

Sterling Reporter

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National Weather Service Baltimore MD/Washington DC Forecast Office

Winter 2011



MIC's Corner

*By, James E. Lee
Meteorologist in Charge*

From a weather forecasting perspective, Winter 2010-2011 has been challenging. The rush-hour snowstorm which occurred on January 26, 2011, garnered national attention as normal commutes turned into 8+ hour ordeals, and hundreds of thousands of customers were without power. Our area has had several "near-hit" winter weather events, where major snowfalls have fallen just tens of miles outside of our forecast area. This has helped remind me of the subtleties of forecasting winter weather in the mid-Atlantic region, and comes just one year after our well-forecast major snowstorms that occurred during the Winter of 2009-2010. The cold settled in during December and did not give into more seasonable temperatures in January 2011. Both December 2010 and January 2011 were colder and drier than normal at our three major climate locations in Baltimore, Washington, and Dulles.

Changes in our personnel are occurring as we go to press with this edition of *The Sterling Reporter*, with three new employees joining our staff. Carrie Larsen has joined our office as a Meteorologist Intern, transferring from the NWS Weather Forecast Office (WFO) in Juneau, Alaska. We also added two new Electronic Technicians, David Eckberg and Mike Baldwin, to help us maintain equipment and facilities at our office here in Sterling, as well as remote locations.

As a reminder, I am still looking forward to two major public outreach events this coming spring. Our 3rd Biennial Open House is still scheduled to be held

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Have You Heard About the CWSU?

Richard Winther, Meteorologist in Charge, Center Weather Service Unit

Located in Leesburg, VA; the Washington Air Route Traffic Control Center (ARTCC) is one of 21 ARTCC facilities serving the United States and Alaska. Within the Washington ARTCC, the weather unit known as the Center Weather Service Unit (CWSU) occupies floor space next to the Air Traffic Controllers. It is the job of the CWSU to keep Air Traffic Controllers and the Traffic Management Unit aware of the latest weather developments by providing briefings and issuing aviation weather products.

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CWSU *(continued)*

The 21 CWSU's each consist of 4 National Weather Service forecasters who are contracted by the Federal Aviation Administration to provide meteorological consultation, forecasting and advice regarding weather events that may have potential impacts on Air traffic Operations. Hours of operation for the CWSU are generally between 5:30 AM and 9:00 PM although hours can be extended during high impact weather events.

The CWSU came into being in 1978 as a result of a National Transportation Safety Board (NTSB) recommendation.



Washington/Leesburg ARTCC Leesburg, Virginia

The incident involved a Southern Airways DC-9 flight over New Hope, Georgia, April 4, 1977. The flight flew into a strong thunderstorm hail shaft and as a result, crashed, killing most onboard. NTSB concluded that having a Meteorologist in each of the ARTCC's would enhance safety. The ability to quickly pass hazardous weather information to the FAA in direct communication with the pilot was the driving force. Thus, the CWSU was

born and has served the public ever since.

What does the CWSU do? Well, the statistics indicate that 70 percent of air traffic delays are attributed to weather. Given this statistic, it is no surprise that the FAA has staffed each of the ARTCC's with a weather unit. Specifically, the CWSU meteorologist continuously monitors and evaluates weather conditions across each ARTCC area of responsibility. This information is conveyed to officials by formal group briefings at specified times or as needed. The briefing maps contain the meteorologist's forecast for turbulence, icing, thunderstorms, winds in the upper atmosphere at flight level, areas where Instrument Flight Rules (IFR) will be required because of degraded weather, and any other vital information needed. The CWSU meteorologist assists air traffic controllers in situations where the routing of an aircraft to an area of clearer weather is urgent. The air traffic controller relies on the meteorologist for IMMEDIATE assistance if pilots of smaller aircraft have become lost in or above clouds, are experiencing hazardous icing buildup, or an aircraft has had a failure of critical instruments.

