Atlantic on July 10th. Showers and thunderstorms developed ahead of a cold front approaching the region from the Ohio Valley. Some of these storms became severe, producing damaging winds and large hail.

A strong cold front stalled as it moved over the Mid Atlantic. This allowed numerous showers and thunderstorms to develop across the region during the afternoon of July 16th. Many of these storms became severe, producing large hail and damaging winds that downed large trees and power lines. One severe thunderstorm that moved across Harford County produced a tornado.

A warm and moist air mass settled over the Mid Atlantic as a strong cold front approached the region from the Ohio Valley on July 19th. This allowed scattered thunderstorms to develop across the region during the afternoon and evening. Storms became better organized as they moved east across lower southern Maryland, eventually forming a bow echo. Winds with the bow echo were measured between 60 and 80 mph.

Widely scattered showers and thunderstorms developed in a hot and humid air mass on the afternoon of August 3rd across northern Virginia and central Maryland. Some of these storms became severe, downing trees and power lines and producing small hail. As these approached the Tidal Potomac River and Maryland Chesapeake Bay, they produced wind gusts in excess of 30 knots.

A warm and humid air mass over the region allowed dense fog to develop along the Allegheny Front in western Maryland and the eastern pan handle of West Virginia on August 7th. Automated Surface Observations reported dense fog, reducing visibilities to a quarter mile or less.

A strong cold front combined with a humid and unstable air mass across the Mid Atlantic on August 9th. Scattered showers and thunderstorms developed across the region during the late morning and spread east into the early and mid afternoon. Many of these storms became severe, producing damaging winds and large hail.

A very warm and humid air mass over the Mid Atlantic combined with an upper level disturbance during the mid morning hours of August 16th. Scattered showers and thunderstorms developed over north central Maryland and moved east towards the Baltimore metro. Some of these storms became severe, producing damaging winds and large hail.

A stalled frontal boundary over the region combined with a series of weak upper level disturbances to trigger widely scattered showers and thunderstorms across the central foothills of Virginia during the afternoon of August 21st. Two storms over Nelson County became severe, producing damaging winds and large hail.

Drought 2007

Richard Hitchens, Senior Service Hydrologist

2007, so far, has been much drier than usual. Given current deficits, and a drier than normal winter forecast, it will be difficult to make up for the lack of precipitation by New Year’s Day.

The period from May through November was especially dry. For the calendar year, precipitation totals through mid October were generally 8 to 15 inches below normal, with Charlottesville almost 19 inches below normal. In Maryland, a number of counties on the eastern shore were declared agricultural disaster areas due to the dry conditions, and its effects on crops. Water restrictions were in place in some communities that draw water from smaller waterways.

In a statement issued by the NWS on October 11, it was noted that the following precipitation deficits were occurring:
- Washington Reagan National Airport – 9.53”
- Dulles Airport in northern Virginia – 15.13”
- Baltimore – 9.74”
- Charlottesville – 18.87”
- Martinsburg – 8.34”

River flow on the Potomac in mid October was noted to be around 600 cubic feet per second just above Washington, DC. The average flow is over 6000 cubic feet per second. On the Rappahannock near Fredericksburg, Virginia, the flow was a meager 50 cubic feet per second. The normal is 1160 cubic feet per second for October.

The driest year on record for Washington, DC was in 1930. Only 21.66 inches of precipitation fell. The record for Baltimore occurred during the same year when 21.55 inches fell. Totals are already well above these values, so while 2007 will be known as being a dry year, it will not be a record breaker.
**NWS Winter Related Weather Product Criteria**

**Winter Storm Outlook:** Issued as a Hazardous Weather Outlook, this product provides a generalized progression of expected conditions from a developing winter storm in the 3 to 7 day range.

**Winter Storm Watch:** Issued 24 to 48 hours prior to the following forecasted conditions:
- An average of 5 inches of snow/sleet within a 12 hour period,
- A glaze accumulation of 1/4 inch or more, or
- Enough ice to cause damage to trees and power lines in a 12 hour period, or
- A life threatening or damaging combination of snow and/or ice accumulation with wind in a 12 hour period.

**Winter Storm Warning:** Same criteria as Winter Storm Watch, when currently occurring or forecasted to occur during the next 24 hours.

**Blizzard Warning:** Snow or blowing snow reducing visibilities to a quarter mile or less for 3 hours or longer with 35 mph winds or higher.

**Winter Weather Advisory:** Issued when the following are currently occurring or forecasted to occur during next 24 hours:
- An average of 2 inches of snow accumulation,
- Any ice accumulation, or
- Blowing snow significantly reducing visibilities.

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**December – January – February Outlook**

NOAA’s National Weather Service Climate Prediction Center created these December – January – February temperature and precipitation outlooks during mid November. ‘EC’ means Equal Chance, ‘A’ stands for Above Normal, while ‘B’ is Below Normal. These are probabilistic forecasts; the forecast probability anomaly is the difference between the actual forecast probability of the verifying observation falling in a given category and its climatological value.

Climate Prediction Center outlooks, discussions and explanations are available at:

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**Skywarn News**

For more information on upcoming classes, check out the website: [http://www.erh.noaa.gov/lwx/skywarn/classes.html](http://www.erh.noaa.gov/lwx/skywarn/classes.html)

**ATTENTION ALL SKYWARN SPOTTERS:**

Please email any changes to your contact information to Nikole Listemaa (Nikole.Winstead.Listemaa@noaa.gov).

Thanks to all Spotters for your reports. Please remember to provide storm reports as soon as possible. These reports are extremely valuable in the warning decision making process as well as for our verification effort. The ideal way to report hazardous weather is through Phone or Amateur Radio. There are several ways to report.

**Telephone:** 703-260-0107 or 800-253-7091

**Radio Call Sign:** WX4LWX

**Email:** LWX-Report@noaa.gov

**What to Report:**

- **Time** (start and end)
- **Location** (State, County, City/distance and direction from city)
- **Tornado** (circulation on the ground)
- **Funnel** (not on the ground)
- **Storm Rotation/Wall Cloud**
- **Hail**: size compared to a coin and depth on ground
- **Heavy Rain**: measured 1 inch or more (duration)
- **Flooding**: water out of banks or covering roadways
- **Wind**: 50 MPH or greater (measured or estimated)
- **Damage**: generally downed trees and/or power lines
- **Snow Accumulation**: every 2 inches, storm total

**Thank you for your time as a SKYWARN Spotter!**

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**Sterling Reporter**

Fall 2007 Edition

Newsletter of the National Weather Service Forecast Office in Sterling, Virginia
[http://www.weather.gov/washington](http://www.weather.gov/washington)


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