The CWSU Meteorologist needs to understand weather at all levels of the atmosphere. At the surface, low ceilings, fog, surface winds can both directly or indirectly affect takeoff and landings leading to ground delays (GD) or Ground stops (GS). Aircraft arriving/departing to/from the terminals use TRACON airspace generally between 3,000 ft to 18,000 feet. Many holding patterns occur in the TRACON airspace and as a result, an accurate forecast of ice, turbulence, thunderstorms, winds and cloud ceilings are extremely important. En-route airspace between 18,000 feet and 40,000 feet is the preferred airspace for commercial aircraft to use as their cruise altitude. Again, the TRACON hazards are also important for En-route airspace. So, CWSU forecasters play an integral role in the safe and efficient flow of aircraft across the United States by providing up-to-the-minute weather information and forecasts to FAA decision makers throughout the system.

Jared Klein Selected as Eastern Region Employee of the Month in November 2010

*By, Nikole Winstead Listemaa,
Senior Forecaster*



Jared Klein, General Forecaster

In November 2010, Jared Klein was awarded National Weather Service Eastern Region Headquarters Employee of the Month. Jared was recognized for his modernization of a very popular website containing historical snowfall records for Washington DC, Baltimore and Dulles International Airport. In addition, Jared worked with the West Virginia State Climate Extremes Committee to establish a new monthly West Virginia snowfall record of 158.2 inches that occurred in Bayard in February 2010.

Jared is the Climate Program Leader for the National Weather Service Baltimore/Washington Forecast Office. One of his responsibilities is to ensure the observations from our County Warning Area are accurate as they enter the U.S. climate record. After the Winter of 2009-2010, Jared went back through the entire seasonal snowfall observations for the Baltimore Washington International Thur-

good Marshall Airport, using the six hourly snowfall accumulations, to enable the final totals at BWI Airport to represent climatological snowfall observations.

Jared's responsibilities as Climate Program Leader also include maintaining a variety of climate databases, working with airport observers when observations are questionable or missing and climate research.

Congratulations Jared!

New Hydrologist Selected

*By, Nikole Winstead Listemaa,
Senior Forecaster*

Jason Elliott became our Senior Service Hydrologist in November of 2010. Jason previously served for more than eight years as a forecaster and the Hydrology Program Manager at the NWS office in Huntsville, Alabama. While stationed in Huntsville, he was deployed to several locations throughout the southeast to assist with flooding and hydrology concerns, including during the devastating Nashville floods in May 2010.

Jason has previously worked in two additional NWS offices; Memphis, Tennessee and Mobile, Alabama. He is a 1999 graduate of the University of South Alabama with a B.S. in Geography/Meteorology and also holds a Master's Degree in Human Resource Education from the University of Illinois, Urbana-Champaign (2010). In addition to hydrology, Jason enjoys the weather forecasting challenges of all four seasons, as well as climatology and historical weather.



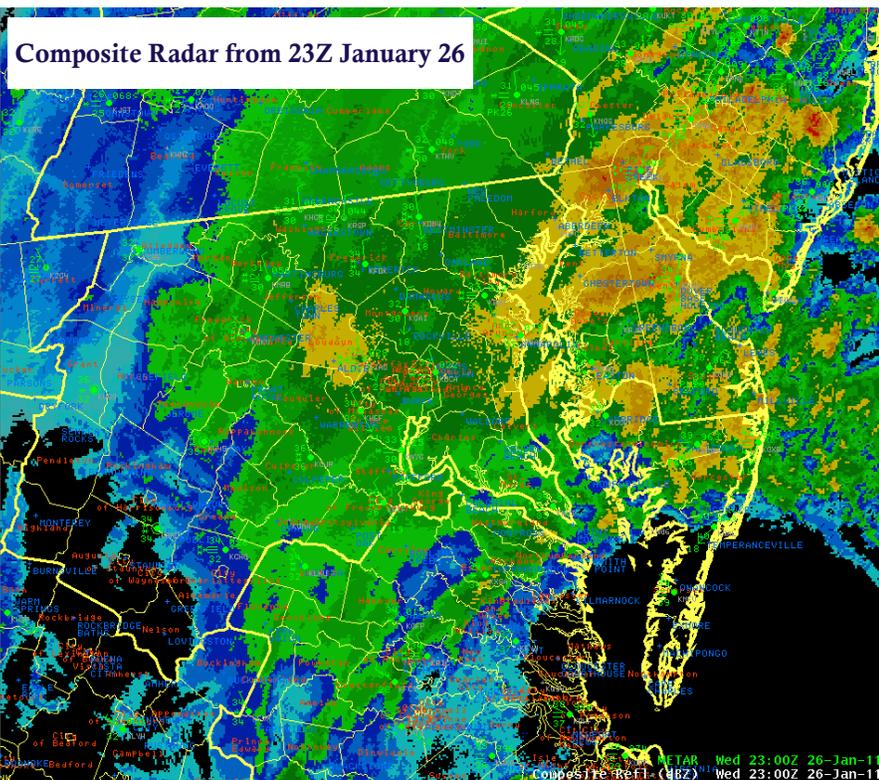
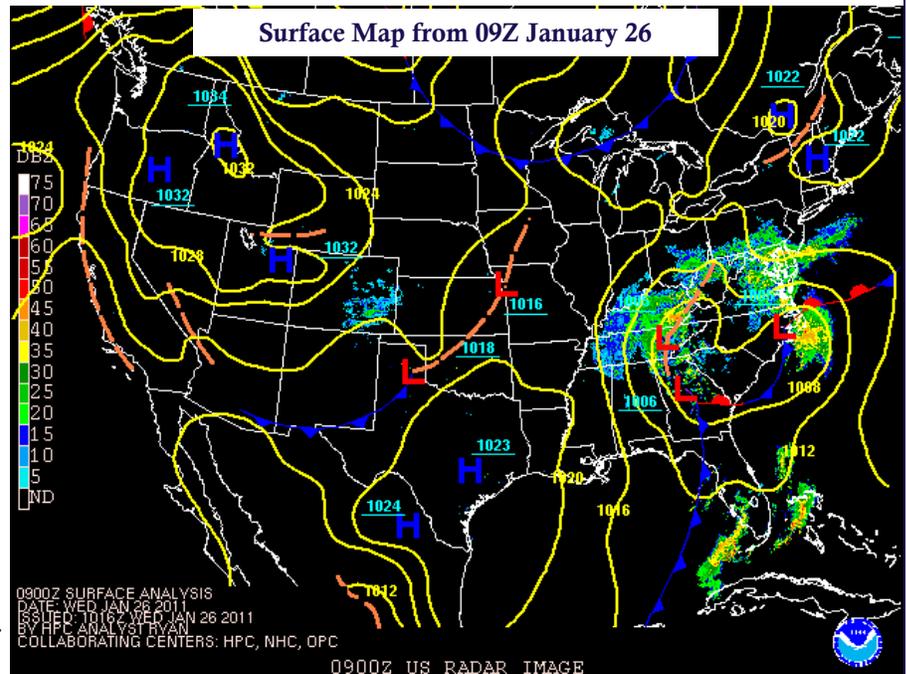
Jason Elliot, Senior Service Hydrologist

January 26, 2011 Winter Storm

*By, Jared Klein & Brian Lasorsa,
General Forecasters*

A potent winter storm impacted the Washington and Baltimore metropolitan areas on Wednesday, January 26th. The storm came in two waves: The first wave triggered a period of sleet and snow across northern Maryland in the early morning. A second, stronger wave brought a burst of heavy snow to most of the region late Wednesday afternoon and evening.

High pressure over New England supplied cold air to the Mid-Atlantic late Tuesday night into Wednesday morning. Low pressure developing off the Mid-Atlantic coast early Wednesday brought a light wintry mix to the area. Ground temperatures were warm enough for nothing more than a light slushy accumulation from the Washington D.C area southward. The highest snowfall accumulations in the morning were across northern Maryland where temperatures were cold enough and precipitation heavy enough to receive 2 to 5 inches of snow, causing a slippery morning commute. Precipitation transitioned to light rain and drizzle across most of the area by the late morning through early afternoon as warmer air from the Atlantic wrapped into the system.



A potent upper low over the Tennessee Valley Wednesday morning moved through the area during the late afternoon and evening. Conditions deteriorated rapidly as heavy precipitation overspread the region at the start of the late afternoon rush hour. Colder air moved into the area during this time, allowing precipitation to change quickly to sleet and then heavy snow. There were many reports of thunder and lightning occurring with the sleet and snow. Heavy snow continued through the evening hours with snowfall rates around 2 to 3 inches per hour during the height of the event.

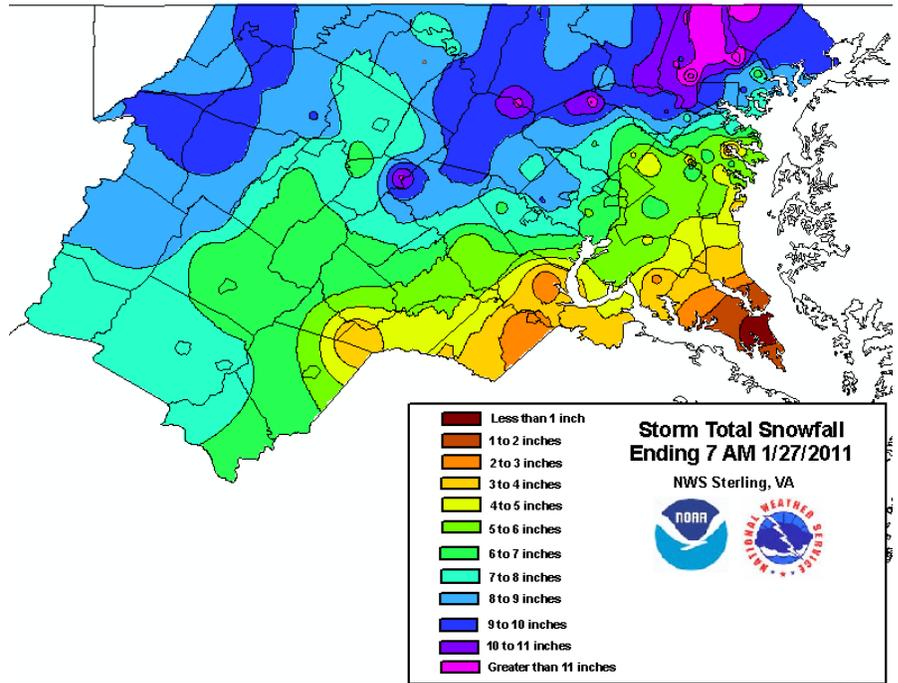
Snowfall totals from the event were highest across the northern and western suburbs of Washington D.C. (see snowfall map on next page). While snowfall amounts from the January 26th event fall far short of the

(continued next page)

Winter Storm (continued)

extraordinary totals measured from last winter's big December and February storms, the timing and intensity of the heavy snow will make this storm memorable for years to come. The heavy snowfall coinciding with the afternoon and evening rush hour commute led to hours and hours of gridlocked traffic from treacherous driving conditions. There were countless reports of commuters needing 5 to 10 hours to get home from work while others abandoned their vehicles. The heavy, wet snow brought down many trees and power lines. The Washington Post reported almost 400,000 people lost power in the D.C. area that evening.

Reagan National Airport measured 5.0 inches of snowfall on January 26th. The 7.6 inches of snowfall at Baltimore-Washington Airport and 7.3 inches at Dulles Airport both set daily climate records for snowfall on January 26th, breaking the previous record of 6.9 inches in 1966 and 6.1 inches in 1987, respectively. All three climate sites recorded precipitation amounts in excess of one inch, breaking previous precipitation records for January 26th.



Wintry Mix on January 17th & 18th, 2011

A winter storm impacted the area Monday night the 17th of January into Tuesday morning the 18th. There were reports of all three types of wintry precipitation (snow, sleet, and freezing rain) across the area during this time. However, the main impact across the region was freezing rain. High pressure remained over New England keeping low-level cold air in place while low pressure tracked up the Mid-Atlantic coast Monday night and eventually off to our northeast Tuesday. Warm and moist air associated with the low over the Atlantic Ocean overran the surface cold air in place causing the wintry mix.

Snow and sleet Monday evening changed to freezing rain as temperatures continued to rise just a few thousand feet from the surface. Freezing rain caused slippery conditions across most of the area for rush hour Tuesday morning. Many locations received between one and two tenths of an inch of ice due to freezing rain. Temperatures finally rose above freezing as the low pulled away from the region later Tuesday allowing for conditions to improve.

*By, Brian Lasorsa,
General Forecaster*

Ice on trees in Jersey, VA.



Photo By: Kay Price, Skywarn Spotter

Cooperative Observer Receives Length of Service Award

By, Calvin Meadows,
Observations Program Leader

Dan Gropper became a Cooperative Observer for the National Weather Service on April 1, 1995. Over the past 15 years, Dan has become one of our most dedicated weather observers, sending in his temperature and precipitation data in everyday, contributing to the National Weather Service's Climate and Hydrology programs. He is also a winner of the Mark Trail Award for NOAA Weather Radio and one of ten to win the national NOAA Environmental Hero Award in 2008. Dan is the founder of Thunder Eagle Inc and, along with Jorge Thevenet and Ross Patterson, co-founder of our modernized SKYWARN amateur radio network.



Mr. Gropper (right) receiving his award from Meteorologist in Charge James E. Lee (left)

Our nation's climatology over the past 120 years has been recorded largely due to the efforts of dedicated citizens like Dan Gropper. Dan stands in a long line of people who have given freely of their time and effort to collect that data. People like John Campanius (who took weather records without benefit of instruments; 1644-45), Benjamin Franklin, George Washington (who took his last observation a few days before he died), and Thomas Jefferson (who maintained an almost unbroken record of weather observations between 1776 and 1816). Dan and his fellow cooperative observers do a public service of immense value to our community.

Speaking in behalf of the National Weather Service it gives us a genuine pleasure to extend to Daniel Gropper congratulations on the completion of 15 years of faithful service as a member of WFO Sterling's network of Cooperative Weather Observers.

Marine Users Committee Held In Alexandria, Virginia

By: Brandon Peloquin,
Lead Forecaster

In December 2010, NWS Baltimore/Washington held another Marine Users Committee Meeting. Instead of being hosted onsite at NWS Baltimore/Washington, the meeting was conducted at BoatUS Headquarters in Alexandria, Virginia. We are very grateful to BoatUS Headquarters for accommodating the Marine Users Committee Meeting for a couple of hours. The training room provided an ideal setting to discuss the latest weather-related marine topics.

This meeting was very goal-oriented. That is, this meeting focused on looking back at what we've accomplished during the 2010 Fiscal Year and what we aim to complete by the end of Fiscal Year 2011. As you may be aware, each office program (such as marine) has a set of goals each Fiscal Year which serve as a plan that drives the year's activities.

Fiscal Year 2010 was successful for the Marine Program in that it accomplished the majority of its planned goals. This included applying the results of a Small Craft Advisory project completed by a summer student into operations, continuing marine outreach and Marine Users Committee Meetings, working to increase observations on the waters and completing event review studies for high impact marine events.

Goals for Fiscal Year 2011 strive for further improvement of the Marine Program. Continuing Marine Users Committee Meetings and attending marine outreach events are important and have become staples within each year's set of goals. But like every year, Fiscal Year 2011 also is subject to some new goals. Included on this list is the experimentation of a model called SWAN (Simulating Waves Nearshore) which predicts waves over the waters. We plan to assess the performance of this model, compare it to the way we forecast waves now and also compare it to actual wave heights observed from the Chesapeake Bay Interpretive Buoy System (CBIBS) network to determine the accuracy and effectiveness of this wave model and how it can be implemented into operations. Our goal is to look for ways to improve wave height forecasting over the waters, and we feel that implementing a SWAN model may be one means to this end.

I want to again thank BoatUS Headquarters for allowing us to talk about our marine goals and other weather-related marine topics with the Marine Users Committee in December. In addition, I'd be remiss if I didn't give a big thanks to all of the members of our Marine Users Committee. Representatives from area Power Squadrons, Sailing Clubs, Boat Clubs and the Coast Guard Auxiliary volunteer their time to provide us with feedback during these meetings. They and other NOAA/NWS partners play a significant role in helping our office to improve its marine forecasts and services.

Finally, if you have any feedback you would like to provide regarding our marine forecasts and services, please don't hesitate to email me at: brandon.peloquin@noaa.gov.

The City of Manassas Becomes StormReady

*By, Christopher Strong,
Warning Coordination Meteorologist*

A few days before Thanksgiving on November 22, 2010, Warning Coordination Meteorologist Chris Strong headed to the City of Manassas in northern Virginia. The reason was to celebrate the city's recognition as a StormReady community by the Virginia StormReady Advisory Board and the National Weather Service.

Chris met up with the City of Manassas's Emergency Coordinator, Chief Mike Wood, and Deputy Emergency Coordinator, Bob Halsall. The group presented a brief recognition ceremony at the City Council meeting. At the meeting, Chris presented Mayor Harry Parrish, City Manager Lawrence Hughes, and the City Council with a letter of recognition, a StormReady certificate, and two StormReady street signs to be placed on roads entering the city.

In order to be recognized as StormReady, a community must strengthen their ties with their local National Weather Service office, be able to disseminate weather alerts quickly, and train their citizenry on how to respond to the myriad of weather threats we get in this region. Deputy Coordinator Bob Halsall in particular has been a solid supporter of the National Weather Service, helping us spread life saving weather information throughout the city as well as keeping our partnership strong.

Some recent dangerous weather events in the city include the winter storms of 2009-2010, which took quite a toll. In addition to the battles with keeping first responders mobile at the height of the storm, one of the schools had a partial collapse of its roof from the weight of the snow. Thankfully, school was not in session. Severe thunderstorms and tornadoes also are a threat. During the remnant of Ivan tornado outbreak in 2004, an F1 tornado touched down in the city damaging several homes.

No community will ever be storm proof, but with their efforts and StormReady recognition, the City of Manassas will be well prepared for whatever weather threats come their way in 2011 and beyond. Congratulations!



From Left to Right: WCM Christopher Strong, Mayor Harry J. Parrish II, City Manager Lawrence Hughes and Deputy Emergency Coordinator-Planner Robert Halsall

Winter Media Workshop

*By: Christopher Strong,
Warning Coordination Meteorologist*

After a record setting snowy winter last time around, "How much should we expect this winter?" was fresh on everyone's mind as we headed into the winter of 2010-11. On December 2nd, NWS Baltimore/Washington hosted our annual winter media workshop for our media partners – both print and broadcast. It was a well attended event that covered all of our varied media markets, from Washington and Baltimore, to Charlottesville and Winchester, to Hagerstown and Harrisonburg. We conduct these winter and spring workshops annually to strengthen ties with those who are most directly responsible for getting weather information out to the public. If we all are sharing and communicating similar information, then people will hear a similar message and be more likely to take action when life threatening weather events roll through our area.

We covered both what winter brought to the region last year, as well as what we were expecting for the winter of 2010-2011. We discussed with them the multitude of atmospheric models that we all use to give us indications of what winter has in store for the area looking at the week ahead. Many of those models

Winter Media Workshop *(continued)*

are either linked to our public internet page, or are posted there directly. We also discussed some of the changes to our products and services for the upcoming winter, including a new “Winter Weather” section on our public internet page with accumulation maps and onset times.

One of our forecasters, Jared Klein, gave a presentation on what the variations in the El Nino/Southern Oscillation may mean for our winter weather here in the mid Atlantic region.

Most importantly, there was plenty of time for good discussion between the NWS and our media colleagues on how we can work together most effectively to minimize the impact of weather events on society. For while we will always have weather events rolling through the area, when we strive to work seamlessly together, we can give people the consistent and accurate weather information they need to make decisions that will keep their families safe.



Front (standing below the curb): Greg Schoor (NWS), Chris Smith (WHAG), Topper Shutt (WUSA), Clayton Stiver (NBC29), Eric Pritchett (NBC29), John Collins (WBAL), Tom Tasselmyer (WBAL), Frank Roylance (Baltimore Sun) **Back:** Brian van de Graaff (WJLA), Lauryn Ricketts (TV3), Cassie Behofist (TV3), Mike Grogan (WHAG), Drew Tuma (TV3), Tim Pandajis (WHAG), Bryan Jackson (NWS), Vytas Reid (WBFF), Steve Zubrick (NWS), Doug Kammerer (WRC), Jim Lee (NWS), Aubrey Urbanowicz (WHSV), George Hirschmann (WHSV), Chris Strong (NWS)

Forecaster Visits Dale City Elementary School

*By, Bryan Jackson,
General Forecaster*

On January 7 I had the pleasure of giving an interactive weather presentation to second graders at Dale City Elementary School. I talked about thunderstorms, lightning, hail, tornadoes, and hurricanes, as well as safety and precautionary actions for each subject, to four second grade classes (about 60 students). Included in the presentation were video clips and demonstrations about air pressure, hail, and the ever popular tornado in a bottle. The students had recently finished a unit on weather, so they were well prepared to answer questions about the various phenomena and provide insight into the topics at hand. A special thanks goes to Aronda Dent, a teacher at Dale City ES, for organizing my visit. Thanks Aronda!



2010 Winter Weather Workshop

*By: Andrew Woodcock,
Lead Forecaster*

Winter weather – it seems expectations grow for NWS Sterling forecasters to issue the best possible forecasts, advisories, and warnings during the winter season. Each year, Maryland, Virginia, West Virginia, the District of Columbia, and the three major airports our office serves budget millions of dollars for preparation and snow removal. Schools face increasing pressure to make decisions on whether to cancel or delay school, or maintain normal hours. Television news in the Washington DC area routinely begins now at 4 am to report this information. NWS Sterling forecasters face more “how much snow?” questions at ever-increasing lengths of time before a snowflake falls.

In preparation for winter, Sterling forecasters hold a day long winter weather workshop each November. Biennially, we invite some of the customers we support to both explain to us what it is they do before winter weather strikes, how they use our products, and let us know what we can do to provide better support. Representatives from PEPCO, Virginia Department of Transportation, Fairfax County Schools, the DC Council of Governments, and Sue Palka from WTTG/Channel 5 took part in the morning session of the winter workshop, with almost all of the forecast staff in attendance.



Dean Tistadt, chief of Fairfax County Schools Transportation division, explained that on “winter weather days” he begins his process at 2:30 am, and has to make decisions by 4:30 am. Allison Richter of VDOT explained the complications of coordinating the hundreds of miles of roads which plows will attempt to keep clear during the storm. She said it costs over one million dollars a day when the fleet is on full mobilization. Melissa Rivord of DC COG explained the process of making decisions on whether to “keep the government open” or whether non-essential employees should remain at home. Clay Anderson of PEPCO talked about how winter weather affects the power grid, and how the “wet/dry” consistency of snow plays a major part in creating problems. Sue Palka talked about the television news industry, and how people are increasing getting their forecasts from other sources such as the internet, as well as how they are utilizing new technologies such as Skype to obtain video from places their camera crews can’t get to during large snowfalls. All customers stated how pleased they were with the work of NWS Sterling.

After lunch Science Officer Steve Zubrick led a review of the 2008 Springfield Mixing Bowl ice storm with Allison and Branco Vlacich of VDOT. Meteorologist in Charge Jim Lee held an exercise on forecasting strong winds. Forecaster Bryan Jackson gave a presentation on satellite meteorology, and Lead Forecaster Andrew Woodcock briefed the forecast staff on a study he had done on the accuracy of NWS Sterling’s forecasts against computer model guidance.

MIC’s Corner *(continued)*

April 30-May 1, 2011, at our Weather Forecast Office in Sterling, Virginia. Also, the 2011 East Coast Hurricane Awareness Tour will be held on May 3, 2011, at the Patuxent River Naval Air Station in Lexington Park, Maryland. These are both great opportunities for the public to come out and learn more about the National Weather Service.

If you have any questions, feel free to call me at 703-996-2200, extension 222, or email me at James.E.Lee@noaa.gov.

Skywarn Reporting Procedures



1. Tornado or Funnel Cloud
2. Storm Rotation
3. Hail (any size and depth on ground)
4. Wind 50 MPH or greater (measured or estimated)
5. Wind Damage (downed trees and/or powerlines, structural)
6. Snow Accumulation (every two inches, storm total)
7. Ice Accumulation (any ice accumulation)
8. Heavy Rain (measured 1 inch, storm total)
9. Flooding (water out of banks and/or covering roadways)
10. Time of event & location

How to report:

Telephone: 1.800.253.7091

Amateur Radio: WX4LWX

This is very time critical information that needs to be relayed to the forecaster **immediately**. Give the person on the phone/radio your name and spotter number.

If you absolutely cannot get to a telephone to relay a report or to email *delayed* reports and storm totals:

LWX-report@noaa.gov

UPCOMING SKYWARN CLASSES

Class	Date	Location
Basics I	3/9/11	Ranson, WV
Basics I	3/23/11	Cumberland, MD
Basics I	4/7/11	Gaithersburg, MD
Basics I	4/11/11	Westminster, MD
Basics I	5/23/11	Harrisonburg, VA

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